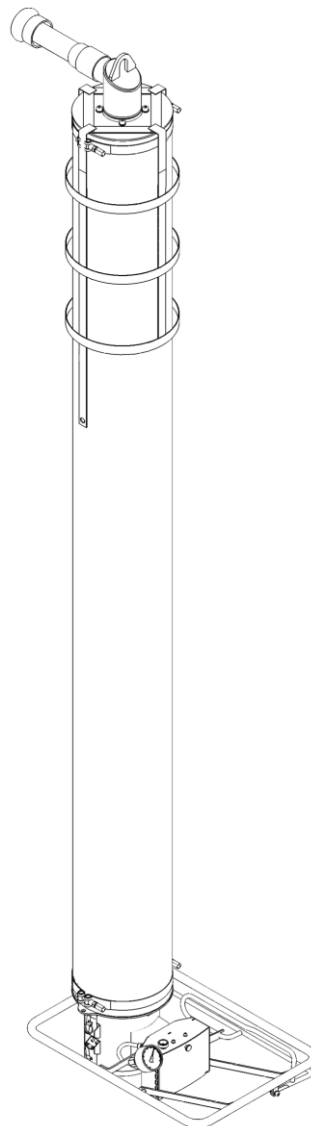


Vacuum Hose Lifter Components

Lifting hose unit with Operating Valve Unit



Keep these Operating Instructions for future use !



Table of Contents

1 Safety

- 1.1 Instructions for the Company
- 1.2 Instructions for the Installation, Maintenance and Operating Personnel
- 1.3 Hazard Alert Symbols in this Manual
- 1.4 Installation Site Requirements
- 1.5 Intended Use
- 1.6 Emissions
- 1.7 Special Hazards
- 1.8 Workplace
- 1.9 Instructions for the Operator
- 1.10 Equipment for Personal Protection
- 1.11 Behaviour in Emergencies
- 1.12 Checking the Guards

2 Technical Data

3 Description

- 3.1 Components of the *JUMBO*
- 3.2 Rotary Suction Fitting
- 3.3 Lifting Tube
- 3.4 Control Unit
- 3.5 Accessories

4 Installation

- 4.1 Installation Procedure
- 4.2 Adjusting the Hovering Position (without load)
- 4.3 Replacing the lifting tube

5 Operating

- 5.1 Safety Instructions
- 5.2 Lifting, Lowering and Landing Loads

6 Trouble Shooting

7 Maintenance

- 7.1 General Notes
- 7.2 Cleaning
- 7.3 Accident prevention rules
- 7.4 Service-Table

8 Notes on the Name Plate

9 Storage

10 Guarantee, spare and consumable parts

Special Features

The unit is equipped with the following special feature(s):

.....

.....

.....

.....

.....

(See the Appendix for special operating instructions and spare parts.)

If the special features require a separate list of spare parts or parts subject of consumption, the corresponding list in section "Spare parts" is invalid.



Bitte beachten Sie, dass das Produkt ohne vorliegende Betriebsanleitung in Landessprache nicht eingesetzt / in Betrieb gesetzt werden darf. Sollten Sie mit der Lieferung des Produkts keine Betriebsanleitung in Ihrer Landessprache erhalten haben, kontaktieren Sie uns bitte. In Länder der EU / EFTA senden wir Ihnen diese kostenlos nach. Für Länder außerhalb der EU / EFTA erstellen wir Ihnen gerne ein Angebot für eine Betriebsanleitung in Landessprache, falls die Übersetzung nicht durch den Händler/Importeur organisiert werden kann.

Please note that the product may not be used / put into operation without these operating instructions in the national language. If you did not receive operating instructions in your national language with the delivery of the product, please contact us. In countries of the EU / EFTA we will send them to you free of charge. For countries outside the EU / EFTA, we will be pleased to provide you with an offer for an operating manual in the national language if the translation cannot be organised by the dealer/importer.

1 Safety

1.1 Instructions for the Company

The *Vacuum Hose Lifter* has been manufactured according to current technological standards and is safe. Still, it will present hazards

- ⇒ if the device is not operated by qualified or, at least trained staff,
- ⇒ if the device is used contrary to the approved applications (see 1.5).

Problems can arise:

- ⇒ for the health and life of operators and other persons,
- ⇒ for the lifting device and other valuable goods.

1.2 Instructions for the Installation, Maintenance and Operating Personnel

The *Vacuum Hose Lifter* must be installed and maintained by qualified personnel, mechanics and electricians. Any work on the electrical equipment may be carried out only by a qualified electrician.

Each person in your company involved in the installation, start-up, operation, maintenance, and repair of the device must have read and understood the operating instructions and especially the chapters "Safety" and "Operating" therein.

Your company must ensure by internal measures

- ⇒ that the operators of the lifting device are properly trained,
- ⇒ that they have read and understood the operating instructions,
- ⇒ that the operating instructions will be available to them at any time.

The responsibilities for the tasks carried out with the device must be clearly organized and observed. Ambiguity regarding responsibilities must not exist. We recommend that you protect the lifting device from unauthorized use, e. g. by a key-switch.

1.3 Hazard Alert Symbols in this Manual



Danger



Caution

The hazard alert messages in this manual are labelled as follows:

Identifies imminent hazard. If you do not avoid it, death or severe injury will result.

Identifies a potentially hazardous situation. If you do not avoid it, minor or moderate injury can result.

1.4 Installation Site Requirements

The lifting device must not be operated in rooms with explosive atmosphere. If desired, the *Vacuum Hose Lifter* can be supplied in explosion-protected version.

The ambient temperature must be between +0°C and 40 °C (if this temperature may be exceeded, consult the manufacturer).

Ensure by internal instructions and checks that the installation site is always clean and well organized.

1.5 Intended Use



The *Vacuum Hose Lifter* is designed to lift and transport items of all kinds. The maximum lifting capacity must not be exceeded, however. Observe the name plate!

The loads must be stable enough that they cannot be destroyed during raising! Transport of persons and animals with the load or the lifting device itself is forbidden!

Unauthorized alteration of the lifting device is forbidden for safety reasons!

Only suction plates of the manufacturer **PROBST** shall be used!!!

Some suction plates which can be mounted to the device will reduce its carrying capacity.

The maximum load is **indicated** on each suction plate.

Use only suction plates which are approved for this device!

Do not exceed the maximum carrying capacity of the suction plates!!!

Danger: Load (stone slabs) will fall down!

The use of suction plates with a smaller **carrying capacity** than the lifting unit is **forbidden!** **Danger:** Load will fall down.

(It is permissible to use suction plates with a higher carrying capacity than the lifting unit).

The use of this device is only permitted in proximity to the ground.

The Load **must not** be lifted above **1,8 m (70,8 inch)**!

1.6 Emissions

The equivalent continuous sound pressure level amount in operation (workpiece sucked on) is for the *Vacuum Hose Lifter* below 70 dB (A).

1.7 Special Hazards

The load is held at the suction head by underpressure. If there is a sudden interruption of the vacuum generator, the underpressure at the suction head decreases. As a result the lifting tube of the device descends and the load lowers.

This happens in a sudden power failure. A non-return valve in the rotary suction fitting ensures that the vacuum can escape only slowly. However, this will work only when the regulator lever is moved to "Lift".

When power fails, immediately put the load down if possible. If this is not possible, immediately leave the dangerous area near the load.

The device generates a very strong suction which can draw in hair and clothing. Do not look into the suction opening or place small objects close to suction openings when the device is switched on.

1.8 Workplace



The workplace of the operator is in front of the control unit.

Make sure, that there will be no unauthorized operating of the main switch from the lifting device (for example with a padlock at the main switch).

Never stand below the load.

1.9 Instructions for the Operator

As an operator of the lifting device you must be trained before start-up. You must have read and understood the operating instructions and especially the chapters "Safety" and "Operating".

Be sure, that only authorized persons use the device. You are responsible for others in the operating range of the equipment.

Local safety requirements are fully applicable. Safety instructions in this document are complementary to the rules in force and do not supersede the latter.

1.10 Equipment for Personal Protection

Wear safety shoes when operating the device.
Before transporting dangerous goods the appropriate safety clothes have to be put on.

1.11 Behaviour in Emergencies

As an example sudden power failure is an emergency (the device switches off invariably!).
Turn the control handle fully to position "Lift". The operating unit lowers itself slowly with the load.

1.12 Checking the Guards

A non-return valve is mounted inside the rotary suction fitting. It prevents the load from dropping off the vacuum head if there is a sudden power failure.
Check the function of this non-return valve at the beginning of each shift (when operating in shifts) or once a week (when operating continually).
During the check stay outside the dangerous area.
When power fails, immediately put the load down if possible. If this is not possible, immediately leave the dangerous area near the load.
Checking:
⇒ Switch on the lifting device.
⇒ Lift a load and turn the control handle fully to position "Lift".
⇒ Switch off the lifting device. The device must lower itself slowly with the load. The load must not drop off at once.
Correct faults before operating the device. If faults occur during operation, switch the device off and correct the faults before continuing work with the device.

2 Technical Data

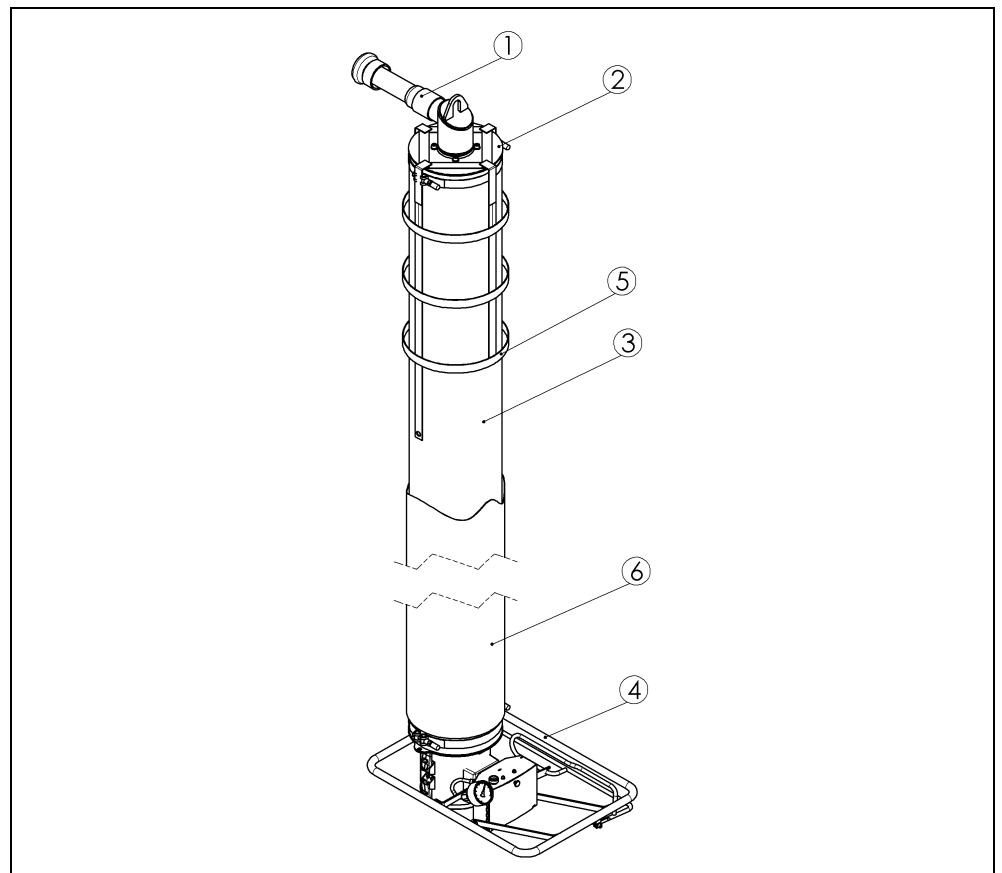
| | |
|---------------------|-----------------|
| Ambient temperature | 0 - 40 °C |
| Max. lifting stroke | approx. 1550 mm |

3 Description

3.1 Components of the JUMBO

The *Vacuum Hose Lifter* consists essentially out of:

| Pos. | Description | Remarks |
|------|---------------------------|-----------------------|
| 1 | Coupling | customer connection |
| 2 | Rotary suction fitting | customer connection |
| 3 | Lifting tube | customer connection |
| 4 | Operating unit | with regulator handle |
| 5 | Securing net | - |
| 6 | Covering for lifting tube | - |



3.2 Rotary Suction Fitting

The rotary suction fitting is connected to the suction hose of the blower and the lifting tube (3).

The lifting device is suspended on the rotary suction fitting.

The lifting device can be rotated endlessly.

3.3 Lifting Tube

The lifting tube transmits the vacuum to the vacuum head(s) and realize the lifting movement of the lifting device.

3.4 Control Unit

With the control unit the lifting and lowering of loads is controlled by changing the vacuum in the lifting device. It regulates the flow of outside air to the lifting unit.

The flow of outside air and therefore the vacuum is controlled by an orifice disc. It is operated by a regulator lever (Pos. 4.2). The load is lifted when the control opening is fully closed by the slider. The farther the control opening is open, the more outside air will be drawn in. The load will lower.

3.5 Accessories

| | |
|--------------------------------|---|
| Dust Filter | The installation of a dust filter is urgently recommended to protect the fan from all kinds of dirt (dust from surroundings, dirty loads etc.) Observe the enclosed installation instructions for dust filter. Note: If no dust filter is used, foreign objects must be excluded from the guarantee as a possible cause of failure. |
| Motor Overload switch | With this device, the blower can be switched on and off. An integrated overcurrent switch prevents the blower motor from being damaged by high current. |
| Tube cylinder Extension | The tube cylinder extension is designed for handle parts in high-sided boxes, crates, wire-mesh boxes, etc. The tube cylinder extension has to be mounted between the vacuum head and the control unit. |
| Vacuum gauge | The vacuum gauge indicates the underpressure at the vacuum head and thereby the status of operation of the lifting device. It is mounted at the control unit. |
| Protection Tube | The protection tube is a protective covering for the lifting tube. |
| Retaining net | The retaining net is for space-saving storage of the lifting device. The length of the lifting tube is reduced to a minimum. |

4 Installation

4.1 Installation Procedure

The *Vacuum Hose Lifter* must be installed and maintained by qualified personnel, mechanics and electricians. Any work on the electrical equipment may be carried out only by a qualified electrician.

Blower Installation ⇨ Install the vacuum blower as described in the separate operating instructions.

Checking the Rotation Direction Before commissioning, check that the blower rotation direction corresponds with that in the separate manual.



When mounting the suction hose, observe that the hose is hanged up spirally turned (\varnothing at least 800 mm). Its length has to be the 1.3 to 1.5 times the jib length. The suction hose must hang down freely. It must not lie flat, rub or catch on anything.



- ⇒ Mount the rotary suction fitting (7) to the transport trailer (5) of the crane. Fasten it safely! Insert the transport trailer into the crane jib (2).
- ⇒ Mount the end stop (6) at the end of the crane jib. Never work without an end stop on the crane jib, otherwise the lifting device can fall off.
- ⇒ Connect the suction hose to the rotary suction fitting (4) and secure it with a hose clamp.

If you install the suction hose, note that the hose contracts under the pressure of vacuum by approximately 10 to 15 %. Therefore, a loose installation with length compensation should be provided. Longer, linear distances can also be bridged with a plastic pipe. The overall length should not exceed 50 m. Long suction hoses reduce the capacity and the dynamics of the tube lifter.

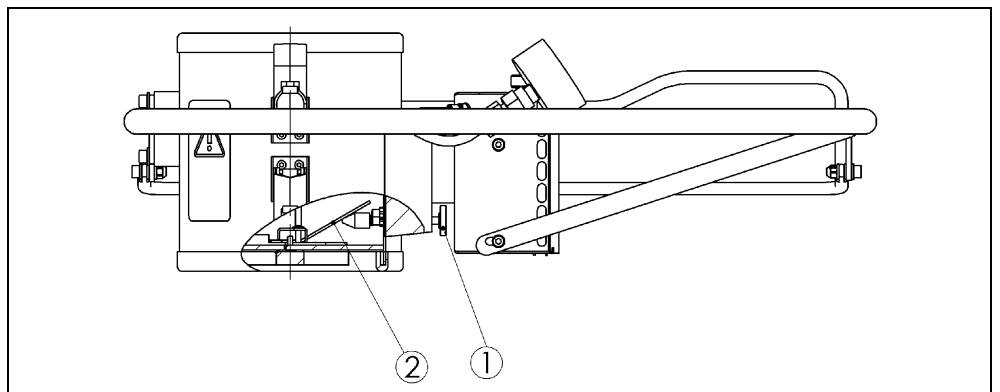
4.2 Adjusting the Hovering Position (without load)

The hovering position of the lifting device must be adapted to the weight of the vacuum head. A valve (2) in the tube support cylinder is used to adjust it. When you apply the vacuum head to the load a valve is fully opened by a plunger and the valve rod in the vacuum head. The load can be sucked and lifted.

Adjustment:

- ⇒ Turn the adjustment screw (1) at the operating unit (accessible from the bottom).
 - Turn clockwise (direction of arrow) → Valve becomes opened.
 - Turn counter-clockwise → Valve becomes closed.
- ⇒ The farther the valve is opened the lower the device hovers.

When the valve is closed totally the device bounce up abruptly as soon the blower is switched on!

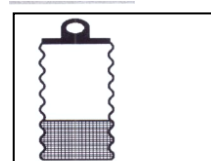


4.3 Replacing the lifting tube



The lifting tube can be replaced on-site.

The lifting tube must always be installed with the reinforced section at the bottom!



Procedure:

- ⇒ Clamp the rotary inlet in a vice, holding it by the screws of the tube holder (Fig. 1).
- ⇒ Remove the protective caps from the ends of the threads of the hose clamps.
- ⇒ Use a spanner to remove the hose clamps from the tube cylinder (Fig. 2) and the rotary inlet (Fig. 3).
- ⇒ Remove the adhesive tape from the old lifting tube.
- ⇒ Unscrew the old lifting tube from the tube mounting of the tube cylinder (Fig. 4).
- ⇒ Unscrew the lifting tube from the tube mounting of the rotary inlet (Fig. 5).
- ⇒ Lightly grease the threads of the tube mountings (Fig. 6).
- ⇒ Mount the new lifting tube with the reinforced section at the bottom!
- ⇒ Fully screw the new lifting tube onto the threads of the rotary inlet (Fig.7).
- ⇒ Fully screw the new lifting tube onto the threads of the tube cylinder (Fig. 8).
- ⇒ Wind tow full turns of adhesive tape (Coroplast) around the ends of the lifting tube to seal it to the tube cylinder (Fig. 9) and the rotary inlet (Figs. 10, 11).
- ⇒ Place the hose clamps on the ends of the lifting tube and tighten them with a torque of 10 Nm, using a torque wrench (Fig. 12).
- ⇒ Fit the protective caps on the ends of the threads of the hose clamps.



Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5



Fig. 6



Fig. 7



Fig. 8



Fig. 9



Fig. 10



Fig. 11



Fig. 12



Serial number →

Lifting tube dimension →

← Article number lifting tube

5 Operating

5.1 Safety Instructions

Local safety requirements are fully applicable. The following safety instructions are complimentary to the rules in force and do not supersede the latter:

- ⇒ Wear safety shoes.
- ⇒ Before transporting dangerous goods the corresponding safety clothes have to be put on.
- ⇒ Never exceed the maximum lifting capacity of the lifting device. Observe the name plate on the handle.
- ⇒ Do not stand below the load. Always keep clear of the load.
- ⇒ Never carry people or animals with the load or the lifting device itself !
- ⇒ Operate only when you can view the entire working area. Look out for other persons in the working area.
- ⇒ Never manoeuvre loads above people.
- ⇒ Never lean about lifted loads.
- ⇒ Do not let go of the handle whilst lifting a load.
- ⇒ Do not pull loads to the side or drag them along with the lifting device.
- ⇒ Do not rip loose loads that have become jammed.
- ⇒ If there is a power failure immediately turn the handle (**JUMBOERGO**) resp. push upwards the regulator lever (**JUMBOSPRINT**) fully to "Lift" to prevent the load from dropping off. The reserve vacuum will let the lifting device lower slowly with the load.
- ⇒ Apply suction and lift only to appropriate loads (check for stability and porosity).
- ⇒ The lifting device is mounted into the crane rails with rail end stops. While moving against the rail end stops, strong horizontal forces can occur. These forces can result in releasing the load.



If the lifting unit (lifting tube) is not able to lift the vacuum-gripped load, never try to support the lifting of the load, it is possible that the gripper's holding force is inadequate.

The load could fall → risk of injury.

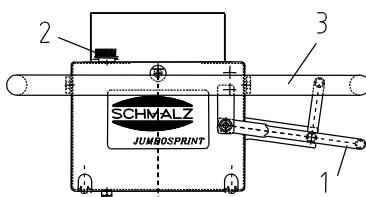
5.2 Lifting, Lowering and Landing Loads

The following operating steps must be checked by a qualified mechanic prior to use of the device by the operating personnel. Correct faults before start-up.

The hovering position (without load) must be adjusted prior to start up, see 4.2.



Lifting



- ⇒ Place the vacuum head directly above the load.
- ⇒ Press the regulator lever (1) down. The lifting tube descends and the vacuum head lowers.
- ⇒ Apply the vacuum head to the load. Distribute load evenly.
- ⇒ Slowly push the regulator lever (1) upward. The device attaches to the load.

Attention: the regulator lever must not be on the position "Lift" for more than 90 seconds because otherwise:

- ⇒ the blower could be damaged and fail, all guarantee claims are void!
- ⇒ power is wasted unnecessarily.



Adjusting the hovering position with load

Turn the adjusting screw (2) to adjust the hovering position with the load.

Caution: Do not confuse this adjustment with the hovering position without load.

- ⇒ Turn screw clockwise → the hovering position will be lower.
- ⇒ Turn screw counter-clockwise → the hovering position will be higher.



Attention

Attention: the hovering position with load should not be adjusted to the highest position of the control unit because otherwise:

- ⇒ the blower could be damaged and fail, all guarantee claims are void!
- ⇒ power is wasted unnecessarily.

Lowering, Placing



Danger

- ⇒ Slowly move the regulator lever (1) downward - "Lower". The lifting tube descends and the vacuum head lowers with the load.

Do not operate the regulator lever control abruptly, while you firmly hold the handlebar (3), as this can cause the load to fall off, because the vacuum suddenly vanishes.

- ⇒ Lower the load to the chosen position.
- ⇒ To land the load push the regulator lever down all the way. Tip the valve control box a little and lift it off the load.

6 Trouble Shooting

The device must be installed and maintained by qualified personnel, mechanics and electricians. Any work on the electrical equipment may be carried out only by a qualified electrician.

After each repair or maintenance job check the guards as described in the Operating Manual "Safety".

If a load cannot be lifted, check through the following list to find the problem and correct it.

| Error | Remedy |
|---|--|
| Opposite direction of rotation | ⇒ Transpose the phases of the blower connection. |
| The required vacuum is not reached | ⇒ Check the suction hose and tube lifter for airtightness. ⇒ Check the mounting of the suction heads ⇒ Clean resp. replace the dust filter cartridge |
| The load is too heavy | Split the load, use other lifting device. |
| The load is too porous or of low bending strength | Load cannot be lifted, try using a different vacuum head. |
| Suction hose is damaged | Replace hose or cut out damaged piece and connect remaining hose with a tube and hose clamps |
| Vacuum lifting tube is damaged | Replace the vacuum lifting tube |
| Connection of the vacuum head is damaged | Check seal on the tube cylinder, replace it. |
| Vacuum head is damaged | Check seal on the vacuum head, replace it. |
| The load drop off when you lower it | Please contact the manufacturer |
| The vacuum is reached but the lifting device can not lift porous loads | Please contact the manufacturer |
| The control unit of the tube lifter hangs in the upper block position (with running blower) even without load and is not coming down by turning the handle or regulator lever | ⇒ Turn the adjustment screw at the control unit clockwise ⇒ Clean or replace the dust filter of the control unit |

7 Maintenance

7.1 General Notes

The *Vacuum Hose Lifter* may be installed and maintained only by qualified personnel such as mechanics and electricians.

After any repair or maintenance work, check the safety devices as described in the section "Safety".

7.2 Cleaning

The maintenance proceedings and intervals are described in the service-table. Use cleaning detergent to clean the device (do not use petrol (gasoline) or aggressive or corrosive fluids to clean the device. The vacuum lifting tube and the suction hose will otherwise become leaky or be destroyed).

Remove items and contaminations such as adhesives, glue, saw dust, dust etc. sticking to the vacuum heads at least once a week. Use glycerine to clean the seals. Immediately replace damaged vacuum heads (tears, holes, waves).

7.3 Accident prevention rules

Accident prevention rules require a yearly inspection of lifting device and crane by a qualified person.

7.4 Service-Table

| | Interval | | | | |
|--|----------|--------|---------|------------|--------|
| | daily | weekly | monthly | 1/2-yearly | yearly |
| Tube Lifter | | | | | |
| Is the lifting tube in good condition (not porous, no scrubbing spots, no holes and with that tight)? | | | X | | X |
| Is the fastening of the lifting tube correct (wire clips at the correct place, tightening)? | | | | | X |
| Can the rotary suction fitting be rotated easily itself? | | | X | | X |
| Does the rotary handle resp. the control handle operates smooth? | | | X | | X |
| Are all junctions fixed, hose band clips etc.? | | | | | X |
| Are the type- and the lifting- capacity label still on the machine? | | | | | X |
| Is the operating instruction still present and does the worker know of it? | | | | | X |
| Is the handle firm? | | | | | X |
| Is the filtermat still at the operator unit and is it cleaned? | | | X | | X |
| Check supporting parts (such as the suspension of the device) on deformation, wear, rust or other damages. | | | | X | |
| Function | | | | | |
| Can the device be lifted and lowered without weight easily ? (Adjusting the valve in the operating unit) | | | X | | X |
| JUMBOSPRINT: Can the hovering position of the device with weight be adjusted easily ? (Adjusting the adjusting screw at the operating unit) | | | | | X |
| Does the non return valve work by power failure? | | | X | | X |
| Check the general condition of the machine. | | | | | X |

8 Notes on the Name Plate

On the nameplate the main data for the lifting device is indicated.
The nameplate is firmly connected to the device.
The nameplate contains the following information:



- ← Type
- ← Device number
- ← Order number
- ← Max. lifting capacity
- ← Weight of device



Type and number are vital for identification of the unit. Indicate these when ordering spares or filing claims and other inquiries.

The max. lifting capacity indicates for which maximum load the device can be used. The max. load must not be exceeded.

9 Storage

If you are not using the Jumbo Sprint vacuum hose lifter, you should store it correctly to best preserve the product quality. This entails the following:

- ⇒ Clean the product (see 7.2) and let it dry if wet
- ⇒ Store the product in a room that protects it from moisture and frost (recommendation: in the manufacturer's storage case)
- ⇒ Storage temperature: +0 – 40 °C

To start up the system again, refer to chapter 4, "Installation"

10 Guarantee, spare and consumable parts

This equipment is guaranteed in accordance with our General Conditions of Business. This also applies to spare parts where these are original parts supplied by us.

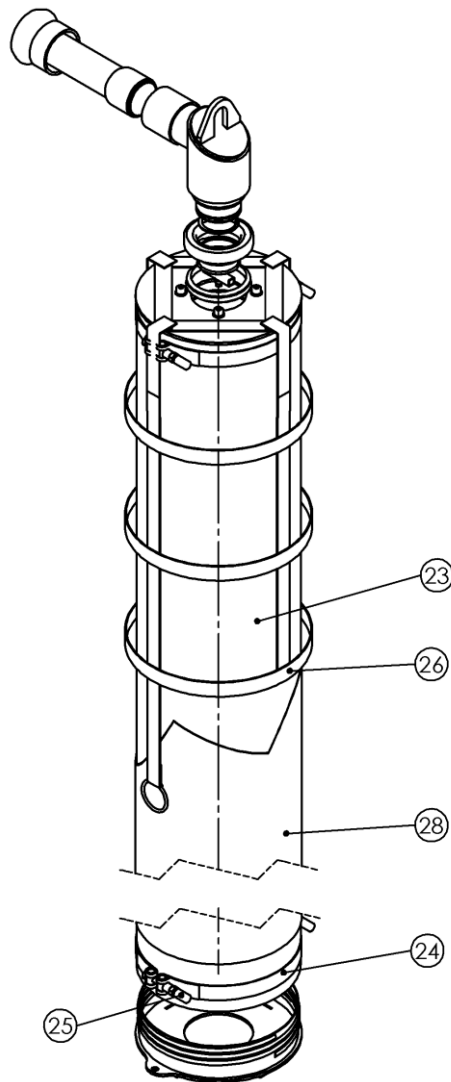
We will assume no liability for damage caused by the use of non-original spare parts and accessories.

Wear and consumable parts are not covered by the guarantee.

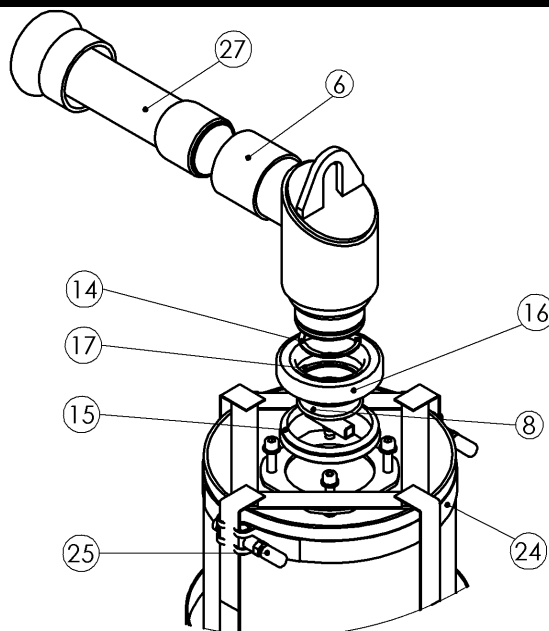
The most important spare and consumable parts are shown in the following list.

- Abbreviations:
- Spare part = **E**
 - Consumable part = **V**
 - Consumable-part assembly, contains consumable parts = **VB**

Hubeinheit / Lifting Hose Assy



Dreheinheit / Rotation Unit



Hubeinheit mit Bedieneinheit Ersatzteile/ /Spare Parts

| Hubeinheit / Lifting Hose Assy | | | | | | |
|--------------------------------|-------------------|----------------------|---------------------------|--------------------------|-----------|---------|
| Pos. | Menge / Amount | Bezeichnung | Description | Abmessung / Dimension | Art. No. | Legende |
| 6 | 1 | G 2" - L 56 - D 66,3 | G 2" - L 56 - D 66,3 | | 2700.0007 | E |
| 8 | 1 | Flachsauggreifer_PFG | Flat suction pad_PFG | | 4210.0610 | V |
| 14 | 1 | DIN 472 - 54 x 2,0 | DIN 472 - 54 x 2,0 | | 2048.0025 | E |
| 15 | 1 | V-Ring | V-ring | | 4210.0611 | V |
| 16 | 1 | Kugellager | Bearing | | 2135.0022 | E |
| 17 | 1 | DIN 471 - 65 x 2,5 | DIN 471 - 65 x 2,5 | | 2048.0026 | E |
| 23 | 1 | Hubschlauch | Lifting hose | PVC | 2527.0010 | V |
| 24 | 2 | Schlauchschelle | Hose clamp | SSB | 2105.0068 | E |
| 25 | 4 | Kappe für SSB | Cap for SSB | | 2202.0042 | E |
| 26 | 1 | Haltenetz | Securing net | | 2527.0005 | V |
| 27 | 1 | Kupplung | Coupling | | 4200.0042 | E |
| 28 | 1 | Schutzhülle | Covering for lifting tube | | 2529.0007 | E |

E= Ersatzteil, V= Verschleißteil, VB= Verschleißteilbaugruppe, enthält Verschleißteile

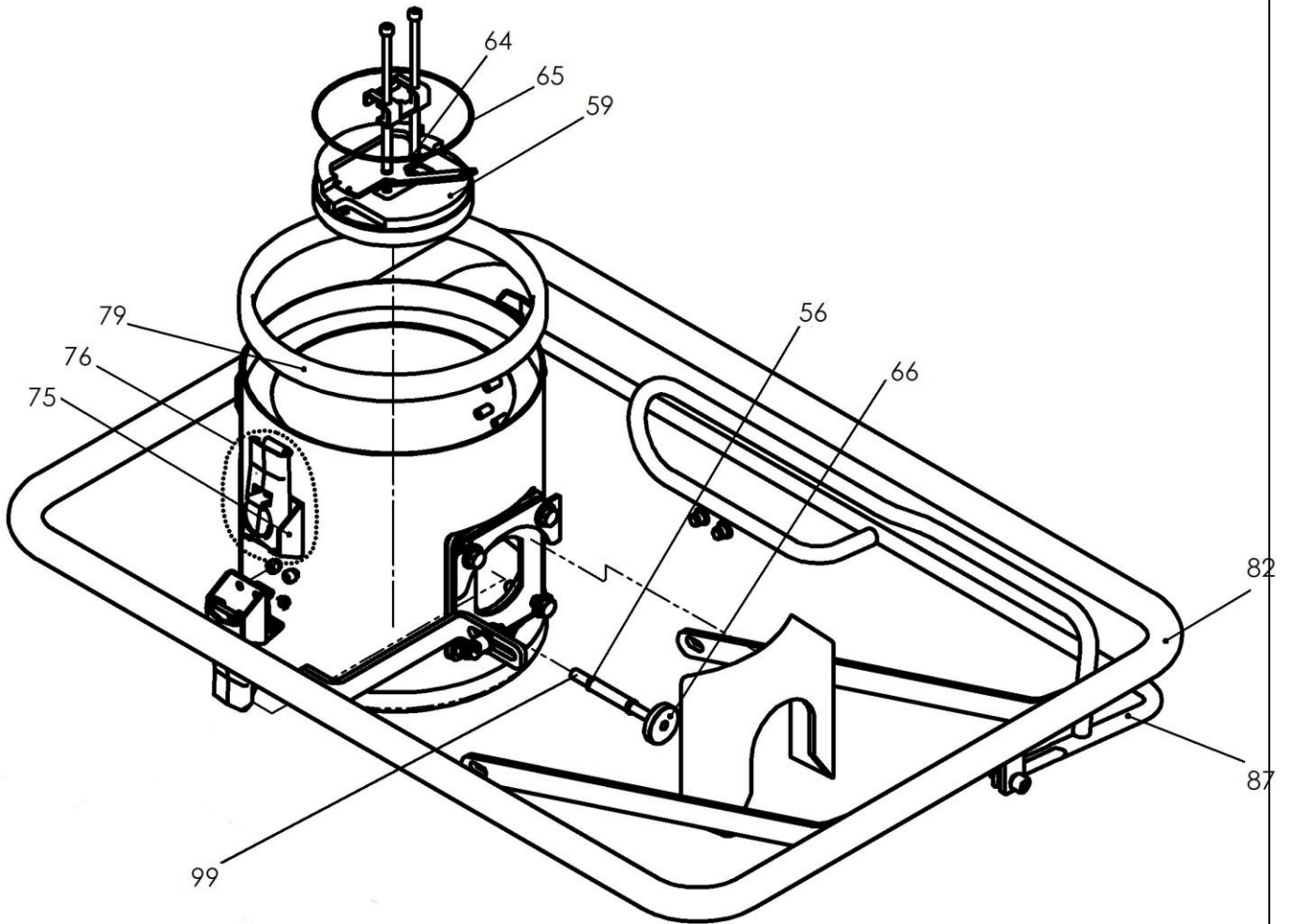
E= Spare part, V= Consumable part, VB= Consumable-part assembly, contains consumable parts

| Hubeinheit / Lifting Hose Assy | | | | | | |
|--------------------------------|----------------|----------------|----------------|----------------|----------------|----------------|
| Pos. | HE 35-E/S-BP | HE 50-E/S-BP | HE 80-E/S-BP | HE 150-E/S-BP | HE 200-E/S-BP | HE 300-E/S-BP |
| 23 | 11.04.01.10007 | 11.04.01.10028 | 11.04.01.10066 | 11.04.01.10178 | 11.04.01.10070 | 11.04.01.10129 |
| 24 | 10.07.10.00048 | 10.07.10.00049 | 10.07.10.00039 | 10.07.10.00046 | 10.07.10.00040 | 10.07.10.00065 |
| 26 | 11.01.12.10141 | 11.01.14.10058 | 11.01.05.10248 | 11.01.23.10043 | 11.01.25.10039 | 11.01.25.10084 |
| 28 | 11.04.01.10023 | 11.04.01.10018 | 11.04.01.10017 | 11.04.01.10132 | 11.04.01.10073 | 11.04.01.10127 |

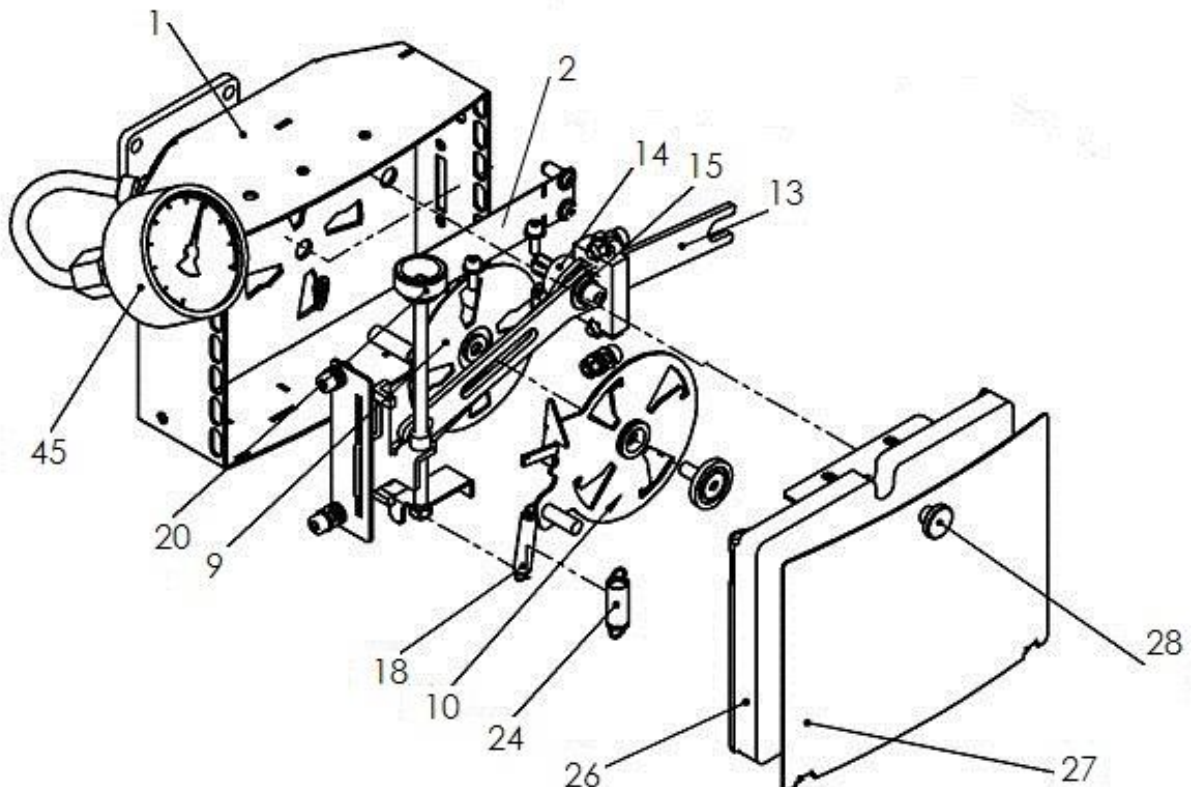
E= Ersatzteil, V= Verschleißteil, VB= Verschleißteilbaugruppe, enthält Verschleißteile

E= Spare part, V= Consumable part, VB= Consumable-part assembly, contains consumable parts

Ventileinheit, Bedieneinheit / Valve Unit, Operating handle



Ventileinheit / Valve Unit



| Ventileinheit, Bedieneinheit / Valve Unit, Operating handle | | | | | | |
|--|---------------------------|-----------------------------------|----------------------|----------------------------------|-----------------|----------------|
| <i>Pos.</i> | <i>Menge / Amount</i> | <i>Bezeichnung</i> | <i>Description</i> | <i>Abmessung / Dimension</i> | <i>Art. No.</i> | <i>Legende</i> |
| 1 | 1 | Ventilgehäuse kpl. | Valve casing compl. | | 4210.0612 | E |
| 2 | 1 | Federklappe | Spring flap | | 4210.0608 | E |
| 9 | 1 | Reibbelag | Friction lining | | 4210.0613 | E |
| 10 | 1 | Scheibe | Disk | | 4210.0614 | E |
| 13 | 1 | Schieber | Slide | | 4210.0401 | E |
| 14 | 1 | Hülse | Socket for slide | | 4210.0535 | E |
| 15 | 1 | Gleitlager | Bearing bush | | 4210.0536 | E |
| 18 | 1 | Zugfeder | Tension spring | Z 066 OI | 2171.0008 | E |
| 20 | 1 | Stellschraube | Adjusting screw | | 4210.0403 | E |
| 24 | 1 | Zugfeder | Tension spring | Z 081 HI | 2171.0009 | E |
| 26 | 1 | Filtermatte | Filter mat | | 2505.0010 | V |
| 27 | 1 | Abdeckung f. Ventilklappe | Cover for valve unit | | 4210.0615 | E |
| 28 | 1 | Rändelschraube | Knurled screw | | 2009.0038 | E |
| 45 | 1 | Manometer VAM | Manometer VAM | | 2213.0007 | E |
| 56 | 1 | Druckfeder | Spring (pressure) | | 2170.0044 | E |
| 59 | 1 | Ventilklappe | Valve flap | | 4210.0558 | E |
| 64 | 2 | Druckfeder | Spring (pressure) | | 2170.0045 | E |
| 65 | 1 | O-Ring | O-ring seal | | 2155.0087 | V |
| 66 | 1 | Rändelmutter | Knurled nut | | 2019.0021 | E |
| 75 | 4 | Spannhaken für Spannverschluss | Tension hook | | 2106.0011 | E |
| 76 | 2 | Spannverschluss | Tension lock | | 2106.0004 | |
| 79 | 2 | Schlitzgummiring | Ruber seal | | 4210.0091 | V |
| 82 | 1 | Haltebügel | Supporting strap | | 4210.0405 | E |
| 87 | 1 | Reguliergriff | Control handle | | 4210.0406 | E |
| 99 | 1 | Rundstab | Rod | | 4210.1051 | E |

E= Ersatzteil, V= Verschleißteil, VB= Verschleißteilbaugruppe, enthält Verschleißteile

E= Spare part, V= Consumable part, VB= Consumable-part assembly, contains consumable parts