

CVS

Vacuum changeover switch



EN

02

Operating Manual

Read this operating manual before start-up!

To be retained for future reference.

Table of Contents

1. Safety	3
1.1 General	3
1.2 Identification of safety instructions in this operating manual	3
1.3 Personnel qualifications and training	3
1.4 Hazards due to failure to follow safety instructions	3
1.5 Safety-conscious working	4
1.6 Safety instructions for the operating company/operator	4
1.7 Safety instructions for inspection, maintenance and installation work	4
1.8 Unauthorised modification and production of spare parts	4
1.9 Impermissible operation	4
1.10 Dosing of chemicals	4
1.11 Scope of delivery	5
1.12 Special notes for working with chlorinators and using chlorine	5
2. Before start-up	6
2.1 Use for intended purpose	6
2.2 Scope of delivery	6
2.3 Steps to start-up	6
3. Technical description	7
3.1 Chlorine gas	7
3.2 Other gases	7
3.3 Changeover between two supply systems	7
3.4 Remote signalling	8
3.5 Technical data	8
3.6 Dimensioned drawing	9
4. Installation	10
4.1 Vacuum lines	10
4.2 Installing the vacuum changeover switch CVS	11
4.3 Installing and adjusting the remote signalling	11
5. Start-up	12
5.1 Checking for leaks	12
5.2 Switching on the system	12
6. Operation	13
7. Switching off the system	14
8. Maintenance	15
8.1 Disassembly	15
8.2 Assembly	18
8.3 Adjusting the changeover pressure	18
8.4 Finishing of maintenance	18
9. Troubleshooting	19
10. Schematic diagram of a complete chlorination installation	20
11. Maintenance kits and accessories	21
Device revision	22
Declaration of no objection	23
Warranty claim	24
Declaration of conformity	25

1. Safety

1.1 General

This operating manual contains basic instructions to be followed during installation, operation and maintenance. It is therefore essential for the assembler and the relevant technical personnel/operating company to read this operating manual prior to installation and start-up. It must remain accessible at the place of installation of the system for reference at all times. Besides the general safety instructions in this "Safety" section, the special safety instructions in the other sections are also to be followed.

1.2 Identification of safety instructions in this operating manual

Failure to follow the safety instructions in this operating manual may result in personal injury or damage to the environment and the system. Safety instructions are identified by the following symbols:

DANGER!

Indicates an immediate danger.

Failure to follow this instruction may lead to death or extremely serious injuries.

WARNING!

Indicates a potentially hazardous situation. Failure to follow this instruction may lead to death or extremely serious injuries.

CAUTION!

Indicates a potentially hazardous situation. Failure to follow this instruction may lead to minor injuries or damage to property.

IMPORTANT! or NOTE!

Appears in conjunction with safety instructions which may endanger the device and its operation if disregarded.

IMPORTANT!

This indicates additional information that makes work easier and ensures trouble-free operation.

Information attached directly to the product, such as

- connection markings
- markings for electrical connected load
- warning labels

must be followed without fail and must remain fully legible at all times.

1.3 Personnel qualifications and training

The personnel employed for operation, maintenance, inspection, and installation must be suitably qualified for this work. The responsibilities, areas of competence and personnel supervision must be clearly defined by the operating company. Personnel who do not have the required know-how must be duly trained and instructed. If necessary, this training can also be provided by the manufacturer/supplier on behalf of the operating company. In addition, the operating company must also ensure that the relevant personnel are fully familiar with and have understood the contents of the operating manual.

1.4 Hazards due to failure to follow safety instructions

Failure to follow the safety instructions may endanger not only people, but also the environment and the device/system. Failure to follow the safety instructions may invalidate any damage claims. The following hazards in particular may arise:

- Failure of major system functions.
- Failure of required maintenance and repair methods.
- Danger to persons due to electrical, mechanical and chemical effects.
- Danger to the environment due to leakage of hazardous substances.



1.5 Safety-conscious working

The safety instructions contained in this operating manual must be observed. The operating company is responsible for ensuring compliance with local safety regulations.

1.6 Safety instructions for the operating company/operator

Leakages must immediately be eliminated by technical personnel in order to avoid potential hazards to persons and the environment. Statutory regulations must be observed.

Hazards posed by electric power must be ruled out (for further details, refer to the VDE regulations and the regulations of the local public utilities).

1.7 Safety instructions for inspection, maintenance and installation work

The operating company must ensure that all maintenance, inspection and installation work is carried out by authorised and duly qualified skilled personnel who have read and understood this operating manual.

All work must be carried out with the device stationary and disconnected from the power supply. The procedure specified in the operating manual for shutting down the installation must be observed without fail.

The device or the installation and all media-carrying parts must be evacuated. All safety and protective equipment must be reattached and activated immediately after the work has been completed.

The points set out in the section Installation and Commissioning must be observed before starting the vacuum changeover switch.

1.8 Unauthorised modification and production of spare parts

Conversions and modifications to the device are not permitted. Genuine spare parts and accessories authorised by the manufacturer ensure greater safety. No liability can be accepted for any damage resulting from the use of non-Lutz-Jesco parts.

1.9 Impermissible operation

The operational safety of the device supplied can only be guaranteed when it is used in conformity with its intended use as specified in our order documentation, especially the order confirmation. The limit values specified in the order documentation must never be exceeded.

1.10 Dosing of chemicals

CAUTION!

When working on dosing systems, the accident prevention regulations applicable on site must be observed and the specified personal protective equipment worn. We recommend the following protective equipment/clothing:



Respirator mask



Protective gloves



Protective clothing



Safety shoes

It is recommended that all persons responsible for the installation and maintenance of piping systems, hoses and accessories wear this protective clothing.

Before working on the dosing equipment and system components, disconnect it from the mains power supply and secure it to prevent reconnection.

Lock the main valve and, if installed, the auxiliary valve of the chlorine gas cylinders. Before opening the main and auxiliary valves and before reconnecting the power supply, make sure to connect the dosing lines. Working on the dosing system requires special safety precautions and may only be carried out by instructed technical personnel.

1.11 Scope of delivery

IMPORTANT!

Carefully unpack the device and any accompanying accessories ordered, so that small parts are not left inside the packaging. Compare the delivery content with the delivery note immediately. If there are any discrepancies, determine the cause.



1.12 Special notes for working with chlorinators and using chlorine

DANGER!

Chlorine is a hazardous substance. The chemical element chlorine is a green-yellow, toxic gas with pungent odour. It is 2.5 times heavier than air and accumulates at ground level. It is toxic when inhaled. In severe cases chlorine may lead to death. It irritates the eyes, the respiratory system and the skin. It 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).

DANGER!

Breathing in air with a chlorine content of 0.01% for hours may lead to fatal intoxication. Even a chlorine content as low as 0.001% (10 ppm) can severely attack the lungs. 0.0001% (1 ppm) of chlorine in breathing air irritates the respiratory organs and is easily detected by its odour. It is no longer hazardous in this case. The maximum workplace concentration is 0.5 ppm.



In order to avoid hazardous incidents, chlorinators must be maintained and tested at least once a year. In some cases, regional regulations may require shorter maintenance intervals. Working on the system requires special safety precautions and may only be carried out by instructed technical personnel.

The operating personnel must be instructed and must be familiar with all operating instructions and regional regulations. These must be available on site. The devices/installation must be checked for leaks daily and after maintenance or repair work.

DANGER!

Leaks may allow chlorine gas to escape. Inhaling chlorine gas may lead to death! Make sure to immediately eliminate any leakage. For all work on gas-conveying system parts, make sure to wear a functioning respirator mask with filter and to evacuate all chlorine from the system. This is also important when changing the chlorine cylinders. In the case of an escape of chlorine gas, use self-contained breathing apparatus. Only use seals once, reuse is not permitted and leads to leakage.



The cylinder valves must be closed before starting work on chlorinators. All chlorine-carrying pipes must be evacuated using the injector.

Liquid chlorine must never enter chlorinators not being explicitly authorised for liquid chlorine. If necessary, a pressure-relief valve, a catch pot or a pipe heating must be provided.

If the pressure gauge at the vacuum controller still indicates positive pressure, the pressure has to be discharged using the injector.

Before start-up of the chlorination installation all connections must be made properly and tightened using suitable tools. The leak tightness of the entire installation must be tested using ammonia vapour (ammonium hydroxide solution).

Chlorine gas is highly hygroscopic. Therefore, humidity enters the system at any open connection on units or pipes, resulting in the formation of hydrochloric acid, thus inevitably causing damage to the units. All connections (including the vacuum units and vacuum lines) must be closed at all times.

If it is necessary to use chlorinators with other gases than chlorine gas, the chemical resistance of the unit must be checked after consulting with the manufacturer.

2. Before start-up

2.1 Use for intended purpose

The device is intended for the following purpose only: Automatic changeover between two chlorine gas supply systems in vacuum operation.

Operating safety is guaranteed only if the device is used for its intended purpose: Use for any other purpose is not permitted and will invalidate any liability under the warranty.

2.2 Scope of delivery

IMPORTANT!

Carefully unpack the device and any accompanying accessories ordered, so that small parts are not left inside the packaging. Compare the delivery content with the delivery note immediately. If there are any discrepancies, determine the cause.

Carefully check the delivery prior to installation and refer to the delivery note to ensure the delivery is complete and to check for any transport damage. Contact the supplier and/or carrier regarding any questions concerning the delivery and/or transport damage.

Do not operate defective devices.

The scope of delivery includes:

- Vacuum changeover switch CVS
- 3x connection
- Installation accessories
- Operating Manual
- Electrical contacts (optional)

2.3 Steps to start-up

The following steps are recommended by the manufacturer in order to install the device successfully:

- Reading the operating manual
- Installing the device
- Start-up



3. Technical description

3.1 Chlorine gas

Chlorine gas is important for the disinfection of potable and swimming pool water but also represents a source of danger as far as handling, transportation and storage are concerned. The vacuum principle has therefore been used in chlorination installations for decades. According to this principle, the pressure of the chlorine gas is reduced to vacuum, and only when the vacuum is sufficient, chlorine gas will flow to the dosing point. The main safety aspect is that the escape of chlorine gas is effectively avoided. Even if a line breaks chlorine gas cannot escape but only ambient air is drawn in.

3.2 Other gases

The vacuum changeover switch CVS may be used for other gases only after consulting with the manufacturer and, if necessary, making adaptations.

3.3 Changeover between two supply systems

The CVS is used in the vacuum line system. Both inlets, leading from the gas container, are separated from each other by moving diaphragms. The pressure ratio between the two inlets changes abruptly when the first gas container is completely emptied. If the pressure ratio at the diaphragms is predominantly in favour of the second gas container, which is still full, the CVS switches over by moving the diaphragms. A lever mechanism holds the diaphragm in position.

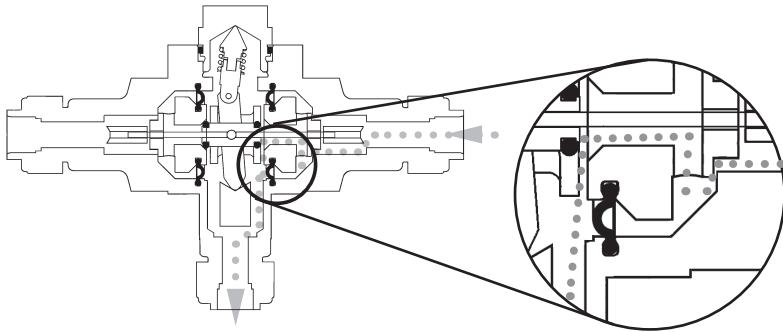


Fig. 3.1: CVS, flow through right side

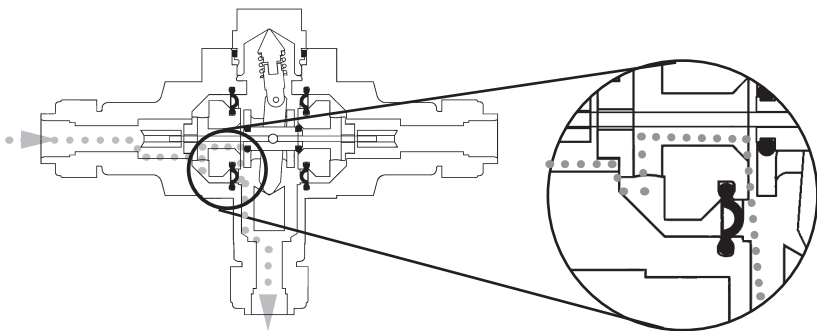


Fig. 3.2: CVS, flow through left side

The switching point can be easily adapted to the system at the adjustment plug.

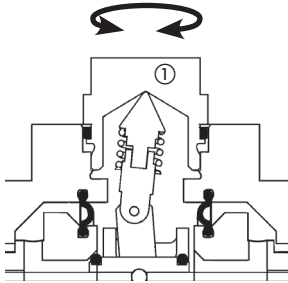


Fig. 3.3: Adjusting the switching point by turning adjustment plug ①

Turning the adjustment plug	Effect
Clockwise	Changeover only at stronger vacuum
Counterclockwise	Changeover already at weaker vacuum

Table 3.0: Adjusting the switching point



ATTENTION!

To avoid leaks, do not turn the adjustment plug by more than two turns to prevent leakage. Moist ambient air would be drawn in during operation, thus damaging the equipment. Chlorine gas can escape while the system is shut down, allowing moisture to infiltrate the entire installation.

3.4 Remote signalling

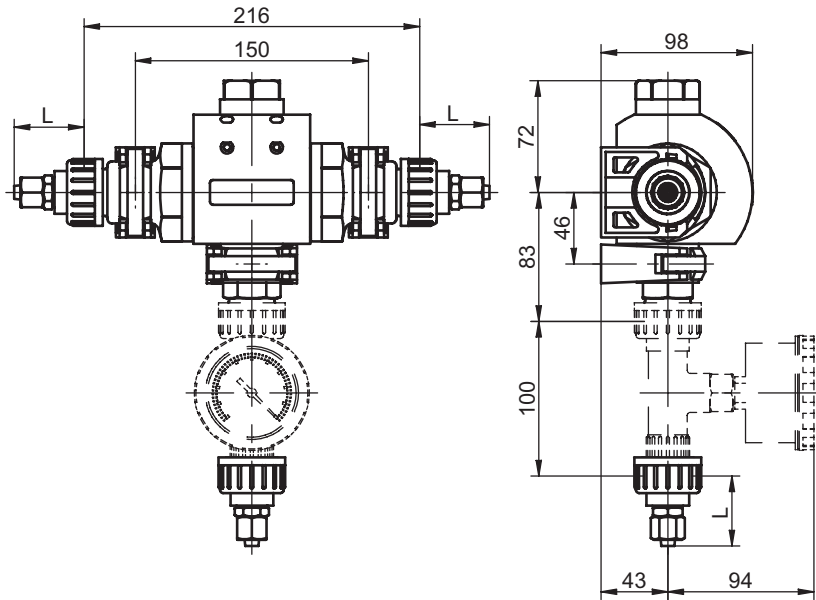
The vacuum switch CVS can be equipped with electrical contacts for remote signalling of the switch position. The part number for one set of electrical contacts is 39301.

3.5 Technical data

Material	Chlorine-resistant materials such as PVC, PVDF, FPM and Hastelloy
Max. capacity	10 kg Cl ₂ /h (with connections 8/12: 5 kg Cl ₂ /h)
Operating pressure	-1 ... 0 bar
Switching point	-0.3 bar
Connections (for selection)	PVC bonded connection DN15
	Hose connection 8/12
	Hose connection 12/16
Loading capacity of electrical contacts	max. 48 V DC / 0.5 A / 10 W
Weight	approx. 1 kg

Table 3.1: Technical data

3.6 Dimensioned drawing



Connection	Dimension L
Hose connection 8/12	45
Hose connection 12/16	55
Bonded connection DN 15 / d 20	19

Fig. 3.4: All dimensions in mm

4. Installation

Installation of the chlorinators is usually carried out according to the drawings of the planning department. An example of an installation schematic is provided in Section 10.

In addition to locally applicable regulations, the Accident Prevention Regulation GUV-V D5 must be observed. Installation must be carried out by technical personnel as even the slightest mistakes during installation may cause faulty dosing or even irreparably damage the units.

Suitable tools must always be used during installation to avoid damaging the device and system components.

All units must be mounted in the position shown in the installation examples. Otherwise a malfunction cannot be ruled out.

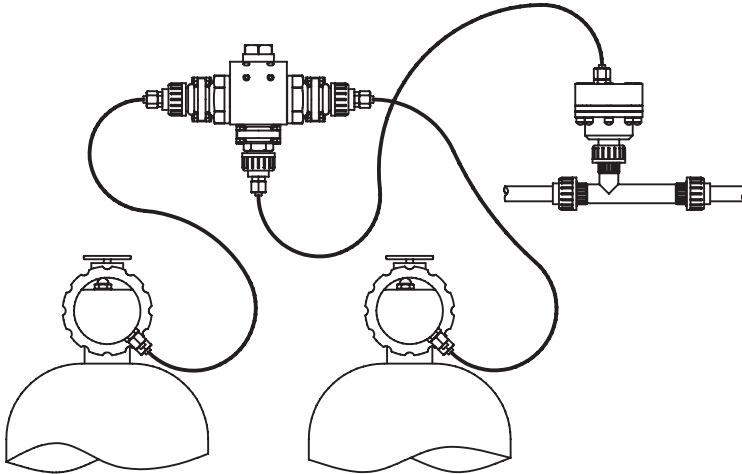


Fig. 4.1: Schematic diagram of a simple vacuum installation

4.1 Vacuum lines

PE hoses or PVC pipes are used as the vacuum lines. Maximum line lengths:

Dosing rate [kg Cl ₂ /h]	DN 8	DN 12	DN 15
	Hose 8/12	Hose 12/16	Pipe d 20
	[m]		
1	160	1100	4500
2	50	300	950
3	25	160	450
4	14	100	280
5	9	65	190
7,5	-	30	90
10	-	20	55

Table 4.1: Maximum hose length for vacuum lines

4.2 Installing the vacuum changeover switch CVS

The device is mounted on a wall with the supplied pipe clamps. Installation position and mounting dimensions: See dimensioned drawing:

4.3 Installing and adjusting the remote signalling

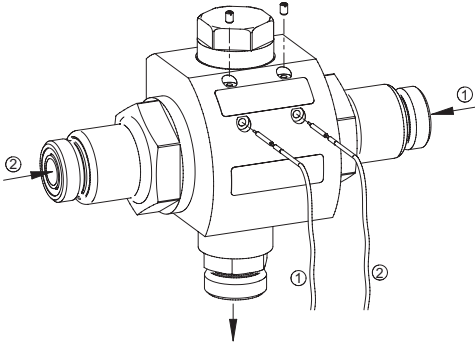


Fig. 4.3: Installation of electrical contacts

- Undo the grub screw so that the contact can be inserted.
- Push in the contact as far as it will go and secure with the grub screw. Carefully tighten the grub screw so as not to damage the cable.

①	Gas take-off from right	Electrical contact on left is closed.
②	Gas take-off from left	Electrical contact on right is closed.

Checking the switching function with an electrical continuity tester

- Switch on injectors and alternately close off the inputs to changeover switch.
- If an electrical contact remains permanently closed, pull back this contact by several millimetres. Check both switching states again.
- If an electrical contact is permanently open, the contact is defective.

5. Start-up

5.1 Checking for leaks

Before starting the chlorinators all system components must be checked for leaks. Make sure that both system components under overpressure and system components under vacuum are tested.

IMPORTANT!

Leaks in vacuum lines are not detected during normal operation as chlorine gas does not escape but rather ambient air is drawn in. At the same time, however, humidity enters the piping system forming deposits by reacting with the chlorine gas. This is why vacuum lines must also be carefully checked for leaks.

- Close valves at the gas containers.
- Switch on ejector.
- Flow meter installed downstream of the CVS:
There is a leak if flow is indicated.
- Pressure gauge installed downstream of the CVS:
Switch off injector after reaching a vacuum. There is a leak if the vacuum is not maintained.
- If there is a leak, it must be eliminated by checking all components between the gas container and injector.

5.2 Switching on the system

No special measures regarding the vacuum changeover switch CVS need to be taken when switching on the system. The current switching position can be identified by the flow of gas or by means the optional electrical remote signalling system (see Section 3.4).



6. Operation

The vacuum changeover switch CVS operates fully automatically and no settings need to be made on the device. The CVS switches over to the standby side when the gas cylinders on the operating side are empty.

As long as supply to the current operating side is maintained, the system does not need to be switched off in order to replace the empty cylinders.

IMPORTANT!

Close off open connections to prevent moisture entering the system



7. Switching off the system

For short interruptions in operation, the cylinder valves are closed and the lines are evacuated with the injector until the ball in the flow meter indicates that there is no more flow. The motive water is then switched off and the shut-off valves upstream and downstream of the injector are closed.

For longer interruptions in operation (e.g. in open-air pools during winter) the following measures should be taken in order to protect the units.

- Flush all pipes (pressure and vacuum lines) and all units for approx. 5 minutes with dry, oil-free air or nitrogen.
- Tightly close the chlorine cylinder. Also fit the protective cap on the connection thread.
- Dismount devices in non-heated or damp rooms and store in a dry, frost-free place.
- Disassemble and service all units as possible.
- Completely close off all connections to ensure no moisture can penetrate and cause damage. Also close off the open ends of all lines!

8. Maintenance

Regular maintenance spares a lot of trouble!

We recommend you conclude a maintenance agreement.

If shorter maintenance intervals are not stipulated by legal requirements/regulations (e.g. GUV-V D 5) or locally applicable requirements, the device must be maintained and tested by qualified personnel at least once a year. This should preferably take place at the beginning of a peak period, prior to a downtime or a restart.

Make sure the chlorine cylinders are closed before starting work on the chlorinator. The system must be evacuated using the injector until the flow meter indicates zero. If possible, flush the lines and devices with nitrogen for five minutes.

Maintenance involves disassembling the CVS, cleaning it and replacing wearing parts. All other parts are visually inspected and replaced as required. Standard wearing parts are included in the maintenance kit (see Section 11). Warm water or isopropyl alcohol are perfectly suited for cleaning the components. Make sure the components are dry before reinstalling.

Seals, diaphragms and plastic threads should be lightly coated with PTFE lubricant.

The specified tools are only intended for disassembling the device. Appropriate manual effort should be applied when assembling.

Recommended tools/aids

- Open-end spanner WAF 55
- Open-end spanner WAF 36
- Open-end spanner WAF 32
- Flat-bladed screwdriver, size 1
- Flat-bladed screwdriver, size 3
- Liquid PTFE (Part No. 39287)
- Electrical continuity tester

8.1 Disassembly

8.1.1 Detaching from wall

- Disconnect from lines.
- Remove contacts on devices with remote signalling.
- Remove device from wall brackets.

IMPORTANT!

Close off open connections to prevent moisture entering the system.



8.1.2. Dismantling



ATTENTION!

It is possible that there still may be gas in the device. In the case of chlorine gas this may be harmful to health. Perform this work only in a well ventilated workplace. Do not inhale the escaping gas.

- If necessary, undo the three connections ① (see Fig. 8.1).
- Dispose of the three seals ②.
- Release the side connections ③ by hand or with a WAF 55 open-end spanner.
- Make a small mark on the adjustment plug ④ and on the housing for later adjustment. (The setting is marked with locking compound on delivery. It is removed during maintenance.)
- Release adjustment plug ④ by hand or with a WAF 36 open-end spanner.
- Release centre connection ⑤ by hand or with a WAF 32 open-end spanner.
- Dispose of seals ⑥ and ⑧.
- Remove the two side diaphragm mounts ⑦.

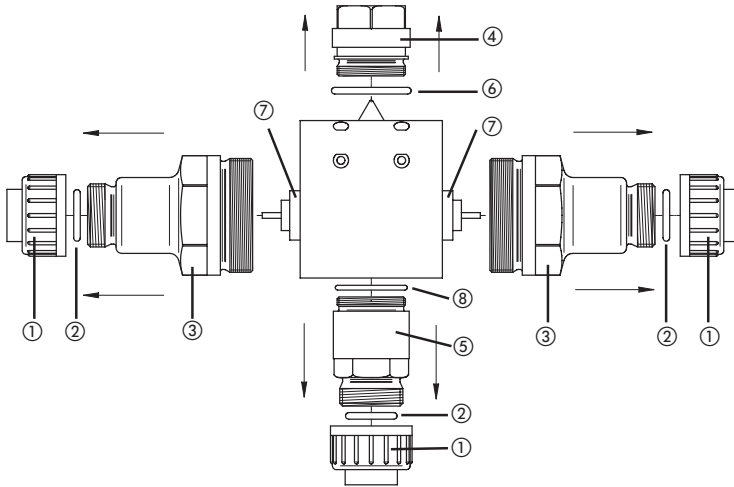


Fig. 8.1: Dismantling the CVS

- Remove the internal shift assembly as follows:
 1. Lightly tilt the spindles.
 2. Carefully press out the complete assembly from the area of the centre connection.
 3. Remove the complete assembly sideways.

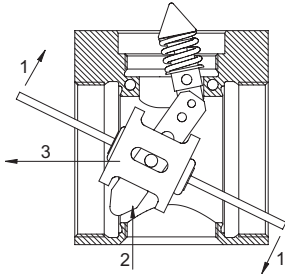


Fig. 8.2: Removing the shift assembly

ATTENTION!

No force whatsoever is required to remove the shift assembly. Force will irreparably damage components and sealing surfaces.



8.1.3 Dismantling the diaphragm mounts

If necessary, the diaphragm ring ① can be released with a WAF 36 open-end spanner. For this purpose, a screwdriver can be inserted in a cross hole of the diaphragm mount. Dispose of the diaphragm.

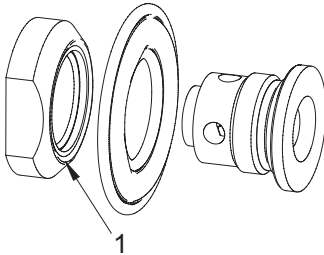


Fig. 8.3: Dismantling the diaphragm mount

8.1.4 Dismantling the shift assembly

Allow the connecting pin ① (see Fig. 8.4) to drop out. Then release and dispose of the O-rings ②. Cage ③, joint ④ with spring ⑤ and spring head ⑥ can now be easily removed. The joint ④ is an assembly that cannot be further disassembled.

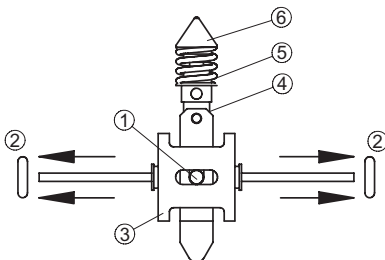


Fig. 8.4: Dismantling the shift assembly

8.2 Assembly

After cleaning and inspecting the components slightly coat the new elastomer surfaces with liquid PTFE.

It is also recommended to coat all threads slightly for easier assembly and disassembly.

Remove the remaining locking compound on the adjustment plug and housing.

Reassemble the shift assembly and the two diaphragm mounts (see Section 8.1.3 and 8.1.4). Ensure the diaphragms are installed in the correct direction.

Assembling the vacuum changeover switch CVS:

1. Fit centre connection ⑤ (see Fig. 8.1) with seal ⑧ in the housing of the CVS.
2. Place diaphragm mount ⑦ in side connections ③ (they are self-centring).
3. Install shift assembly in reverse order as illustrated in Fig. 8.2. The lower tip of the joint must fit in the recess in the centre connection - not in a hole!
4. Firmly hold shift assembly and turn housing on its side.
5. Screw in one side connection ③ together with diaphragm mount ⑦ from below.
6. In the same way, screw in the other side connection together with diaphragm mount on the other side.
7. Install adjustment plug ④ with seal ⑥. The spring head of the shift assembly is self-centring. Screw in the adjustment plug so that the O-ring only just touches the housing.
8. Only loosely install seals ② and connections ① and tighten after reinstalling the CVS in the system.

8.3 Adjusting the changeover pressure

- Screw the adjustment plug into the housing until the marks on the adjustment plug and the housing are aligned.
- If there are no marks, screw in the plug such that the O-ring completely lies inside the housing. Then further screw in the plug by approx. 1 turn.
- Connect the device to an injector and alternately close off the side connections. The device can be clearly heard to switch over.
- If the device does not switch over, unscrew the adjustment plug by 1 turn and check again. If the CVS still does not switch over this indicates that a mistake has been made in assembly.
- Setting at the adjustment screw plug:
Turn clockwise: Changeover at high vacuum
Turn counterclockwise: Changeover at low vacuum
- Set the vacuum to approx. -0.3 bar when adjusting with the aid of a pressure gauge.

NOTE!

The mark that was applied prior to disassembly serves as an aid to find the correct position. After replacing components, however, the correct setting may be offset from the mark.

8.4 Finishing of maintenance

- Check for leaks, see Section 5
- Install and adjust the electrical remote signalling facility, see Section 4



9. Troubleshooting

Type of fault	Possible cause	Corrective measures
Changeover switch does not switch.	Insufficient suction capacity of injector	Carry out injector troubleshooting
	Switching point not adapted to system.	Adjust device (see Section 8.3)
	Line has a leak and therefore the vacuum is not sufficient.	Check vacuum line.
	Diaphragms or O-rings leaking.	Carry out maintenance.
	Dirt particles in changeover switch prevent O-ring from sealing.	Carry out maintenance.
Changeover switch switches in only one direction.	A leak in only one vacuum line prevents strong vacuum build-up.	Look for leak and repair.
	Dirt particles in changeover switch prevent O-ring from sealing against a flat face in the housing.	Carry out maintenance.
	Diaphragm not fitted correctly	Carry out maintenance.
Changeover switch switches although the corresponding supply side is not yet empty.	Gas take-off temporarily too high. This causes the valve of the gas cylinder to ice up, resulting in further undersupply.	Make sure that gas take-off is consistent. In the case of chlorine gas, for example, the removal rate should be maximum 1% of the original fill quantity of the cylinder. The control parameters may be correspondingly adapted as required.
	Not all gas containers of a supply side are open. This results in undersupply and causes the valves of the gas container to ice up.	Ensure all container valves are fully open.
	Switching point set incorrectly.	Adjust device (see Section 8.3)
Remote signalling not operational. Electrical contact does not close.	Electrical contact defective.	Replace electrical contact.
Remote signalling not operational. Electrical contact permanently closed.	Electrical contact not adjusted.	See Section 4.3

Table 9.1: Troubleshooting

10. Schematic diagram of a complete chlorination installation

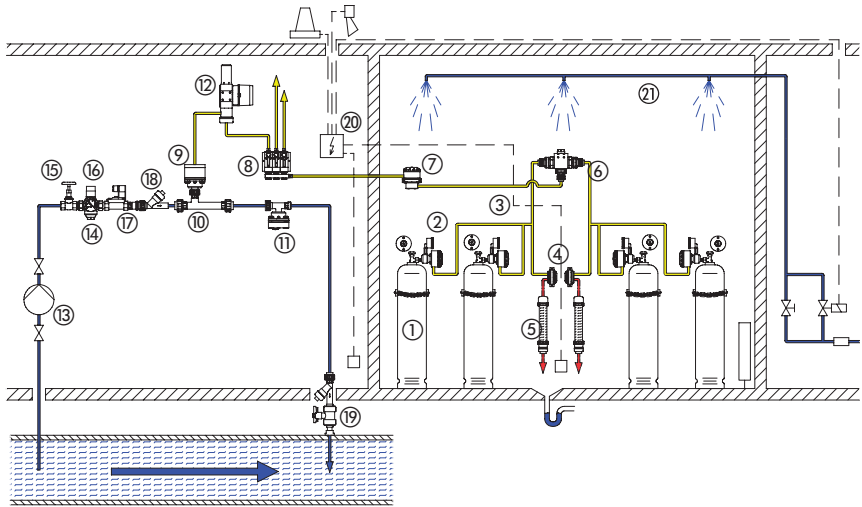


Fig. 11.1:

- 1 Chlorine cylinder
- 2 Vacuum regulator C 2213
- 3 Vacuum manifold
- 4 Safety blow-off valve
- 5 Activated carbon cartridge
- 6 Vacuum changeover switch CVS
- 7 Safety shutoff valve
- 8 Flow meter or distributor
- 9 Injector non-return valve
- 10 Injector
- 11 Vacuum breaker
- 12 Control valve C 7700
- 13 Booster pump
- 14 Dirt trap
- 15 Shutoff valve
- 16 Pressure-relief valve with pressure gauge
- 17 Solenoid valve
- 18 Non-return valve
- 19 Chlorine solution injector
- 20 Chlorine gas warning unit with sensors and signal generators
- 21 Sprinkler installation

11. Maintenance kits and accessories

Item	Content	Part No.
Maintenance kit - annual	Diaphragms and O-rings	38175
Maintenance kit - 3 ... 5 years:	Diaphragms and O-rings Complete shift assembly Diaphragm mounts + diaphragm rings	39114

Table 12.1: Maintenance kits

Item	Part No.
Vacuum gauge with T-piece for mounting on vacuum changeover switch CVS	39400
1x Hose connection 8/12 mm	38901
1x Hose connection 12/16 mm	38902
1x Bonded connection DN 15 / d 20	25626
Set of electrical contacts for CVS (2x, with installation material)	39301

Table 12.2: Accessories

Device revision

This operating manual applies to the following devices:

Device	Revision
Vacuum changeover switch CVS	02.2010

It contains all the technical information required for installation, start-up and maintenance. Should you have any questions or require further information regarding these operating instructions, please contact the manufacturer or the official national representative.

Declaration of no objection

When sending in for repair, please copy this form, fill in and send along with each device!

Declaration of No Objection - Form

(please fill in one form for each device and attach it to the outside of the device)

We are returning the following device for repair:

Device and device type: **Vacuum changeover switch CVS**

Part No.:

Order No.:

Date of delivery:

Reason for repair:

Medium conveyed

Description:

Properties:.....

Irritant: Yes/No*)

Corrosive: Yes/No*)

*) Please delete as appropriate!

We hereby certify that the product has been cleaned thoroughly on the inside and outside before shipment, that it is free from hazardous chemical, biological, or radioactive substances and that the oil has been drained. *)

If the manufacturer finds it necessary to carry out further cleaning work, we will accept the related costs.

We confirm that the above statements are correct and complete and that the device is being shipped according to legal requirements.

Company:.....

Address:.....

.....

.....

Telephone:.....

Fax:.....

E-mail:

Customer No.:

Contact person:

Date, signature, stamp:

Warranty claim

Please copy and enclose with the device!

If the device fails during the warranty period, please clean it and return, accompanied by the completed warranty claim form.

Sender _____

Company:..... Telephone: Date:

Address:.....

Contact person:

Manufacturer order No.: Date of delivery:

Device type: **Vacuum changeover switch CVS** Serial No.:

Nominal delivery rate/Nominal pressure:.....

Description of fault:

.....

.....

Type of fault: _____

- | | |
|-----------------------|-------------------------------|
| 1. Mechanical fault | 2. Electrical fault |
| Premature wear | Remote signalling function |
| Wearing parts | |
| Breakage/other damage | |
| Corrosion | |
| Damage in transit | |
| 3. Leaks | 4. No or inadequate operation |
| Connections | Device does not switch over |
| Seals | Other |

Operating conditions of the device _____

Location/description of installation:

Accessories used if any:

.....

.....

Commissioning (date):.....

Running time (approx. operating hours):

Please indicate the specific features of the installation and enclose a simple sketch showing materials, diameters, lengths and heights.

EU-Herstellererklärung (EG-Richtlinie 98/37/EG, Anhang II B)

Der Unterzeichnete Lutz-Jesco GmbH, Am Bostelberge 19, 30900 Wedemark, bestätigt, dass die nachfolgend bezeichneten Geräte in der von uns in Verkehr gebrachten Ausführung die Anforderungen der harmonisierten EU-Richtlinien, EU-Sicherheitsstandards und produktspezifischen Standards erfüllen. Bei einer nicht mit uns abgestimmten Änderung der Geräte verliert diese Erklärung ihre Gültigkeit.

(EN) EU Declaration of Conformity (EC Directive 98/37/EC, Appendix II B)

The undersigned Lutz-Jesco GmbH, Am Bostelberge 19, 30900 Wedemark, hereby certifies that, when leaving our factory, the units indicated below are in accordance with the harmonised EU guidelines, EU standards of safety and product specific standards. This certificate becomes void if the units are modified without our approval.

(FR) Certificat de conformité aux directives européennes (EC directives 98/37/EC, Appendix II B)

Le constructeur, soussigné: Lutz-Jesco GmbH, Am Bostelberge 19, 30900 Wedemark, déclare qu'à la sortie de ses usines le matériel neuf désigné ci-dessous était conforme aux prescriptions des directives européennes énoncées ci-après et conforme aux règles de sécurité et autres règles qui lui sont applicables dans le cadre de l'Union européenne. Toute modification portée sur ce produit sans l'accord express de Jesco supprime la validité de ce certificat.

(ES) Declaración de conformidad de la UE (UE declaración 98/37/EC, Appendix II B)

El que suscribe Lutz-Jesco GmbH, Am Bostelberge 19, 30900 Wedemark, declara que la presente mercancía, objeto de la presente declaración, cumple con todas las normas de la UE, en lo que a normas técnicas, de homologación y de seguridad se refiere. En caso de realizar cualquier modificación en la presente mercancía sin nuestra previa autorización, esta declaración pierde su validez.

(NL) EU-overeenstemmingsverklaring (EU richtlijnen 98/37/EC, Appendix II B)

Ondergetekende Lutz-Jesco GmbH, Am Bostelberge 19, 30900 Wedemark, bevestigt, dat het volgende genoemde apparaat in de door ons in de handel gebrachte uitvoering voldoet aan de eis van, en in overeenstemming is met de EU-richtlijnen, de EU-veiligheidsstandaard en de voor het product specifieke standaard. Bij een niet met ons afgestemde verandering aan het apparaat verliest deze verklaring haar geldigheid.

(HU) EG (EK)- Egyezőségi nyilatkozat (EG irányelvek 98/37/EC, Appendix II B)

A Lutz-Jesco GmbH, Am Bostelberge 19, 30900 Wedemark ezúton kijelenti, hogy a szóban forgó termék annak tervezése és szerkezeti módja, valamint forgalomba hozott kivitele alapján a vonatkozó alapvető biztonság technikai és egészségügyi követelményeknek és az alábbi felsorolt EG –irányelveknek minden szempontból megfelel. A terméken engedélyünk nélkül végrehajtott módosítások következtében jelen nyilatkozat érvényét veszíti.

Bezeichnung des Gerätes: **Vakuumschalter**
Description of the unit: **Vacuum Changeover**
Désignation du matériel: **Commutateur à vide**
Descripción de la mercancía: **Interruptor de vacío**
Omschrijving van het apparaat:
A termék megnevezése:

Typ / Type / Tipo / Tipusjelölés:

CVS

Sicherheitsanforderungen/Safety requirements:

Technische Regelwerke/Technical set of rules:

DIN 19606 : 2006 Chlorgasdosieranlagen

Chlorine gas dosing systems

Die Geräte werden vor Auslieferung einer Vollprüfung hinsichtlich Funktion und zeichnungsgerechter Ausführung unterzogen.

Before shipping every item is completely inspected to ensure compliance with design specifications and function.

i.V. Dipl. Ing. Klaus Albert
Lutz-Jesco, Wedemark, 01.02.2010

Technische Leitung / Technical Department Manager / Direction technique /
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