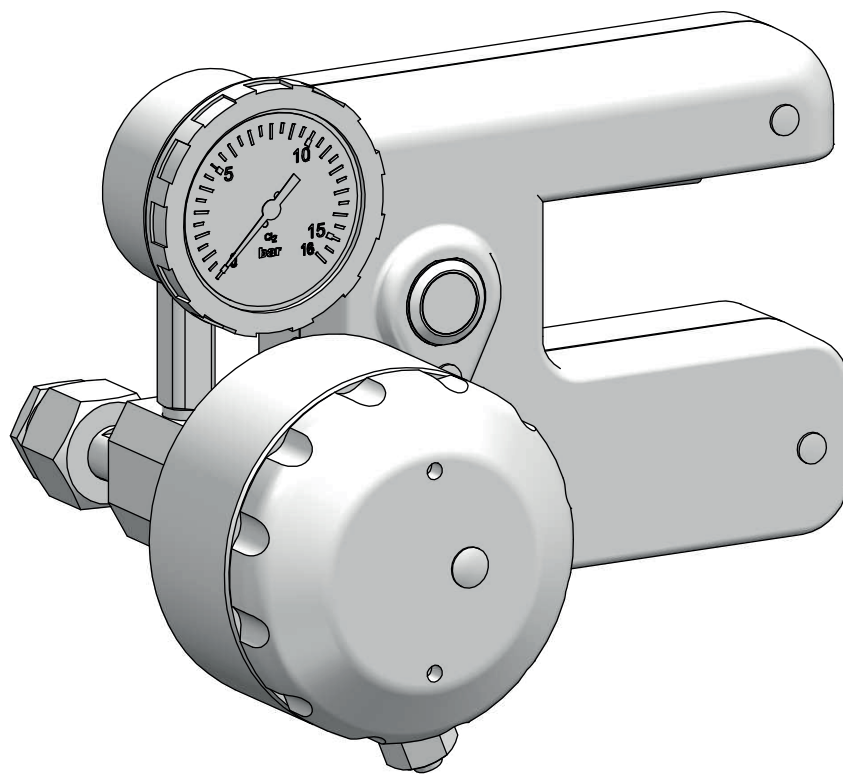


Vacuum regulator with electric pressure safety shutoff valve

VakuStop

Operating instructions



Read the operating instructions!

The user is liable for improper installation and operation.

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1 Notes for the reader

These operating instructions contain information and behaviour rules for the safe and designated operation of the device.

Observe the following principles:

- Read the entire operating instructions prior to starting-up the device.
- Ensure that everyone who works with or on the device has read the operating instructions and follows them.
- Maintain the operating instructions throughout the service life of the device.
- Pass the operating instructions on to any subsequent owner of the device.

1.1 General non-discrimination

In these operating instructions, only the male gender is used where grammar allows gender allocation. The purpose of this is to make the text easy to read. Men and women are always referred to equally. We would like to ask female readers for understanding of this text simplification.

1.2 Explanation of the signal words

Different signal words in combination with warning signs are used in these operating instructions. Signal words illustrate the gravity of possible injuries if the risk is ignored:

Signal word	Meaning
DANGER	Refers to imminent danger. Ignoring this sign may lead to death or the most serious injuries.
WARNING	Refers to a potentially hazardous situation. Failure to follow this instruction may lead to death or severe injuries.
CAUTION	Refers to a potentially hazardous situation. Failure to follow this instruction may lead to minor injury or damage to property.
<i>PLEASE NOTE</i>	Refers to a danger which, if ignored, may lead to risk to the machine and its function.

Tab. 1: Explanation of signal words

1.3 Explanation of the warning signs

Warning signs represent the type and source of a danger:

Warning signs	Type of danger
	General hazard
	Danger from poisonous substances
	Danger of hand injuries
	Danger of damage to machine or functional influences

Tab. 2: Explanation of warning signs

1.4 Identification of warnings

Warnings are intended to help you recognise risks and avoid negative consequences.

This is how warnings are identified:

Warning signs	SIGNAL WORD
Description of danger. Consequences if ignored. ⇒ The arrow signals a safety precaution to be taken to eliminate the danger.	

1.5 Identification of action instructions

This is how pre-conditions for action are identified:

- ✓ Pre-condition for action that must be met before you may start the steps.
- ✗ A resource such as a tool or auxiliary materials required to perform the operating instructions.

This is how instructions for action are identified:

- ➔ Single step with no further steps.
- 1. First step in a series of steps.
- 2. Second step in a series of steps.
 - ▶ Result of the above action.
- ✓ **Action completed, aim achieved.**

2 Safety

2.1 General warnings

The following warnings are intended to help you eliminate the dangers that can arise while handling the device. Risk prevention measures always apply regardless of any specific action.

Safety instructions that warn against risks arising from specific activities or situations can be found in the respective sub-sections.

	DANGER
Danger to life from chlorine poisoning! Chlorine is poisonous. In severe cases, breathing in chlorine may lead to death. It irritates the eyes, the respiratory system and the skin. ⇒ Use sufficient personal protective equipment. ⇒ When carrying out any work on the system, use a respirator mask with a Type B gas filter that complies with EN 14387. ⇒ Always comply with the accident prevention regulations that apply at the place of use. ⇒ Get rid of leaks without delay. You must get rid of even very minor leaks without delay. Together with the humidity, chlorine forms hydrochloric acid and corrosion results in rapidly increasing leakage. ⇒ Use only chlorine-resistant seals. ⇒ Only use seals once. Reusing them leads to leaks.	

	DANGER
Danger to life from chlorine poisoning! Chlorinators without gas warning devices are an increased safety risk, since it is not possible to detect escaping chlorine gas in good time or at all. ⇒ Install a gas warning device.	

	CAUTION
Increased risk of accidents due to insufficient qualification of personnel! The device may only be installed, operated and maintained by personnel with sufficient qualifications. Insufficient qualification will increase the risk of accidents. ⇒ Ensure that all action is taken only by personnel with sufficient and corresponding qualifications. ⇒ Prevent access to the system for unauthorised persons. ⇒ Follow the specifications of section 2.5 "Personal Protective Equipment" on page 6.	

	PLEASE NOTE
System damage due to formation of hydrochloric acid Chlorine gas is highly hygroscopic. This means that humidity enters the system at any open connection on devices or pipes, which results in the formation of hydrochloric acid and contamination. Thus inevitably causing damage to the units. ⇒ Keep all connections (including in the vacuum system and on all devices not currently in use) closed at all times.	

2.2 Information about chlorine

Chlorine is a hazardous substance. The chemical element chlorine is a greenish-yellow, toxic gas with a pungent odour that can be detected in the air at concentrations below 1 ppm (= 1 ml/m³).

Chlorine is 2.5 times heavier than air and accumulates at ground level.

Chlorine is extremely toxic for water organisms. The reason for the toxicity of chlorine is its extraordinary reactivity. It reacts with animal and vegetable tissue and thus destroys it.

Air with a chlorine gas content of 0.5–1% leads to a quick death in mammals and humans, as it attacks the respiratory tract and the pulmonary alveolus (formation of hydrogen chloride or hydrochloric acid).

	PLEASE NOTE
Faults due to insufficient chlorine quality Impurities in the chlorine gas form deposits in devices and valves and can attack the components chemically. This can lead to malfunctions. ⇒ Only use technically pure chlorine that meets the following requirements: - Mass content of chlorine at least 99.5% - Water content max. 20 mg/kg Chlorine that complies with EN 937 meets these requirements	

2.3 Hazards due to non-compliance with the safety instructions

Failure to follow the safety instructions may endanger not only persons, but also the environment and the equipment.

The specific consequences can be:

- Failure of major unit and system functions
- Failure of required maintenance and repair methods
- Danger for individuals through dangerous dosing media
- Danger to the environment caused by chlorine leaking from the system

2.4 Working in a safety-conscious manner

Besides the safety instructions specified in these operating instructions, further safety rules apply and must be followed:

- Accident prevention regulations
- Safety and operating provisions
- Safety regulations on handling hazardous substances
- Environmental protection provisions
- Applicable standards and legislation

2.5 Personal Protective Equipment

Based on the degree of risk posed by the dosing medium and the type of work you are carrying out, you must use corresponding protective equipment. Read the Accident Prevention Regulations and the Safety Data Sheets for the dosing media to find out what protective equipment you need.

You will require the minimum of the following personal protective equipment:

Personal protective equipment required	
	Respirator mask
	Protective clothing
	Protective gloves
	Safety shoes

Tab. 3: Protective equipment required

Wear the protective equipment when performing the following tasks:

- Installation
- Commissioning
- All work on gas-bearing sections of the plant
- Changing the chlorine gas tank
- Shut-down
- Maintenance work
- Disposal

2.6 Personnel qualification

Any personnel who work on the device must have appropriate special knowledge and skills.

Anybody who works on the device must meet the conditions below:

- Attendance at all the training courses offered by the owner
- Personal suitability for the respective activity
- Sufficient qualification for the respective activity
- Training in how to handle the device
- Knowledge of safety equipment and the way this equipment functions
- Knowledge of these operating instructions, particularly of safety instructions and sections relevant for the activity
- Knowledge of fundamental regulations regarding health and safety and accident prevention
- All persons must have one of the following minimum qualifications:
- Training as specialists to carry out work on the device unsupervised
- Sufficient training that they can work on the device under the supervision and guidance of a trained specialist

These operating instructions differentiate between these user groups:

2.6.1 Specialist staff

Thanks to their professional training, knowledge, experience and knowledge of the relevant specifications, qualified personnel are able to perform the job allocated to them and recognise and/or eliminate any possible dangers by themselves.

2.6.2 Trained electricians

Due to their professional training, knowledge and experience as well as knowledge of specific standards and provisions, trained electricians are able to do the electrical work assigned to them and to recognise and avoid any potential dangers by themselves.

They are specially trained for their specific working environment and are familiar with relevant standards and provisions.

They must comply with the legally binding regulations on accident prevention.

2.6.3 Trained persons

Trained persons have received training from the operator about the tasks they are to perform and about the dangers stemming from improper behaviour.

Trained persons have attended all trainings offered by the operator.

2.6.4 Personnel tasks

In the table below you can check what qualifications are the pre-condition for the respective tasks. Only people with appropriate qualifications are allowed to perform these tasks!

Qualification	Activities
Qualified personnel	■ Transportation ■ Mechanical installation ■ Leak tests ■ Commissioning ■ Taking out of operation ■ Fault rectification ■ Maintenance ■ Repairs ■ Disposal
Trained electricians	■ Electrical installation
Trained persons	■ Storage ■ Operation

Tab. 4: Personnel qualification

3 Intended use

3.1 Notes on product warranty

Any non-designated use of the device can impair its function and the protection provided. This leads to invalidation of any warranty claims!

Please note that liability is on the side of the user in the following cases:

- the device is operated in a manner which is not consistent with these operating instructions, particularly safety instructions, handling instructions and the section "Intended Use".
- Information on usage and environment (see section 5 "Technical data" on page 11) is not adhered to.
- If people operate the device who are not adequately qualified to carry out their respective activities.
- No original spare parts or accessories of Lutz-Jesco GmbH are used.
- Unauthorised changes are made to the device.
- The user uses different dosing media than those indicated in the order.
- Maintenance and inspection intervals are not adhered to as required or not adhered to at all.
- The device is commissioned before it or the corresponding system has been correctly and completely installed.
- Safety equipment has been bridged, removed or made inoperative in any other way.

3.2 Intended purpose

Vacuum regulator with electric pressure safety shutoff valve VakuStop performs the following functions:

- Directly interrupts the chlorine gas supply from a chlorine gas tank following a chlorine alarm or detection of positive pressure in the vacuum line.
- Ensures dosing of chlorine gas in accordance with the vacuum procedure. It reduces the positive pressure from the chlorine gas supply to a pressure lower than the atmospheric air pressure.

3.3 Permissible dosing media

The device may only be used for the following media and substances:

- Gaseous chlorine
- Technically pure chlorine with a mass content of more than 99.5 %

4 Product description

4.1 Scope of delivery

Please compare the delivery note with the scope of delivery. The scope of delivery includes:

- VakuStop
- Operating instructions

4.2 Design and function

4.2.1 Device design

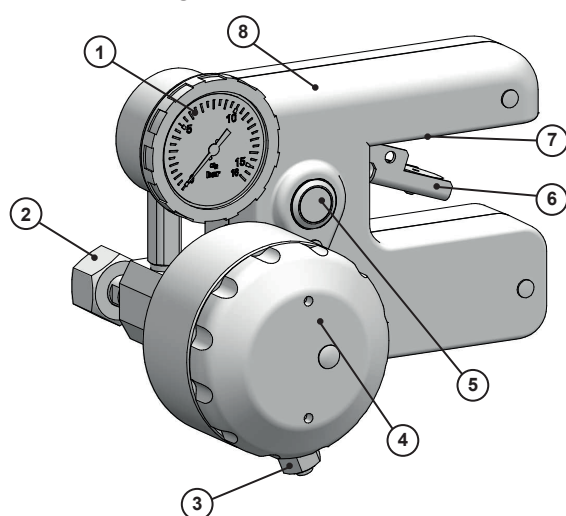


Fig. 1: Device design

No.	Description
1	Pressure gauge
2	Chlorine input
3	Chlorine output
4	Vacuum regulator
5	Pushbutton with ring lighting
6	Stop lever
7	Electromagnet
8	Housing

Tab. 5: Components

4.2.2 Function description

Total vacuum dosing systems offer the highest safety standards for the use of chlorine gas to treat water in swimming pools, waterworks and a range of industrial applications.

VakuStop plays a central role in ensuring the safety of these systems. The device combines several functions in one housing:

Automatic interruption of the chlorine gas supply

After installation on the pressurised chlorine gas tanks, an electromagnet (7) keeps the device open. Following notification of chlorine gas release or after a contact has been made (e.g. by a contact pressure gauge or a reed contact in the PLUS safety blow-off valve) on the chlorine gas warning system, a control unit (available as an accessory) interrupts the voltage supply to the electromagnet and the device automatically closes the chlorine gas tanks on the pressure side.

After the voltage supply to the magnet has been restored, the device initially remains closed. The chlorine supply can only be restored after actuation of the stop lever (6) which is possible only on the device. This ensures that the system operator needs to locate the fault at its source which resulted in the interruption of the chlorine supply. The pushbutton (5) on the device serves maintenance and test purposes only.

Vacuum regulation

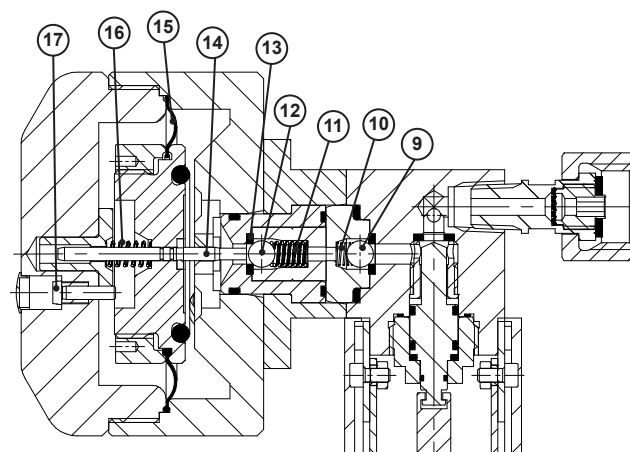


Fig. 2: Vacuum regulator - sectional view

After actuating the stop lever (6), once sufficient positive pressure is present, the chlorine gas flows to the left up to the ball (12). The ball is pressed onto the valve seat (13) by the locking spring (11) and the chlorine gas pressure and closes the access to the vacuum system.

After switching on the ejector, a vacuum is generated. The vacuum applies a force to the working diaphragm (15) of the full-vacuum chlorinator, which is directed to the right. This force is transferred to the valve ball (12) by the valve rod (14) so that chlorine gas enters the vacuum system. If the vacuum breaks down, the valve ball falls back immediately onto the valve seat and stops the chlorine gas supply.

Residual pressure protection

The spring (10) of the residual pressure safety device counters the chlorine gas pressure. When a minimum pressure is reached in the chlorine gas tank, it automatically closes the access to the vacuum system with the valve ball (9). This ensures that a small residual quantity of chlorine gas remains in the tank and no foreign substances such as air humidity can enter the chlorine gas tank.

Flow limiter

If some cylinders of a battery are already emptied and the full metering capacity is required, the delivery rate of the partly filled cylinders becomes inadmissibly high, thus causing icing of the cylinders. This is prevented by a flow limiter (19) integrated in the dosing connection (18) of the vacuum regulator. It allows for a maximum delivery rate of 1300g/h.



As a standard the flow limiter is an integrated part of the delivery. However, this can be easily removed from the vacuum connection of the device in a few simple steps if more chlorine gas is required.

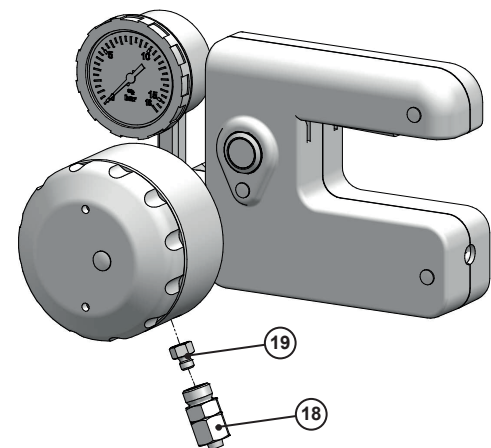


Fig. 3: Removing the flow limiter

Simultaneously extraction

The constant volume of chlorine gas delivered per hour from one chlorine cylinder must not exceed 1 % of the original contents. A short-term delivery of 2% is permitted. Consequently the maximum rate for e.g. a 65 kg cylinder is 650 g Cl₂/h or 1.3 kg Cl₂/h.

In most applications, a chlorine supply from just one chlorine cylinder is not sufficient because substantially more than 650 g/h needs to be dosed permanently. In such cases, chlorine gas is delivered by several cylinders at the same time in so-called battery operation. In order to make sure that the cylinders are emptied uniformly, all devices must start working at the same negative pressure. To this end, VakuStop has an adjustment option for the opening pressure.

The adjusting screw (17) is used to set the effect of forces between springs (16 and 11). As a result, it is ensured that the opening pressure is the same for all chlorinators and that the chlorine gas is delivered almost simultaneously from all connected cylinders.



This simultaneous extraction works for extraction quantities starting from approx. 200 g/h. To avoid falling below this extraction quantity, the number of connected cylinders should not be unnecessarily high.

4.3 Rating plate

There is information on the equipment about safety or the product's way of functioning. This information must stay legible for the duration of the service life of the product.

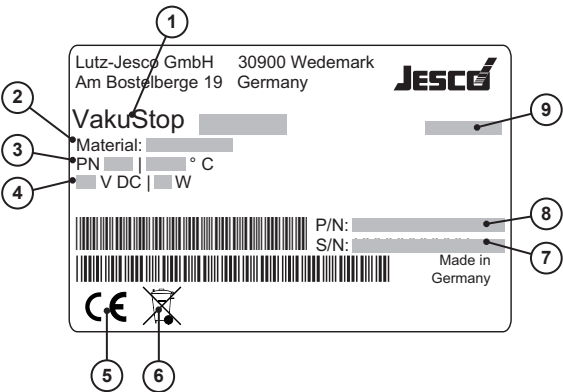


Fig. 4: Rating plate VakuStop

No.	Description
1	Product designation and connection
2	Components coming into contact with the media
3	Pressure class/missible ambient temperature
4	Control voltage
5	Label showing conformity with applicable European directives
6	WEEE label
7	Serial number
8	Part number
9	Month/year of manufacture

Tab. 6: Rating plate

5 Technical data

Information			Value
Max. flow rate	with flow limiter	kg Cl ₂ /h	1.3
	without flow limiter	kg Cl ₂ /h	10
Pressure gauge	Range	bar	0 – 16
	Accuracy class		2.5
	Switching accuracy		≤ 1.5 x accuracy class
	Contact load rating		50 V / 0.5 A / 10 W
Operating vacuum		mbar	110 (at 200 g Cl ₂ /h)
Pressure stage			PN10
Residual pressure protection			1 bar positive pressure
Connections	Input (pressure)		union nut (BSW 1", G 5/8, G 3/4, 1.030-14NGO)
	Output (vacuum)		Hose clamp connection (8/12 mm, 12/16 mm)
Materials	Inlet valve		Monel, nickel-plated brass, Hastelloy, ceramic, PVDF and FPM
	Housing		PVC, ABS
	Seals, diaphragms		FPM
Weight		kg	4.3

Tab. 7: Technical data

6 Dimensions

All dimensions in mm

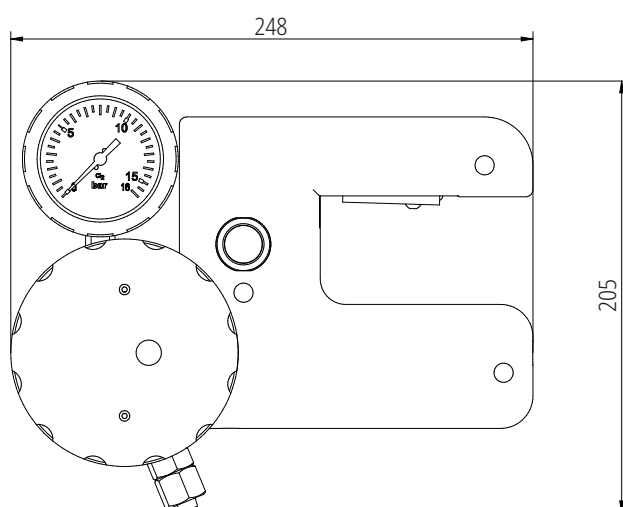
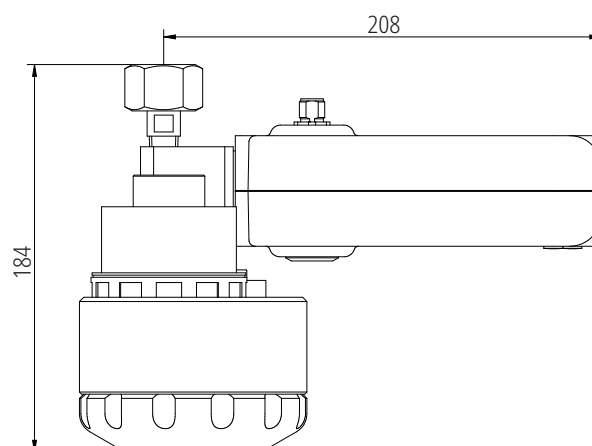


Fig. 5: Dimensional drawing



7 Installation



DANGER

Danger to life due to incorrect installation

Faulty or incomplete installation of the device can result in a chlorine leak.

- ⇒ Only ever commission completely installed systems.
- ⇒ Open the chlorine gas tank valves only after installation has been completed.
- ⇒ Wear personal protective equipment when performing any work on the system.



DANGER

Danger of death resulting from an unsuitable chlorine gas tanks!

Chlorine gas dosing systems pose an increased security danger, if connected to a chlorine gas tank not in a perfect condition.

- ⇒ Always perform a visual check before connecting the chlorine gas tank.
- ⇒ Do not connect a chlorine gas tank which is in a visibly bad condition (e.g. visible soiling or damage to the valve).
- ⇒ Do not use a chlorine gas tank lacking its protective cap or cover.



PLEASE NOTE

Damage to the system due to incorrect installation

Failure to observe installation instructions (e.g. use of unsuitable tools, incorrect torque) can damage the system parts.

- ⇒ Use the tool intended for this purpose.
- ⇒ Note the specified torque.

7.2 Mechanical installation

7.2.1 Installation on a chlorine gas cylinder

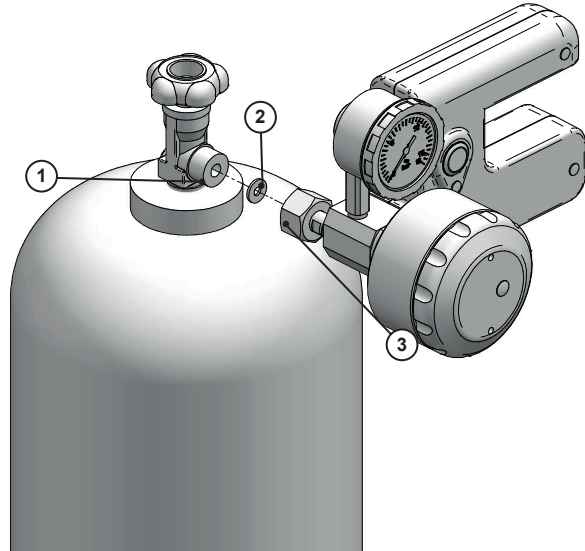


Fig. 6: Installing the device on a chlorine gas cylinder

Precondition for action:

- ✓ The chlorine gas bottle is secured at the site of operation against falling.
- ✓ The sealing surfaces are free of soiling and damage.
- ✓ The seals are clean and dry.

Resources required:

- ✗ Open-end spanner AF 32/40 and AF 13
- ✗ Connection seals

Perform the following working steps:

1. Insert a new seal (2) on the inlet connection of the device.
2. Screw the device to the chlorine gas cylinder valve (1) using the union nut (3) of the inlet connection. Ensure that the device grip is level.
3. Tighten the union nut with approx. 40 Nm. Use the two open-end spanners for this task.

- ✓ **Device installed.**

7.1 Installation location

The device is installed directly on the outlet of a chlorine gas tank.

The room must fulfil the following minimum requirements:

- Complies with the locally valid prescriptions
- Secured against access by unauthorised persons
- Protected against weather conditions
- Frost-free
- Comply with the permissible ambient temperature (see section 5 "Technical data" on page 11).
- Direct outlet to the outside available
- The size of the room allows for easy installation and inspection and maintenance of the device at any time
- Good venting possible

7.2.2 Assembly of the dosing line

Precondition for action:

- ✓ The dosing device is connected to the chlorine supply.
- ✓ The transport protection of dosing device output has been removed.

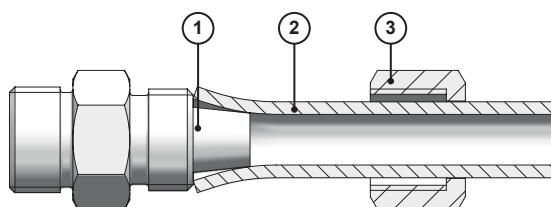


Fig. 7: Fitting the hose connection

Perform the following working steps:

1. Cut the hose (2) at right angles.
2. Slide the union nut (3) onto the hose.
3. Slide the hose end onto the grommet of the hose connection (1). You can heat the hose end so as to make it easier to slide it onto the grommet.
4. Tighten the union nut by hand.

✓ **Dosing line fitted.**

Perform the following working steps:

- ➔ Connect the device to the control unit. Comply with the specifications of the documentation.
- ➔ Ensure that the line has a length sufficient to enable the device to be dismantled during maintenance and tank change.
- ✓ **Electrical installation of the device completed.**

7.4 Completing the installation

- ➔ Check all electrical connections for their correct connection.
- ➔ Seal all drillholes that were made during the electrical installation so that they are gas-tight.
- ➔ Check all the mechanical connections for leak-tightness (see section 8.1 "Leak test with chlorine gas and ammonia" on page 15).

7.3 Electrical installation

i The control line (15 m) connected to the device effects a connection to an external control unit. You can shorten or extend the line. The ends of the control line must be fitted with wire end sleeves.

Precondition for action:

- ✓ The device was installed in accordance with section "7.2 Mechanical installation".
- ✓ A control unit with a 24 V control voltage is available.
- ✓ The mains voltage of the control unit was interrupted and secured against reactivation.

Resources required:

- ✂ Documentation of the external control unit.

Plug type	PIN	Cable colour	PIN assignment
	1	Brown	+24 V DC
	2	White	Earth (GND)
	3	Blue	Not used
	4	Black	

Tab. 8: PIN assignment A-coded plug of the control line

7.5 Installation example

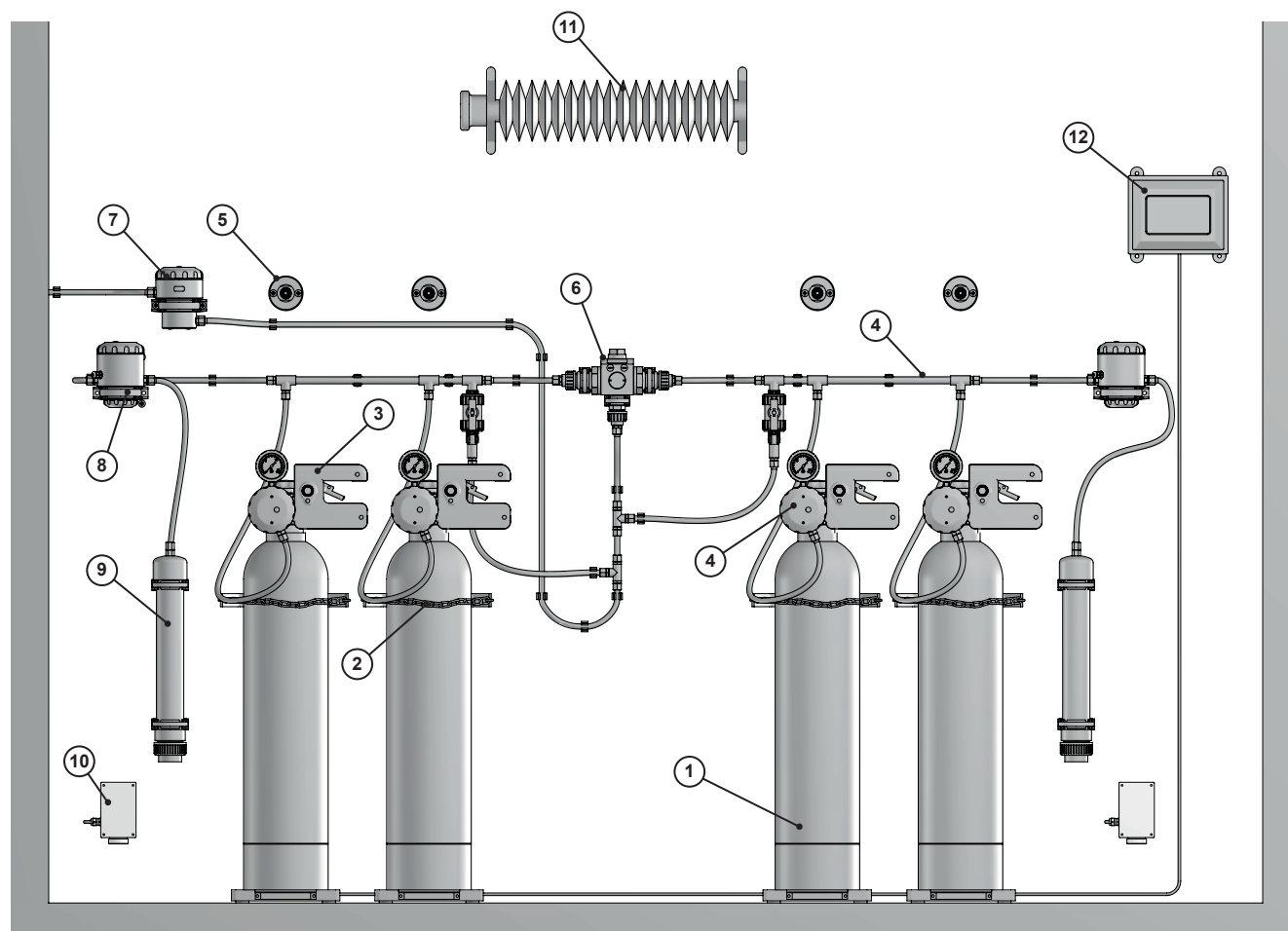


Fig. 8: Installation on chlorine gas cylinders

No.	Description
1	Chlorine gas bottle
2	Holding bracket
3	VakuStop vacuum regulator with electric pressure safety shutoff valve
4	Vacuum collective line
5	Wall holder
6	Vacuum changeover switch
7	Safety shutoff valve
8	Safety blow-off valve PLUS
9	Activated carbon cartridge
10	Gas sensor
11	Heater
12	Container scales

Tab. 9: Components

8 Commissioning

8.1 Leak test with chlorine gas and ammonia

	DANGER
Danger to life from chlorine poisoning! If you start the leak test with chlorine gas before the entire system has been installed and the injectors are ready for operation, chlorine gas may not be extracted immediately in the event of a leak. ⇒ Make sure that all the components in the plant are installed correctly and the injectors are ready for operation before starting the leak test with chlorine gas. ⇒ Put on protective clothing before carrying out the leak test with chlorine gas.	

Precondition for action:

- ✓ The device has been installed in accordance with section 7 "Installation" on page 12. The ring lighting illuminates.
- ✓ The device valve is closed.
- ✓ The chlorine gas tank valve is closed.
- ✓ All system parts are ready for operation.
- ✓ You are wearing personal protective equipment.

Resources required:

- ✂ Cylinder with ammonia solution
- ✂ Open-end spanner AF 32/40 and AF 13

Perform the following working steps:

1. Briefly open the chlorine gas tank valve and close it again.
2. Hold the open bottle containing the ammonia solution close to the inlet connection and perform slight pumping motions. The ammonia steam with chlorine forms a white vapour and makes even very small leaks visible.

	PLEASE NOTE
Damage to the system from ammonia solution If the ammonia solution comes into contact with the system, this leads to corrosion on the equipment. ⇒ Make sure that you do not spill any ammonia.	

	Leak-tightness must be checked in the open and closed state. This inspection is conducted via two drill holes in the housing.
---	---

3. Insert the ammonia bottle in the lower drill hole and perform the pumping motions. The upper drill hole is for inspection purposes. Look for the development of white mist.

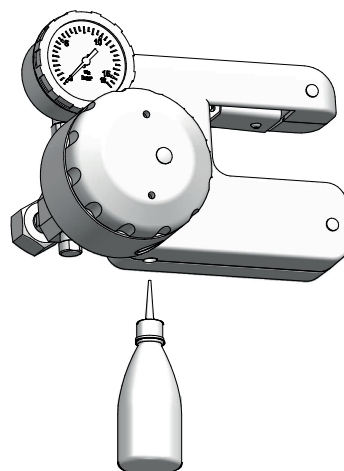


Fig. 9: Checking for leaks

If you find leaks:

1. Open the device valve by pulling the stop lever upwards.
2. Use the ejector to extract the remaining chlorine.
3. Switch off the ejector at the booster pump.
4. Close the device valve by actuating the pushbutton on the fore-side of the device.
5. If the leak point is located on the connection of the device to the tank valve, tighten the union nut.
6. Repeat the leak test.

If you do not find any leaks:

1. Repeat the inspection with an open device valve by pulling the stop lever to the upper end position.
2. Briefly open the chlorine gas tank valve and close it again.
 - ▶ The chlorine gas flows into the inlet valve of the device.
3. Hold the open cylinder containing the ammonia solution close to the dosing connection and perform light pumping motions. The ammonia steam with chlorine forms a white vapour and makes even very small leaks visible.
4. Insert the ammonia bottle in the lower drill hole and perform the pumping motions. The upper drill hole is for inspection purposes. Look for the development of white mist.

If you find leaks:

1. Use the ejector to extract the remaining chlorine.
2. Switch off the ejector at the booster pump.
3. If the leak is located in the device, contact the manufacturer.

If you do not find any leaks:

1. Depressurise the system using the injector to evacuate the piping.
2. Switch off the ejector at the booster pump.
3. Close the device valve by actuating the pushbutton on the fore-side of the device.

✓ **The leak test with chlorine gas and ammonia has been carried out successfully.**

8.2 Checking the vacuum system



PLEASE NOTE

Operating faults through leakages in the vacuum system

Small leaks in the vacuum system will not be recognised in normal operation, since no chlorine escapes. Air will enter the system with moisture. The air humidity reacts with the chlorine. This results in corrosion and can lead to deposits which result in malfunctions.

- ⇒ Follow the specifications in this section regarding the inspection of the vacuum system.
- ⇒ The leak test must be performed by sufficiently-qualified personnel.

Precondition for action:

- ✓ The vacuum system is fully assembled.
- ✓ All the open connections of the vacuum system were closed.
- ✓ The ejector is ready for operation.
- ✓ The device valve is closed.

Perform the following working steps:

1. Set the adjusting screw of the flow meter and if necessary, the subsequent regulation valve to 100% flow.
2. Switch the ejector on. The ball in the flow meter must stop moving after a short time.
3. If the float does not remain stationary, there is a leak in the vacuum system. Check all components and vacuum lines between the VakuStop and the ejector.

When the system is vacuum-tight:

4. Open the chlorine gas tank valve.
 5. Open the VakuStop by actuating the stop lever.
- ✓ **A leak test was performed in the vacuum system.**

9 Operation

After opening the device using the stop lever, the device does not require any separate operation. Vacuum control is performed automatically.

9.1 Changing the chlorine gas tank

Precondition for action:

- ✓ The functionality of the chlorine gas disposal unit with its neutralisation device and the safety equipment have been checked.
- ✓ Personal protective equipment has been put on and the leak-tightness of the respirator mask has then been checked by covering the filter with the palm of a hand.
- ✓ All requisite tools and working materials are available:
- ✗ 2 open-end spanners AF 32/40 and AF 13
- ✗ Wire brush
- ✗ Ammonia solution for the leak test
- ✗ New connection seals

9.1.1 Changing chlorine cylinders

Perform the following working steps:

1. Close the chlorine gas tank valves of all tanks of a battery.
2. Use the ejector to extract any chlorine residues until the ball in the flow meter lies still.
3. Trigger the devices manually.

For the sake of clarity, the following steps initially only focus on one tank.

4. Loosen the union nut on the device slightly and check the leak-tightness of the chlorine gas tank valve using ammonia. If no chlorine gas can be detected, unscrew the screw connection completely.
5. Close the tank connection of the device by mounting it on the PVC wall bracket.
6. Close the output of the tank valve with the lock nut.
7. Place the safety cap over the tank valve (coat the thread with silicone grease if possible).
8. Mark the tank to be changed as "empty".
9. Change the tank and secure its position with a holding bracket.
10. Mark the new tanks as "full." Make a note of the date.
11. Wait until the contents of the new tank have settled and taken on room temperature.
12. Remove the protective cap of the new tank.
13. Loosen the lock nut on the tank valve slightly. If chlorine gas is released under pressure (hissing), immediately close the tank valve with the sealing cap and inform the chlorine gas supplier. If no chlorine gas is released, unscrew the lock nut completely.
14. Clean the tank valve output with the wire brush.
15. Remove the device from the wall bracket and connect it to the tank using a seal. Only use new connection seals.
16. Briefly open the chlorine gas tank valve and close it again. Perform a leak test on the chlorine tank connection using ammonia (see section 8.1 "Leak test with chlorine gas and ammonia" on page 15).
17. Unlock the device.

18. Repeat steps 4 – 17 for all newly connected tanks.

✓ Chlorine gas cylinders successfully changed

9.2 Shutting down in an emergency

	DANGER
Danger to life from chlorine escape! Chlorine is poisonous. In severe cases, breathing in chlorine may lead to death. It irritates the eyes, the respiratory system and the skin. ⇒ If chlorine escapes, leave the room immediately. ⇒ Use sufficient personal protective equipment. ⇒ If chlorine gas escapes, wear a Type 2 self-contained breathing apparatus that complies with EN 137. ⇒ Only initiate counter measures after putting on the protective equipment.	

Should large quantities of chlorine gas leak (an emergency situation), it will be detected by the gas sensors in the alarm system; the device will be closed. This ensures that the device is switched off at the same time, as the closure of the device interrupts the voltage supply to the device.

The further procedure depends on the type of accident and should be planned and executed by professional personnel.

9.3 Check intervals

This table gives you an overview of the inspections to be performed and the intervals at which they are to be conducted.

Test	Test interval
Leak-tightness of the device (see section 8.1 "Leak test with chlorine gas and ammonia" on page 15)	■ daily ■ After changing the chlorine gas tank ■ After performing maintenance of the device
Shutoff valve function individual device (see section 9.4.1 "Checking the function of the shutoff valve of all devices via the external control unit" on page 18)	■ Monthly

Tab. 10: Check intervals

9.4 Function tests

During operation, check the device function following every tank change.

Precondition for action:

- ✓ There are no faults.
- ✓ All devices are connected to the external control unit.

- ✓ All devices are unlocked (the stop lever of every device is in the "open" position).
- ✓ All chlorine gas tank valves are open.

9.4.1 Checking the function of the shutoff valve of all devices via the external control unit

Perform the following working steps:

1. During operation, turn the key switch on the control unit to the "1" position.
 - ▶ The control unit interrupts the voltage supply to the valves and the valves close.
 2. Turn the key switch to the "0" position and then press the "Reset" button.
 3. Unlock the devices again.
- ✓ **Shutoff valve function of the devices successfully checked via the external control unit.**

10 Shut-down

10.1 Short-term shutdown

Perform the following working steps:

1. Close the chlorine gas container valves.
2. Use the ejector to suck off the remaining chlorine gas.
3. Close the device by actuating the pushbutton on every individual device or simultaneously via the control unit.
4. Disconnect the control unit from the voltage supply so that the solenoid can cool. Secure the control unit against reactivation.
5. Switch off the ejector.
6. Close the stop valves upstream and downstream of the ejector.

✓ **Chlorinator shut down for the short term.**

10.2 Long-term shut-down

Perform the following working steps:

1. Close the chlorine gas container valves.
2. Use the ejector to suck off the remaining chlorine gas.
3. Close the device by actuating the pushbutton on every individual device or simultaneously via the control unit.
4. Switch off the ejector.
5. Close the stop valves upstream and downstream of the ejector.
6. Close all the connections to protect the lines and devices from humidity and dirt.

✓ **Chlorinator shut down for the long term.**

10.3 Disposal

- Before disposing of the old device, you must clean off the remaining chlorine gas by rinsing it with air.
- The device must be disposed of in accordance with applicable local laws and regulations. It should not be included with domestic waste.

As the disposal regulations may differ from country to country, please consult your supplier if necessary.

In Germany, the manufacturer must provide free-of-charge disposal. Provided the device has been safely returned along with a decontamination declaration (see page 31).

11 Maintenance

Products by Lutz-Jesco are manufactured to the highest quality standards and have a long service life. However, some parts are subject to operational wear. This means that regular visual inspections are necessary to ensure a long operating life. Regular maintenance will protect the device from operation interruptions.



DANGER

Danger to life from chlorine poisoning!

Do not carry out maintenance or any other work on the chlorinator until the system has been decommissioned and all of the chlorine gas has been removed from the lines. The failure to follow this instruction presents a significant risk of injury.

⇒ Prior to any maintenance work, prepare the system in accordance with section 11.2 "Preparing the device for maintenance" on page 20.

⇒ Wear personal protective equipment when performing any work on the system.



CAUTION

Danger of crushing from tightened spring!

Opening the housing exposed the mechanics. The individual components are held in position by a pre-tightened spring. The sudden release of the spring can cause injury.

⇒ When working on an open housing, ensure that no body parts or objects enter the mechanics.

11.1 Maintenance intervals

This table gives you an overview of maintenance work and the intervals at which you must carry it out. The next few sections contain instructions for carrying out this work.

Interval	Maintenance
After 1 year	■ Cleaning the device ■ Replace all O-rings and seals ■ Replace the filter ■ Replace the valve seats ■ Replace the springs, valve balls and diaphragms (only given visible wear)
After 3 years	■ Cleaning the device ■ Replace all O-rings and seals ■ Replace the filter ■ Replace the valve seats ■ Replace the valve connection ■ Replace the springs and valve balls ■ Replace the diaphragm

Tab. 11: Maintenance intervals



Local regulations can specify shorter maintenance intervals. The frequency of maintenance required is not dependant on the intensity of the device usage. The chemical wear of the plastics begins with the first contact with the medium.

11.2 Preparing the device for maintenance

Pre-conditions for actions:

- ✓ The chlorine gas system has been shut down for a short time (see section 10.1 "Short-term shutdown" on page 19).
- ✓ The solenoid is voltage-free and has cooled.

Resources required:

- ✖ Open-end spanner AF 32/40 and AF 13

Perform the following working steps:

1. Dismantle the device from the chlorine gas tank and place the device on a suitable work surface close to the chlorine gas tank. Pay attention to where you place the control line and avoid tensile load.
 2. Close all open connections on the device and the chlorine gas tank.
- ✓ **The device has been prepared for maintenance.**

11.3 Device maintenance

Pre-conditions for actions:

- ✓ The system has been prepared for maintenance (see chapter 11.2 "Preparing the device for maintenance" on page 20).
- ✓ The respective maintenance set is available.

Resources required:

- ✖ Cotton swabs
- ✖ Cleaning alcohol
- ✖ Tool for dismantling O-rings
- ✖ Allen key size 3, 4, 5 and 8
- ✖ Open-end spanner AF 17, AF 15 and AF 19
- ✖ Pipe wrench
- ✖ Metal grease*
- ✖ Silicone grease
- ✖ Face spanner Ø3, Ø4 and Ø5

* For all movable metal parts with the exception of the adjusting spindle and metal parts within the valve body.



VakuStop consists of a valve assembly and a vacuum regulator. These are subject to separate maintenance.

11.3.1 Removing the vacuum regulator from the valve assembly

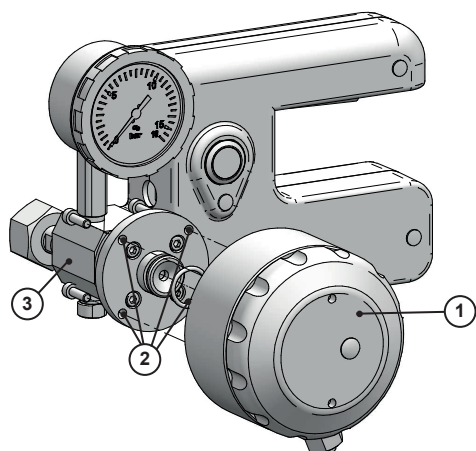


Fig. 10: Removing the vacuum regulator from the valve assembly

Perform the following working steps:

1. Unscrew the four screws (2) which connect the vacuum regulator (1) to the valve assembly (3).
2. Disconnect the vacuum regulator from the valve assembly with a light twisting movement.
3. Place the valve assembly to one side for later disassembly.

11.3.2 Performing maintenance on the vacuum regulator

11.3.2.1 Dismantle the vacuum regulator

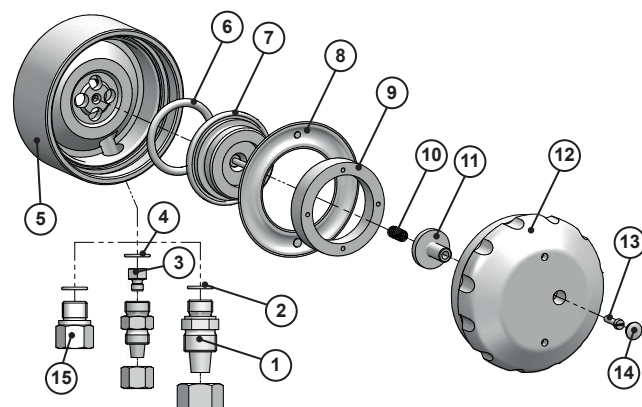


Fig. 11: Dismantle the vacuum regulator

1. Unscrew the housing cover (12) and the housing floor (5) of the vacuum regulator from each other. If the two parts cannot be separated by hand, use a suitable face spanner with a Ø5 mm pin.
2. Remove the setting bush (11) and the spring (10).
3. Remove the diaphragm disc module (6 – 9).
4. Disconnect the threaded ring (9) from the diaphragm disc (7). Use the two face spanners of Ø3 and Ø4 mm for this purpose. Remove the diaphragm (8) and the O-ring (6).
5. Use an AF 17 or AF 19 open-end spanner to loosen the hose clamp connection (1,2) or the reducer (15) and remove the O-ring (4).

✓ **Vacuum regulator dismantled.**

11.3.2.2 Clean the vacuum regulator

Perform the following working steps:

1. Clean with warm water or isopropyl alcohol.
2. Proceed with particular caution when cleaning any sealing surfaces.
3. Perform a visual check of all parts not included in the maintenance set and replace any damaged parts.

✓ **Vacuum regulator cleaned.**

11.3.2.3 Fit the vacuum regulator

1. Rub the edges of the diaphragm (8) with silicone grease lightly.
2. Guide the diaphragm under the threaded pin of the diaphragm disc.
3. Place the diaphragm in the groove of the diaphragm disc with the dome pointing downwards and screw the threaded ring (9) to the diaphragm initially by hand. Then use the two face spanners to tighten the threaded ring a further 1/4 turn.
4. Fit a new O-ring (6) in the diaphragm disc.
5. Insert the diaphragm disc into the housing floor (5) with the O-ring side facing forwards. Ensure the correct position of the diaphragm.
6. Guide the spring (10) over the metal pin of the diaphragm disc and position the spring in the recess of the diaphragm disc. Place the setting bush (11) on the spring.
7. Screw the housing cover (12) onto the housing floor until hand tight.
8. Screw the hose clamp connection (1,2) or the reducer (15) into the housing floor with a new O-ring (4).

✓ **Vacuum regulator fitted.**

11.3.3 Dismantling the valve assembly

The valve assembly is dismantled in the following order:

1. Remove the inlet valve
2. Remove the filter
3. Remove the housing section
4. Remove the sheet metal frame
5. Dismantle the shutoff valve

11.3.3.1 Removing the inlet valve

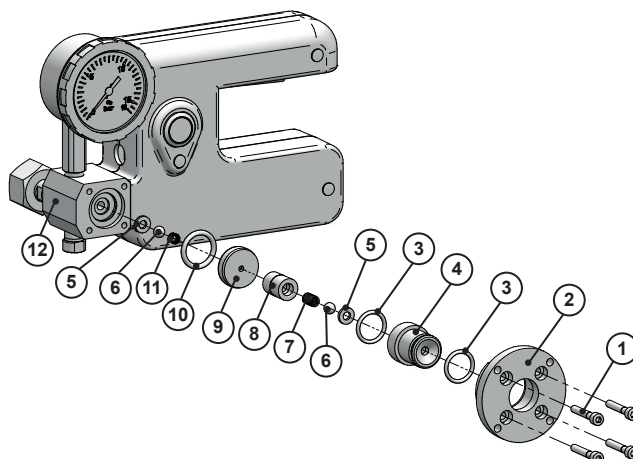


Fig. 12: Removing the inlet valve

Perform the following working steps:

1. Remove the O-ring (3) from the valve cap (4).
2. Loosen the 4 screws (1) on the clamping ring (2).
3. The spring (7) in the ball guide (8) pushes the clamping ring (2) away from the valve body (12).
4. Remove the valve cap (4) from the clamping ring (2) and remove the O-ring (3).
5. Remove the ball guide (8) from the valve cap (4). The ball guide has an M5 internal thread to aid removal.
6. Remove the valve seat (5), ball (6), and spring (7) from the valve cap.
7. Remove the spring support (9) and take out the spring (11), ball (6), valve seat (5) and O-ring (10).

✓ **Inlet valve removed**

11.3.3.2 Removing the filter

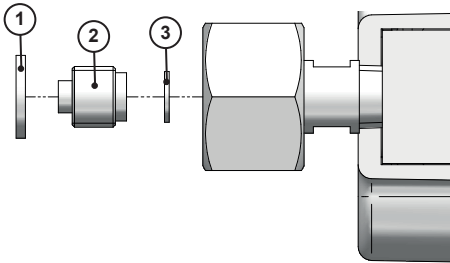


Fig. 13: Removing the filter

Pre-conditions for actions:

- ✓ The flat gasket (1) has been removed.
- ✓ The parts are in good condition.

Perform the following working steps:

1. Disconnect the connection nipple (2). Whilst doing so, insert the Allen key as far as possible to maximise the surface contact.
2. Remove the filter sieve (3) and check the drillhole for residue. Remove all filter residue from the drillhole.

✓ **The filter has been removed.**

11.3.3.3 Removing the housing

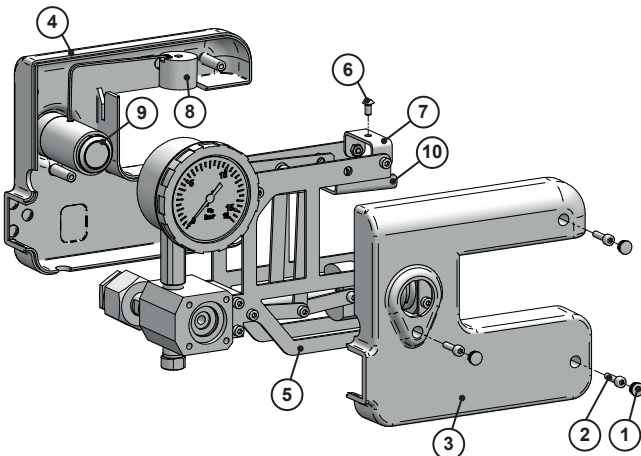


Fig. 14: Removing the housing

Perform the following working steps:

1. Remove the cover caps (1) and unscrew the screws underneath (2).
2. Move the stop lever (10) upwards and disconnect the housing shells (3,4) from the sheet metal frame (5).
3. Unscrew the screws (6) which fix the solenoid (8) to the metal carrier (7).
4. Working carefully, remove the solenoids from the metal carrier. Make sure that the solenoid is connected with the control unit (9) via a cable. Insert the solenoids with the control unit and the screw (6) into the housing shell (4). Screw on the housing shells (3,4) using the screws (2) loosely.
5. Re-insert the cover caps (1) in the drill holes so that all the parts are available for later fitting.

✓ **Housing removed.**

11.3.3.4 Removing the sheet metal frame

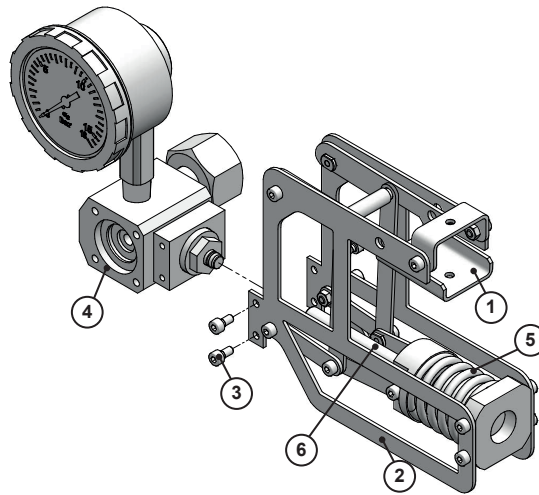


Fig. 15: Removing the sheet metal frame

Perform the following working steps:

1. Lift the stop lever (1) upwards and lock it in this position with an approx. Ø5 mm pin.
2. Unscrew the four screws (3) which connect the sheet metal frame (2) to the valve body (4).
3. Remove the pin and let the lever (1) down slowly. The spring (5) presses the valve body (4) away from the sheet metal frame (2).
4. Remove the valve body (1) from the lifting rod (6).

✓ **Sheet metal frame removed**

11.3.3.5 Dismantling the shutoff valve



Only the components of the shutoff valve that come into contact with the medium require maintenance. All other components are maintenance-free and only need to be replaced if damaged.

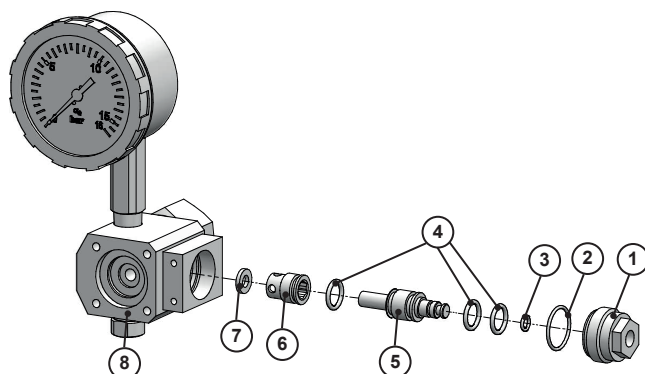


Fig. 16: Dismantling the shutoff valve

Perform the following working steps:

1. Loosen the cap screw (1) and remove the O-ring (2).
2. Pull the tappet (5) out of the valve body (8) with a twisting motion.
3. Remove the O-rings (3, 4) from the tappet (5).
4. Unscrew and remove the valve connection (6) from the valve body (8) and remove the valve seat (7).

✓ **Shutoff valve dismantled.**

11.3.4 Cleaning the valve assembly

Perform the following working steps:

1. Clean with warm water or isopropyl alcohol.
2. Proceed with particular caution when cleaning any sealing surfaces.
3. Perform a visual check of all parts not included in the maintenance set and replace any damaged parts.

i If there are red spots on the inside of the valve body, it can continue to be used. Should the sealing surface of one of the O-rings specified in Fig. 16 "Dismantling the shutoff valve" on page 23 (pos. 2, 4 and 7) have suffered damage, replace the valve body.

✓ **Valve assembly cleaned.**

11.4 Installing the valve assembly

The valve assembly is installed in the following order:

1. Install the shutoff valve
2. Fit the sheet metal frame
3. Fit the housing
4. Fit the inlet valve
5. Install the filter

11.4.1 Installing the shutoff valve

Pre-conditions for actions:

- ✓ The parts have been dried well after cleaning.
- ✓ The parts are in good condition.

✓ Wearing parts are available.

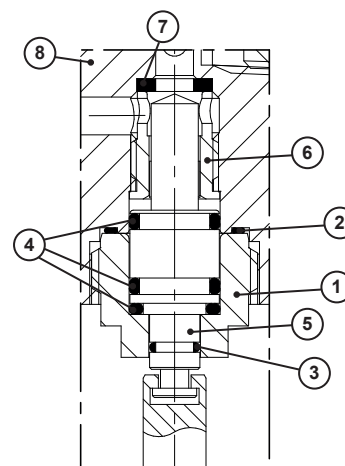


Fig. 17: Detail view of the shutoff valve installation

Perform the following working steps:

1. Slide the valve seat (7) into the valve body (8) to its fullest extent.
2. Grease the thread of the valve connection (6) lightly and screw it into the valve body to its fullest extent.
3. Insert the O-ring (2) in the groove in the valve body intended for this purpose.
4. Use fingertips to apply a very thin layer of grease on the O-rings (3, 4) and fit them on the tappet (5).
5. Insert the tappet fitted with O-rings into the cap screw.
6. Grease the thread of the cap screw lightly and tighten it to its fullest extent (approx. 30 Nm).

✓ **Shutoff valve installed.**

11.4.2 Fitting the sheet metal frame

The item numbers relate to Fig. 15 "Removing the sheet metal frame" on page 22.

Pre-conditions for actions:

- ✓ The parts have been dried well after cleaning.
- ✓ The parts are in good condition.
- ✓ Wearing parts are available.

Perform the following working steps:

1. Pull the lever (1) upwards and lock it with a approx. Ø5 mm pin.
2. Place the valve body (4) in front of the lifting rod (6) and fix the protruding tappet to the lifting rod (see Fig. 17 "Detail view of the shutoff valve installation" on page 23).
3. Secure the valve body (4) loosely to the sheet metal frame (2) using the four screws (3) and tighten them crosswise.
4. Remove the locking pin and carefully move the lever (1) into the lower end position.

✓ **Sheet metal frame fitted.**

11.4.3 Fitting the housing

The item numbers relate to Fig. 14 "Removing the housing" on page 22.

Perform the following working steps:

1. Remove the cover caps (1) and unscrew the screws (2) connecting the two housing shells (3, 4).
2. Guide the solenoid (8) back to the metal bracket (7) and fix it with the screw (6).
3. Engage the stop lever (10) and guide the sheet metal frame (5) into the housing shell (4).
4. Place the two housing shells (3, 4) on top of each other. Make sure that cables do not become trapped. The control unit (9) is aligned to the housing using the spanner flats.

✓ **The housing has been fitted.**

11.4.4 Fitting the inlet valve

The item numbers relate to Fig. 12 "Removing the inlet valve" on page 21.

Pre-conditions for actions:

- ✓ The parts have been dried well after cleaning.
- ✓ The parts are in good condition.
- ✓ Wearing parts are available.

Perform the following working steps:

1. Insert the valve cap (4) into the clamping ring (2) and fit the two O-rings (3) into the grooves in the valve cap intended for this purpose.
2. Place the valve seat (5) in the recess within the valve cap.
3. Place the valve ball (6) on the valve seat and then place the spring (7) on the valve ball.
4. Insert the ball guide (8) into the valve cap and set the module to one side.
5. Fix the device in a vice with the cylinder connection facing downwards.
6. Insert the O-ring (10) into the valve body (12).
7. Insert the valve seat (5) in the valve body.
8. Place the valve ball (6) on the valve seat and then place the spring (11) on the valve ball.
9. Fit the spring support (9) on top.
10. Insert the four short screws (1) through the stepped boreholes of the clamping ring (2). Lightly lubricate the screw threads with fitting grease.
11. Screw the clamping ring (2) onto the valve body (12). Tighten the screws crosswise.

✓ **Inlet valve fitted**

11.4.5 Installing the filter

The item numbers relate to Fig. 13 "Removing the filter" on page 22.

Pre-conditions for actions:

- ✓ The parts have been dried well after cleaning.
- ✓ The parts are in good condition.
- ✓ Wearing parts are available.

Perform the following working steps:

1. Place the filter sieve (3) in the inlet connection.
2. Screw on the connection nipple (2) carefully to its fullest extent. Whilst doing so, insert the Allen key as far as possible to maximise the surface contact.

✓ **Filter installed.**

11.5 Checking for leaks

11.5.1 Leak test of the valve assembly with nitrogen or compressed air

Pre-conditions for actions:

- ✓ Maintenance of the valve assembly is now complete.
- ✓ The solenoid of the device is supplied with current.
- ✓ The valve assembly is closed (lever in the lower end position).

Perform the following working steps:

1. Connect nitrogen or dry compressed air to the module inlet.
2. Set a pressure of 6 bar on the pressure-relief valve.
3. Briefly press in the ball on the inlet valve with a blunt tool.
 - ▶ No pressure release should be audible from the valve.
4. Open the valve assembly by moving the lever to the upper end position.
5. Close the nitrogen or compressed air supply.
 - ▶ The pressure on the pressure gauge of the pressure-relief valve or module must not drop significantly.
6. Disconnect the module from the nitrogen or compressed air supply.
7. Using a blunt tool, press the ball on the inlet valve for a few seconds until the pressure gauge reads 0.7–1.5 bar.
8. Close the valve assembly by actuating the pushbutton on the housing.
 - ▶ The lever is now in the lower end position.
9. Fit the vacuum regulator on the valve assembly (see Fig. 10 "Removing the vacuum regulator from the valve assembly" on page 21). To do so, lightly lubricate the screw threads with fitting grease.

✓ **The valve assembly has been checked for leaks.**

11.5.2 Checking the vacuum tightness

Pre-conditions for actions:

- ✓ The leak test of the valve assembly using nitrogen or compressed air has been performed.
- ✓ The device is fully assembled.
- ✓ The ejector is ready for operation.

Perform the following working steps:

1. Check the injector.
2. Observe the flow meter in the vacuum line.
 - ▶ After a short period of time the ball in the flow meter will not move anymore.

If the ball remains stationary:

3. Switch off the ejector.

If the ball does not remain stationary:

4. Check the vacuum regulator and the vacuum line up to the flow meter and eliminate the leak.
5. Repeat the test.
6. Switch off the ejector.

✓ **The device has been checked for vacuum tightness.**

11.6 Finishing maintenance

Perform the following working steps:

1. Make a note of the date and scope of the maintenance performed.
2. Attach a sticker displaying the maintenance date to the device.
3. Fit the device in the system.
4. To restart the system, proceed in accordance with the instructions in section 8 "Commissioning" on page 15.

✓ **Maintenance completed.**

12 Troubleshooting

See below for information about how to rectify faults on the device or the system. If you cannot eliminate the fault, please consult with the manufacturer on further measures or return the device for repair.

Fault	Possible cause	Corrective actions
The stop lever cannot be operated	The stop lever has not yet been fixed to the pin on the metal carrier.	Remove the pin.
The stop lever does not remain in position.	The voltage supply to the solenoids has been interrupted. ■ Cable break between the device and control. ■ Cable break between the control unit and solenoid. When connecting the device to the "Control unit for VakuStop": ■ No control unit reset after an alarm or function test has been performed.	■ Have an electrician check the electrical installation. ■ Contact the manufacturer. ■ Reset the control (see operating instructions "Control unit for VakuStop")
Vacuum insufficient	■ Leak in the vacuum line. ■ Reduced ejector performance due to a) Soiling in the ejector. b) Back pressure is too high. ■ High pressure loss in the ejector non-return valve.	■ Check all screw connections and O-rings in the vacuum line. a) Perform maintenance on the ejector. b) Measure the back pressure. ■ Perform maintenance on the ejector non-return valve.
Chlorine smell in the room	Leakage on or in the device: ■ The connection seals of the device are soiled or damaged. ■ The soiling prevents the inlet valve of the device from closing completely and the safety blow-off valve opens.	■ Replace the connection seals. ■ Perform maintenance on the inlet valve.

Tab. 12: Troubleshooting

13 Spare parts

i Items included in the spare parts sets (see chapter 13.3 "Spare parts sets" on page 29) are marked with ^A oder ^B.

13.1 Spare parts valve assembly

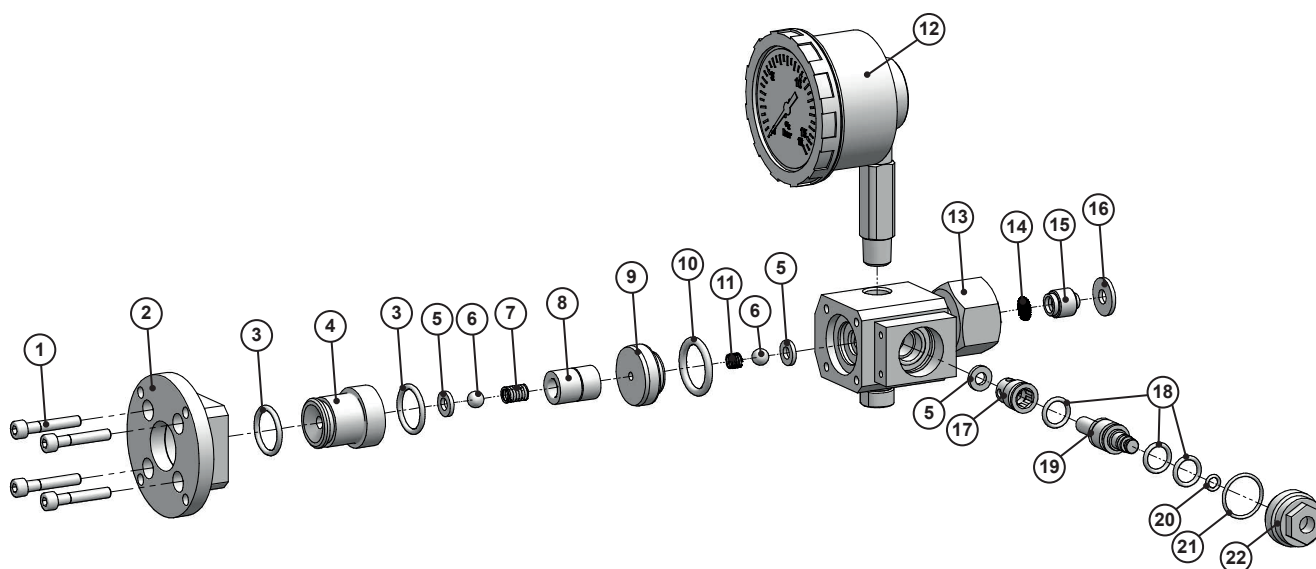


Fig. 18: Spare parts valve assembly

Item	No.	Description	Material
1 ^A	4	Screw	A4
2	1	Hose clamp	Brass (nickel-plated)
3 ^A	2	O-ring	FPM
4	1	Valve cap	PVDF
5 ^A	3	Valve seat	FPM
6 ^A	2	Ball	Ceramic
7 ^A	1	Spring	Hastelloy
8	1	Ball guide	PVDF
9	1	Spring support	PVDF
10 ^A	1	O-ring	FPM
11 ^A	1	Spring	Hastelloy
12	1	Pressure gauge	Misc.
		Contact pressure gauge with MAX closing contact	Misc.
		Plugs	Monel
13	1	Valve body with connection, union nut and plug	Brass (nickel-plated)
14 ^A	1	Filter sieve	Hastelloy
15	1	Connection nipple	Monel

Tab. 13: Spare parts valve assembly

Item	No.	Description	Material
16	1	Flat gasket	PTFE
17	1	Valve connection	
18 ^A	3	O-ring	FPM
19	1	Tappet	Monel
20 ^A	1	O-ring	FPM
21 ^A	1	O-ring	FPM
22	1	Cap screw	Monel

Tab. 13: Spare parts valve assembly

13.2 Spare parts vacuum regulator

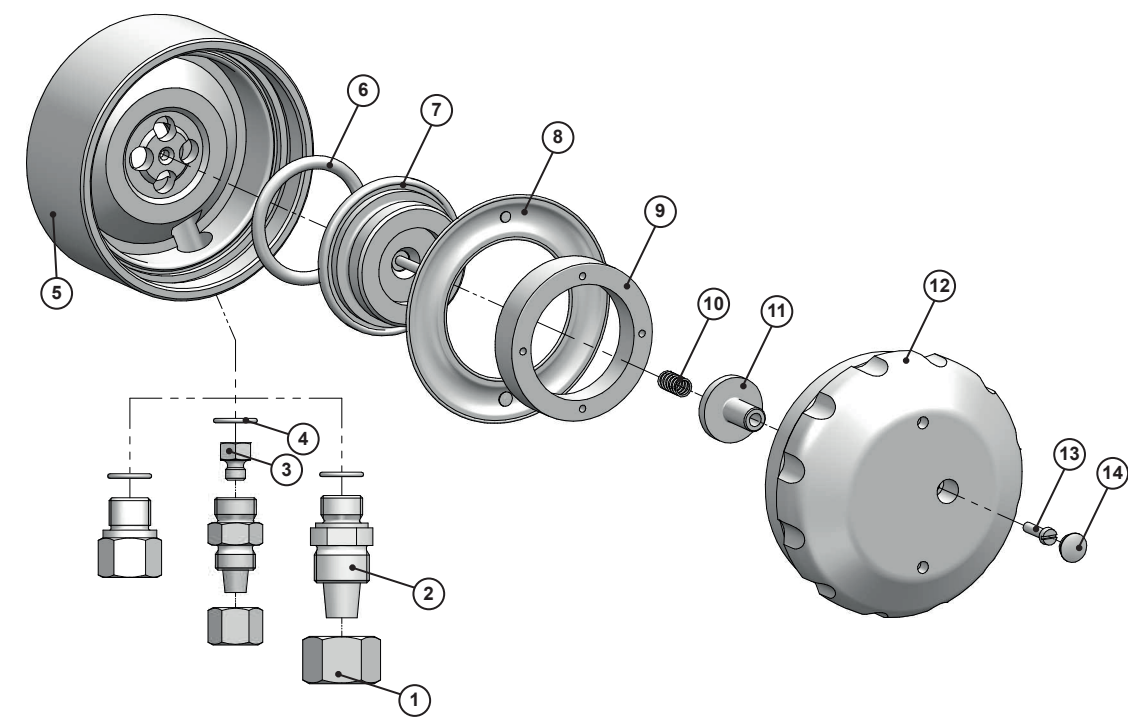


Fig. 19: Spare parts vacuum regulator

Item	No.	Description	Material
1	1	Hose connection nut	PVC
2	1	Hose connection base body	PVC
		Reduction	PVC
3	1	Flow limiter	PVC
4 ^B	1	O-ring	FPM
5	1	Housing floor	PVC
6 ^B	1	O-ring	FPM
7	1	Replacement diaphragm disc with metal pin	PVC, silver
8 ^B	1	Ring diaphragm	FPM

Tab. 14: Spare parts vacuum regulator

Item	No.	Description	Material
9	1	Threaded ring	PVC
10	1	Spring	Hastelloy
11	1	Setting bush	PVDF
12	1	Housing cover	PVC
13 ^B	1	Screw	A4
14	1	End cap	PVC

Tab. 14: Spare parts vacuum regulator

13.3 Spare parts sets

Part	Content
Spare parts set VakuStop valve assembly	All parts marked with ^A in Tab. 13 "Spare parts valve assembly" on page 27 are: ■ Filter ■ Valve balls ■ Valve seats ■ Springs ■ O-rings ■ Screws
Spare parts set vacuum regulator for VakuStop	All parts marked with ^B in Tab. 14 "Spare parts vacuum regulator" on page 28 are: ■ Diaphragm ■ O-rings ■ Screws
VakuStop valve body assembly	■ Valve body ■ Connection nipple ■ Filter sieve ■ Union nut

Tab. 15: Spare parts sets

14 EU declaration of conformity



(DE) EU-Konformitätserklärung
Hiermit erklären wir, dass das nachfolgend bezeichnete Gerät aufgrund seiner Konzipierung und Bauart sowie in der von uns in Verkehr gebrachten Ausführung den einschlägigen grundlegenden Sicherheits- und Gesundheitsanforderungen der aufgeführten EG-Richtlinien entspricht. Bei einer nicht mit uns abgestimmten Änderung am Gerät verliert diese Erklärung ihre Gültigkeit.

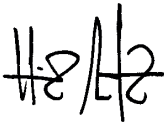
(EN) EU Declaration of Conformity
We hereby certify that the device described in the following complies with the relevant fundamental safety and sanitary requirements and the listed EC regulations due to the concept and design of the version sold by us.
If the device is modified without our consent, this declaration loses its validity.

(FR) Déclaration de conformité UE
Nous déclarons sous notre propre responsabilité que le produit ci-dessous mentionné répond aux exigences essentielles de sécurité et de santé des directives CE énumérées aussi bien sur le plan de sa conception et de son type de construction que du modèle que nous avons mis en circulation.
Cette déclaration perdra sa validité en cas d'une modification effectuée sur le produit sans notre accord explicite.

(ES) Declaración de conformidad UE
Por la presente declaramos que, dados la concepción y los aspectos constructivos del modelo puesto por nosotros en circulación, el aparato mencionado a continuación cumple con los requisitos sanitarios y de seguridad vigentes de las directivas de la U.E. citadas a continuación.
Esta declaración será invalidad por cambios en el aparato realizados sin nuestro consentimiento.

(PT) Declaração de conformidade UE
Declaramos pelo presente documento que o equipamento a seguir descrito, devido à sua concepção e ao tipo de construção daí resultante, bem como a versão por nós lançada no mercado, cumpre as exigências básicas aplicáveis de segurança e de saúde das directivas CE indicadas.
A presente declaração perde a sua validade em caso de alteração ao equipamento não autorizada por nós.

Bezeichnung des Gerätes:	Vakuumregler mit elektrischem Druck-Sicherheits-Sperrventil
Description of the unit:	Vacuum regulator with electric pressure safety shutoff valve
Désignation du matériel:	Régulateur de vide avec soupape électrique d'arrêt de sécurité de la pression
Descripción de la mercancía:	Regulador de vacío con válvula eléctrica de corte de seguridad de la presión
Designação do aparelho:	Regulador de vácuo com válvula eléctrica de fecho de segurança da pressão
Typ:	
Type:	VakuStop
EG-Richtlinien:	
EC directives:	2006/42/EG 2014/30/EU 2014/68/EU
Harmonisierte Normen:	
Harmonized standards:	DIN EN 60204-1:2014-10 DIN EN 61000-6-4:2011-09 DIN EN 61000-6-3:2011-09 DIN EN 61000-6-2:2016-05 DIN EN 61000-6-1:2016-05
Dokumentationsbevollmächtigter:	
Authorized person for documentation:	Lutz-Jesco GmbH



Heinz Lutz
Geschäftsführer / Chief Executive Officer
Lutz-Jesco GmbH
Wedemark, 12.05.2025

Lutz-Jesco GmbH
Am Bostelberge 19
30900 Wedemark
Germany

15 Decontamination declaration

Please copy the declaration, stick it to the outside of the packaging and return it with the device.

Decontamination declaration

Please fill out a separate form for each appliance!

We forward the following device for repairs:

Device and device type: Part-no.:

Order No.: Date of delivery:

Reason for repair:

Dosing medium

Description: Irritating: ☐ Yes ☐ No

Properties: Corrosive: ☐ Yes ☐ No

We hereby certify, that the product has been cleaned thoroughly inside and outside before returning, that it is free from hazardous material (i.e. chemical, biological, toxic, flammable, and radioactive material) and that the lubricant has been drained.

If the manufacturer finds it necessary to carry out further cleaning work, we accept the charge will be made to us.

We assure that the aforementioned information is correct and complete and that the unit is dispatched according to the legal requirements.

Company / address: Phone:

..... Fax:

..... Email:

Customer No.: Contact person:

Date, Signature:

16 Warranty claim

Warranty claim

Please copy and send it back with the unit!

If the device breaks down within the period of warranty, please return it in a cleaned condition with the complete warranty claim.

Sender

Company: Phone: Date:

Address:

Contact person:

Manufacturer order no.: Date of delivery:.....

Device type: Serial number:

Nominal capacity / nominal pressure:

Description of fault:.....

.....

.....

.....

.....

.....

.....

.....

Service conditions of the device

Point of use / system designation:.....

.....

.....

Accessories used (suction line etc.):.....

.....

.....

.....

Commissioning (date):

Duty period (approx. operating hours):

Please describe the specific installation and enclose a simple drawing or picture of the chemical feed system, showing materials of construction, diameters, lengths and heights of suction and discharge lines.

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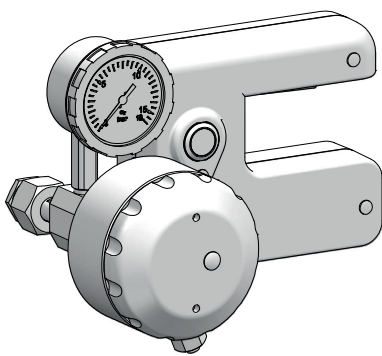
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Lutz-Jesco GmbH

Am Bostelberge 19
D-30900 Wedemark

Phone: +49 5130 5802-0
info@lutz-jesco.com
www.lutz-jesco.com

Operating instructions
VakuStop