



# VACUUM REGULATORS

series **M 20 C**

**Capacity up to 15 kg/h**

## GENERAL

Vacuum Regulators are designed to feed gas chlorine and with minor alterations also for other gases (SO<sub>2</sub>, CO<sub>2</sub>, NH<sub>3</sub>), working on the indirect vacuum principle. They are made of the best and most resistant materials. The springs are made of tantalum alloys, the inlet valve of technically pure silver, the casing of rubber and plastic mixture, the membranes and washers of quality materials like ECTFE foil, FPM/FKM, PTFE, PVDF, which all ensures faultless operation of these devices at high mechanical and temperature load.

## OPERATION PRINCIPLE

Gas pressure (Cl<sub>2</sub>) builds up only at the back adapter massive part of the regulator. The inlet valve prevents gas from entering the system without control. When the ejector has generated enough vacuum to overcome the force of the check valve, gas chlorine travels along the vacuum line through the flow meter and the rate valve to the ejector, where it thoroughly mixes with water.

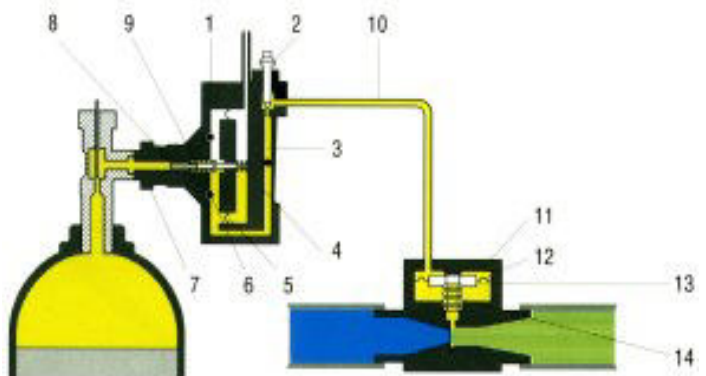
The feed rate is set on the precision rate valve. The regulator casing is equipped with an optical indicator which signals that the chlorine cylinder is empty. Optionally we can add a pressure gauge and a switch for the electric alarm signal to inform the user that the cylinders are empty.



### Rate Valves:

Rate Valves are made of high quality materials.

- |                           |               |                     |
|---------------------------|---------------|---------------------|
| 1 Vacuum Regulator Casing | 6 Washer      | 11 Ejector Casing   |
| 2 Rate valve              | 7 Adapter     | 12 Membrane         |
| 3 Flow Meter              | 8 Inlet Valve | 13 Non-return Valve |
| 4 Spring                  | 9 Spring      | 14 Spring           |



**ORDER CODES**



**M 20 A C / V X M F**

<p>Model</p> <p>El. Alarm Signal (Full/Empty)</p> <p>Gas type</p> <p>Rate Valve</p> <p>Dosing range</p> <p>Pressure Gauge</p> <p>Connection Yoke</p>	
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**OPTIONS:**

- **Alarm:** yes "A", without alarm the letter is not written in
- **Gas type:** "C" - Cl<sub>2</sub>, "CO2" - CO<sub>2</sub>, "S" - SO<sub>2</sub>, "N" - NH<sub>3</sub>
- **Rate Valve:** yes "V", without it the letter is not written in
- **Dosing range\*:** is chosen from technical data table below, and the suitable number is written into the ordering code
- **Pressure gauge** yes -"M", without it the letter is not written in
- **Yoke** - standard nut is included; for clamp type yoke, the letter "F" is written in the code

**TECHNICAL DATA**



<p><b>Dosing Range( X)* : (in g/h)</b></p> <p>1 up to 12</p> <p>2 up to 25</p> <p>3 up to 100</p> <p>4 up to 200</p> <p>5 up to 500</p> <p>6 up to 1000</p> <p>7 up to 2000</p> <p>8 up to 4000</p> <p>9 up to 10000</p> <p>15 up to 15000</p>	<p><b>Gas types :</b></p> <p>C = Cl<sub>2</sub></p> <p>CO2 = CO<sub>2</sub></p> <p>S = SO<sub>2</sub></p> <p>N = NH<sub>3</sub></p>	<p><b>Accuracy :</b></p> <p>Within 4% of flow</p> <p><b>Operating range :</b></p> <p>20 : 1</p> <p><b>Weight :</b></p> <p>up to 4kg/h = 3.1 kg</p> <p>10-15 kg/h = 3.9 kg</p>
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<p><b>Connections</b></p> <p><b>Vacuum (up to 15m):</b></p> <p>2 kg/h – d8/d10 - 3/8"</p> <p>4 kg/h – d8/d10 - 3/8"</p> <p>10 kg/h – d12/d16 - 5/8"</p> <p>15 kg/h – d20 - 3/4"</p> <p>For larger vacuum lines, see table:</p> <p>Chlorine vacuum line size requirements</p>	<p><b>Connection to the Cylinder :</b></p> <p>Standard :</p> <p>1" (according DIN 477)</p> <p>Optionally:</p> <p>1.030" (CGA)</p> <p>5/8" (BSP)</p> <p>M27x1,5mm</p>
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**MEASURE DRAWINGS**



**Attention!** Dimensions in brackets are dimensions of vacuum regulator equipped with pressure gauge!