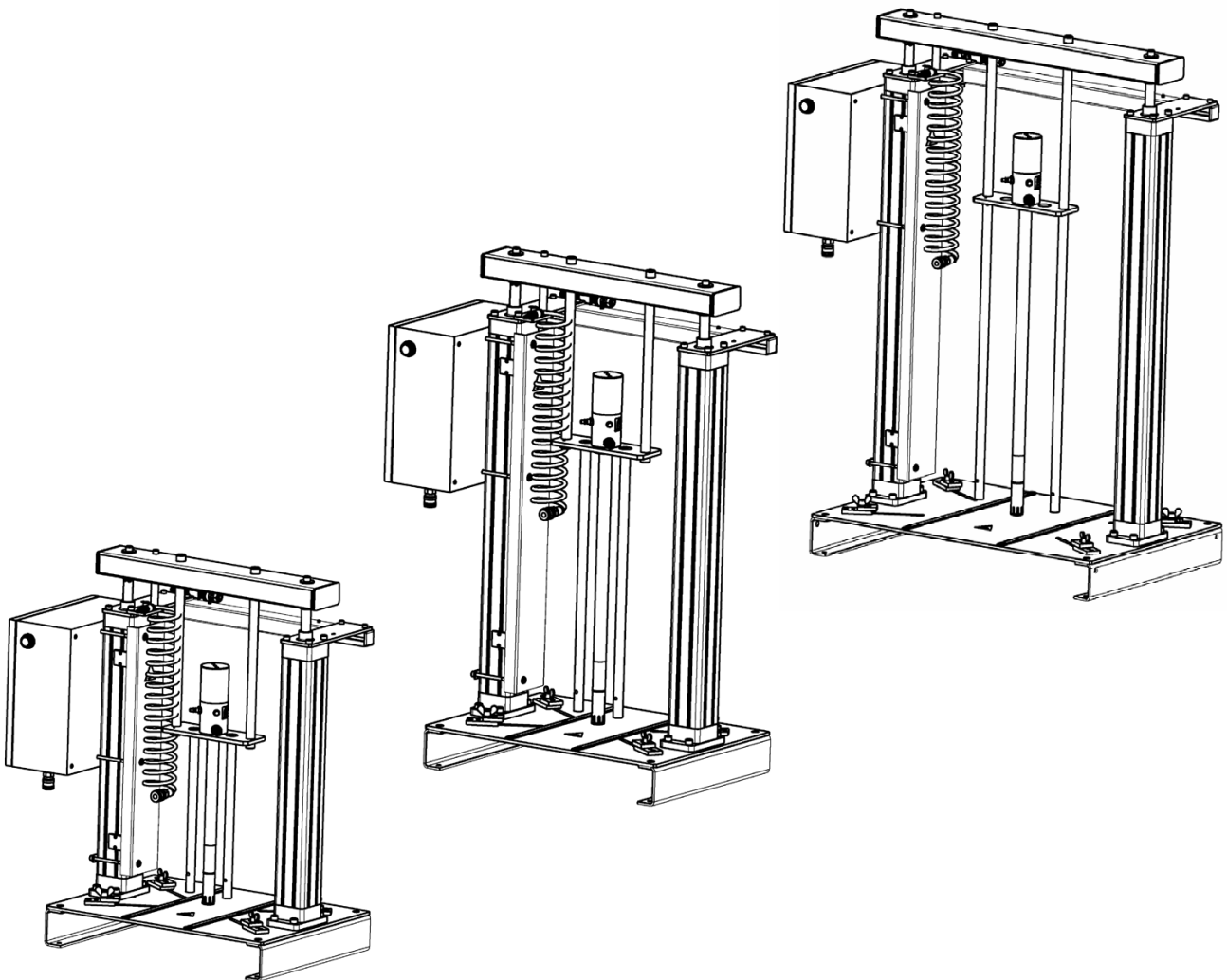


# Operating Manual

## Container Pump Unit for Lubricants

<b>Versions:</b>	<b>25 kg</b>	<b>46024.00, 46025.00, 46030.00, 46034.00, 46035.00, 46038.00, 46040.00</b>
	<b>50 kg</b>	<b>46044.00, 46045.00, 46050.00, 46055.00, 46057.00, 46058.00, 46059.00, 46060.00</b>
	<b>180 kg</b>	<b>46064.00, 46065.00, 46070.00, 46075.00, 46077.00, 46078.00, 46080.00, 46090.00</b>



## Manufacturer

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### **ABNOX AG**

Langackerstrasse 25  
CH-6330 Cham  
Switzerland

Tel. +41 (0) 41 780 44 55  
Fax +41 (0) 41 780 44 50

E-Mail info@abnox.com  
Internet www.abnox.com

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## Declaration

We, the end customer, confirm herewith that we have read and understood this operating manual, further that we have instructed and tested all employees and any other persons how may deal with the equipment described below.

Company stamp:

Place and date of issue:

Signature:

## Preface

This operating manual serves to present to you our Container Pump Unit for Lubricants (in the following called equipment), and to help you to utilise this equipment to your best benefit and according to its purpose.

The operating manual contains important instructions allowing operating your equipment safely, professionally and at best efficiency. It helps to avoid safety hazard, as well as repair cost and down time, and further to upgrade the lifetime of the equipment.

The operating manual also provides hints supporting your effort to observe the instructions given by the national legislation of your country regarding accident prevention and environmental protection.

Please keep this operating manual always available for reference at the operating site of the equipment.

The operating manual should be familiar to, and all operation executed accordingly by each person performing any the following actions with the equipment:

- Operate equipment, including change of container, trouble-shooting, disposal of production waste material, maintenance, disposal of operating supplies
- Equipment maintenance (Servicing, inspection, repairs) and
- Transport and storage

In addition to the operation manual and the country-specific legal requirements for personal safety, the customer is requested to observe the approved standards regarding general operational safety and professional workmanship.

## Declaration of Manufacturer – CE-Marking:

### EC declaration of conformity

in accordance with the EC directive machinery 98/37/EC, annex II A

**as well** 98/ 37/EC (Maschinenrichtlinie) Richtlinie des Rates zur Angleichung der Rechts- und  
**as:** Verwaltungsvorschriften der Mitgliederstaaten für Maschinen.

**The construction of the machinery**

**Make:** Fassförderpumpe 46024.00 bis 46090.00  
**Type:** 5:1 bis 60:1, Standard- Maxi- und Silikonpumpen

has been developed, designed and manufactured in accordance with the EC directive/s as above, in the sole responsibility of

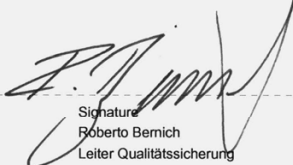
**Company:** ABNOX AG (Schmiertechnik),  
Postfach 65  
Langackerstrasse 25  
6330 Cham

**The following harmonized and national standards and specifications have been applied:**

EN 418 : 1992	Sicherheit von Maschinen - NOT-AUS-Einrichtung, funktionelle Aspekte - Gestaltungsleitsätze
EN 574 : 1996	Sicherheit von Maschinen - Zweihandschaltungen - Funktionelle Aspekte - Gestaltungsleitsätze
EN ISO 12100-1 : 2003	Sicherheit von Maschinen - Grundbegriffe, allgemeine Gestaltungsleitsätze - Teil 1: Grundsätzliche Terminologie, Methodologie
EN ISO 12100-2 : 2003	Sicherheit von Maschinen - Grundbegriffe, allgemeine Gestaltungsleitsätze - Teil 2: Technische Leitsätze

Cham, 05.03.2007

Place, date

  
Signature  
Roberto Bernich  
Leiter Qualitätssicherung

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# 1 Safety Instructions



## IMPORTANT

We kindly request that the customer may study this operating manual carefully, in order to acquaint himself with the safe and efficient operation of this product. Please keep this manual for future reference.

This operating manual includes important instructions and details for safe and appropriate operation of the equipment. It supports the operating and maintenance staff, thus helping to reduce safety hazard, repair cost and down time, as well as to enhance reliability and service life considerably. It is therefore important at all times that any persons who are in charge of the equipment have access to this document.

## 1.1 Signs for hazard, hints and directions

In this document, all text sections related to safety aspects are marked with a warning sign.



### WARNING

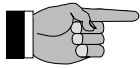
Warning indications point out information regarding hazard of injury or property damage, if the product is handled or operated improperly.



### WARNING

With this symbol, danger of hand injury is pointed out.

In this document, all text sections related to technical requirements are marked with this indication sign.



### NOTE

Indication signs point at useful information and hints. Disregarding of these may cause failure, inefficiency or breakdown.

## 1.2 Basic Safety Directions

Basic requirements for safe handling and trouble-free operation of this equipment are the following conditions:



- The equipment must not be used for purposes other than those intended.
- The equipment must not be modified. In case if modifications the customer takes all responsibility for any incidents due to such modifications. In case of a need for modification to the equipment, please contact ABNOX AG.
- 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 operation instructions only. To ensure appropriate expertise of the customer's staff, ABNOX AG offers training courses upon request.
- The customer takes responsibility for the compliance to all appropriate safety measures.
- Never operate the equipment if it is pointing towards a person.
- Before the begin of maintenance work, always disconnect equipment from mains, air pressure supply and grease feed pipe. All piping and hoses must be pressureless.
- Check all pipes, hoses and screw connectors for leaks and visible damage at regular intervals. Immediately remove all damage!
- Exposure of the sensors to magnetic fields may cause malfunction of the sensors.
- Ensure by regular checks that working place, equipment and environments are kept in clean and clearly arranged state.
- Rules and regulations regarding the prevention of accidents that apply to the working site should be observed.

## 1.3 Relevance of Operating Manual

The operating manual is relevant to the equipment as stated in the cover sheet of the manual only.

The manufacturer of the equipment accepts responsibility for safety, reliability and performance of the equipment under the pre-condition only that the user has read and signed the operating manual.

Kindly remember that the operating manual has been designed for your personal protection and safety.

Reading and understanding of the manual may further help to avoid expensive service work and inappropriate operation of the equipment, and hence substantially raise the customer's benefit.

## 1.4 Responsibilities of Operating Company und Staff

- Reliable and trained staff only should be authorized to work with the equipment, and responsibilities 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!



## 1.5 Staff Training

- Persons should not work with the equipment unless they have been suitably trained and made familiar with the equipment.
- Responsibilities of personnel for assembly work, commissioning, operation, setting up, maintenance, transport and repair should be clearly assigned to individuals.
- Persons in training may work with the equipment under supervision of an experienced person only.

## 1.6 Hazard of Working with Equipment / Device

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

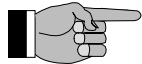


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The equipment must be used:

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

## 1.7 Safety Hazard of Lubricant Material



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### NOTE

Urgently pay attention to the safety directions specified by the manufacturer of lubricant, 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 of lubricant.

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## 1.8 Safety Hazard of Hydraulic and Pneumatic Energy

- Operation of hydraulic and pneumatic equipment should be assigned to staff with specific hydraulics and pneumatic know-how and experience only.
- Some versions of the equipment use hydraulic pressure up to 600 bar and pneumatic pressure up to 10 bar. Prior to opening and repair sections under pressure, such as pressure pipes, valves or user devices, all pressure must be released and made sure 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.

## 1.9 Safety and Protection Devices

- Make sure that all protection devices are installed properly and 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 established.

## 1.10 Personal Protective Gear and Complementary Measures

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

## 1.11 Usage of Equipment according to Intended Purpose

The equipment may be used only under the specified operating conditions. The equipment must be used exclusively for transport of lubrication means according to detailed specification in chapter 2.1 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 assumes no responsibility for any damage resulting from such improper usage.

Proper usage of equipment according to intended purpose comprises also:

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

### **1.12 Inappropriate Usage**

The manufacturer company assumes no responsibility for any damage resulting from such inappropriate usage.

Inappropriate usage of the equipment comprises but is not limited to:

- Conveyance of any medium not specified by this manual, or material not specified in writing by the manufacturer,
- Conveyance or handling of corrosive and / or curing material,
- Conveyance or handling of foods, and storage of foods within the environment of the equipment.

### **1.13 Service and Maintenance, Fault Repair**

- 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.
- If applicable: Disconnect equipment from mains supply and safeguard against restart (warning sign „Do not switch on“).
- Make sure that all screw connectors and fittings are fastened tightly.
- After completion of maintenance work test all functions and all safety devices.

### **1.14 Warranty and Liability**

On principle, the general sales and delivery terms of ABNOX AG are applicable, as well as agreement in writing of the manufacturer company prior to ordering. All warranty and liability claims in case of damage to persons or material are excluded, if they are caused by one or more causes stated below:

- Usage of equipment other than that according to the intended purpose
- 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 equipment containing faulty safety devices, or safety devices not fitted properly, or safety and protection devices that are out of function
- Disregarding instructions regarding safety, transport, storage, assembly, operation, commissioning, maintenance and setting-up, as stated by the operations manual
- Modification of equipment not authorized by the manufacturer company
- Manipulation of pressure control device, change of supply pressure without authorisation by the manufacturer company
- Insufficient monitoring of equipment parts which are subject to wear
- Repairs executed improperly, use of spare parts from other suppliers
- Catastrophic impacts, e.g. by external matters or force majeure risks

### **1.15 Intellectual Property Rights**

All intellectual property rights of this operating manual remain with ABNOX AG. This operating manual is intended for use by the staff of the user company exclusively.

Directions and instructions contained in this manual must not be copied, nor distributed nor communicated to third parties, neither wholly nor parts thereof.

## 2 Description of Product

### 2.1 Purpose of Product

The equipment is intended for feeding of the following media exclusively:

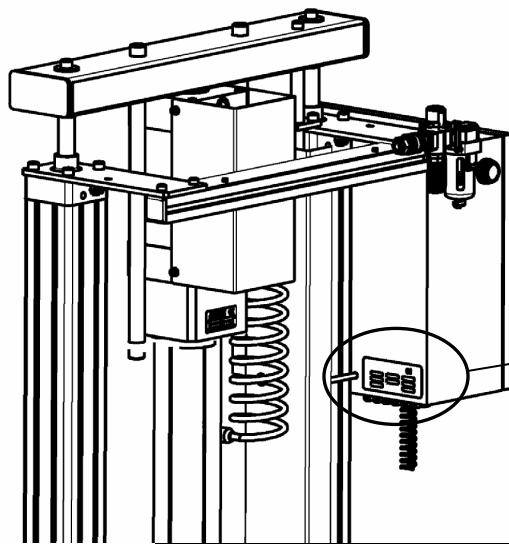
- Lubricants
- of viscosity NLGI 4 / 1'000'000 mPa s or less
- from containers according to data sheet in chapters 2.4.1 – 2.4.3



#### WARNING

The use of media other than those specified may cause malfunction or damage, or even destruction of the equipment.

### 2.2 Labelling



The type plate of the container pump unit is found at the rear of the control panel, containing all information to identify the equipment.

Type plate



#### NOTE

Please indicate the product information shown on the type plate when requesting spare parts or technical support.

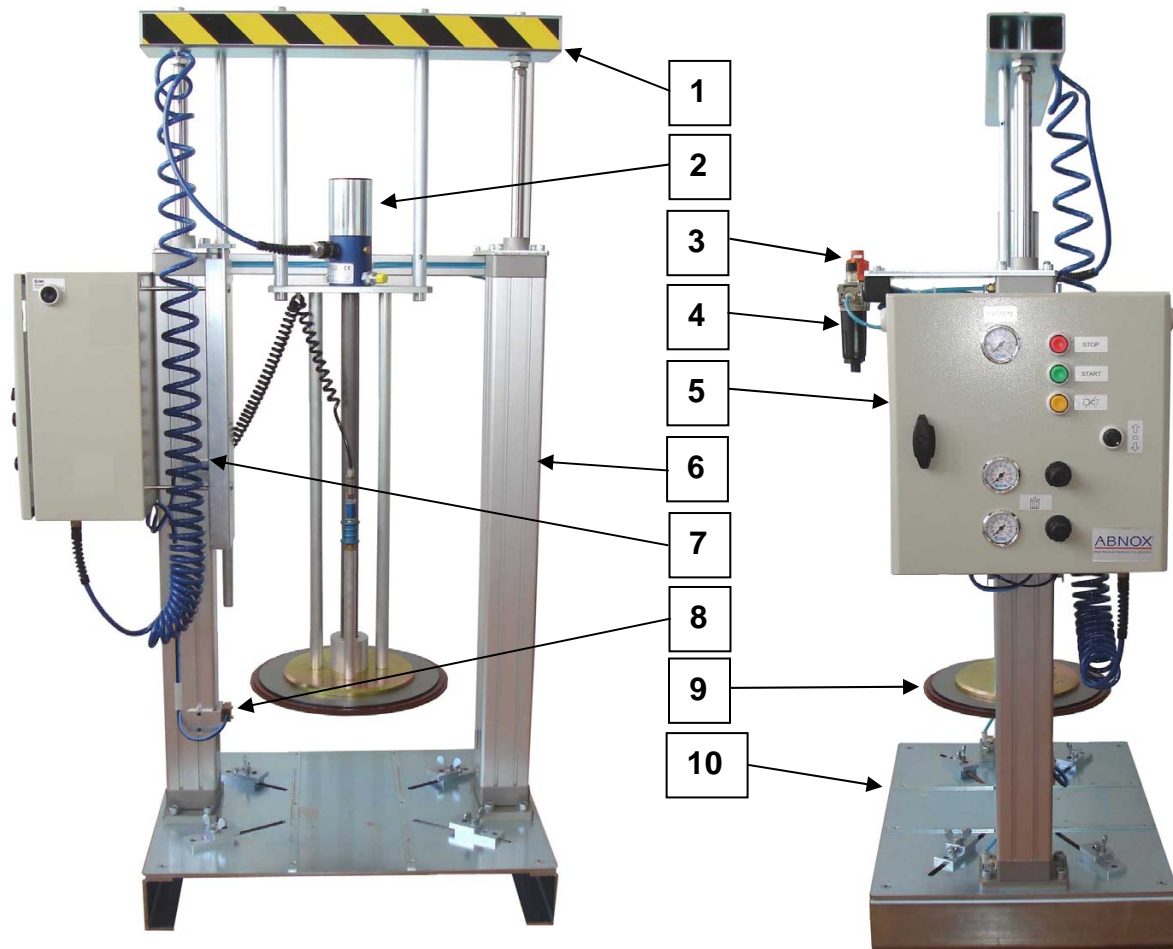
### 2.3 Function

Pneumatic ABNOX container pump units are designed to feed lubricants from standard containers sized up to 180 kg. The suction performance of the ABNOX container pump has been substantially improved by the use of adjustable pressure applied to the follower plate, therefore forcing the lubricant to flow towards the suction port. Jamming of the follower plate is also avoided, e.g. in case of corrugated containers.

An end switch serves to stop the pump action and to sound a warning tone (optional) when the low fill level has been reached. By switching off the pump at this level, aspiration of air is avoided, saving a troublesome venting action of the whole plant and loss of lubrication material. In order to exchange the container, the follower plate may be lifted from the container without manual force, by operation of a convenient two-hand control.

Container pumps are available with various pressure ratios and pump versions (pumps for silicone grease, Maxi pumps).

## 2.4 Overview / Description of Parts



1	<b>Pump lift</b> The pump lift serves to lift or lower the container feed pump and the follower plate.
2	<b>Feed pump</b> serves to convey lubricant.
3	<b>Lockable stop valve with pressure relief</b>
4	<b>Service unit with integrated water trap for feed pump</b>
5	<b>Operating panel</b> contains the control valves and operating elements.
6	<b>Pneumatic cylinders</b> serve to lift and lower the pump lift and generate the pressure for the follower plate.
7	<b>End switch for pump operation</b> Setting: The upper end switch (X) must be positioned such that it is switched on only after the follower plate has entered the container completely.
8	<b>End switch for automatic shutoff (L)</b>
9	<b>Follower plate</b> By means of two pneumatic cylinders, the follower plate applies a pressure on the contents of the container, pressing the contents into the pump.
10	<b>Main frame</b> This main frame carries the whole construction. It is mounted to the floor.



**WARNING**

The end switches 7 and 8 (chapter 2.4) must be set up by specialist staff only. For set-up remove cover.



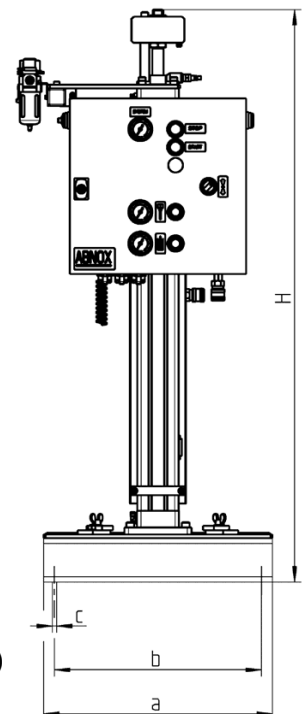
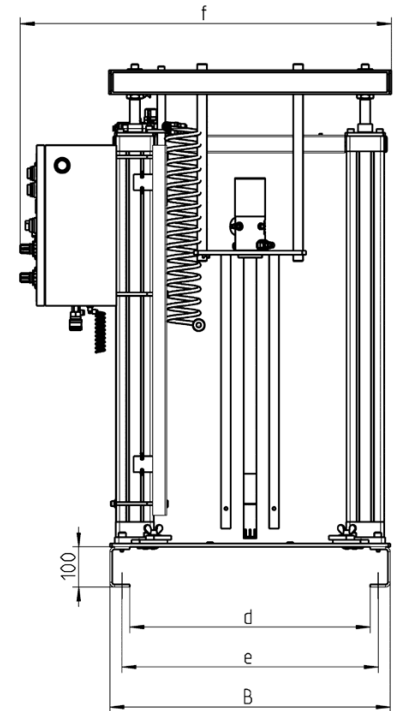
Upper end switch (X) not activated:  
System is operated by two-hand  
control only.



Upper end switch (X) activated:  
System is operated by two-hand  
control as well as feed operation.  
See also safety instructions!

## 2.4.1 Technical Data of 25 kg Version

Container	25 kg						
Article number	46024.00	46025.00	46030.00	46040.00	46034.00	46035.00	46038.00
Pressure ratio	5:1	10:1	20:1	60:1	10:1	25:1	60:1
Output at motor [cm³/min]	1'500	1'190	890	500	1'720	1'295	465
Construction type pump	Standard				Silikon-Fett Silicone grease		
Container height max. [mm]	430						
Container inside Dia min. [mm]	260						
Container inside Dia max. [mm]	410						
a [mm]	520						
b [mm]	470						
c [mm]	10						
d [mm]	600						
e [mm]	640						
f [mm]	930						
b [mm]	700						
H <sub>min</sub> [mm]	1'060						
H <sub>max</sub> [mm]	1'700						
Net weight w/o container and packing [kg]	ca. 100						
Net weight incl. container and packing [kg]	ca. 124						
Dimension of ground plate [mm]	700 x 520						
Min. height (pump lift lowered) [mm]	1'060						
Max. height (pump lift top pos.) [mm]	1'700						
Package dimensions L x W x H [mm]	800 x 1'200 x 1'080						
Min. required working space L x W [m]	2 x 2						

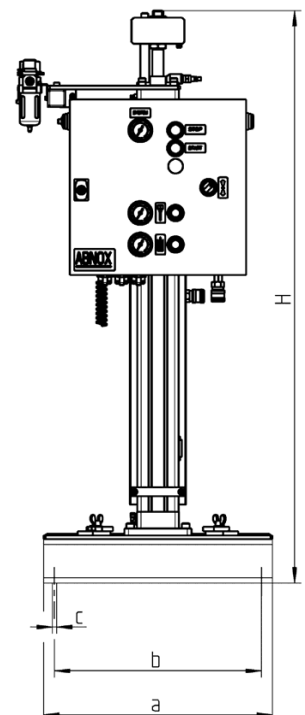
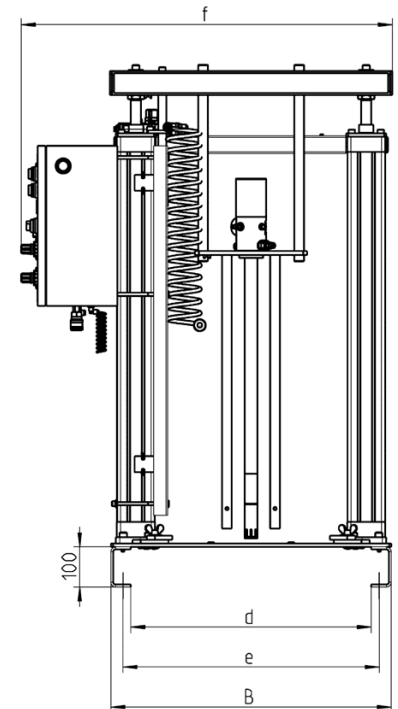


For additional technical data are see drawing set 40600-80-XX (Manual Part 2 of 2)  
(Dimension sheets, Data sheets ...)



## 2.4.2 Technical Data of 50 kg Version

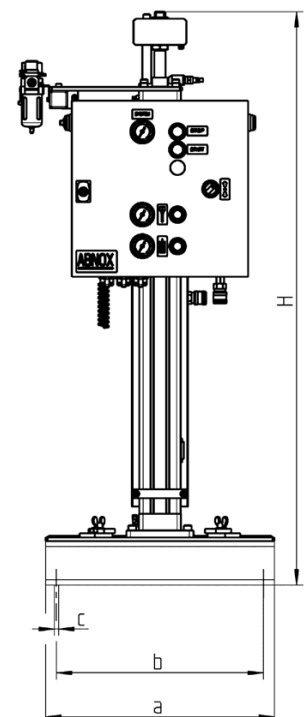
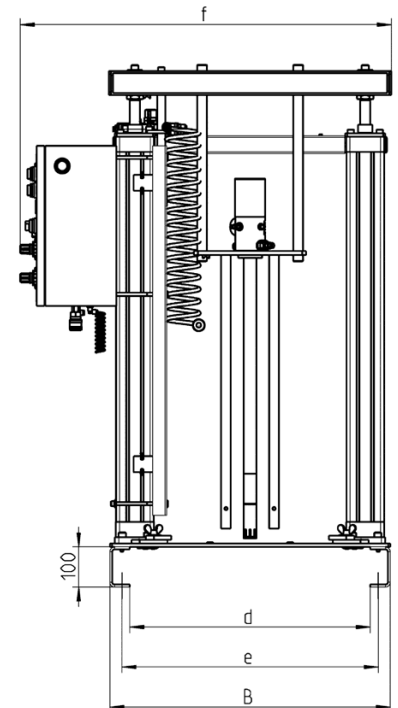
Container	50 kg							
Article number	46044.00	46045.00	46050.00	46060.00	46057.00	46058.00	46059.00	46055.00
Pressure ratio	5:1	10:1	20:1	60:1	10:1	25:1	60:1	20:1
Output at motor [cm <sup>3</sup> /min]	1'500	1'190	890	500	1'720	1'295	465	6'490
Construction type pump	Standard				Silikon-Fett Silicone- grease			MAXI
Container height max. [mm]	680							
Container inside Dia min. [mm]	260							
Container inside Dia max. [mm]	410							
a [mm]	520							
b [mm]	470							
c [mm]	10							
d [mm]	600							
e [mm]	640							
f [mm]	930							
b [mm]	700							
H <sub>min</sub> [mm]	1'310							
H <sub>max</sub> [mm]	2'190							
Net weight w/o container and packing [kg]	ca. 120 kg							
Net weight incl. container and packing [kg]	ca. 144 kg							
Dimension of ground plate [mm]	700 x 520							
Min. height (pump lift lowered) [mm]	1'310							
Max. height (pump lift top pos.) [mm]	2'190							
Package dimensions L x W x H [mm]	800 x 1'200 x 1'320							
Min. required working space L x W [m]	2 x 2							



For additional technical data are see drawing set 40600-80-XX (Manual Part 2 of 2).  
(Dimension sheets, Data sheets ...)

### 2.4.3 Technical Data of 180 kg Version

Container	180 kg							
Article number	46064.00	46065.00	46070.00	46080.00	46077.00	46078.00	46090.00	46075.00
Pressure ratio	5:1	10:1	20:1	60:1	10:1	25:1	60:1	20:1
Fördermenge am Motor [cm³/min] Output at motor [cm³/min]	1'500	1'190	890	500	1'720	1'295	465	6'490
Construction type pump	Standard				Silikon-Fett Silicone- grease			MAXI
Container height max. [mm]	870							
Container inside Dia min. [mm]	550							
Container inside Dia max. [mm]	580							
a [mm]	620							
b [mm]	570							
c [mm]	10							
d [mm]	790							
e [mm]	830							
f [mm]	1120							
b [mm]	890							
H <sub>min</sub> [mm]	1440							
H <sub>max</sub> [mm]	2450							
Net weight w/o container and pack- ing [kg]	ca. 150 kg							
Net weight incl. container and pack- ing [kg]	ca. 174 kg							
Dimension of ground plate [mm]	890 x 620							
Min. height (pump lift lowered) [mm]	1'440							
Max. height (pump lift top pos.) [mm]	2'450							
Package dimensions L x W x H [mm]	800 x 1'200 x 1'450							
Min. required working space L x W [m]	2 x 2							



For additional technical data are see drawing set 40600-80-XX (Manual Part 2 of 2).  
(Dimension sheets, Data sheets ...)



## 3 Packing and Transport

### 3.1 Packing

Preparation and packing of equipment is provided by ABNOX AG and is designed for transportation to the **first destination**.

The packaging must not be exposed to additional strain. The packaging and its contents should be protected against any influence of humidity. Ambient temperature during transport and storage must be kept within  $-20\text{ °C}$  to  $+40\text{ °C}$ .

### 3.2 Transport Damage

Should damage due to transportation be discovered by the incoming goods inspection, the following procedure should be observed:

- Inform transport company (Carrier company, railways etc.)
- Write damage report
- Inform supplier company

### 3.3 Intermediate Storage

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

## 4 Mounting Site / Insertion into Plant

- All legal requirements for the mounting site should be identified and verified on site whether they are 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 shall be such that continuous operation at a high safety level is ensured.
- The installation of the equipment, as well as commissioning of the equipment, or storage, shall be conducted by specialists trained and made familiar with the equipment only.
- The equipment is designed for use in areas which are protected from weather influence.
- Operation or storage of the equipment in an aggressive or moist environment or outdoors may lead to corrosion or other damage. ABNOX AG will not assume liability for such damage.

## 5 Definition of Interfaces

### 1) Air Supply

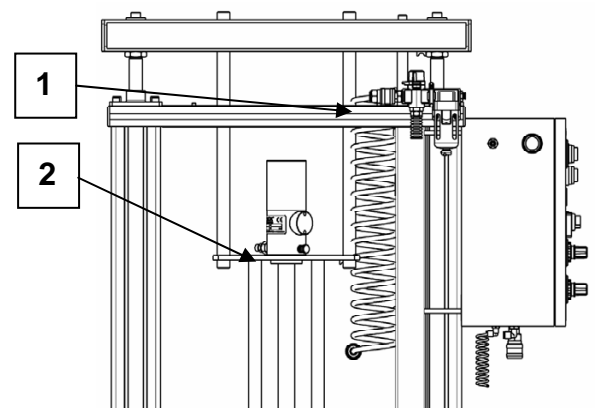
Pressurized air is used to drive the pneumatic container feed pump unit. The air supply connector is located at the left side of the control panel in front of the stop valve. The safety air connector of type AX 100 Art. No. 50500.00 (G1/4") is included in the delivery scope.

Connection nipple:	Nipple ARO 210 Standard
Safety air connector:	Safety air connector: with internal thread G 1/4"
Hose nipple:	Internal diameter 6 mm
Supply pressure min.:	4 bar
Supply pressure max.:	10 bar

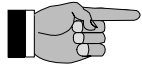
### 2) Lubricant Output

The lubricant outlet is located at the top of the pump.

Output pressure: see data of selected feed pump



Connector: see data of selected feed pump

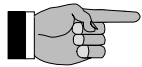


**NOTE**

For additional technical data (Connectors for air, grease etc.) see drawing set 40600-80-XX (Operation manual Part 2 of 2).

## 6 Assembly / Installation

- The equipment shall be installed at the intended operating site, under consideration of the conditions specified in chapter 4.
- The equipment installation shall be such that all operating controls and dials, as well as the container site are well accessible.
- The main frame is attached to the floor or base plate resp., by means of 4 screws of size M8.



**NOTE**

For physical dimensions of equipment see data sheets chapters 2.4.1 – 2.4.3.

## 7 Commissioning

Prior to shipping, comprehensive tests and setting up have been executed on the equipment.



**INSTRUCTION**

Make sure that all screw connectors and fittings are fastened tightly.

- Completely remove all packaging before initial operation of equipment.
- Set rotary switch (chapter 8.1, pos. 8) to centre position.
- Connect air supply using safety air connector of type AX 100.
- Open stop valve (chapter 8.1, pos. 1)
- Check pneumatic pressure on dials (chapter 8.1, pos. 3, 10 and 12).

**INSTRUCTIONS**

System pressure = air supply pressure 4- 10 bar (chapter 8.1, pos 3)

The pump pressure (Pumpe on) is factory-set to 4 bar. (chapter 8.1, pos. 10)

The pump lift cylinder pressure is factory-set to 0.5 bar. (chapter 8.1, pos. 12)

To adjust the pneumatic pump pressure and the pump lift pressure resp., pull and rotate the respective adjustment button.

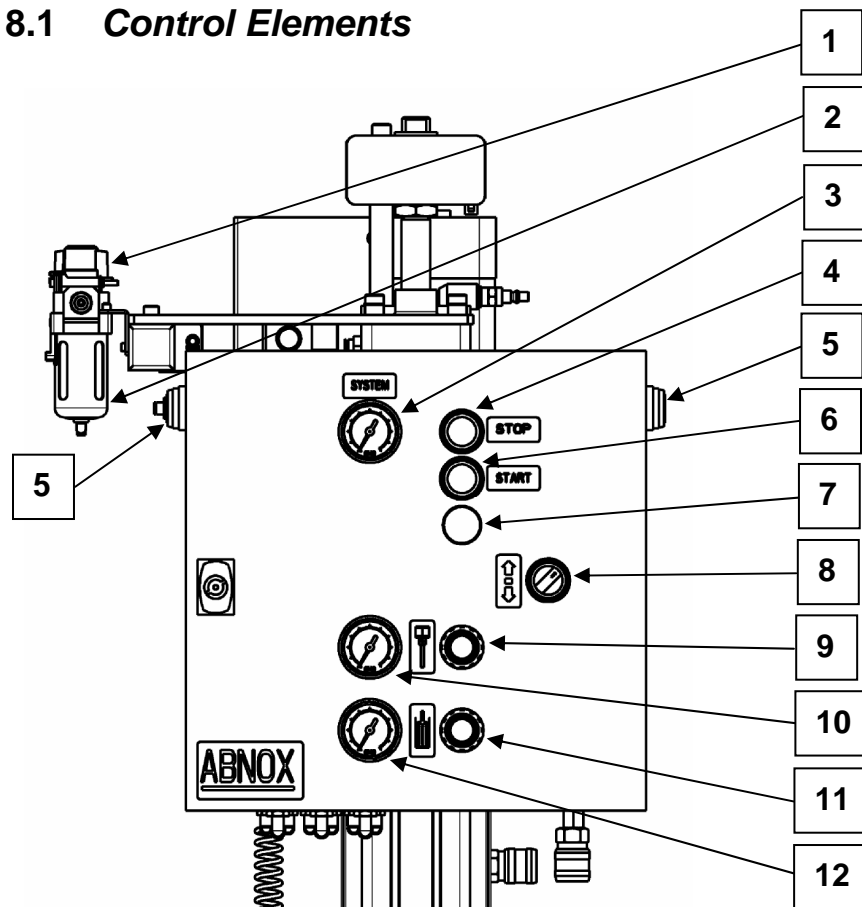
↻ right turn = increase pressure

↻ left turn = decrease pressure



## 8 Operation

### 8.1 Control Elements



1	Stop valve, main valve to switch on and off, includes pressure release of the complete equipment in off-position.
2	Maintenance unit (Air filter, water trap)
3	System pressure gauge
4	Push button STOP pump
5	Push buttons for two-hand operation
6	Push button START pump
7	Reset button "Horn off". Only with optional audible alarm for "Container empty (L)" and "Warning replace container (G)"
8	Rotary switch "LIFT – HOLD – LOWER" follower plate
9	Pressure regulating valve for pump unit (factory-set to 4.0 bar)
10	Pressure gauge for pump unit
11	Pressure regulating valve for pump lift cylinder (factory-set to 0.5 bar)
12	Pressure gauge for pump lift cylinder

## 8.2 Placing the Container

Placing the container for the first time requires adjustment of the container fixture to a central position on the base plate.

- Set rotary switch to **LIFT**.
- Lift follower plate (i.e. pump lift) by pressing two-hand buttons, to its top position (mechanical stop).
- Move all four container brackets to their outer positions on the base plate.
- Place container without the cover and align centrally below follower plate.
- Set rotary switch to **LOWER**.
- Lower follower plate using the two-hand buttons, until the follower plate is closely above the container top, (do not move inside container).
- Align container again centrally below follower plate.
- Fasten both hexagonal nuts at the rear container brackets, using a flat spanner (size SW 17).
- Tighten all four wing nuts (hand-screwed).



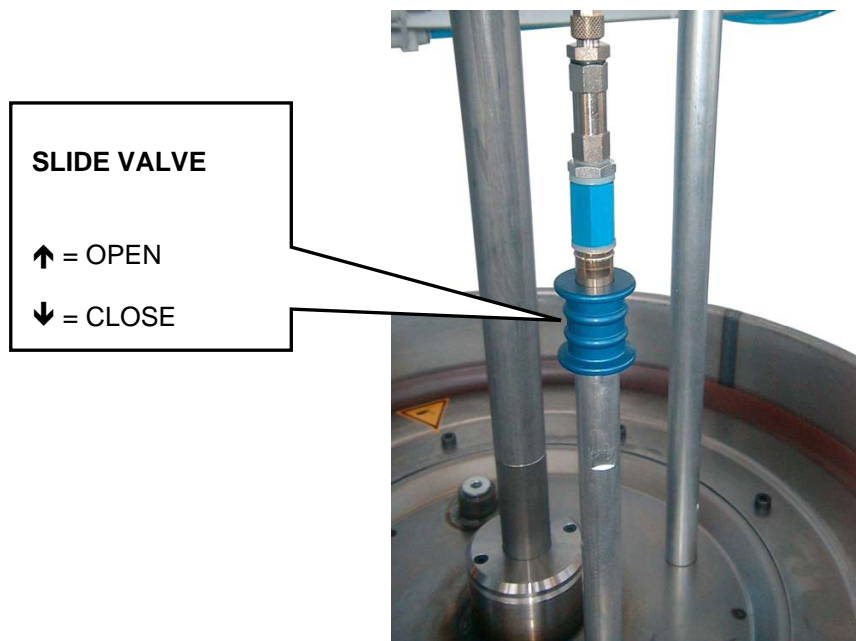
### INSTRUCTIONS



- Uttermost cleanness is imperative when a new container is opened! Use clean materials only. Never turn the cover over an open container.
- Use containers exclusively filled by the lubricant manufacturer. Containers decanted or refills on site may contain trapped air, which may cause system malfunction.
- Container with bumps or other deformations should not be used, as they may cause damage of the follower plate, or leakage.

## 8.3 Insert Pump in Container

- Open blue slide valve above the follower plate (slide upwards).
- Set rotary switch to **LOWER**.
- Operate two-hand controls to lower follower plate inside the container. When the upper end switch is activated by the control rod, the automatic control will take over and lower the follower plate until the lubricant level is reached. (see chapter 2.4)
- Close the blue slide valve above the follower plate (slide down).



**RISK OF INJURY!**

Never touch container rim nor reach inside the container with your hand while the follower plate is lowering!

## 8.4 Conveying Lubricant

- Set rotary switch to LOWER.
- Press START button.

## 8.5 Lift Follower Plate from Container



**RISK OF INJURY!**

Under no circumstances go too close, while lifting the follower plate out of the container. The follower plate makes a jump movement upwards while leaving the container.

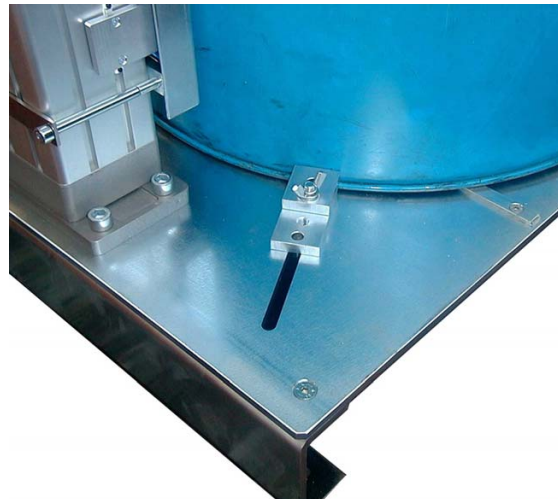
- Press STOP button.
- Set rotary switch to LIFT and wait for the follower plate to move out of the container.
- CAUTION: Should for the follower plate not completely move out of the container, please follow these steps:
  1. Open slide valve above the follower plate (slide upwards).
  2. Set rotary switch to LIFT.
  3. Lift follower plate (i.e. pump lift) by pressing two-hand buttons, to its top position (mechanical stop).
  4. Check the seal of the follower plate for damage. Clean seal.

## 8.6 Exchange Container

After having lifted the follower plate from container (Chapter 8.5):

- Loosen all four wing nuts (do not remove nuts)
- Remove the empty container.
- Push the full container to the container stops to reach concentric position.
- Tighten all four wing nuts (hand-screwed).
- Continue according to chapters 8.2 - 8.5.



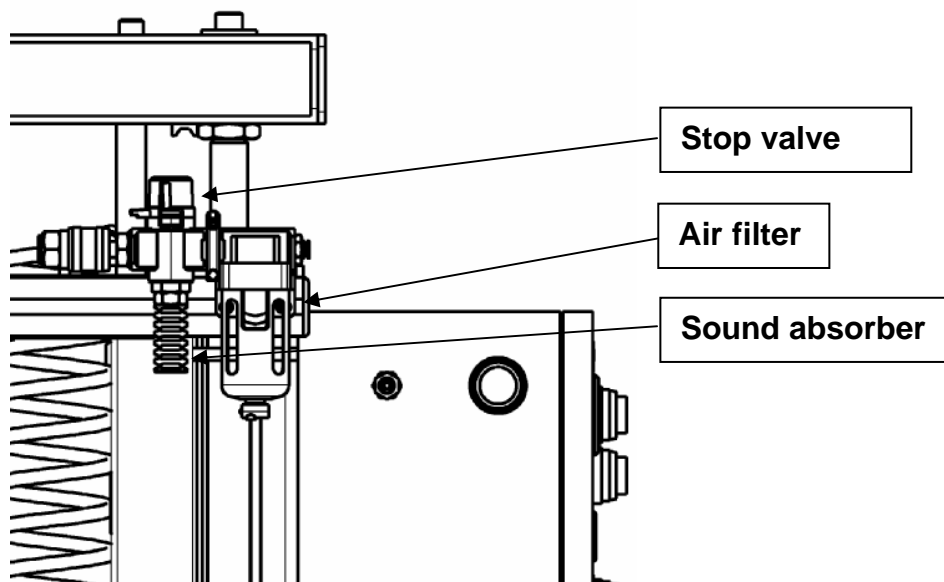


#### INSTRUCTIONS



- Uttermost cleanness is imperative when a new container is opened! Use clean materials only. Never turn the cover over an open container.
- Replacement containers must be of same size and with identical content.
- Use containers exclusively filled by the lubricant manufacturer. Containers decanted or refills on site may contain trapped air, which may cause system malfunction.
- Container with bumps or other deformations should not be used, as they may cause damage of the follower plate, or leakage.

## 8.7 Maintenance Unit



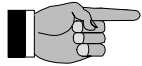
### 8.7.1 Stop Valve

- To activate valve rotate hand knob 90° anti-clockwise.
- This function is not available if a safety padlock is used.
- A padlock is not part of the delivery scope.
- To shut down rotate hand knob 90° clockwise.

### 8.7.2 Air Filter

- Do not apply supply pressure higher than specified (see data on type plate)
- Do not disassemble filter case if under pressure.
- Do not allow the liquid to rise above maximum level. Press hand valve to drain liquid.
- To remove the filter insert, open the filter case by turning (bayonet fitting), then unscrew filter body. Clean filter case.

## 9 Troubleshooting,



### NOTE

Troubleshooting should be performed by a trained specialist only.

### 9.1 Fault – Cause – Action

Fault	Possible cause	Action	Comment
Pump does not start	Upper end switch, automatic mode (X) is not activated	Lower pump lift using two-hand control to reach position below end switch	Chapter 8.3
		Change end switch position according keg height	Chapter 2.4
	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	
	Maintenance unit dirty or blocked	Clean or replace filter	Chapter 8.7.2
	Defect of valve pump	Check valve function	Chapter 8.1
	End switch "empty" reached	Replace container	Container empty
Pump supply low or no pressure	Pressure regulator valve misadjusted	Arise pressure regulator valve to a higher pressure (gradually rising)	Watch pump pressure gauge (air pressure)
	Pump lift action switched off	Set rotary switch to LOWER	Chapter 8.1
	Maintenance unit dirty or blocked	Clean or replace filter	Chapter 8.7.2
	Leakage	Check hoses and fittings	
	Follower plate pressure not high enough	Gently rise pressure by adjusting pump lift pressure regulator valve.	Chapter 7
	Air pressure low	Get air supply checked	Call plant (mechanical) engineer



### INSTRUCTION

Caution is indicated if containers with plastic liners are used. The plastic insert may be sucked in by the pump and cause jamming.

## Taking out of Service

### 9.2 Short Interruption

For short interruptions (over night or during weekends), switch off equipment and make sure that no pressure is left in system (check pressure gauges).

### 9.3 Long-term Interruption

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

- Switch off main switch.
- Make sure that no pressure is left in system (check pressure gauges).
- Shut stop valve (pressure release).
- Move sliding sleeve of safety air connector AX 100, to fully disconnect equipment from air supply.
- Store equipment and its components such that they cause no risk of accident and no equipment damage is possible (e.g. cracking of hoses)

### 9.4 Final Shut-down of Equipment

For shut-down of equipment, please observe the following items:

- Remove container and clean follower plate.
- Loosen 4 container fixtures and slide to outer position
- Tighten 4 container fixtures by hand in this position.
- Set rotary switch to LOWER.
- Lower follower plates down to the bottom stop using two-hand controls.
- Switch off stop valve.
- Move sliding sleeve of safety air connector AX 100, to fully disconnect equipment from air supply.
- Make sure that no pressure is left in system (check pressure gauges).
- Drain grease or oil and take care of professional disposal.
- Store equipment and its components such that they cause no risk of accident and no equipment damage is possible (e.g. cracking of hoses)



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#### WARNING

Danger of accidents und environmental hazard: Do not spill grease or oil.  
Take care of proper disposal of grease and oil (hazardous waste).

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## 10 Maintenance

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



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#### NOTE

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

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### 10.1 Maintenance Plan

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 are shortened accordingly. Also take into account other influences on maintenance need, such as dirty environment, or degraded quality air supply.



WHEN	WHAT	HOW	WHO
Weekly	Check maintenance unit / filter	Remove retention case, drain water	User company expert
	Check hoses and fittings for leaks	Visual inspection	
Monthly	Check follower plate for defects	Visual inspection	User company expert
	Check maintenance unit / filter	Clean filter	
Annually	Safety air connector	Check fit (function) and tightness	User company expert



#### **WARNING**

As a rule, all work must be executed with the equipment shut down only.  
The pneumatic safety air connector must be disconnected and a safeguard against accidental connection established.  
Pressure inside the pneumatic and the hydraulic systems must be removed. All pressure gauges must indicate zero pressure.

## **10.2 Customer Service / Support**

**ABNOX AG**  
Langackerstrasse 25  
CH-6330 Cham  
Switzerland

Tel. +41 (0) 41 780 44 55  
Fax +41 (0) 41 780 44 50

E-Mail info@abnox.com  
Internet www.abnox.com

## **11 Operating Supplies**

No special substances are required to operate the equipment.

## **12 Accessories (Optional)**

- Audible alarm for "Container empty signal (L)" Art. No 46300.10
- Audible alarm for "Replace container warning signal (G)" Art. No 46300.20
- El. sensors for "Replace container" and "Container empty" signals Art. No 46300.30

## **13 Drawings**

All drawings, lists of spare parts, dimension sheets, data sheets and pneumatic schematics are contained in the drawing set No 46000-80-02 in part 2 of this operating manual.

## **14 Spare Parts**

All drawings and lists of spare parts are contained in the drawing set No 46000-80-02 in part 2 of this operating manual.

## **15 Resale**

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

## 16 Material Disposal



### WARNING

Lubricant material must be treated as hazardous waste.



### WARNING

Take care to not spill grease or oil. Take precautions to retain grease and oil spills before starting drainage of the system.

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

Product	Material	Disposal
Main frame, cylinders, pumps, valves	Steel, aluminium, brass, bronze	Separation of materials, recycling
Hoses, pipes, seals, etc.	Rubber, plastics	Separation of materials, recycling
Lubricants	Oil, grease	Reconditioning or disposal according to local waste management legislation

## 17 Training

- Persons trained and made familiar with the equipment exclusively shall conduct work on the equipment. It is indispensable that these persons have read and understood all items of the operating manual, and are capable to control the equipment in all operating states, and that the person knows how to handle all safety hazards.
- Responsibilities of personnel for assembly work, commissioning, operation, setting up, maintenance, transport, storage and repair should be clearly assigned to individuals.
- Persons in training may work with the equipment under supervision of an experienced person only.

## 18 Shut-down of equipment



### WARNING

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

## 19 Appendix



### INSTRUCTION

All drawings and lists of spare parts, dimension sheets, data sheets and pneumatic schematics are contained in the drawing set No 46000-80-02 in part 2 of this operating manual.