

Installation

Important!
Installation only to be carried out by trained staff.

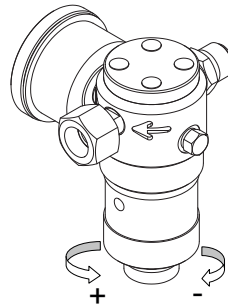
The pressure reducing valve must be mounted into the pipe in the direction of the arrow. We recommend to install a filter upstream of the pressure reducing valve.

The pressure reducing valve only protects the installation in direction of flow from the condensation of chlorine gas. Therefore, the pressure reducing valve should be installed as close to the chlorine drum or chlorine bottle as possible.

If installation requiring, the manometer can be installed at the opposite side of the valve. Pressure gauge and plug are screwed in with a PTFE tape. The pressure reducing valve can be mounted without support in the steel pipes. When connected with flexible copper wires, a wall holder must be used.

Before commissioning, all connections must be checked for tightness using ammoniac vapour.

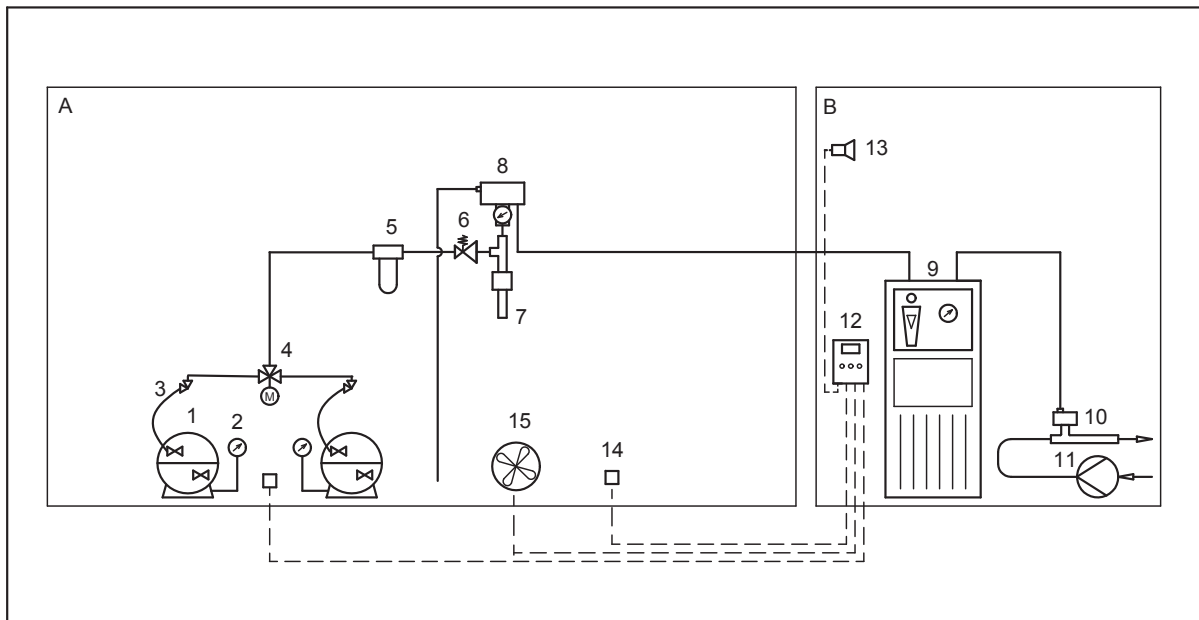
Adjustment



Reduced pressure is adjusted with the plastic screw at the bottom side (see illustration for direction of rotation). The recommended setting depends on the ambient temperature. There must be no condensation at the lowest temperatures to be expected. The valve must therefore be adjusted to a pressure lower than the vapour pressure of the chlorine (see table). In most cases, adjustment to 2-3 bar is reasonable.

| Temperature | Vapour pressure |
|-------------|-----------------|
| -10 °C | 1.6 bar |
| -5 °C | 2.1 bar |
| 0 °C | 2.7 bar |
| 5 °C | 3.3 bar |
| 10 °C | 4.0 bar |

Installation example



- A: Room for the chlorine supply
 B: Dosing device room
 1: Chlorine drum
 2: Drum scales
 3: Collecting pipes
 4: Changeover switch
 5: Filter
 6: Pressure reducing valve
 7: Moisture eliminator

- 8: Vacuum regulator
 9: Dosing unit
 10: Injector with non-return valve
 11: Booster pump
 12: Gas warning device
 13: Horn
 14: Gas sensor
 15: Entrance port of the chlorine eliminator

Pressure reducing valve C 7105

Maintenance

Regular maintenance spares a lot of trouble! We recommend you conclude a maintenance agreement.

Important!

Maintenance only to be carried out by trained staff.

Lutz-Jesco recommends annual maintenance. Before working on the device, all chlorine bottles and –drums must be closed, and the system must be emptied with the injector. Rinse the system with nitrogen or dry air, if possible. Then disassemble the pressure reducing valve.

Important!

Seal the line ends during maintenance in order to avoid corrosion caused by the ingress of humidity.

Dismantle and immediately clean the device with hot water.

Then dry the device thoroughly. The connecting parts are glued in with thread sealing compound. Do not remove the parts for maintenance.

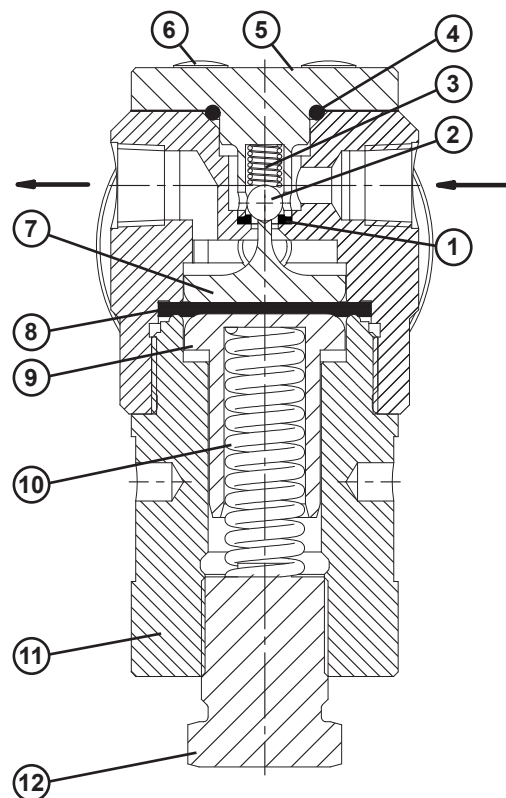
The following wear parts are provided in the maintenance kit:

Elastomers, small spring, ball, screws.

| Spare parts and maintenance kits | Part No. |
|---|----------|
| Seals for union nut BSP 5/8 | 81043 |
| Seals for threaded pin BSP 5/8 | 81832 |
| Maintenance kit all seals in the valve, ball, spring, screws | 33327 |
| Pressure gauge 0-16 bar Replacing recommended after 5 years | 24087599 |

Assembly

- Pressure gauge and plug must be screwed in with a PTFE tape.
- The valve seat (1) must be dry when mounted.
- Insert ball (2) and spring (3).
- Slightly lubricate the O ring (4) with silicone grease and mount it onto the lid (5). Carefully attach the cover. Insert the screws (6) using fitting grease or silicone grease and tighten them with a torque of approx. 3 Nm.
- Insert the spring plate (7) at the opposite side of the valve.
- The diaphragm (8) consists of two equal disks with a thickness of 1.5mm placed one upon the other. They must be dry when mounted.
- Grease the large spring (10) with fitting grease and mount it to the diaphragm using the spring sleeve (9).
- Screw in the housing cap (11) and tighten it with a hook wrench.
- Insert the adjustment screw (12) without grease and screw it in until you feel resistance. Then check the device for tightness using nitrogen or dry compressed air and adjust it to the desired output pressure.



Troubleshooting

| Type of fault | Possible cause | Corrective measures |
|---|--|---|
| Flow rate too low | The vacuum controller requires a higher supply pressure for the desired flow rate. | Increase pressure with the adjustment screw. |
| | Not enough chlorine bottles or chlorine drums are connected, or some of the containers are empty. Note: At 25 °C, chlorine drums can supply max. 10 kg/h, chlorine bottles max 1 kg/h. At lower temperatures, the discharge volume is lower. | Connect additional chlorine containers or increase room temperature. |
| Formation of ice at the outside of the valve and at the output | Flow rate is too high. | Adjust a lower value for the discharge volume at the dosing device. |
| | The reduced pressure is too low. | Adjust a higher value for the reduced pressure. |
| Damage caused by liquid chlorine at the devices downstream of the valve. | The reduced pressure is higher than the vapour pressure at the lowest occurring temperature. | Identify the lowest temperature during day and night and adjust the reduced pressure accordingly. |
| Vibrations at the vacuum controller | Together with the springs and the chlorine in the pressure pipes, the diaphragm plate in the vacuum controller forms a vibration system. The present pressure setting is precisely adjusted to the resonance. | Slightly adjust the reduced pressure. |
| During system shutdown, the output pressure slowly increases to the input pressure. | The valve is contaminated. Note: It is no error if the output pressure at system shutdown is approx. 0.5 bar higher than during operation. | Carry out maintenance. |