

Contents

1. Scope of supply
2. Installation
3. Wiring diagram
4. Operation
5. Shutdown
6. Maintenance
7. Troubleshooting

1. Scope of supply

The C 7520 chlorine changeover unit is supplied as a plate-mounted unit ready for connection. When unpacking, ensure that the enclosed wall mounting material is not lost.

2. Installation

The preassembled chlorine changeover unit is mounted on the wall using the screws and washers supplied.

The installation location should be within easy reach for the operating personnel so that the changeover unit can be operated by hand if necessary. It should not be exposed to direct sunlight or similarly bright direct light, as this impairs the legibility of the operating displays.

2.1 Hydraulic installation

Important!

The chlorine changeover valve system is designed for use in pressure-type chlorination installations only! The changeover unit is resistant to pure, dry chlorine (liquid or gaseous).

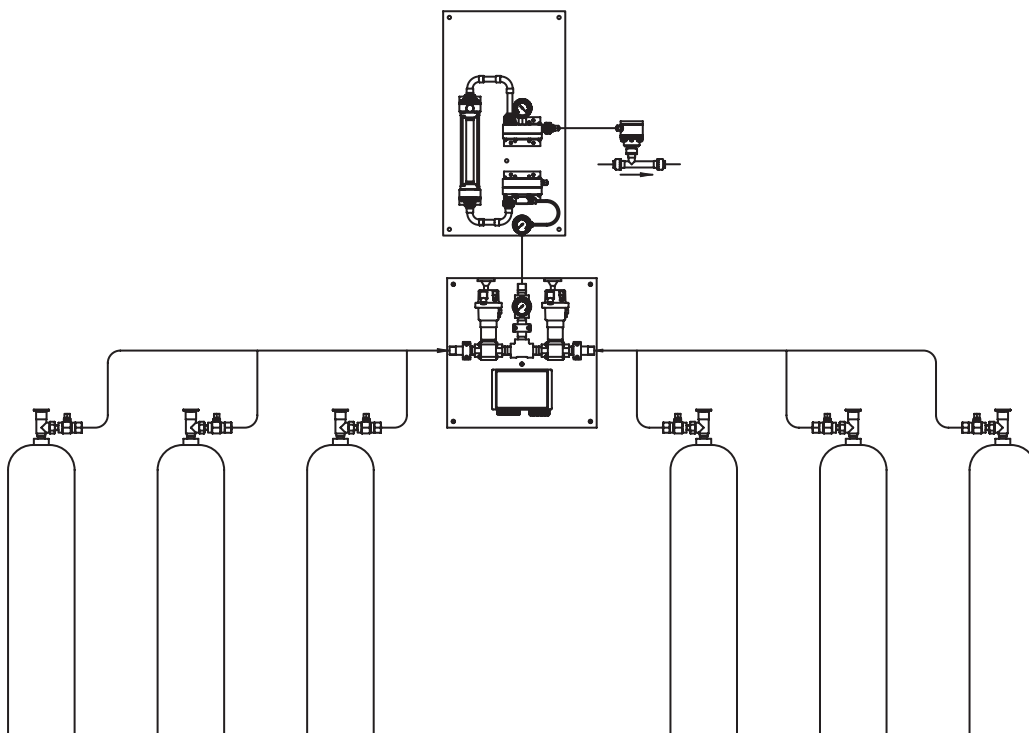
Important!

Connections must be carried out very carefully. Even small leakages allow chlorine to enter the room atmosphere and, together with air humidity, form corrosive air.

The automatic chlorine changeover unit may only be operated with two connected chlorine gas batteries. If only one chlorine gas battery is connected, the unused side must be tightly closed.

Check for tightness using ammonia!

Installation example



2.2 Electrical installation

Before connecting the power supply please check if the operating voltage of the motor ball valves corresponds to local mains voltage. The control unit itself has a wide-range power pack for 100 – 240VAC 50-60Hz.

If the motor valves do not comply with the local mains voltage they might be destroyed!

The changeover unit is operational as soon as the power supply is connected. Only for remote signaling of an empty cylinder/battery and the external alarm contact another connection is required. The terminal assignment and function of the individual terminals can be seen in the wiring diagram.

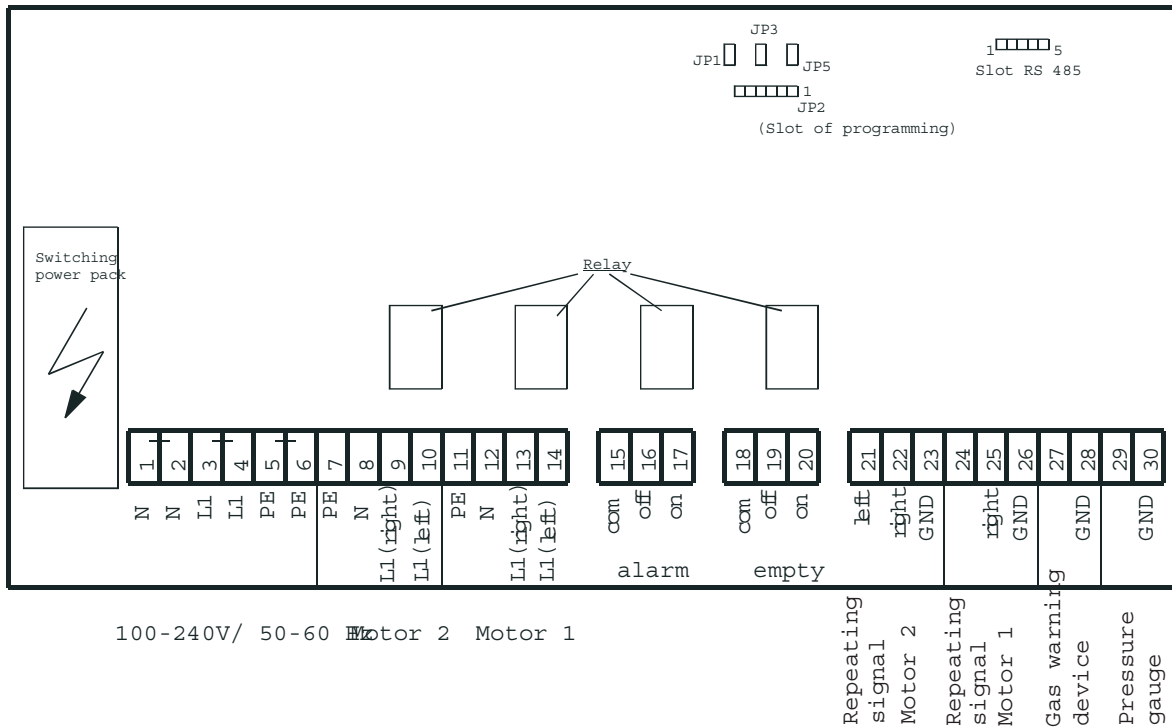
The external alarm contact (terminals 27 and 28) causes both motor valves to close in the case of a chlorine gas alarm (signaled by the chlorine gas sensor).

After an interruption of the power supply the control unit will switch automatically to the side used before in order to stick to the change rhythm and to keep the standby battery 100% full.

Unused cable glands in the control unit must be sealed in order to maintain the degree of protection.

- Set jumper: jumper closed = function activated
- For pressure operation set the jumpers as follows:
- JP1 Schnell: open= no overlapping - motor valves are operated one after the other
- JP3 Überdruck: closed= setup for excess pressure operation
- JP5 Restentleerung: open= periodical overall emptying off

3. Wiring diagram



4. Operation

As the chlorine supply battery empties, the decreasing pressure causes the contact of the pressure gauge to make (with existing liquid chlorine phase the container pressure amounts to 6.8 bar at 20°C and to 4.5 bar at 5°C - if the liquid phase is used up, the container pressure drops rapidly on further withdrawal). The corresponding LED at the control unit changes from green to red. The changeover is initiated by the servomotors. When it is complete, the green LED lights up for the operation of the now active chlorine supply battery. The LED for the status of the motor valve shows green for open, yellow during the changeover process and red for closed.

After replacing the empty chlorine containers by full ones, the RESET button for the corresponding chlorine battery must be pressed at the control unit. The corresponding LED changes back from red to green and indicates that this battery is again ready for operation when required.

Manual changeover to the desired cylinder battery is possible by pressing the corresponding key (left or right cylinder).

Important!

Automatic changeover can only be made if the cylinder RESET button is pressed after exchanging the cylinders. If both Ready indicators are red, the changeover unit will remain on the side connected last until a RESET button is pressed.

Adjustment of the switch contact

The switch contact of the pressure gauge is set to approx. 4 bar by the manufacturer. The switching point may have to be brought into line in the plant. The front panel of the pressure gauge must be unscrewed for this purpose. The switching point can then be adjusted by moving the red mark between 1 and 6 bar.

Manual changeover (emergency operation)

The changeover valve can be operated by hand if necessary (e.g. power failure). For this purpose the switch lever for manual / automatic operation at the drive is shifted to manual. Now automatic changeover is not possible. In any case please switch back to automatic operation afterwards. Slightly turn the lever until it locks.

Chlorine gas alarm

In the case of an chlorine gas alarm (only with an alarm contact connected) both motor valves are closed to prevent further chlorine gas from escaping. All LEDs are flashing red. For resetting press the RESET button. Depending on which button is operated the changeover unit switches to the corresponding chlorine container.

5. Shutdown

Chlorine gas is hygroscopic and forms hydrochloric acid when exposed to atmospheric humidity. Hydrochloric acid has a destructive effect on the metering equipment. For this reason, all connections must be sealed carefully when shutting down the chlorination plant. All piping and valves should be flushed with dry air or nitrogen.

It is advisable to store the devices in a heated, dry room if the system is to be shut down for extended periods of time. The lines have to be tightly sealed for the reasons stated above before dismantling the devices. When recommissioning the system, attention must be paid in particular to any condensation in the lines.

If necessary, this water must be expelled with dry air or nitrogen.

6. Maintenance

The type C 7520 chlorine changeover unit is almost maintenance-free. During the annual maintenance work, only a visual and functional test must be carried out. The seals at the compression glands and in the ball valves must be replaced or regreased, if necessary.

Important!

Seals may only be greased slightly with silicone grease! Vaseline hardens in contact with chlorine gas and will cause the ball valve to become stiff. Particles may also be entrained by the flow of chlorine gas and impair the correct functioning of other valves in the system.

7. Troubleshooting

Nature of problem	Possible cause	Recommended action
Changeover valve does not switch over although the connected chlorine battery is empty and a full one is connected to the other side.	Contact pressure gauge defective.	Replace the contact pressure gauge.
	Power supply interrupted (all LEDs are dark!).	Reactivate the power supply.
	One or both motor valves are set to "manual operation".	Set to automatic operation.
	Motor valve defective.	Replace motor valve.
Changeover unit switches over during normal operation although the chlorine containers are still full.	The switching point of the contact pressure gauge is set incorrectly.	The switching point should be approximately 1 bar below the container pressure for normal operation.
	Flow of chlorine gas is affected e.g. because of not fully open valves, flow limiters, dirty filters or line parts.	Open valves fully, remove flow limiters, clean filters and lines.
	Contact pressure gauge defective.	Replace the contact pressure gauge.
Motor valves do not run one after the other but simultaneously.	Jumper for quick overlapping changeover is closed (schnell)	Set jumper according to table.
The control switches periodically to the already empty battery.	Jumper for overall emptying is closed.	Set jumper according to table.
Indication of motor valve position does not correspond to the actual one.	Cable connection or plug interrupted.	Make contact.
	Motor valve defective.	Replace motor valve.