

Operating Manual

Junior-System 10 – 50 kg

Article Number: 979824-Standard

979824-Standard-HC



Figure: Junior-System with attached maintenance unit, air drain cock



NOTE

Please read this Operating Manual carefully before first using the device and strictly adhere to the instructions!

This device may only be worked with and worked on by persons who are familiar with this Operating Manual and the current regulations for industrial safety and accident prevention.

**Keep this Operating Manual at a safe place close to the device!
The instructions must be available at all times!**

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1 EC Declaration of Conformity

in accordance with the EC Machinery Directive 2006/42/EC of May 17th, 2006, Annex II A

We herewith declare that the design and construction of the machine marketed by us as described below corresponds with the safety requirements of the EC Directive 2006/42/EC. If the machine is modified without our consent, this declaration loses its validity.

Manufacturer

Walther Systemtechnik GmbH
Hockenheimer Straße 3
D- 76726 Germersheim

Description

Junior-System, Article No. 979824-Standard
Junior-System, Article No. 979824-Standard-HC

We declare that the product is in accordance with the following relevant regulations:

EMC Directive (2004/108/EC) of Dec. 15th, 2004

The following harmonized European Standards have been applied:

DIN EN 12100-1	Safety of machinery; basic concepts, general principles for design – Part 1: Basic terminology, methodology
DIN EN 12100-2	Safety of machinery; basic concepts, general principles for design – Part 2: Technical principles

Other applied technical standards and specifications:

Authorized Representative for Technical Documentations:

Stefan Hirl, Hockenheimer Straße 3, D- 76726 Germersheim

Germersheim, 17 October 2013

(Place, Date)



(Stefan Hirl, Management)

2 Introduction

2.1 Target Group of this Manual

- Operating Personnel
- Maintenance Personnel

2.2 List of Signs and Symbols

This operating manual warns users of operations which may put their health at risk. The warnings are indicated by combinations of text and symbols as follows:



WARNING

Signals a possible dangerous situation.
Death or severe injuries can follow, if you do not avoid this situation.



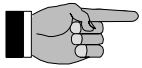
CAUTION

Signals a possible dangerous situation.
Slight or minor injuries **can** follow, if you do not avoid this situation. This sign is also used where damage to property is possible.



WARNING

This symbol indicates dangers for possible hand injuries.



IMPORTANT

Indicates tips for usage and other particularly useful information.
No dangerous situation.

2.3 Responsibility of Operator and Personnel

- Reliable and trained staff only should be authorized to work with the equipment, and responsibilities should be clearly assigned to individuals.
- Maintenance of electrical components of the equipment must be performed by a professional electrician, or under supervision of a professional electrician, and according to electro-technical regulations.

Maintenance of hydraulic equipment should be assigned to staff with hydraulics know-how and experience only.

3 Safety Instructions

IMPORTANT

We kindly advise the customer to study this operating manual carefully, in order to acquaint himself with the safe and efficient operation of this equipment. Please keep this manual at a safe place for future reference.



This operating manual includes important instructions and details for the safe and appropriate operation of the equipment. It supports the operating and maintenance staff, thus helping to reduce safety hazards, repair costs and down times, as well as to enhance reliability and service life considerably. Therefore, it is important that every person in charge of the equipment has access to this document.

3.1 Basic Safety Instructions

The basic requirements for safe handling and trouble-free operation of this equipment include:

- The equipment must not be used for purposes other than those intended.
- The equipment must not be modified. In case of modifications, the customer takes on all responsibility for any incidents due to his modifications. In case a modification of the equipment is required, please contact WALTHER SYSTEMTECHNIK GMBH.
- Make sure that the equipment is always in safe operation condition. Qualified staff shall perform functional tests and checks for damage at regular intervals. Authorized staff only shall do disassembly, and according to these operating instructions only. To ensure appropriate expertise of the customer's staff, we offer training courses upon request.
- The customer is responsible for complying with all appropriate safety measures.
- Never operate the equipment if outlets point towards a person.
- Always disconnect equipment from mains / air pressure supply / grease feed pipe before beginning any maintenance work. All piping and hoses must be pressureless.
- Check all pipes, hoses and screw connectors for leaks and visible damage at regular intervals! Immediately remove any damage!
- Exposure of the sensors to magnetic fields may cause malfunction of the sensors.
- Ensure that working place, equipment and environment are kept in clean and clearly arranged state at regular intervals.
- Rules and regulations regarding the prevention of accidents that apply to the working site must be observed.



3.2 Dangers from Using the Device

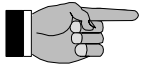
All equipment and devices are built to the state of the art and according to accredited safety rules. Nevertheless, safety hazards to the user or third persons, or deficiencies of the plant or its parts may occur, if the equipment is not properly used.



The equipment must only be used:

- for its intended purpose;
- if working condition of equipment ensures full technical safety.
- Technical faults, which may degrade safety, must be repaired immediately!

3.3 Dangers from Lubricants



NOTE

Pay close attention to the safety directions specified by the lubricant manufacturer and observe his instructions.

The manufacturer of this equipment refuses to accept any liability for incidents caused by disregarding directions, instructions or recommendations given by the manufacturer

3.4 Dangers from Hydraulic and Pneumatic Energy

- The operation of hydraulic and pneumatic equipment must be assigned to staff with specific hydraulic and pneumatic know-how and experience only.
- Depending on the version, the equipment works with a hydraulic pressure of up to 335 bar and a pneumatic pressure of up to 10 bar. Prior to opening and repairing sections under pressure, such as pressure pipes, valves or user devices, all pressure must be released and it must be ensured that no residual pressure is present.
- Hydraulic and pneumatic hoses shall be replaced at adequate intervals, even if they show no sign of safety-relevant damage.

3.5 Correct Use

The equipment will only be used under the specified operating conditions. The equipment must be used exclusively for conveying lubricants according to the detailed specifications of this operating manual. Any usage other than or beyond that specified herein is regarded as not according to the intended purpose. The manufacturer company cannot be made liable for any damage resulting from such incorrect use.

Correct use of the equipment also includes:

- Observing and adhering to all operating instructions stated in this manual.
- Adherence to inspection and maintenance tasks.

3.6 Incorrect Use

The manufacturer company assumes no responsibility for any damage resulting from inappropriate usage. Incorrect use of the equipment includes but is not limited to:

- Conveying any medium not specified in this manual or in writing by the manufacturer;
- Using corrosive and / or curing agents;
- Conveying, handling or storing foods with the equipment.

3.7 Service, Maintenance, Troubleshooting

- The specified calibration and maintenance work should be performed timely according to the maintenance schedule.
- Inform operators prior to execution of calibration and maintenance work.
- Disconnect equipment from mains supply and safeguard against unintentional restart (warning sign: "Do not switch on!").
- Make sure that all screw connections and fittings are fastened tightly.
- After completion of maintenance work, check all functions and all safety devices.

3.8 Warranty and Liability

In principle, our general business and delivery terms apply as well as any written agreements prior to ordering. All warranty and liability claims in case of personal or material damage are excluded if they are caused by one or more of the following reasons:

- Incorrect use of the equipment.
- Work on equipment by persons other than those authorized to work with the equipment.
- Improper transport, storage, assembly, commissioning, operation or maintenance of equipment.
- Operation of the equipment with faulty, not properly fitted or nonfunctional safety and protection devices.
- Disregard of instructions regarding safety, transport, storage, assembly, operation, commissioning, maintenance and setting-up of the equipment as stated in the operating manual.
- Modifications of the equipment not authorized by the manufacturer company.
- Manipulation of the pressure control device or the supply pressure without authorization of the manufacturer company.

- Insufficient inspection of equipment parts subject to wear.
- Improper repairs and use of spare parts from other suppliers.
- Disasters, e.g. by forces of nature or foreign object damage.

3.9 Copyright

The copyright of this operating manual shall remain with Walther Systemtechnik GmbH. This operating manual is intended for use by the staff of the user company only.

Directions and instructions contained in this manual must not be

- copied, nor
- distributed, nor
- communicated to third parties, neither completely nor partly.

3.10 Safety and Protective Equipment

- Make sure that all protection devices are installed properly and are in functional condition, prior to start-up of the equipment.
- Protection devices must not be removed unless the equipment has been shut down and a safeguard against restart has been established.

3.11 Personal Protective Equipment and Other Measures

- The operator company is responsible for providing the required personal protective gear.
- All safety devices and installations should be checked at regular intervals.

3.12 Qualification of Personnel

Only trained and instructed personnel may conduct work on the equipment.

The responsibilities of the personnel for assembly work, operation, repair work or maintenance work must be clearly assigned to individuals!

Persons in training may work with the equipment only under supervision of an experienced person.

Personnel Task	Instructed Personnel	Personnel with Technical Qualification	Specialist	Supervisor
Packaging, Transport	X	-	-	-
Commissioning		X	X	-
Operation	X			-
Troubleshooting, general		X	X	-
Troubleshooting mechanical	-	X	-	-
Troubleshooting electrical	-	-	X	-
Setting up	-	X	-	-
Maintenance	-	X	-	-
Repair	-	X	X	-
Taking out of service, Storage	-	X	X	-

4 Packaging and Transport

4.1 Packaging

Packing of equipment is provided by Walther Systemtechnik GmbH for transportation to the first destination.

The packaging must not be exposed to additional strain. The packaging and its content must be protected from humidity. The ambient temperature during transport and storage must be kept within -20°C and $+40^{\circ}\text{C}$.

4.2 Damages from Transport

Should damage due to transportation be discovered upon checking your consignment, the following procedure should be observed:

- inform transport company (carrier company, railroad etc.)
- write damage report
- inform supplier company

4.3 Intermediate Storage

Storage in an aggressive or moist environment or outdoors may lead to corrosion or other damage. Walther Systemtechnik GmbH will not assume liability for such damage. Temperature must be kept within -20°C to $+40^{\circ}\text{C}$ during transport and intermediate storage.

5 Location of Set-up

- All legal requirements for the mounting site should be clarified and fulfilled.
- Prior to installation of the equipment, the condition of the floor and the size of the surrounding space should be checked to ensure safety of operation for both personnel and equipment. The installation must be such that continuous operation at a high safety level is ensured.
- The installation of the equipment as well as commissioning or storage of the equipment must be conducted by specialists that are trained and made familiar with the equipment only.
- The equipment is designed for use in areas which are protected from climatic conditions.
- Operation or storage of the equipment in an aggressive or moist environment or outdoors may lead to corrosion or other damage for which Walther Systemtechnik GmbH will not assume liability.
- All exposed parts and lines must be mounted as such that no injuries or damage can occur.

6 Description of Device

6.1 Purpose of the Device

The equipment is intended for conveying the following media exclusively:

- lubricants
- viscosity NLGI 4 / 1'000'000 mPa s or less
- container size according to separate data sheet



WARNING

Use of media other than that specified may cause malfunction, damage or even destruction of the equipment.

6.2 Description of Function

Pneumatic WALTHER barrel-lift pump units are designed to feed lubricants from standard containers up to 50kg in size. The suction performance of the standard WALTHER container pump is substantially improved by the use of adjustable pressure applied to the follower plate, which forces the lubricant to flow towards the suction port. Jamming of the follower plate is also avoided, e.g. in case of corrugated containers.

A pneumatic end switch serves to stop the pump action and to sound a warning tone (optional) when the low fill level is reached. By switching off the pump at this level, aspiration of air is avoided, preventing a complex venting action of the whole plant and loss of lubrication material. In order to exchange the container, the follower plate can be lifted without effort from the container via a convenient two-hand control.

The container pumps are available with various pressure ratios and pump types.

6.3 Type Label

The type identification is located on the right back side of the device next to the quick-connect coupling. It contains information on the article number, the operating pressure and the adjustment range to identify the equipment.



NOTE

Please indicate the product information provided on the device when ordering spare parts or requesting technical support.

6.4 Design Types

Sachmerkmal <i>Characteristic</i>	Gerätetype <i>Model</i>	979824-Standard	979824-Standard-T	979824-Standard-HC	979824-Standard-HC-T
Druckübersetzung <i>pressure ratio</i>					
10:1 S		X	X	X	X
25:1 S		X	X	X	X
60:1 S		X	X	X	X
Integration-Zubehör (Mehraufwand) <i>integration of accessories (add. cost)</i>					
Leerrohr (Fettabgang oberhalb vom Gebinde) <i>empty hose (grease outlet over the container)</i>		X	X	X	X
Materialdruckregler mit Mischrohr <i>pressure regulator with mixing tube</i>		X	X	X	X
Materialdruckregler ohne Mischrohr <i>pressure regulator without mixing tube</i>		X	X	X	X
Mischrohr <i>mixing tube</i>		X	X	X	X
keine Integration von Mischrohr und/oder MDR <i>no integration of mixing tube and/or pressure regulator</i>		X	X	X	X
Materialdruckentlastung (Mehraufwand) <i>material pressure relief (add. cost)</i>					
Automatisch <i>automatic</i>		X	X	X	X
Manuell <i>manual</i>		X	X	X	X
Füllstandüberwachung (Mehraufwand) <i>level monitoring (add. cost)</i>					
akustische Leermeldung (Pfeife) <i>acoustic warn signal (pipe)</i>		X	X	X	X
akustische und elektrische Leermeldung <i>acoustic and electrical level indicator</i>		X	X	X	X
elektrische Leermeldung (24 VDC) <i>electrical refill and low level indicator</i>		X	X	X	X
Filter (Mehraufwand) <i>filter (add. cost)</i>					
mit Manometer 0-160 bar <i>with gauge 0-160 bar</i>		X	X	X	X
ohne Manometer <i>without gauge</i>		X	X	X	X

6.5 Total View / Description

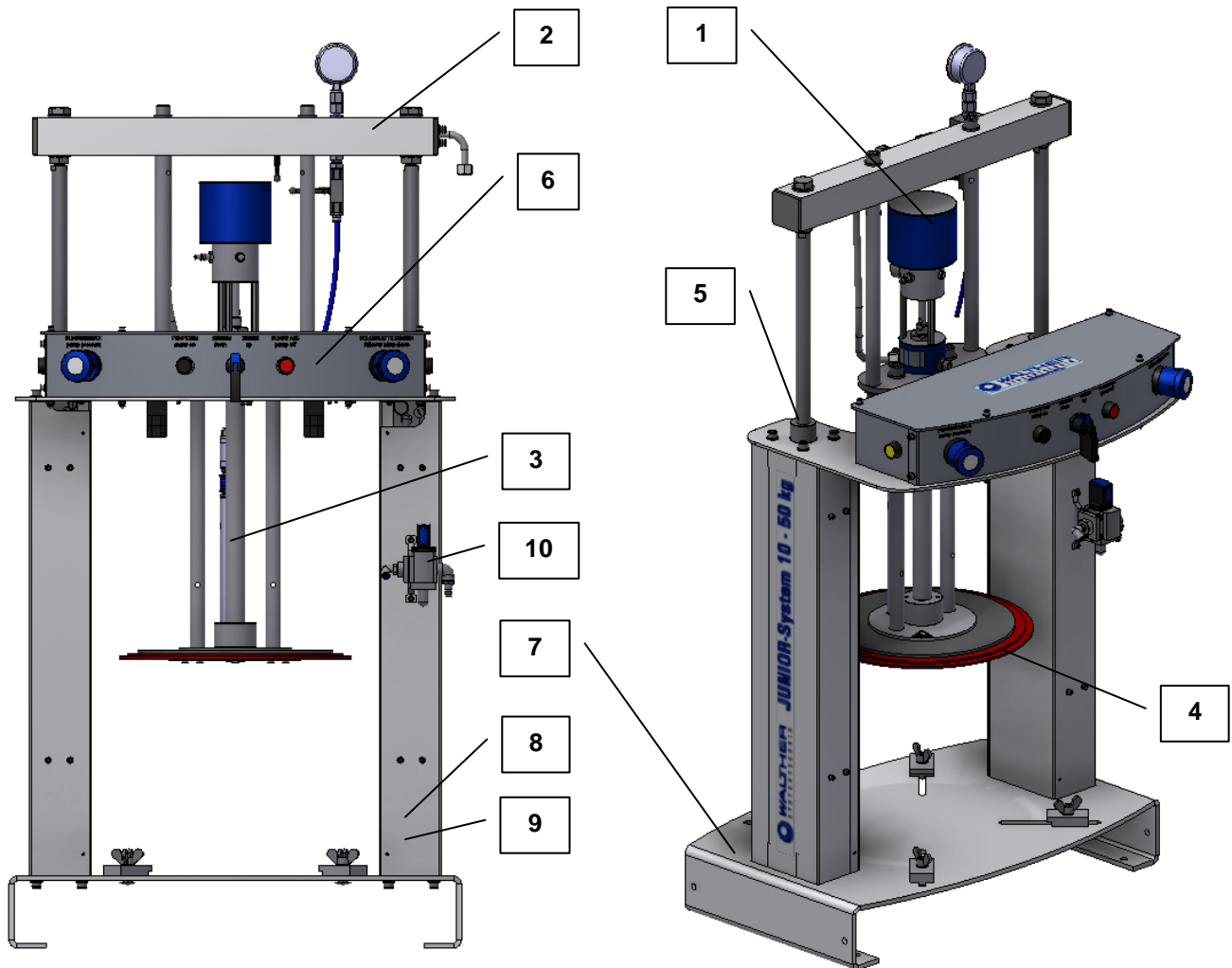


Figure with Filter, Mixing Tube and Material Pressure Controller

1	Motor The engine drives the feed pump for highly viscous lubricants.
2	Pump lifter The pump lifter lifts and lowers the feed pump with the follower plate.
3	Feed pump The feed pump supplies the highly viscous lubricants.
4	Follower plate Through two pneumatic cylinders, the follower plate creates a certain pressure on the contents of the containers and thereby pushes it into the feed pump.
5	Pneumatic cylinder These lift and lower the pump lifter and create the pressure power for the follower plate.
6	Control box This control box contains the valves and the control elements.
7	Basic frame This frame carries the complete construction.
8	End switch for feed operation Setting: The end switch will not operate before the follower plate has completely entered into the container. The switch is pre-set to the container height if indicated.
9	End switch for automatic turn-off
10	Lockable stop valve with pressure relief

6.6 Technical Data

Article Number	979824-Standard		
Container size [kg]	10 - 50		
Pressure ratio	10:1 S	25:1 S	60:1 S
Operating Medium	Filtered, unlubricated compressed air; filtration 40 µm		
Inlet pressure air connection [bar]	4 – 10		
Outlet pressure at 6 bar [bar]	60	140	310
Output ¹ [cm ³ /min]	1720	1295	465
Min. inlet pressure pneumatic [bar]	4		
Max. inlet pressure pneumatic [bar]	10		
Max. control pressure pneumatic [bar]	6		
Min. control pressure pneumatic [bar]	3.5		
Max. follower plate pressure pneumatic [bar]	6		
Min. follower plate pressure pneumatic [bar]	0.5		
Net weight without container and packing [kg]	110		
Dimensions of ground plate [mm]	720x657		
Min. height (pump lift lowered) [mm]	1012		
Max. height (pump lift in top position) [mm]	1640		
Air connection nipple Ø [mm]	NW 7.2		
Air connection internal thread BSP	G ¼		
Air volume [l/min]	217		
Ambient temperature [C°]	+15 to +40		
Viscosity	NLGI4 / 1'000'000 mPa s		

¹ at pump outlet

Container dimensions	
Container height [mm]	max. 610
Container inside Ø [mm]	260 – 410

Article Number	979824-Standard-HC		
Container size [kg]	10 - 50		
Pressure ratio	10:1 S	25:1 S	60:1 S
Operating Medium	Filtered, unlubricated compressed air; filtration 40 µm		
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Outlet pressure at 6 bar [bar]	60	140	310
Output ¹ [cm ³ /min]	1720	1295	465
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Max. control pressure pneumatic [bar]	6		
Min. control pressure pneumatic [bar]	3.5		
Max. follower plate pressure pneumatic [bar]	6		
Min. follower plate pressure pneumatic [bar]	0.5		
Net weight without container and packing [kg]	110		
Dimensions of ground plate [mm]	720x657		
Min. height (pump lift lowered) [mm]	1020		
Max. height (pump lift in top position) [mm]	2144		
Air connection nipple Ø [mm]	NW 7.2		
Air connection internal thread BSP	G ¼		
Air volume [l/min]	217		
Ambient temperature [C°]	+15 to +40		
Viscosity	NLGI4 / 1'000'000 mPa s		

¹ at pump outlet

Container dimensions	
Container height [mm]	max. 610
Containers inside Ø [mm]	260 – 410

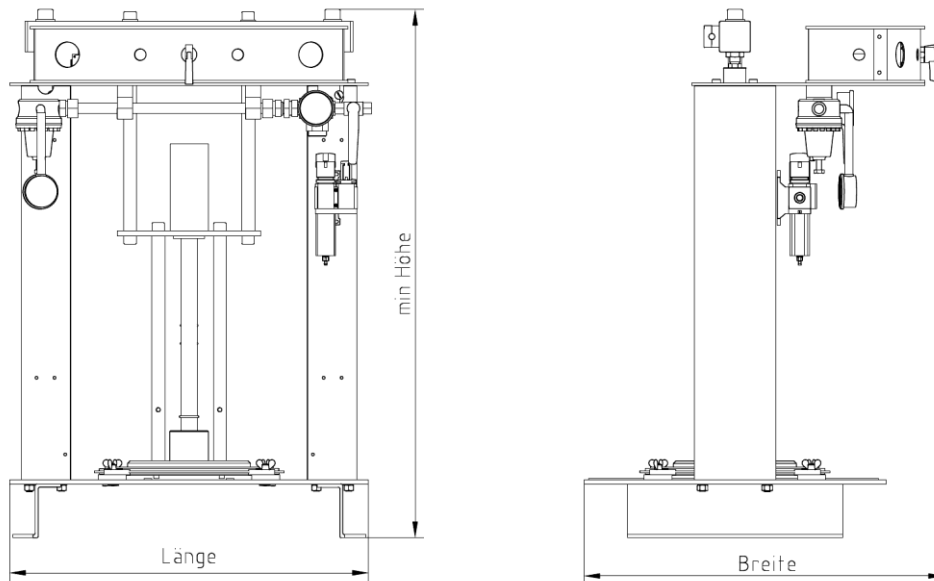


NOTE

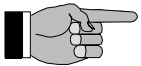
Please refer to the separately available technical documentation „Operating and Service Manual NEMO Pump Art.-No.979559“ for the technical details of the Junior-System 979824.50 (equipped with pump 979559).

7 Mounting and First Start-up

- The device will be placed at the intended location, making sure that all conditions from chapter 4 are fulfilled.
- The device will be placed in such a way that the control elements, the display and the container location are easily accessible.



Prior to delivery the device will be completely checked and adjusted by the manufacturer.



IMPORTANT

All feed pumps are thoroughly checked in our factory. It is therefore quite likely that residues of the test medium remain in the pump.



IMPORTANT

Make sure that all screwed joints and hoses are tightly fastened (tightness).

- Completely remove packaging material from device prior to first start-up.
- A compressed air supply is required for the operation of the equipment. The compressed air connection is located on the right side of the control box (see also 6.5 pos 10).

It must supply a constant pressure of at least 4 bar and at most 10 bar.

- Set turn-switch to the middle position (see 8.1 pos.5).
- Connect air supply using safety air connector.
- Open cut-off valve.
- Check pneumatic pressure (follower plate) on the manometer.

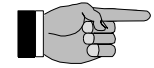
NOTE

The pneumatic barrel feed pump is factory-set to an inlet pressure of 6 bar, which corresponds to a hydraulic pressure of 60-310 bar depending on the specific pump.

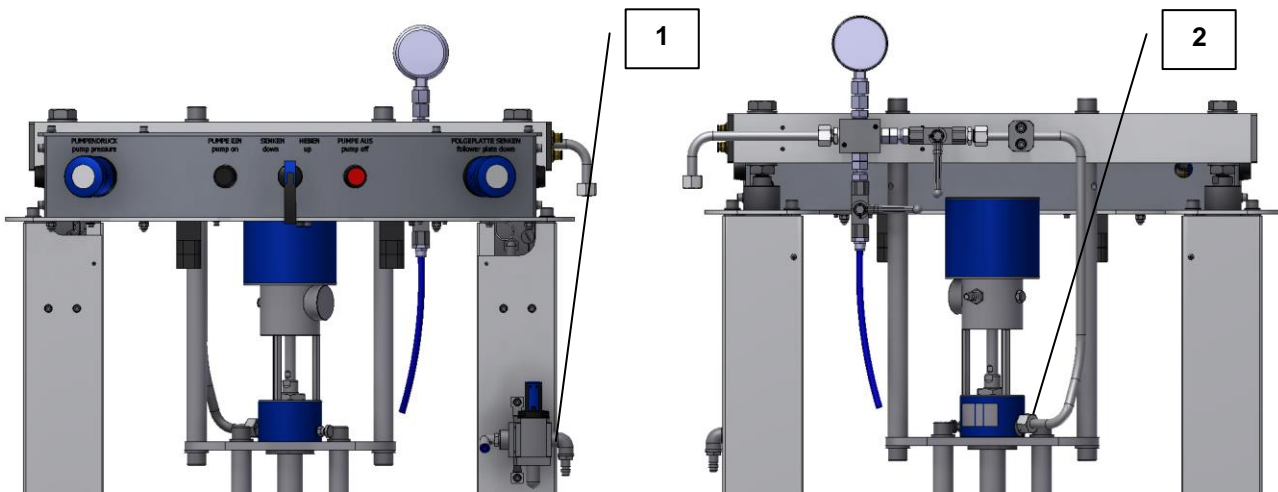
The follower plate cylinder pressure is factory-set to 0.5 bar.

To adjust the pneumatic pressure of the follower plate, pull and rotate the adjusting knob of the pressure regulator valve accordingly:

- ↻ right turn = increase pressure
↻ left turn = decrease pressure



7.1 Definition of Interfaces



1 Inlet

The pneumatic barrel feed pump is operated with compressed air. The connection is located on the back side of the operator panel.

Connection air coupling:	quick-connect coupling NW 7.2
Hose nipple:	internal \varnothing 6 mm
Min. inlet pressure:	4 bar
Max. inlet pressure:	10 bar

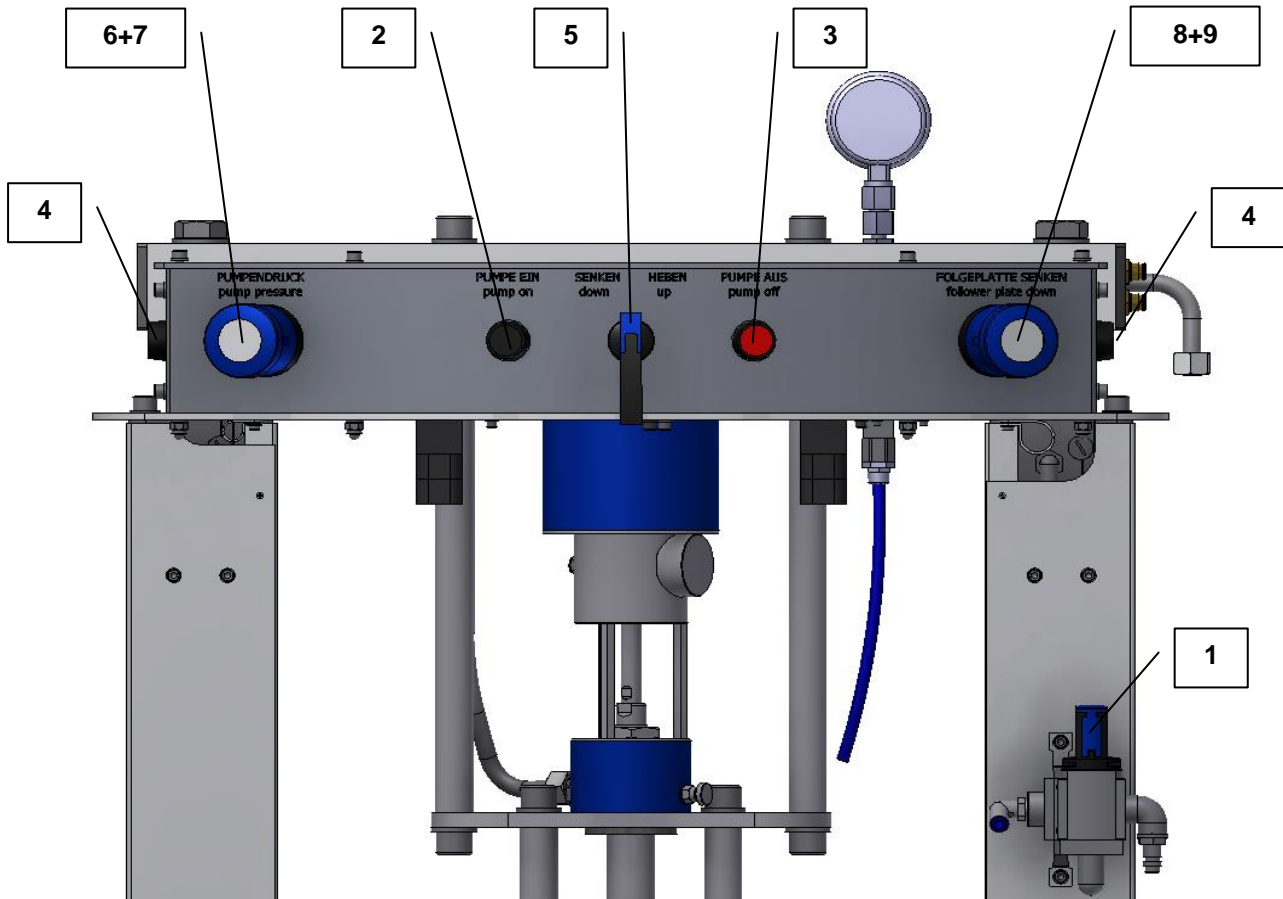
2 Outlet

The connection for the medium is located on top of the pump or at any built-on devices (e.g. filter, material pressure relief etc.).

Outlet pressure:	depending on the specific pump
Connection:	depending on the specific pump

8 Operation

8.1 Operating Elements



1	Cut-off valve, main valve for switching on and off including (pneumatic) pressure relief of entire system
2	Pushbutton "pump on"
3	Pushbutton "pump off"
4	Two-hand operation (push-buttons)
5	Turn-switch for "down" / "up"
6	Manometer for pump pressure
7	Controller for pump pressure
8	Manometer for follower plate down
9	Controller for follower plate down



IMPORTANT

We recommend to install a material pressure relief (manual or automatic) directly after the supply pump.

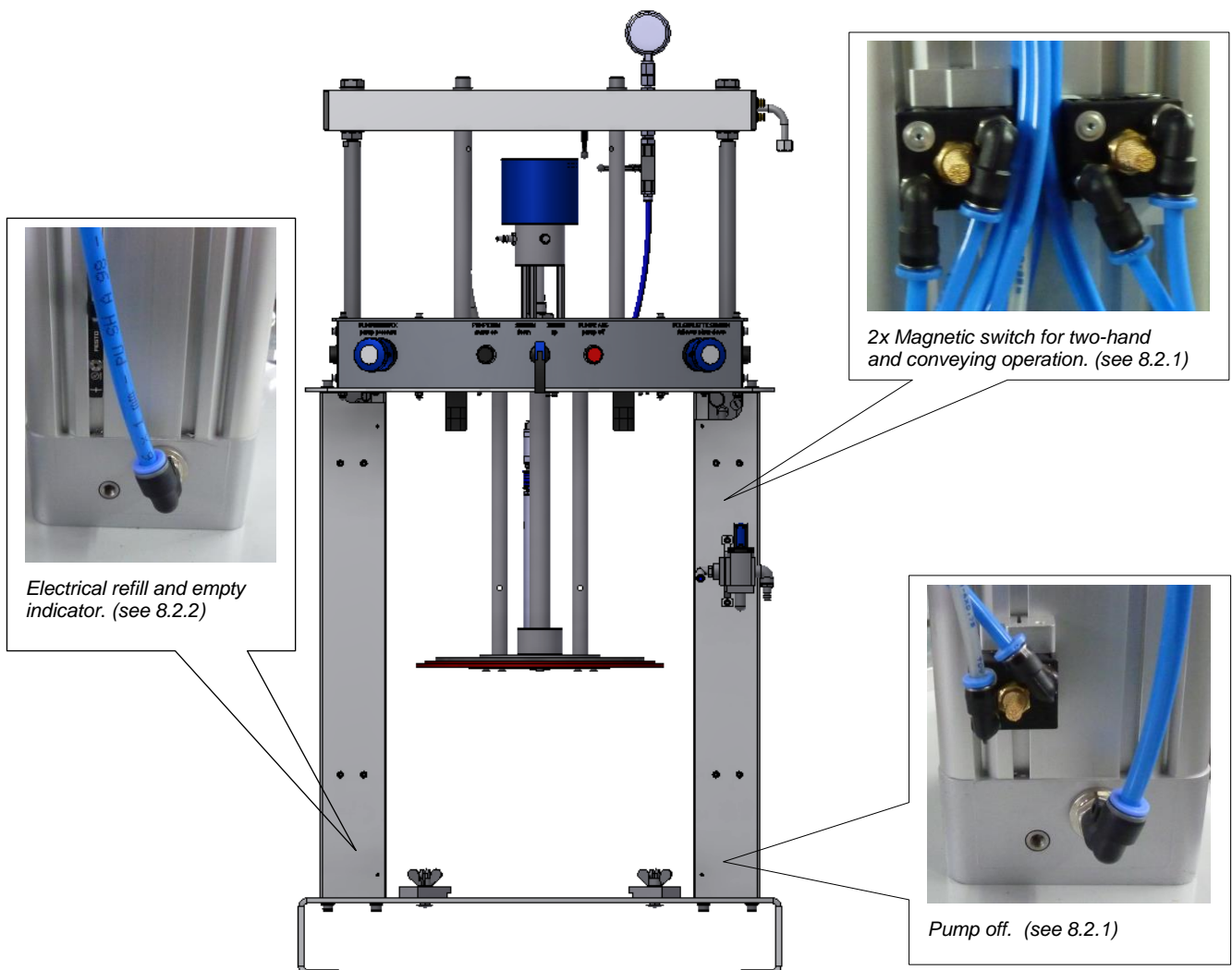
The medium pressure will be cut down during standstills by a material pressure relief, and also bleeding and early aging e.g. of greases will be reduced.

8.2 Magnetic End Switch

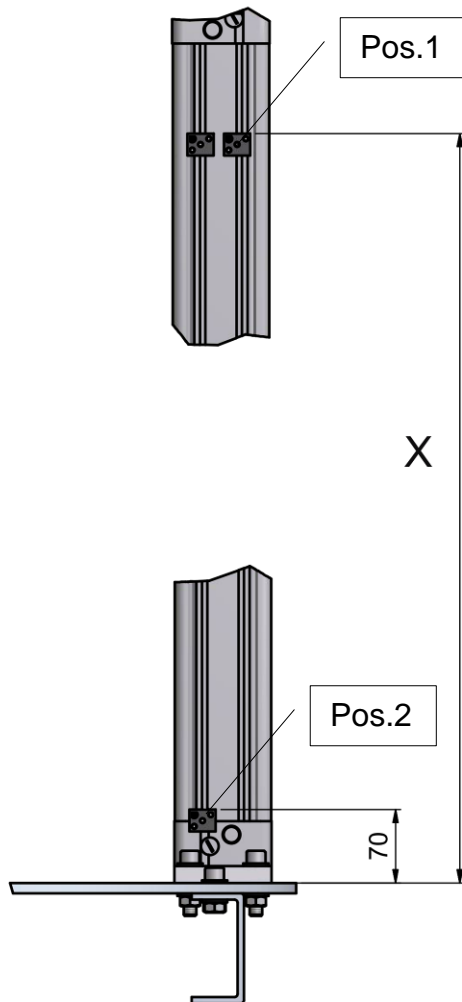


WARNING

The end switch must be adjusted by specialized staff only! Before adjustments can be made the cover plate must be dismantled.



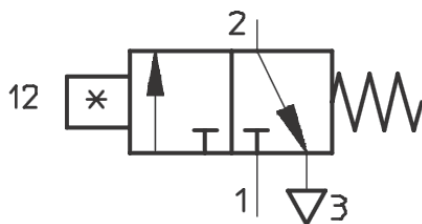
8.2.1 Magnetic Switch "Two-Hand / Pump Operation"



The magnetic end switches *Pos.1* are for controlling the system in 'two-hand operation'. After the piston rod of the cylinder has overrun *Pos.1*, the system switches from two-hand operation to 'conveying operation'.

The adjustable height of the magnetic end switch "X" is dependent on the container height. In case the container height is unknown, the magnetic end switches are installed at the lowest possible position for safety reasons.

The magnetic end switch *Pos.2* serves to switch the system from 'conveying operation' to 'two-hand operation'

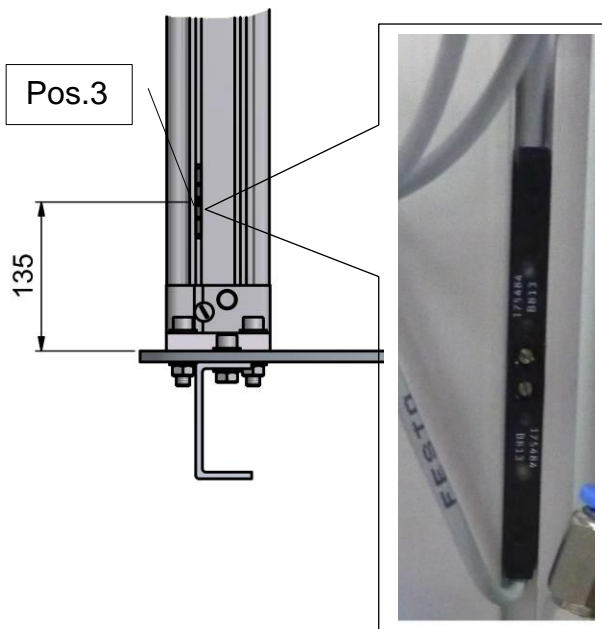


Circuit diagram SMPO-8E

Function

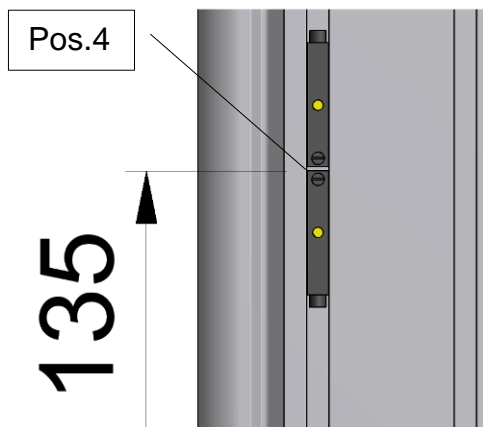
- 3/2 – way valve closed in initial position
- pneumatic proximity switch
- magnetic measurement principle

8.2.2 Electrical Refill and Empty Notification

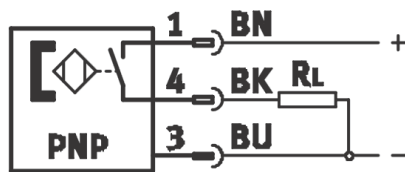


The proximity switches of *Pos.3* serve to indicate refill and low-level conditions. After the piston rod of the cylinder has overrun *Pos.3*, a signal occurs which can be used for optically indicating the low-level status, by e.g. connecting it to the PLC.

The height of the proximity switches is set at 135mm as a standard (*Pos.4*). The correct positioning of the proximity switches must be strictly observed.



Positioning of proximity switches

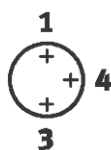
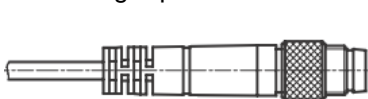


Circuit diagram SMT-8

General

- measuring principle magneto-resistive
- cable with plug (cable length 0.3m)

Plug 3-poles M8x1



Pin assignment

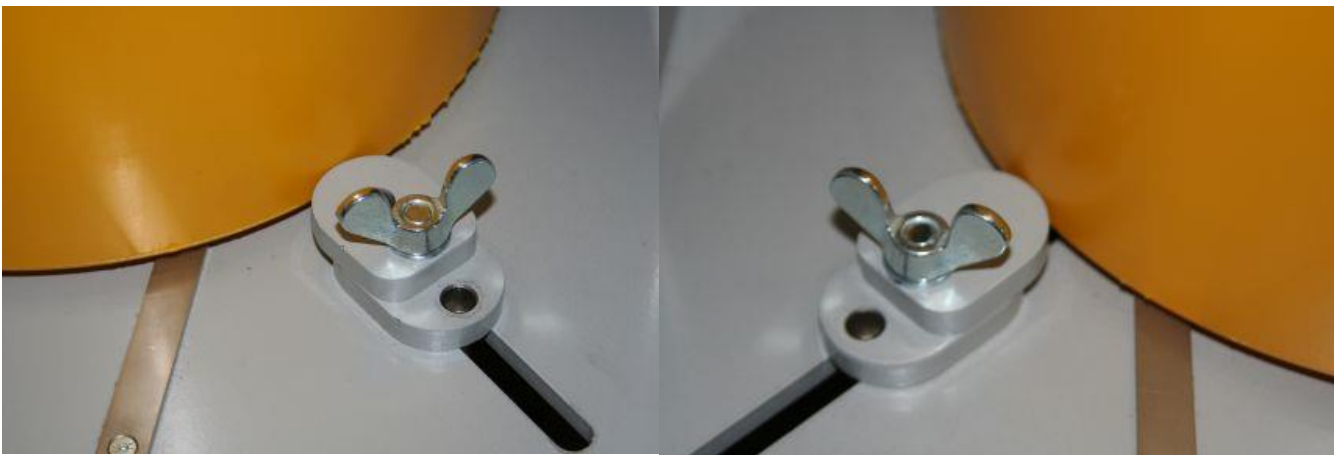
Pin	Wire colors	Assignment
1	Brown	+
3	Blue	-
4	Black	Outlet

Range of operating voltage [10 ... 30 V DC]

8.3 Insert Container

When a container is inserted for the first time it must be centered by adjusting the mounting at the base frame accordingly.

- Turn switch to “up” (switching between mid-position and lift will stop the lifting process).
- Follower plate goes up with the pump until it comes to a mechanical stop.
- Move the four container mountings to their outer end.
- Place the container under the follower plate.
- Turn switch to “down”.
- Lower follower plate using the two-hand control until the follower plate is just above the container top (do not lower into the container).
- Align container centrally below follower plate.
- Tighten all four wing nuts.



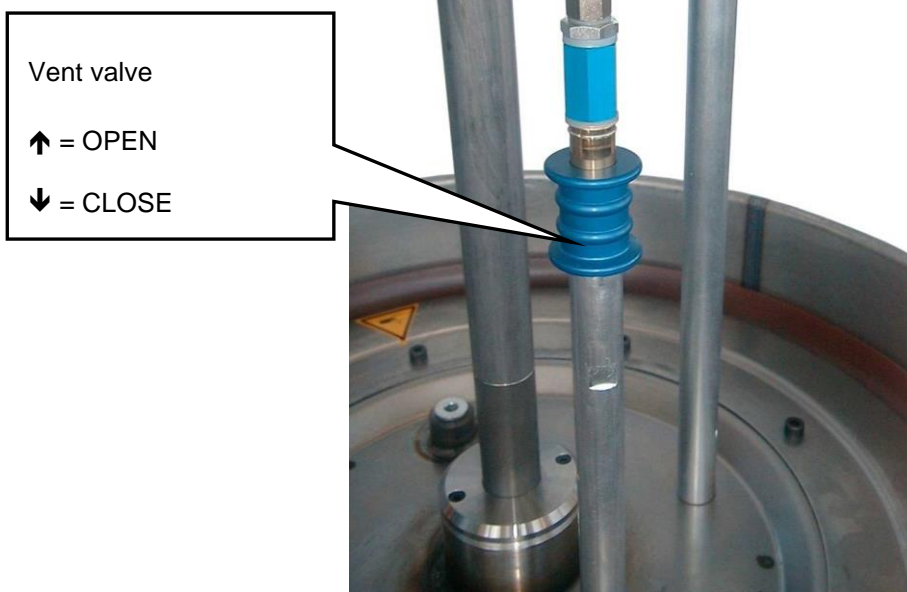
NOTE



- Uttermost cleanness is imperative when a new container is opened! Use clean material only!
 - Use containers filled by the lubricant manufacturer only! Otherwise filled or refilled containers may contain trapped air, which may cause system malfunctions.
 - Containers with bumps or other deformations must not be used, as they may cause leakage or damage to the follower plate.
-

8.4 Enter Pump in Container

- Open vent valve by pushing upwards.
- Turn switch to “down”.
- Operate two-hand control to lower follower plate inside the container until the pump comes to an automatic stop.
- The follower plate pressure can be adjusted via the pressure regulator “follower plate down.” Slowly increase this pressure from 0. If this setting is too high, the medium might be pressed out at the follower plate rubber.
- Close vent valve.



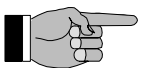
RISK OF INJURY!

Never touch container rim nor reach inside the container with your hand while the follower plate is lowered.

8.5 Conveying of Lubricants

- Turn switch to “down”. (Note the setting at pressure regulator 10.) Slowly increase the follower plate pressure to the required value.
- Push “pump on” button.

NOTE



Acoustic empty signal (if part of the order):

When container is empty a short signal with a volume of approx. 96 dB at height of head indicates that container is (nearly) empty – exchange container!

8.6 Remove Follower Plate from Container

- Push “pump off” button.
- Turn switch to “up” (switching between mid-position and lift will stop the lifting process) until the follower plate has moved out of the container.
- ATTENTION: If follower plate does not automatically move out of the container completely, please follow these steps:
 - Slide vent valve up to open it.
 - Turn switch to “up”.
 - Follower plate moves out of the container completely (mechanical stop). (Switching between mid-position and lift will stop the lifting process).
 - Check seals of the follower plate for damage and clean them.

8.7 Exchanging Containers

- Loosen all 4 wing nuts (do not remove).
- Remove empty container.
- Align full container centrally below the follower plate.
- Tighten all 4 wing nuts.
- Continue with chapter 8.4 and 8.5.



NOTE

- Uttermost cleanness is imperative when opening a new container! Use clean material only!
- Replacement containers must be of same size and content only!
- Use containers exclusively filled by the lubricant manufacturer. Otherwise filled or refilled containers may contain trapped air, which may cause system malfunctions.
- Containers with bumps or other deformations must not be used as they may cause leakage or damage of the follower plate.



9 Taking out of Service

9.1 Short Interruption

For short interruptions, such as overnight or during weekends, perform the following tasks:

- Press “pump off” prior to removing from main air.
- Clean equipment.



NOTE

When the system is not used, press the button “pump off”, switch off the equipment and make sure that no pressure is left in the system.

9.2 Long-term Interruption

Please observe the procedure stated below, when taking equipment out of service for longer periods of time:

- Press button “pump off”.
- Move sliding sleeve of safety air connector to fully disconnect equipment from air supply.
- Make sure that no pressure is left in system (check pressure gauges).
- Store equipment and hydraulic and pneumatic components such that they cause no risk of accident and no equipment damage is possible (e.g. bending of hoses).

9.3 Final Shutdown of Device

Please observe the following procedure, when finally shutting down the equipment:

- Remove container and clean follower plate.
- Turn switch to “down”.
- Lower follower plate to the automatic stop on the bottom plate using the two-hand control.
- Press button “pump off”.
- Move sliding sleeve of safety air connector to fully disconnect equipment from the air supply. Make sure that no pressure is left in the system (check pressure gauge).
- Store equipment and its hydraulic and pneumatic components such that they cause no risk of accident and no equipment damage is possible (e.g. bending of hoses).



WARNING

Danger of accidents and environmental hazard: Do not spill grease or oil! Properly dispose of grease and oil (hazardous waste).

10 Troubleshooting



NOTE

Troubleshooting should be performed by a trained specialist only.

For severe problems and / or those which cannot be resolve, please contact the customer service of Walther Systemtechnik GmbH.

10.1 Failures:

Fault	Possible cause	Action	Comment
Pumpe does not start	No air pressure	Check air supply	Check pump pressure gauge (air pressure)
	Safety air connector not snapped (engaged)	Push safety air connector into snap position	
	Defective pump valve	Check valve function	Chapter 8.1 (2)
Pump supplies low or no pressure	Pressure regulator valve misadjusted	Adjust pressure regulator valve to 6 bar (gradually rising)	Check pump pressure gauge (air pressure)
	Pump lift switched off	Set turn-switch to "down"	Chapter 8.1
	Leakage	Check hoses and fittings	
	Follower plate pressure not high enough	Gently rise pressure by adjusting pressure regulator valve of pump lift	Chapter 8.1
	Air pressure low	Check air supply	Call mechanical engineer

10.2 Customer Service / Support

Walther Systemtechnik GmbH
 Hockenheimer Straße 3
 D-76726 Germersheim
 Germany

Phone ++49(0)7274-7022-0
 Telefax ++49(0)7274-7022-91
 Email info@walther-2000.de
 Internet www.walther-2000.de

11 Maintenance, Service

This chapter explains how to perform maintenance on the equipment. The maintenance table shows what should be checked and at which intervals.



Note

This chapter does not explain how to repair damage of the equipment. Repair work shall be executed exclusively by skilled and trained experts, or by staff of the manufacturer's customer service.

11.1 Maintenance Schedule

The maintenance intervals stated below are valid for single-shift operation of the equipment. In case of multiple-shift or very intensive operation, maintenance intervals must be shortened accordingly. Also take into account other influences on maintenance need, such as dirty environment, or degraded air supply quality.

WHEN	WHAT	HOW	WHO
Weekly	Check hoses and fittings for leaks	Visual inspection	Experts
Monthly	Check pneumatic maintenance unit / filter	Clean filter	Experts
Annually	Safety air connector	Check fit (function) and tightness	Experts



WARNING

As a rule, all work must be executed with the equipment shut down completely. Press the button "pump off". The pneumatic air connector must be disconnected and a safeguard against accidental connection established.

Pressure inside the pneumatic and hydraulic systems must be removed. All pressure gauges must indicate 0 bar.



WARNING

Long-term interruptions can cause problems such as blockings, separating (bleeding) or earlier aging of media.

11.2 Filters

- Assemble as close to the air pressure connection as possible.
- Take note of the direction of the air passage indicated by an arrow on the housing.
- Make sure to install in vertical position.
- If the equipment is mounted on a wall, remove plastic covers and replace them afterwards (dirt protection).
- The maximum temperature must not exceed 50 °C during operation.
- Do not operate at more than the maximum inlet pressure (indicated on type plate).
- Do not disassemble filter container if under pressure.
- Do not exceed the max. material amount as displayed on the container. In order to release turn the semi-automatic outlet valve or reduce machine pressure to trigger a discharge.

- The inserted filter element can be replaced by unscrewing the container and pulling out the old filter. Clean container at the same time.

11.3 Pressure Reducer

- Assemble as close to the air pressure connection as possible.
- Take note of the direction of the air passage indicated by an arrow on the housing.
- If the equipment is mounted on a wall, remove plastic covers and replace them afterwards (dirt protection).
- The maximum temperature must not exceed 50 °C during operation.
- Do not operate at more than the maximum inlet pressure (indicated on type plate).
- Push to relock after pressure adjustment.
- Adjust pressure by turning: right turn increases pressure, left turn decreases pressure.

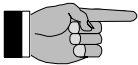
11.4 Stop Valve

- Assemble as close to the air pressure connection as possible.
- Take note of the direction of the air passage indicated by an arrow on the housing.
- If the equipment is mounted on a wall, remove plastic covers and replace them afterwards (dirt protection).
- The maximum temperature must not exceed 50 °C during operation.
- Do not operate at more than the maximum inlet pressure (indicated on type plate).
- Push and rotate manual control by 90° to activate valve.
- This function cannot be activated if secured by a padlock.
- U-lock not contained in scope of delivery

11.5 Spare Parts

IMPORTANT

Only use original spare parts from the manufacturer!



Wrong or defective spare parts from other manufacturers can damage the device. If other than original spare parts of the manufacturer will be used, all obligations from the manufacturer or his sales partners, such as guarantees, service contracts etc will be **forfeited** without further notice.

12 Resale and Disposal

12.1 Resale

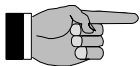
This operating manual is part of the equipment and hence included in the scope of delivery when resold.

12.2 Disposal



WARNING

Lubricant materials will be treated as hazardous waste!



WARNING

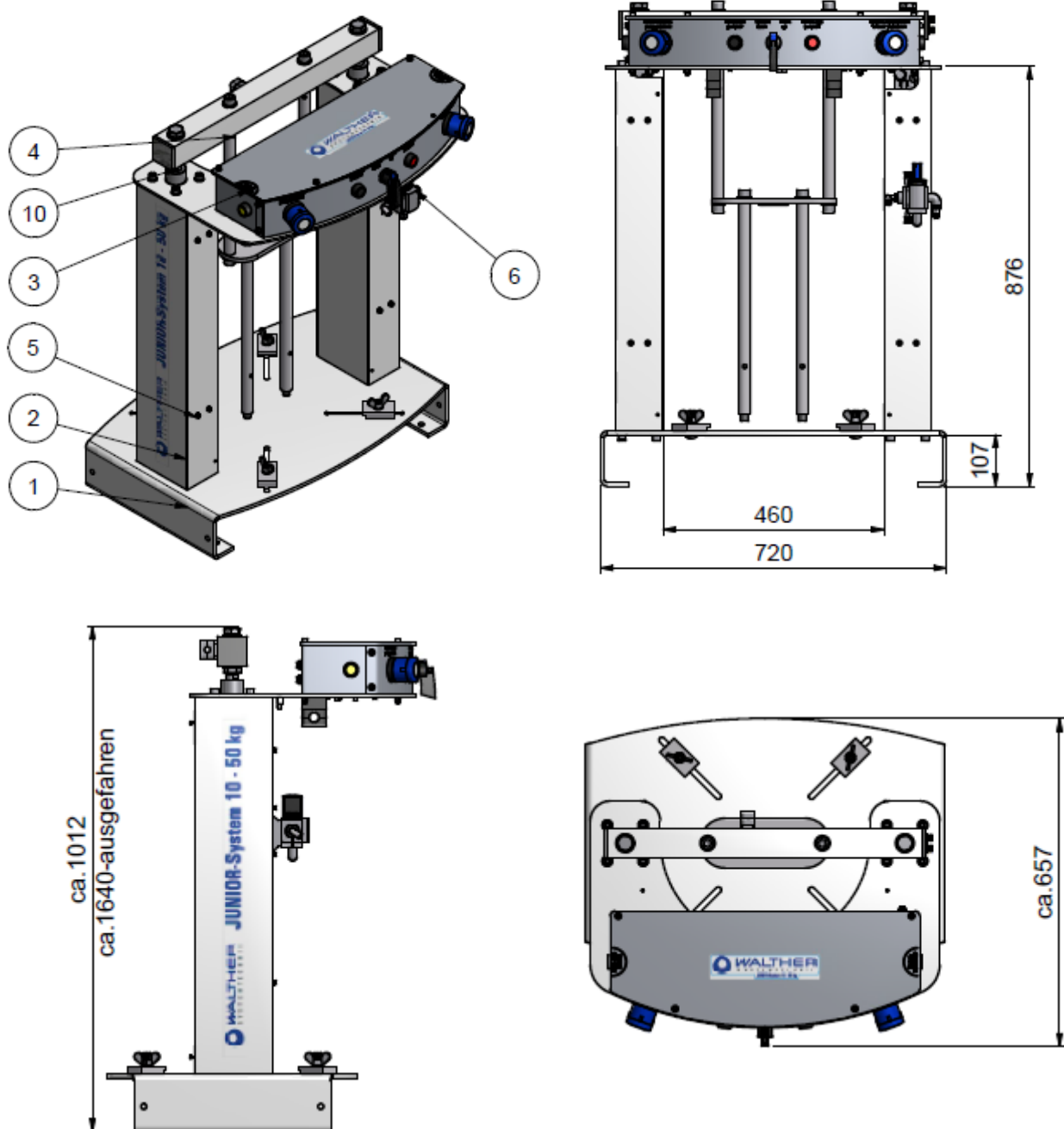
Take care not to spill grease or oil. Take precautions to retain possible grease and oil spills.

Materials and liquids shall be individually handled and disposed of in a professional manner and in compliance with the respective national legal regulations.

Product	Material	Disposal
main frame, cylinder, pump, valves,	steel and aluminum, brass, bronze	separation of metals, recycling
hoses, pipes, seals, etc.	rubber, plastics	separation of materials, recycling
lubricants	oil, grease	reconditioning or disposal according to local waste management legislation

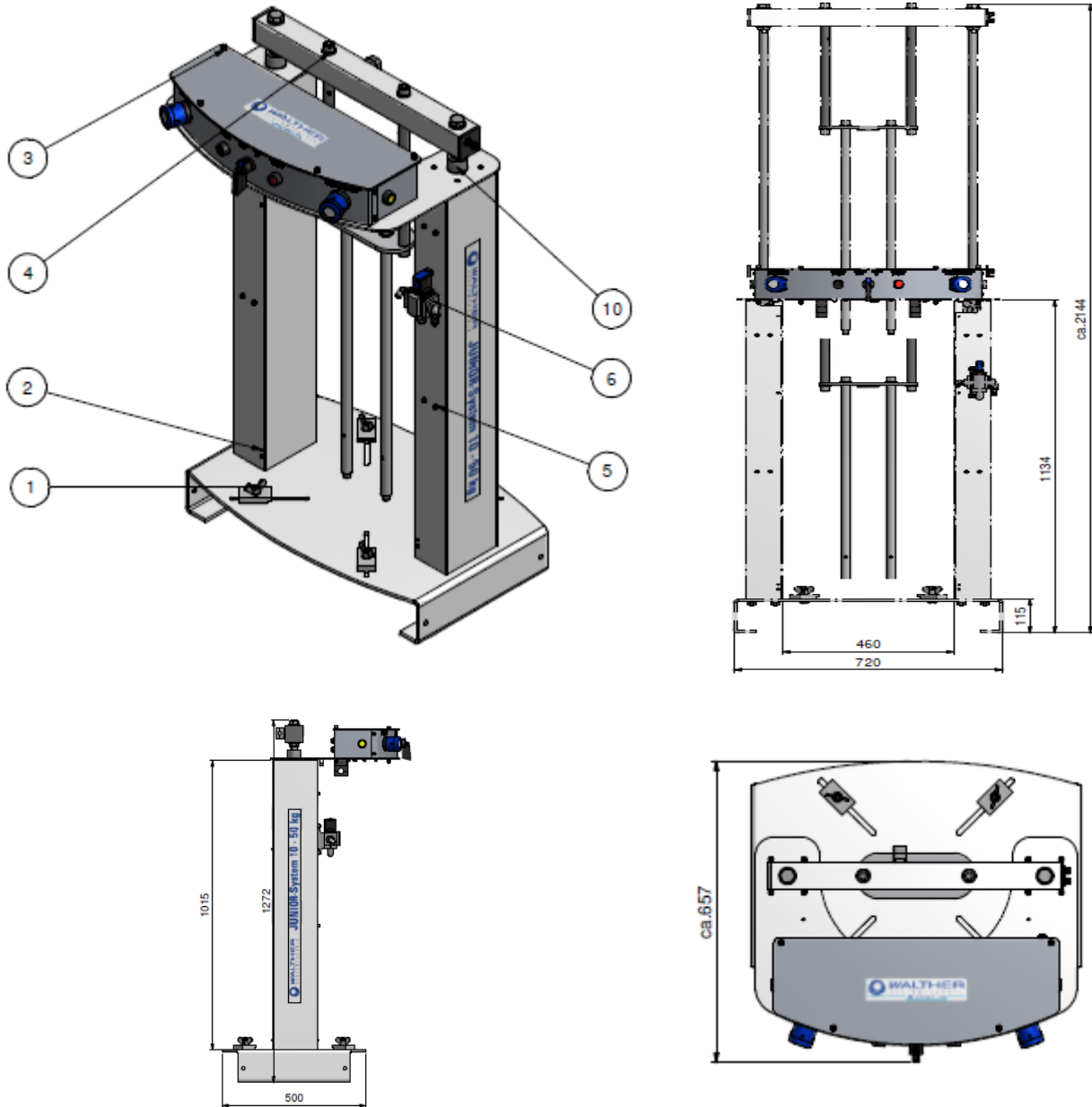
13 Appendix

13.1 Dimensioned Drawing and Spare Part List Junior-System 979824 –Standard



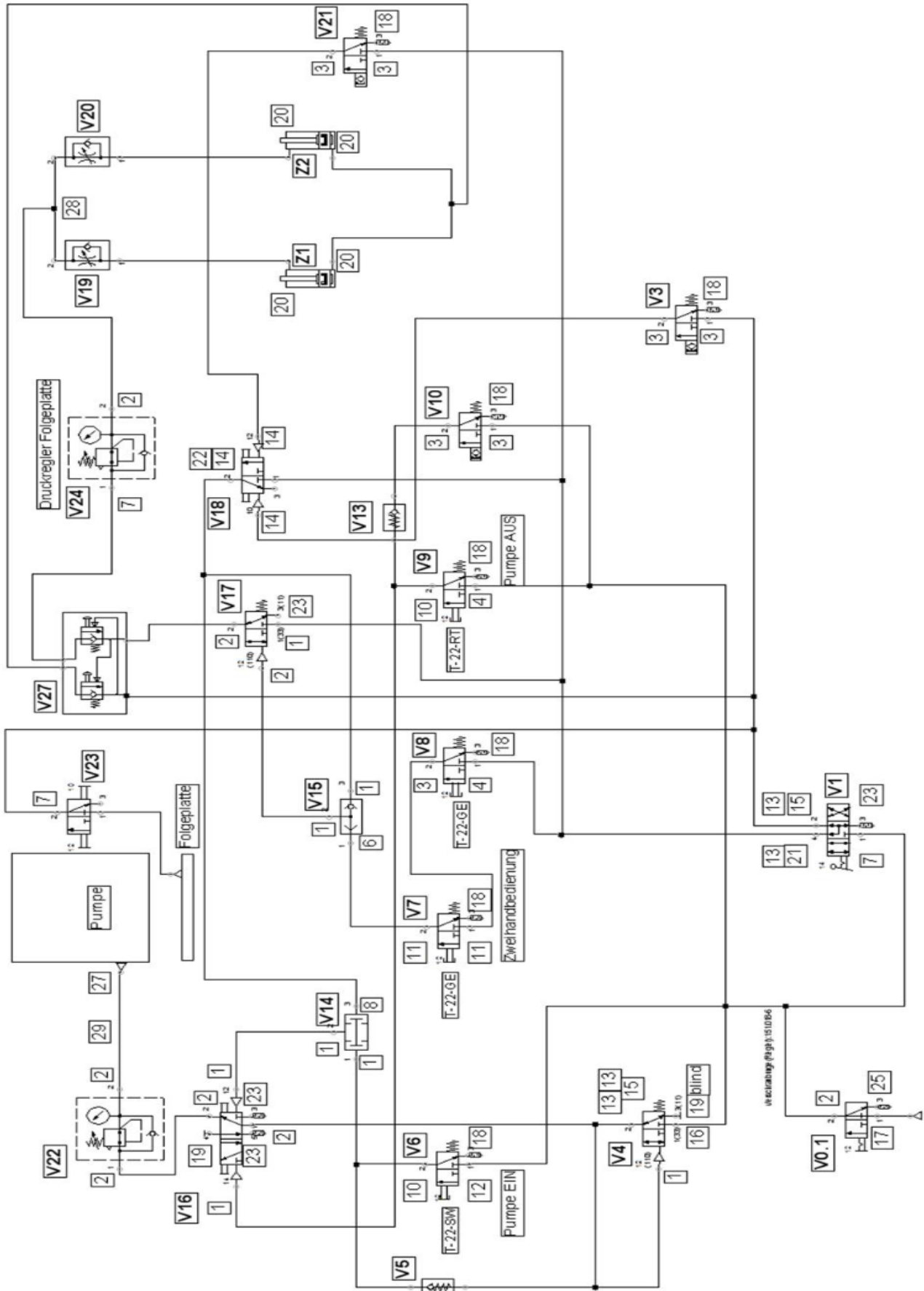
Item	Qty	Part Number	Description
1	1	979824Z001	Pump foot - Junior
2	1	979824Z002	Sheet metal casing with label
3	1	979824Z003	Controls - Junior
4	1	979824Z004	Q-support Junior
5	8	979824Z005	Standoff with mounting kit
6	1	979824Z006	Turn-on valve with mounting kit
7	1	979824Z007	Pipe clamp
10	2	532883	DNCB-80-628-PPV-A standard cylinder

13.2 Dimensioned Drawing and Spare Part List Junior-System 979824 –Standard-HC






Item	Qty	Part Number	Description
1	1	979824Z101	Pump foot - Junior
2	1	979824Z102	Sheet metal casing with label
3	1	979824Z003	Controls - Junior
4	1	979824Z104	Q-support Junior
5	8	979824Z005	Standoff with mounting kit
6	1	979824Z006	Turn-on valve with mounting kit
7	1	979824Z007	Pipe clamp
10	2	532883_875	DNCB-80-875-PPV-A standard cylinder

13.3 Pneumatic Circuit Layout



optional: Venturereinheit 542232

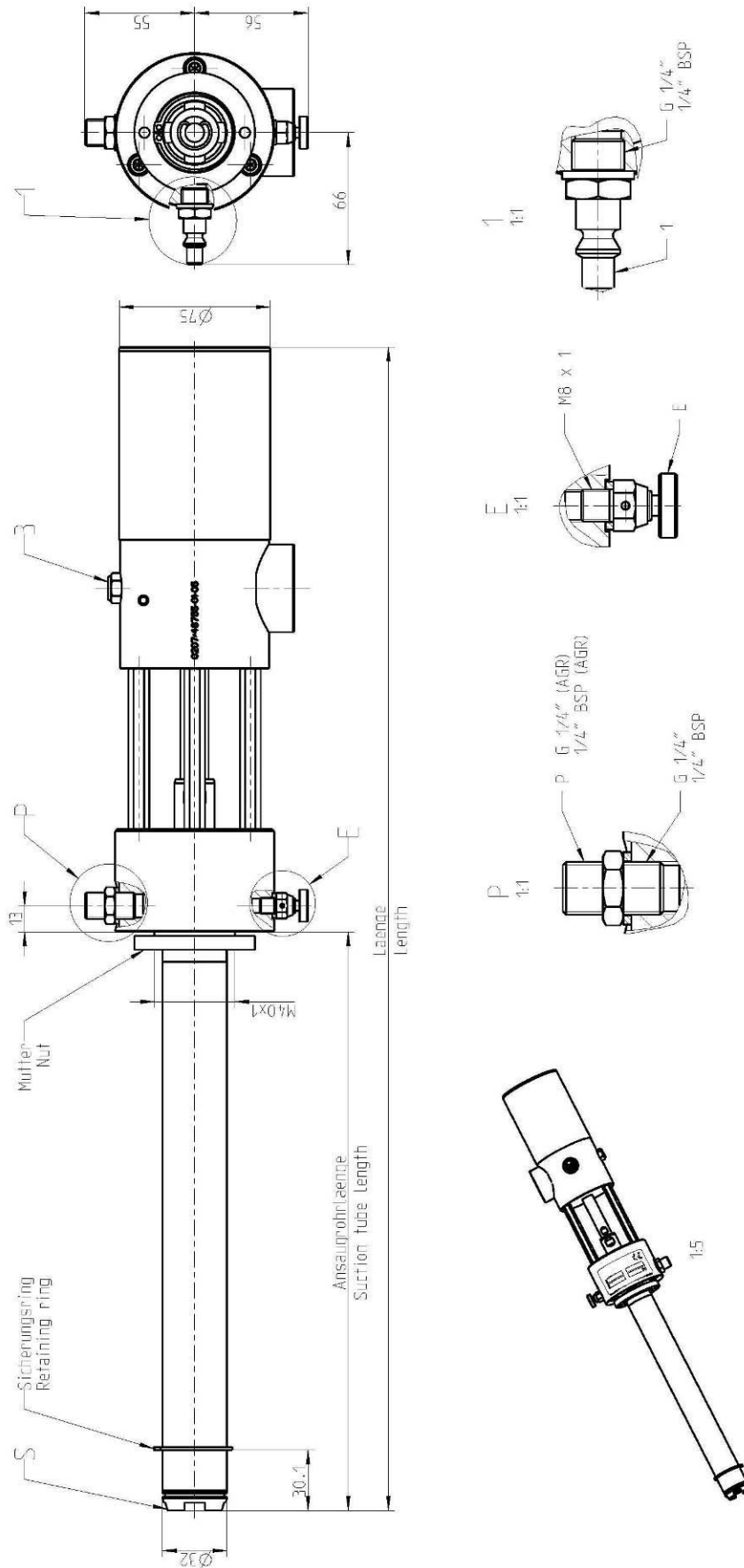
13.4 Spare Part List Feed Pump

Figure	Article Number	Pressure Ratio	Start Pressure (bar)
	9740612.00	10:1 S	60
	9740622.00	25:1 S	140
	9740642.00	60:1 S	360

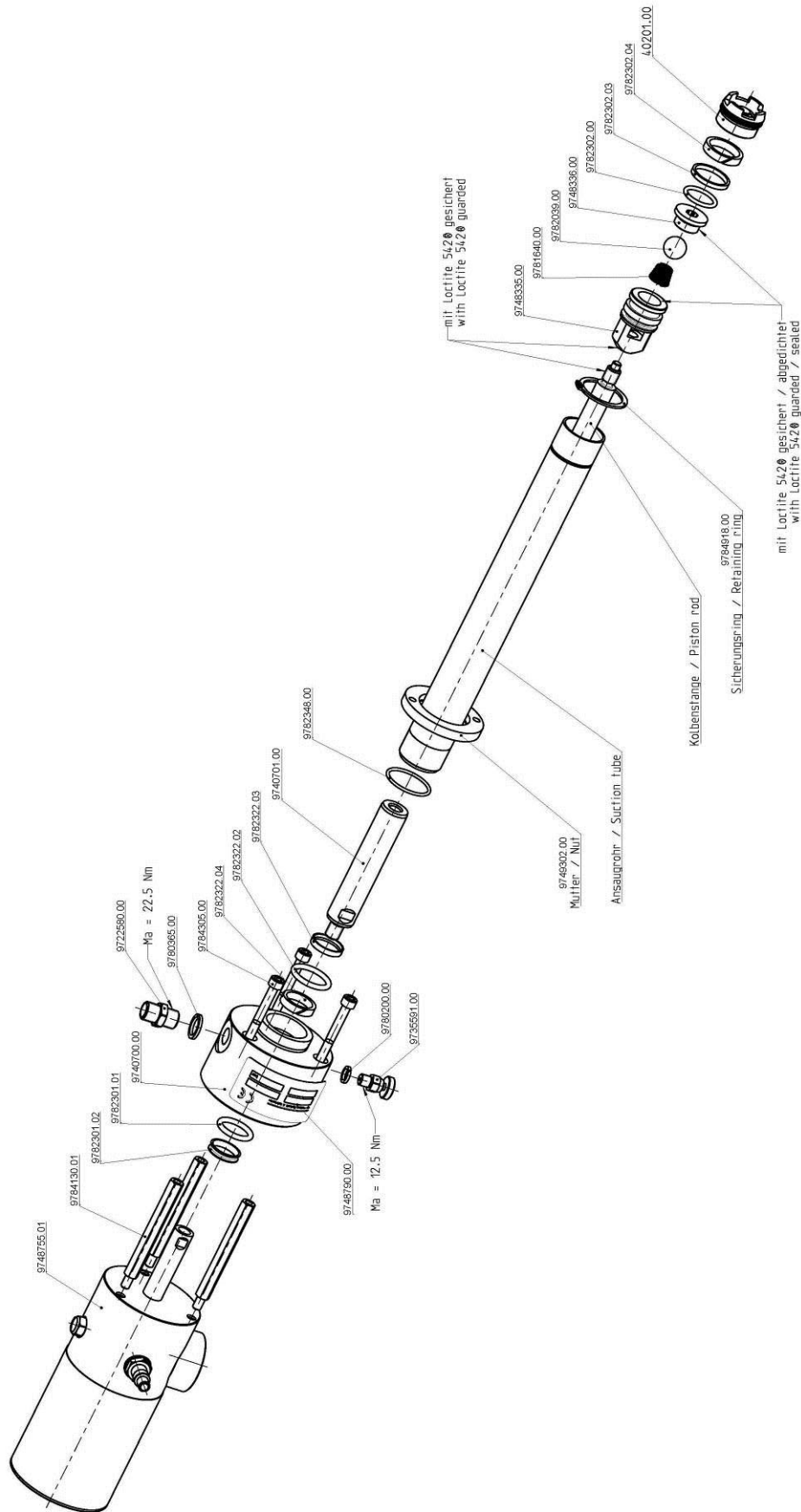
13.5 Special Documentation for NEMO-Pump 979559

The „Operating and Service Manual NEMO-Pump“ (Art.-No. 979559) is separately available.

13.6 Dimensioned Drawing – Feed Pump 10:1 S



13.7 Spare Part Drawing – Feed Pump 10:1 S

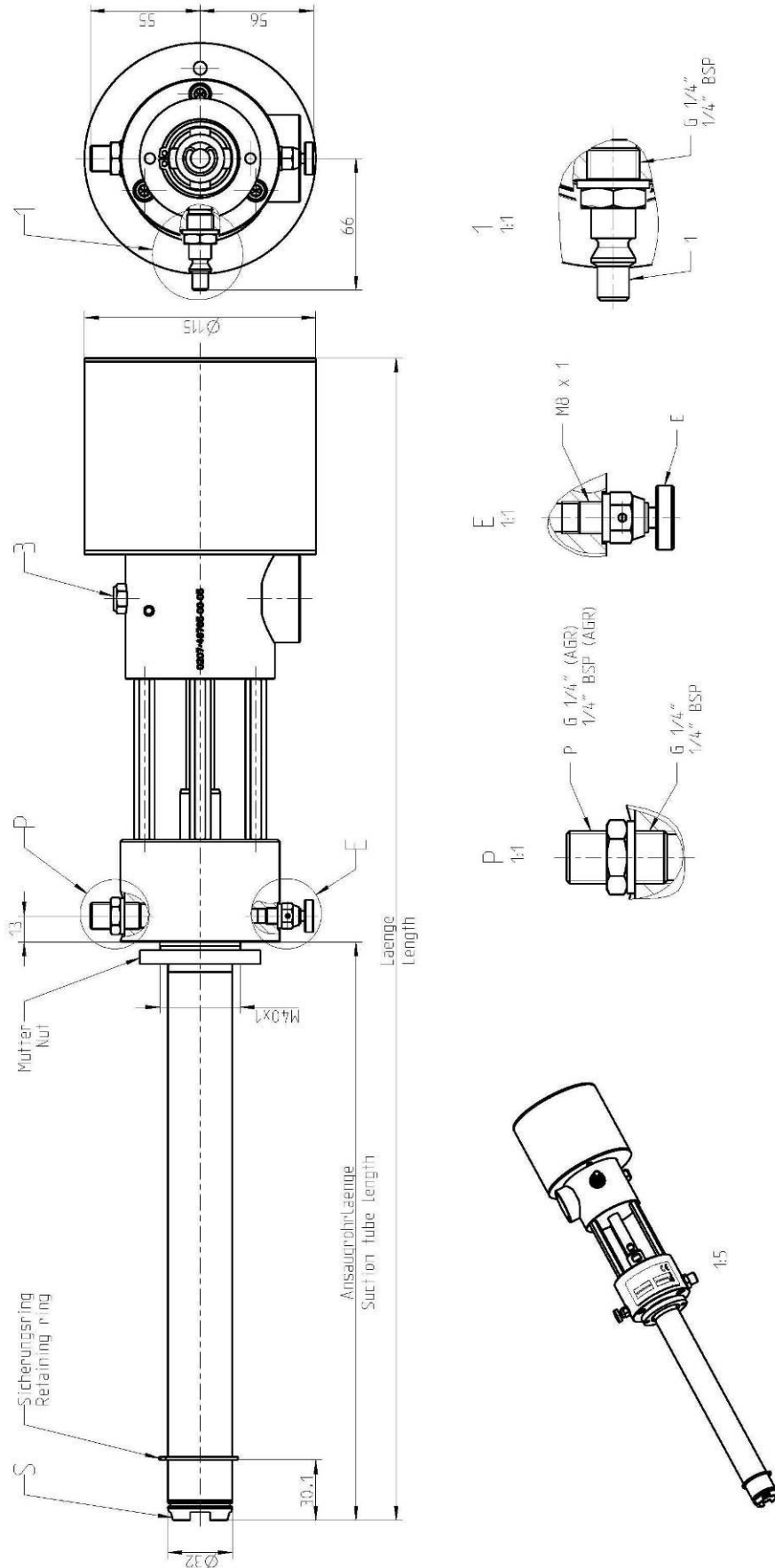


13.8 Spare Part List – Feed Pump 10:1 S

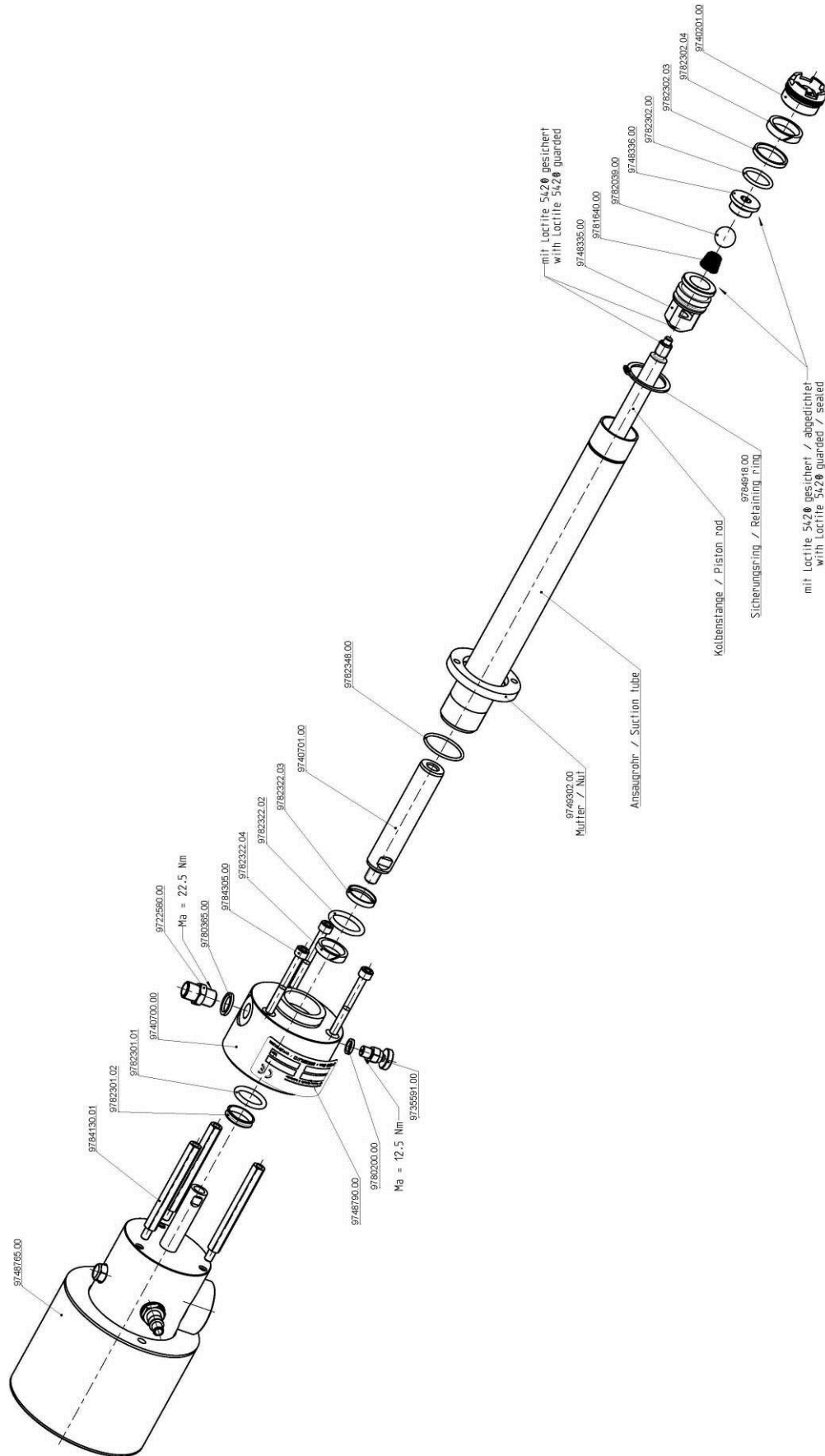
Artikelnummer	Bezeichnung	Description	Menge/Qty
9722580.00	Gewindestück	Threaded element	1
9735591.00	Entlüftungsventil	Air release valve	1
9740201.00	Ansaugventil	Suction valve	1
9740204.03	Ansaugrohr	Suction tube	1
9740700.00	Anschlussblock	Connection block	1
9740701.00	Ausgleichkolben	Compensation piston	1
9748335.00	Kolben	Piston	1
9748336.00	Kolbenboden	Piston bottom	1
9748340.01	Kolbenstange	Piston rod	1
9748755.01	Luftmotor	Air motor	1
9748790.00	Typenschild	Labeling	1
9749302.00	Mutter	Nut	1
9780200.00	Flachdichtung	Flat gasket	1
9780365.00	Flachdichtung	Flat gasket	1
9781640.00	Feder	Spring	1
9782039.00	Kugel	Ball	1
9782301.01	O-Ring	O-ring	1
9782302.00	O-Ring	O-ring	1
9782301.02	Double-Delta Dichtung	Double-Delta seal	1
9782302.03	GlydRing	Glyd-Ring	1
9782302.04	Slydring	Slyd-ring	1
9782322.02	O-Ring	O-ring	1
9782322.03	Stangendichtung	Rod seal	1
9782322.04	Slydring	Slyd-ring	1
9782348.00	O-Ring	O-ring	1
9784130.01	Distanzhalter	Distance piece	3
9784305.00	Schraube	Screw	3

Artikelnummer	Bezeichnung	Description	Menge/Qty
974061900	Dichtungssatz Ansaugsystem	Sealing kit Suction system	1
974879800	Dichtungssatz Luftmotor	Sealing kit Air motor	1

13.9 Dimensioned Drawing – Feed Pump 25:1 S



13.10 Spare Part Drawing – Feed Pump 25:1 S

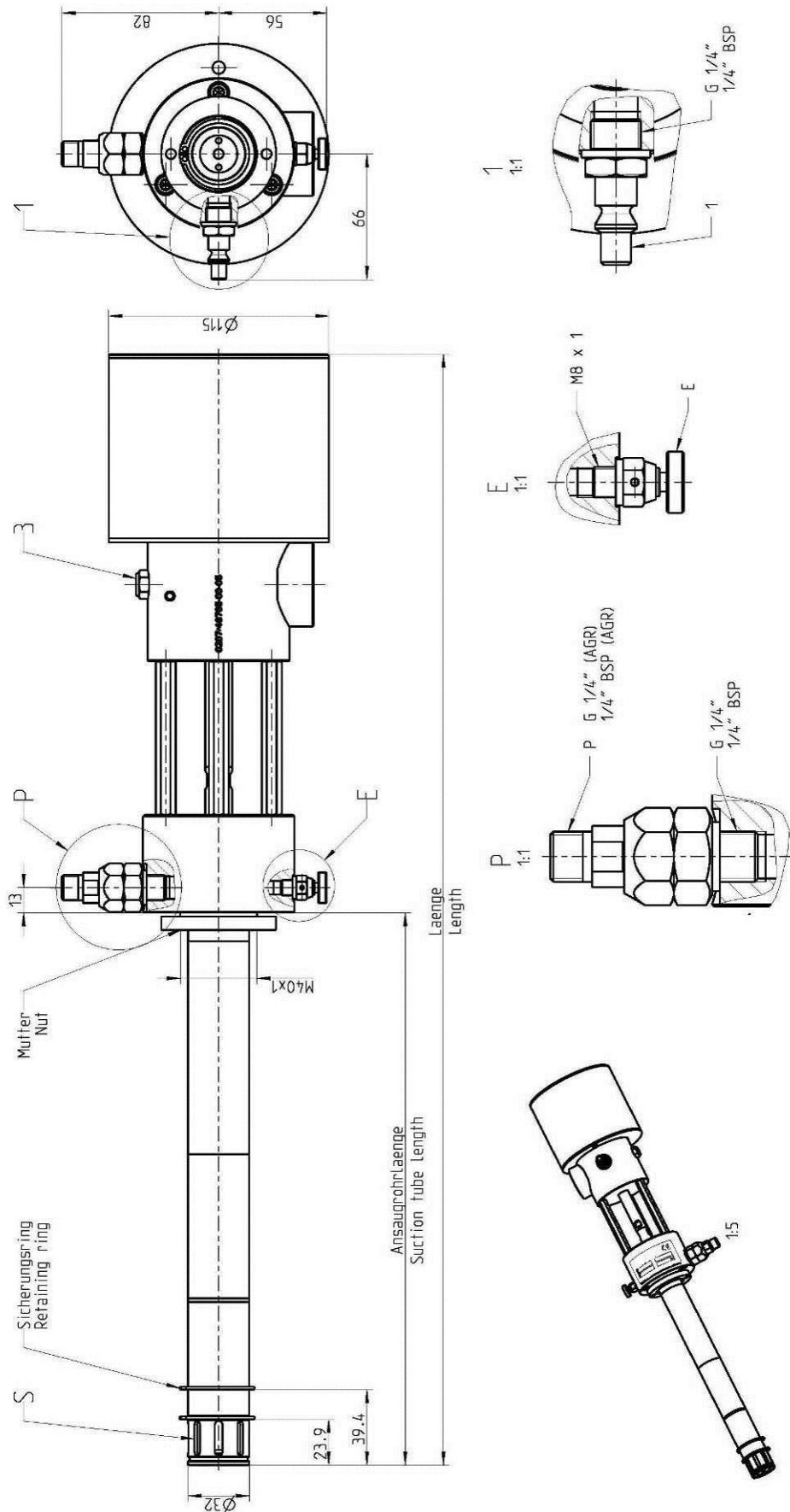


13.11 Spare Part List – Feed Pump 25:1 S

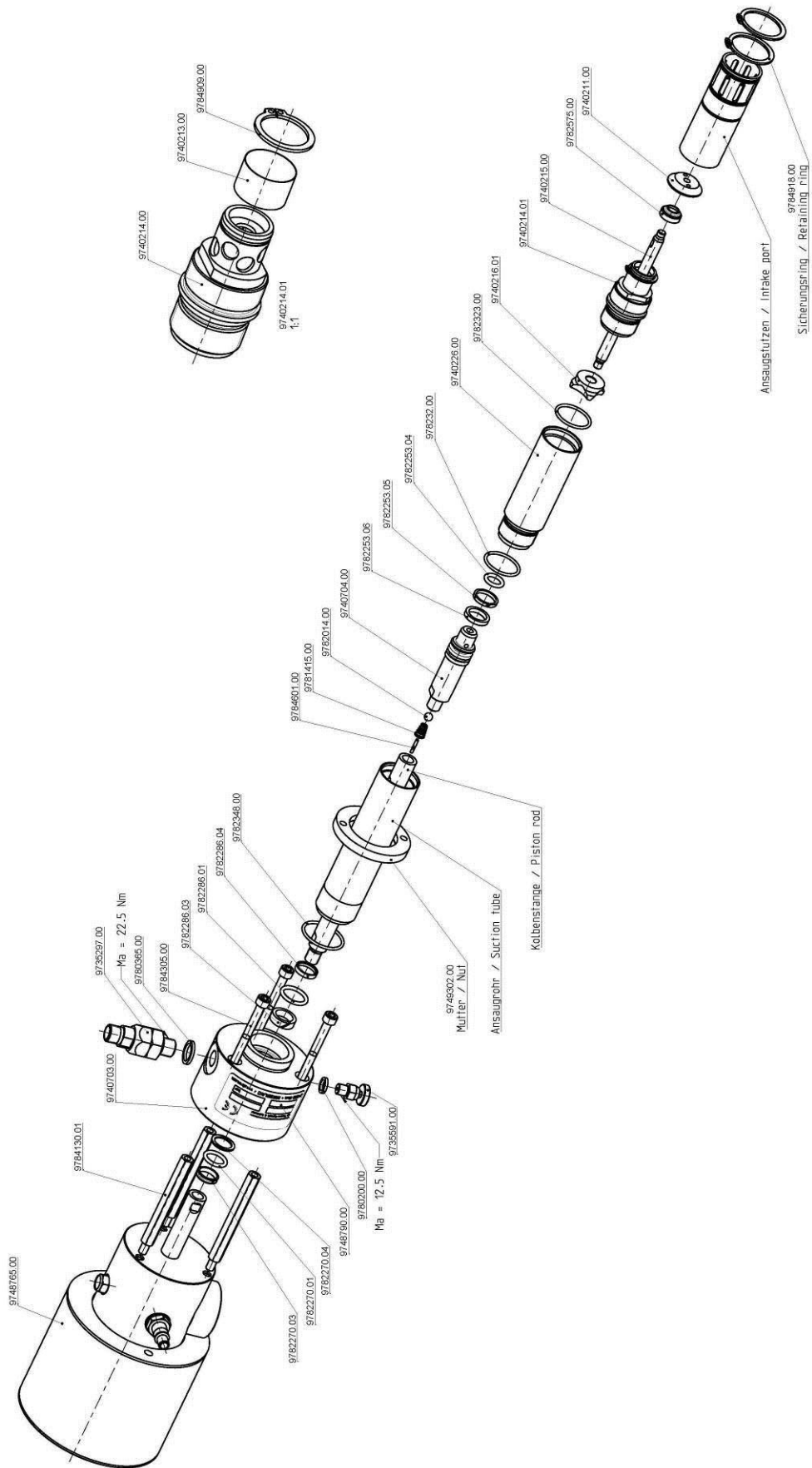
Artikelnummer	Bezeichnung	Description	Menge/Qty
9722580.00	Gewindestück	Threaded element	1
9735591.00	Entlüftungsventil	Air release valve	1
9740201.00	Ansaugventil	Suction valve	1
9740204.03	Ansaugrohr	Suction tube	1
9740700.00	Anschlussblock	Connection block	1
9740701.00	Ausgleichkolben	Compensation piston	1
9748335.00	Kolben	Piston	1
9748336.00	Kolbenboden	Piston bottom	1
9748340.01	Kolbenstange	Piston rod	1
9748755.01	Luftmotor	Air motor	1
9748790.00	Typenschild	Labeling	1
9749302.00	Mutter	Nut	1
9780200.00	Flachdichtung	Flat gasket	1
9780365.00	Flachdichtung	Flat gasket	1
9781640.00	Feder	Spring	1
9782039.00	Kugel	Ball	1
9782301.01	O-Ring	O-ring	1
9782302.00	O-Ring	O-ring	1
9782301.02	Double-Delta Dichtung	Double-Delta seal	1
9782302.03	GlydRing	Glyd-Ring	1
9782302.04	Slydring	Slyd-ring	1
9782322.02	O-Ring	O-ring	1
9782322.03	Stangendichtung	Rod seal	1
9782322.04	Slydring	Slyd-ring	1
9782348.00	O-Ring	O-ring	1
9784130.01	Distanzhalter	Distance piece	3
9784305.00	Schraube	Screw	3

Artikelnummer	Bezeichnung	Description	Menge/Qty
974061900	Dichtungssatz Ansaugsystem	Sealing kit Suction system	1
974879900	Dichtungssatz Luftmotor	Sealing kit Air motor	1

13.12 Dimensioned Drawing – Feed Pump 60:1 S



13.13 Spare Part Drawing – Feed Pump 60:1 S



13.14 Spare Part List – Feed Pump 60:1 S








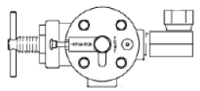
Artikelnummer	Bezeichnung	Description	Menge/Qty
9735297.00	Drehbare Kupplung	Rotary coupling	1
9735591.00	Entlüftungsventil	Release valve	1
9740211.00	Scheibe	Disc	1
9740213.00	Filter	Filter	1
9740214.01	Adapter komplett	Adapter complete	1
9740215.00	Förderkolben	Stroke piston	1
9740212.03	Ansaugstutzen	Intake port	1
9740214.02	Adapter	Adapter	1
9740216.01	Ventil	Valve	1
9740226.00	Druckzylinder	Pressure cylinder	1
9740219.20	Kolbenstange	Piston rod	1
9740220.23	Ansaugrohr	Suction tube	1
9740703.00	Anschlussblock	Connection block	1
9740704.00	Kolben	Piston	1
9748755.01	Luftmotor	Air motor	1
9748790.00	Typenschild	Labeling	1
9749302.00	Mutter	Nut	1
9780200.00	Flachdichtung	Flat gasket	1
9780365.00	Flachdichtung	Flat gasket	1
9781415.00	Feder	Spring	1
9782014.00	Kugel	Ball	1
9782253.04	O-Ring	O-ring	1
9782253.05	Slydring	Slyd-ring	1
9782253.06	GlydRing	Glyd-Ring	1
9782270.01	O-Ring	O-ring	1
9782270.03	Double-Delta Dichtung	Double-Delta seal	1
9782270.04	Stützring	Backup ring	1
9782286.01	O-Ring	O-ring	1
9782286.03	Slydring	Slyd-ring	1
9782286.04	Stangendichtung	Rod seal	1
9782323.00	O-Ring	O-ring	2
9782348.00	O-Ring	O-ring	1
9782575.00	Abstreifer	Wiping seal	1
9784130.01	Distanzhalter	Distance piece	3
9784305.00	Schraube	Screw	3
9784601.00	Spannstift	Roll pin	1
9784909.00	Sicherungsring	Retaining ring	1

Artikelnummer	Bezeichnung	Description	Menge/Qty
974061900	Dichtungssatz Ansaugsystem	Sealing kit Suction system	1
974879900	Dichtungssatz Luftmotor	Sealing kit Air motor	1
974021401	Adapter komplett	Adapter, complete	1

13.15 Spare Part List Follower Plate

Artikelnummer	Ø Gummi 1 <i>rubber</i> / Ø Gummi 2 <i>rubber</i> (mm)	Ø Druckplatte <i>Follower Pl.</i> (mm)	Gebindegröße <i>Container size</i> Ø oben/ Ø unten (mm) Ø top/ Ø bottom (mm)
979547.000	235/--	210	
979547.002	344/320	290	
979547.004	300/260	240	
979547.007	295/--	260	
979547.008	290/--	260	
979547.009	270/235	235	
979547.010	285/260	250	
979547.012	285/260	230	
979547.013H	344/320	290	
979547.014	250/225	190	
979547.015	320/300	280	
979547.016	250/225	190	
979548.000	405/370	340	
979548.001	430/395	360	
979548.003	390/350	320	
979548.004	370/350	310	

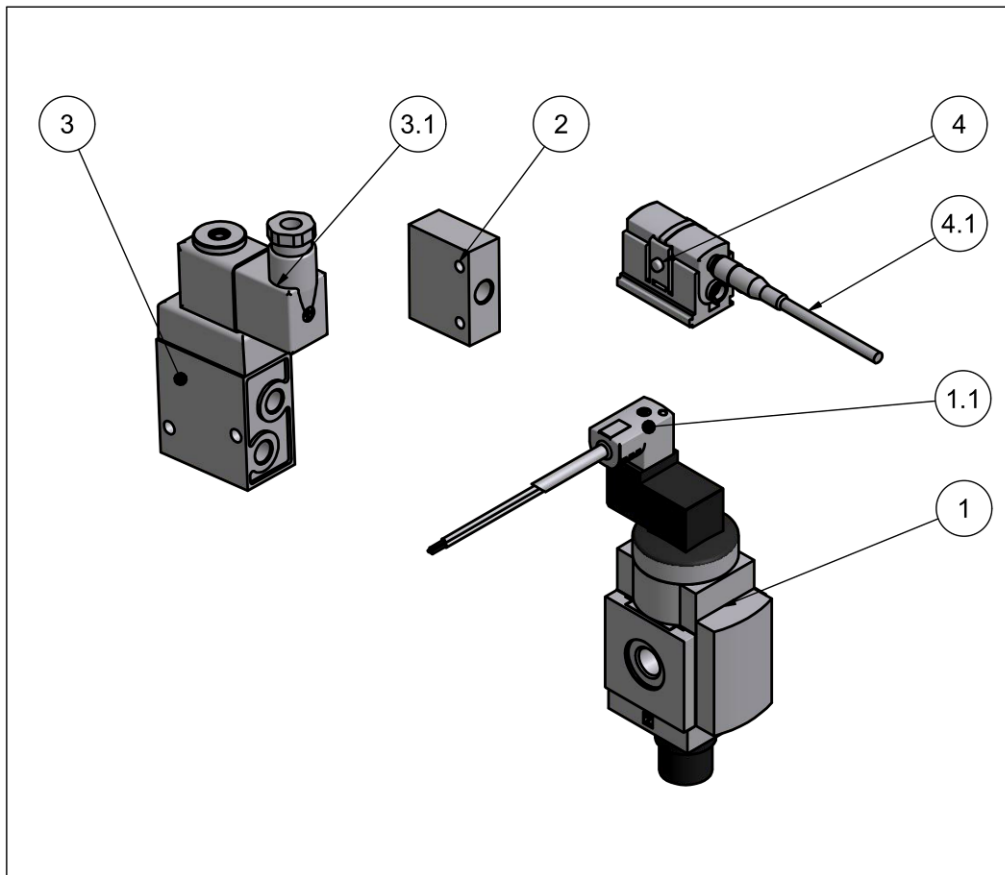
14 Accessories

Figure	Article Number	Description
	979648.00	Grease filter, high-strength aluminum (see also Product Catalog ACCESSORIES)
	979665.00	Material pressure relief, manual (see also Product Catalog ACCESSORIES)
	979665.02	Material pressure relief, automatic (see also Product Catalog ACCESSORIES)
	SWZ-12-0023	Automatic Remote On/Off (see also Product Catalog ACCESSORIES)
	979775	Mixing tube (see also Product Catalog ACCESSORIES)
	979770	Pressure control with water separator
	979824.200	Barrel cap® 
	979430	Dry-run safety valve (see also product catalogue ACCESSORIES)
	979763	Mobile design for Junior- and Senior-System (2 each steering and trestle rollers)
	979767	Add-on set "electrical refill and empty notification"
	979768	Add-on set "acoustic empty signal"

14.1 Automatic Remote Control ON/OFF

The automatic remote on and off allows the pump through a master control on and off. For this purpose the pump must be equipped with additional components.

14.1.1 Single Components of Assembly Group



Stückliste			
OBJEKT	ANZAHL	BAUTEILNUMMER	BEZEICHNUNG
1	1	97542579	Einschaltventil
1.1	1	97151689	Steckdosenleitung
2	1	976681	ODER Glied
3	1	977802	Magnetventil
3.1	1	974527	Magnetspule
4	1	97542892	Druckschalter
4.1	1	97159421	Steckdosenleitung
WST		Allgemeintoleranz DIN ISO 2768 mH	Oberfl. che DIN ISO 1302
		Datum 20.06.2012	Name Kunstmann
		Gepr.	
		Norm.	
Maßstab: () Werkstoff, Halbzeug Rohteil-Nr. Modell-oder Gesenk-Nr.			Gewicht:0 kg
Automatische Fern Ein u. Abschaltung Fettpumpe			
 76726 Gernersheim Tel. 07274/7022-0 Fax: 7022-90			Blatt 1
SWZ-12-0023Z			A4
Zust.	Änderungen	Datum	Name Ursprung
Ersatz für		Ersetzt durch	

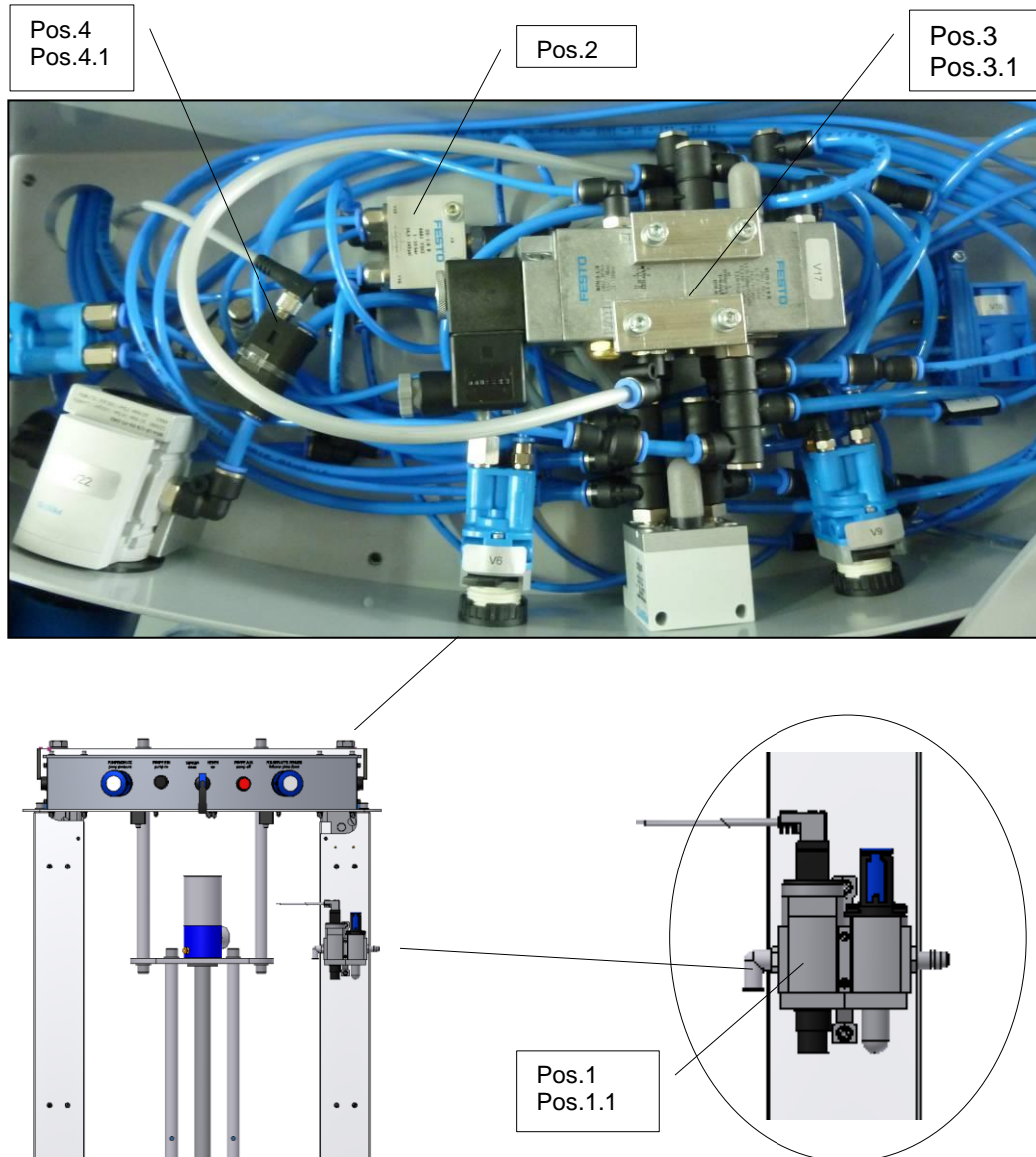
14.1.2 Description of Process

Pump on:

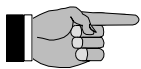
- ✓ The On/Off valve Pos.1 is energized.
- ✓ The 3/2-way magnetic valve in Pos.3 will be shortly energized (pulse, latching).
- ✓ The pressure sensor Pos.4 records the pressure rise and gives a signal to the controller "Pump On".

Pump off:

- ✓ The On/Off valve Pos.1 is off.
- ✓ The pressure sensor Pos.4 records the pressure drop and gives a signal to the controller "Pump Off".



IMPORTANT



If the grease pump is turned on, also the valve at the material pressure relief has to be turned on. If the grease pump is turned off for a longer period of time (e.g. 15min or 30min), the material pressure relief can be opened. Via a hose, the grease flows directly back over the follower plate into the grease container.