Vacuum-type Chlorine Changeover Unit C 7522

Contents

1. Scope of supply

The C 7522 chlorine changeover unit is supplied as a plate-mounted unit ready for connection. When unpacking, ensure that the enclosed fittings for wall mounting are not lost.

2. Installation

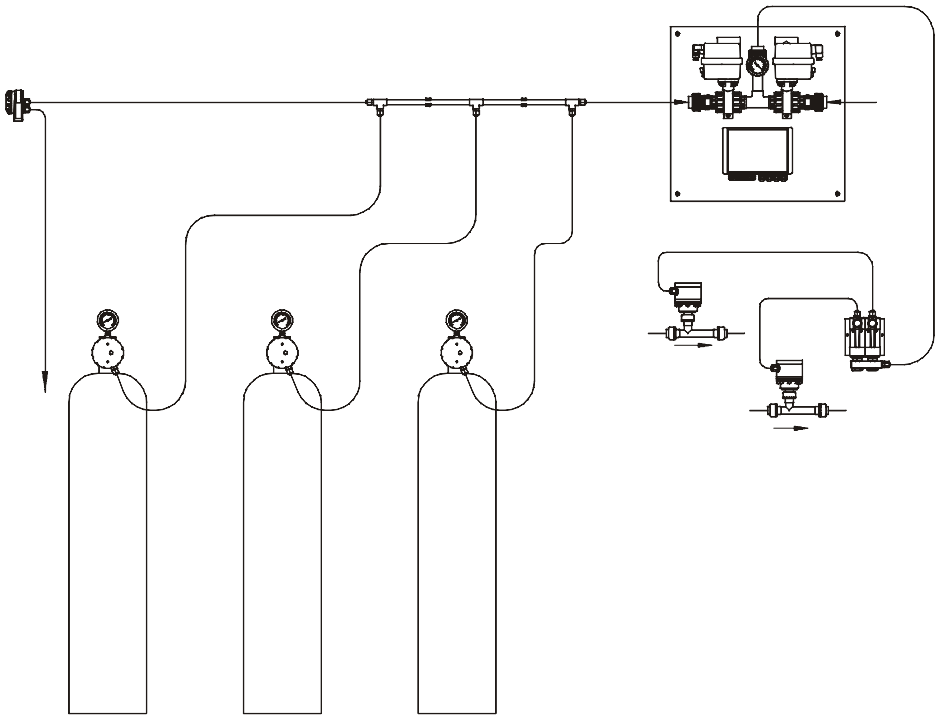
The preassembled chlorine changeover unit is mounted on the wall using the screws and washers supplied.
The installation location should be within easy reach for the operating personnel so that the changeover unit can be operated by hand if necessary. It should not be exposed to direct sunlight or similarly bright direct light, as this impairs the legibility of the operating displays.

2.1 2.1 Hydraulic installation

Important!
The chlorine changeover valve system is designed for use in vacuum-type chlorination installations **only**!
It may be destroyed if operated under pressure.
Danger of accidents!!!
Either PVC piping or PE tubing is used to connect the vacuum system to the changeover unit. If PVC piping is used, care must be taken to ensure tension-free installation in order to avoid rupturing of lines or leaks at the connections. With PE tubing 8/12mm use adapter kit 35793, with PE tubing 12/16 use adapter kit 35794.
Important!
Connections must be carried out very carefully. Air is drawn into the piping through every leak. In combination with the chlorine, atmospheric humidity will result in the formation of deposits which can dirty or damage valves at other points in the piping.

The automatic chlorine changeover unit may only be operated with two connected chlorine container batteries and is designed exclusively for use in vacuum-type systems.

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 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 another connection is required. The terminal assignment and function of the individual terminals can be seen in the wiring diagram.

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 keept 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

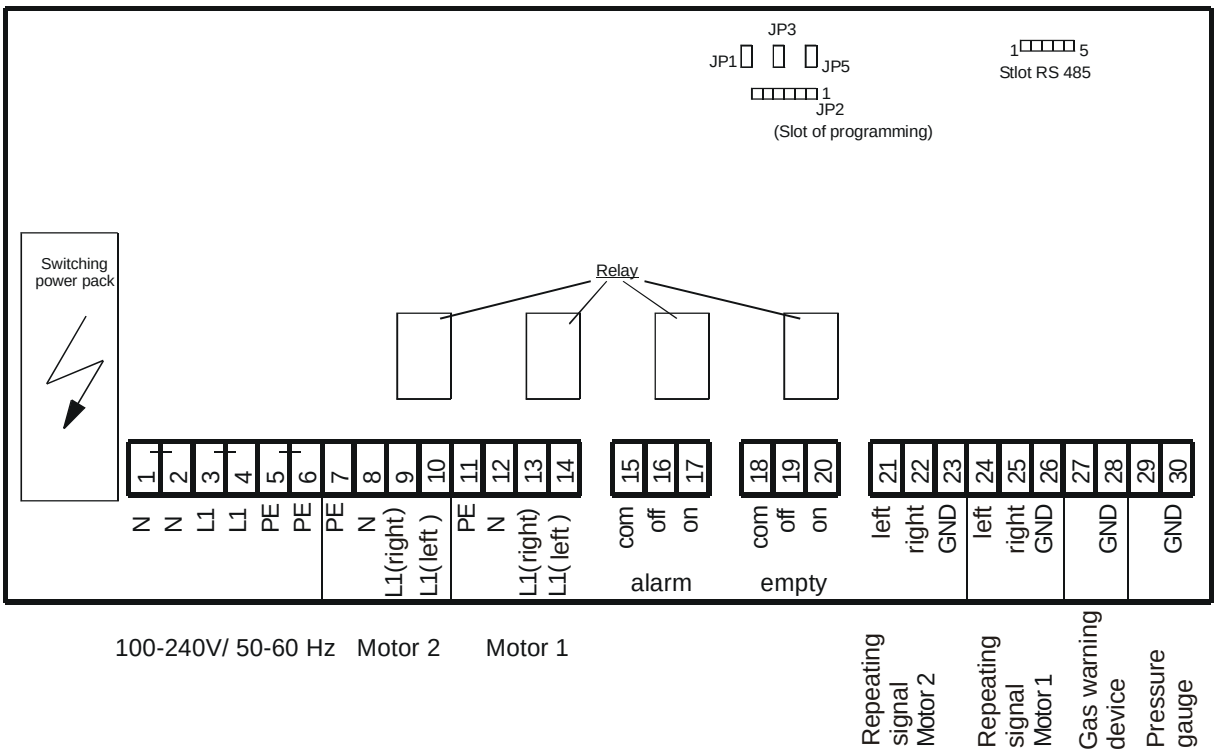
For vacuum operation set the jumpers as follows:

JP1 Schnell: closed = overlapping - motor valves run simultaneously

JP3 Überdruck: open = setup for vacuum operation

JP5 Restentleerung: closed = periodical overall emptying of the empty battery/cylinder

3. Wiring diagram



4. Operation

As the chlorine supply battery empties, the increasing vacuum causes the contact of the vacuum gauge to make. The corresponding LED at the control unit changes from green to red. The changeover is initiated by the servomotor. 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 driven ball 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!

A changeover can only be made if the 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. –0.4 bar by the manufacturer. The switching point of the pressure gauge may have to be brought into line with the ejector suction capacity 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 –0.1 and –0.5 bar.

Manual changeover

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 locks.

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. Where possible, 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 vacuum lines should 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.

Shock chlorination

If – for a short period of time – the demand for chlorine increases, both motor driven ball valves can be opened simultanously by pressing the middle button. When the demand for chlorine decreases, one can return back to normal operation (single chlorine container operation) by pressing either the right or the left button at the control unit.

Attention: for this function the jumper J3 „Überdruck“ must be open.

6. Maintenance

The type C 7522 chlorine changeover unit is almost maintenance-free. During the annual maintenance, only the seals at the compression glands and in the ball valves must be replaced or greased, 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.	An effective vacuum is made impossible by leaks in the vacuum lines.	Leaks in the vacuum system must be sealed. If necessary, the leaks can be located with slight excess pressure (max. 0.2 bar) and leak detecting spray.
	The ejector suction capacity and the switching point of the pressure gauge have not been adjusted optimally to one another.	Shut off the connected chlorine cylinder battery during operation and move the switch contact slowly towards "0 bar" until the control starts the changeover process.
	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.	More chlorine is being withdrawn from the chlorine battery than is permissible. The containers ice up and the chlorine gas pressure drops.	Reduce the rate of withdrawal or connect additional chlorine containers.
	Flow of chlorine gas is affected e.g. because of not fully open valves, flow limiter, dirty filters dirty or line parts.	Open valves fully, remove flow limiter, clean filter and lines.
	The ejector suction capacity and the switching point of the pressure gauge have not been adjusted optimally to one another.	The switching point must be below the vacuum achievable in normal operatoion.
	Contact pressure gauge defective.	Replace the contact pressure gauge.
Motor valves do not run simultaneously but one after the other.	Jumper for quick overlapping changeover has not been set (slow).	Set jumper according to table.
Overall emptying is not performed.	Jumper for overall emtpying has not been set.	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.