

General

Type C 2700 devices are full-vacuum chlorinators and are used in waterworks, cooling-water circuits and industrial processes. The devices consist of operational components to be maintained easily and stand out for their high reliability.

The measuring ranges with maximum values between 40 kg/h and 200 kg/h can be changed simply by replacing the measuring glass or the ejector if necessary. Thus it is always possible to optimally adapt the chlorinator to the configuration of the installation. The reading ratio is 1:20 with an error of +/-4 % of the maximum scale reading. The measuring glasses are 300 mm long. Standard ejectors for throughputs of up to 200 kg/h chlorine gas are available.

As the volume of chlorine gas delivered per hour from chlorine tanks must not exceed 1 %, we recommend to use a chlorine evaporator (see MB 2 05 01) if 40 kg/h or more are required.

The chlorinator can be mounted to the wall (see picture) or is available in a hood cabinet for floor mounting (C 2700/SL).

The hood cabinet consists of an epoxy-coated steel frame covered with a removable plastic hood. The front plate is made from black polypropylene and is fitted with pressure gauges for measuring the chlorine supply pressure, the chlorine suction pressure and the motive water pressure. The ejector is delivered separately. It should be installed close to the injection point.



Part Numbers

Chlorinator assembly with ejector, non-return valve and accessories, consisting of:
5 m relief hose, fastening material and test ammonia

Measuring range kg/h Cl ₂	Ejector*	C2700/WL	C2700/SL
2 - 40	D	20327991	20327375
3 - 60	D	20327992	20327376
6 - 120	6A	20327993	20327377
10 - 200	7A	20327994	20327378

*If the motive water conditions require another ejector the price will change.

Order example

For the shock chlorination of cooling water, 80 kg/h chlorine gas are required. It is sensible not to use standard barrels delivering chlorine gas for this quantity. Liquid chlorine is evaporated instead to make the gas available. As the evaporator has floor-mounted housing according to MB 2 05 01, the chlorinator to be selected should be a standard device matching the evaporator for optical reasons.

Select the appropriate ejector for 100 kg/h according to MB 2 31 02 and determine the required working data concerning the motive water. If the working data fit ejector 6A, chlorinator No. 20327377 can be used (see table on the left). It has a max. metering capacity of 100 kg chlorine gas per hour and is supplied together with ejector 6A.

The order text would be:

Chlorinator assembly for floor mounting with ejector and non-return valve, 5 m relief hose with fastening material and test ammonia

Type C 2700/SL Part No. 20327377

Technical data

Version : Full-vacuum chlorinator according to DIN 19 606

Measuring ranges : 40 - 60 - 100 - 200 kg/h Cl₂

Reading ratio : 20 : 1

Accuracy : +/- 4 % of the maximum scale reading

Measuring devices: **C2700/WL**
 Flow meter
 Vacuum regulator for suction pressure
 Pressure gauge for chlorine supply

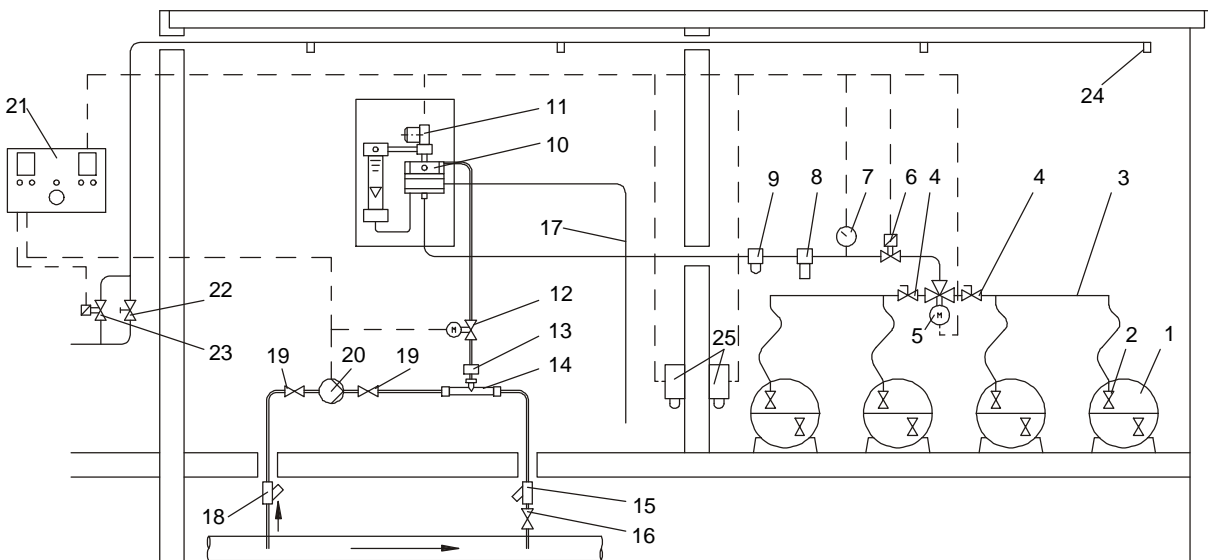
C2700/SL
 Vacuum regulator for suction pressure
 Pressure gauge for chlorine supply
 Pressure gauge for motive water

Operation : 1. with valve for manual adjustment
 2. Start - Stop operation by switching the driving water supply on / off
 3. Electrical remote adjustment manually or by a controller using a control valve acc. to MB 2 07 10

Motive water : Clean water. Required pressures and water quantities are selected from the ejector data sheets in dependence of the back pressure (see MB 2 31 01 and MB 2 31 02).

Weight : **C2700/WL** : 24 kg
C2700/SL : 62 kg
 Ejector : approx. 12 kg

Installation



Legend

1. Chlorine barrel	MB 2 21 01	17. Safety blowoff line	
2. Chlorine barrel auxiliary valve with flexible copper line	MB 2 22 01	18. Filter	
3. Manifold	MB 2 23 01	19. Shutoff valve	MB 2 29 04
4. Main shutoff valve	MB 2 24 01	20. Booster pump	MB 2 29 01
5. Electrical changeover valve	MB 2 24 01	21. Control cabinet	
6. Solenoid safety valve	MB 2 25 01	22. Solenoid valve for sprinkler valve	MB 2 36 10
7. Pressure gauge for chlorine changeover	MB 2 40 01	23. Externally accessible shutoff valve for sprinkler installation	MB 2 36 10
8. Pressure reducing valve	MB 2 27 01	24. Sprinkler nozzle	MB 2 36 10
9. Chlorine gas filter	MB 2 26 01	25. Sensors of the gas warning device	MB 2 36 05
10. Chlorinator C 2700	MB 2 03 01		
11. Electrical control valve	MB 2 07 10		
12. Shutoff ball valve			
13. Ejector non-return valve	MB 2 32 01		
14. Ejector	MB 2 31 02		
15. Non-return valve			
16. Shutoff valve w. solution injection	MB 2 34 01		

Note:

Not all of the parts are absolutely required. The scope of the installation should be planned carefully by a specialist.

Functional Description

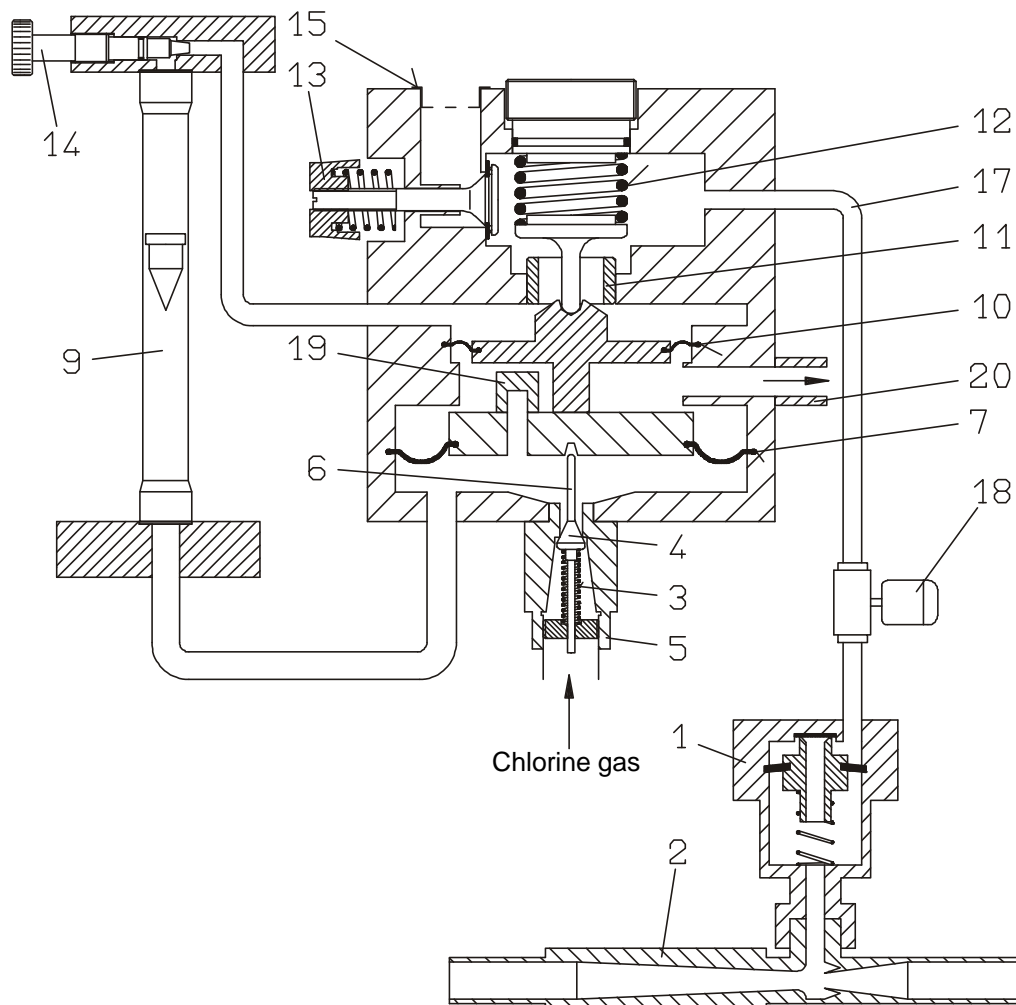
The high reliability of a full-vacuum chlorinator, such as the C 2700, is due to the fact that the chlorine gas coming from the tank cannot pass the inlet valve (5) because it is completely closed by means of a cone (4) and a spring (3).

The valve opens only if, with the help of the pin (6), the diaphragm (7) pushes the cone (4) down against the spring (3). The diaphragm (7) can be moved downward only if the pressure below the diaphragm is lower than above it. As there is always a constant atmospheric pressure above the diaphragm, the pressure below the diaphragm must be reduced by producing a vacuum with the help of the ejector (2).

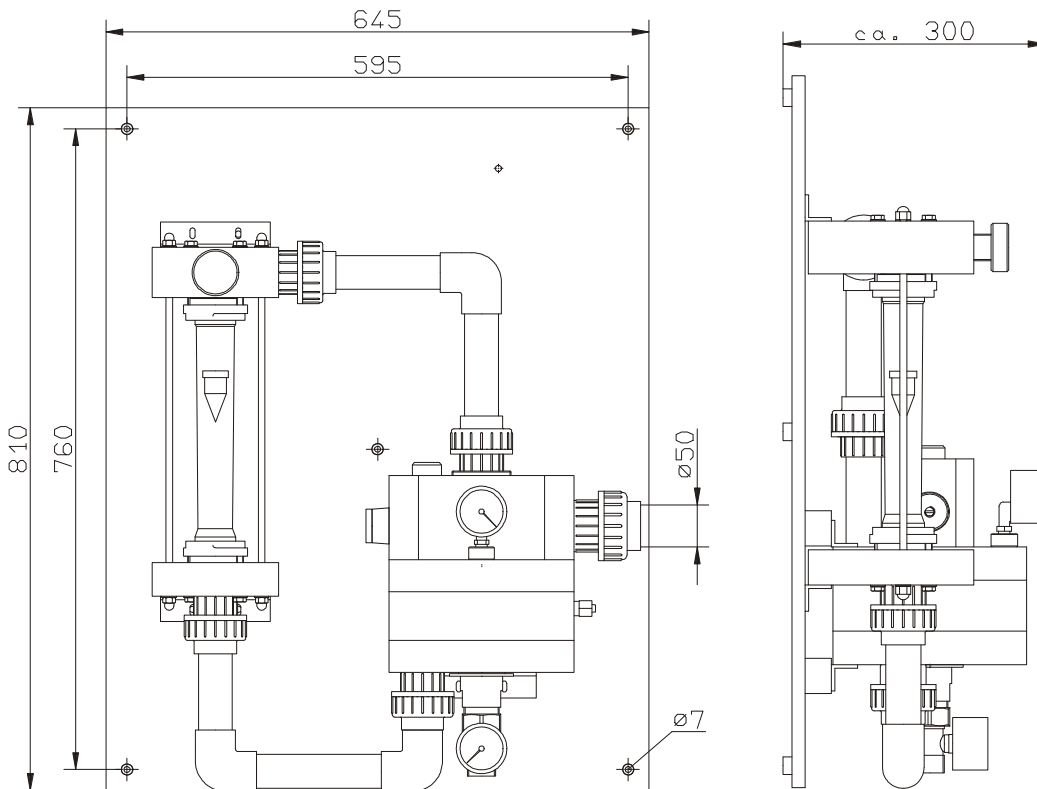
After switching on the motive water supply, the valve (18) closed electrically by the booster pump (not part of the delivery scope) is opened. When the non-return valve (1) is open, the vacuum produced by the ejector propagates from the suction line (17) over the measuring glass (9) to the lower diaphragm chamber. As soon as the vacuum applies a force to the diaphragm (7) which causes the inlet valve to open against the force of the spring (3), chlorine gas starts to flow.

The required quantity is set with the adjusting valve (14) at the float flow meter (9). When calibrating the measuring glass (9), the pressure before and after the glass is taken into account. While the lower regulator consisting of diaphragm (7) and inlet valve (5) ensures a constant pressure before the measuring glass, the upper regulator consisting of diaphragm (10) and valve seat (11) controls the pressure after the measuring glass. To avoid cavitation and precipitation due to decarbonization in the ejector, a separate-air valve (13) is provided in the case of small chlorine quantities. The valve opens completely at 0.5 bar and allows air to enter in addition to chlorine. The minimum response pressure can be set within broad limits. The primed air passes an inlet filter (15). The safety valve (19) protects the device against excessive pressure. The blowoff line (20) is installed close to the sensor of the gas warning device.

Chlorine deposits may cause severe problems. The pressuring reducing valve is a reliable help on MB 2 07 01.



Dimension Drawing of Wall-Mounted Device C 2700 /WL



Dimension Drawing of Floor-Mounted Device in Cabinet C 2700 /SL

