



# VACCUPERM - CHLORINE GAS DOSING SYSTEMS

## for capacities from 25 g/h up to 20 kg/h

Handling, transport and storage of chlorine for water disinfection is a challenge to systems engineering. The pressure of the chlorine gas is reduced to the vacuum. This method successfully avoids chlorine gas leakage. In the event of a pipe breakage, no chlorine gas can escape, only ambient air is drawn in. Vacuum chlorine gas dosing systems are composed of two principal components.

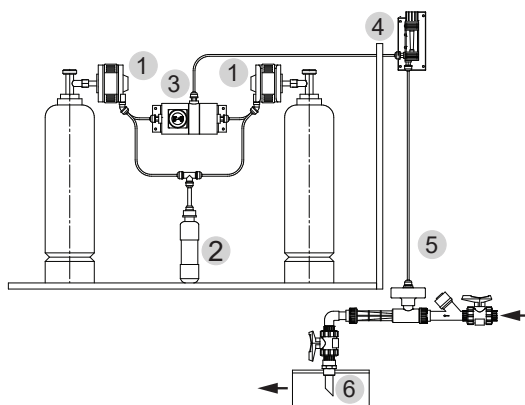
### Vacuum regulator

The vacuum regulator is a pressure reducing valve that reduces the pressure from the chlorine tank side to the negative pressure on the vacuum side. The valve opens when a sufficient vacuum is present on the outlet side. Additionally the vacuum regulator includes a pressure relief function and an empty gas cylinder indication for more safety.

### Dosing regulator

The chlorine gas volume flow is adjusted with the dosing regulator. This can be effected manually or automatically via motor control. The dosing capacity can be read at the integrated glass flowmeter. Dosing regulators are designed for constant and linear gas flow.

### Installation example



### Compact dosing unit Vaccuperm VGB-103

Combination of vacuum regulator and dosing regulator in a single unit for direct mounting on a chlorine gas cylinder. The compact dosing unit includes a pressure-relief function and an empty-gas-cylinder indication for more safety. The dosing capacity can be read on a glass flowmeter.

### Benefits

- Safe system using the vacuum principle
- Most economical way to disinfect water
- Over 50 years of experience in disinfection
- Every unit is 100 % factory-tested
- High accuracy
- Equipment is designed for safety

### Applications

- Drinking water treatment
- Industrial water treatment
- Waste water treatment
- Cooling towers
- Swimming pools

Pos.	Component
1	Vacuum regulator with pressure gauge
2	Chlorine adsorption filter
3	Change-over device
4	Dosing regulator with manual adjustment
5	Chlorine injector
6	Injection unit

## Technical data

Vacuum type	Vacuum regulator		Compact unit	Dosing regulator	
	VGA-111	VGA-146	VGB-103	VGA-113	VGA-117
					
Dosing capacity	up to 4 kg/h	up to 10 kg/h	5-100 g/h 10-250 g/h 25-500 g/h 50-1000 g/h 100-2000 g/h 150-3000 g/h 200-4000 g/h	1-25 g/h 2-40 g/h 5-100 g/h 10-250 g/h 25-500 g/h 50-1000 g/h 100-2000 g/h 150-3000 g/h 200-4000 g/h	25-500 g/h 50-1000 g/h 100-2000 g/h 400-4000 g/h 300-6000 g/h 400-8000 g/h 500-10000 g/h 1000-20000 g/h
Accuracy	-	-	± 4 %	± 4 %	± 4 %
Adjustment ratio	-	-	1:20	1:20	1:20
Measuring device	-	-	Flowmeter 70 mm length	Flowmeter 70 mm length	Flowmeter 190 or 300 mm length
Mounting	Cylinder, drum, header line, wall	Cylinder, drum, header line, wall	Cylinder, header line	Wall	Wall
Pressure connection	G 5/8, G 1/2, G 3/4, 1", 1 1/4", USA yoke	G 1/2, G 3/4, 1", 1 1/4" USA yoke	G 3/4, 1", USA yoke	-	-
Vacuum connection	PE hose 8/11	PE hose 10/14 PVC pipe DN 15	PE hose 8/11	PE hose 8/11	PE hose 10/14 PVC pipe DN 15, DN 20
Vent connection	PE hose 8/11	PE hose 8/11	PE hose 8/11	-	-
Materials	<ul style="list-style-type: none"> <li>Enclosure: PVC</li> <li>Inlet valve: silver, special alloy, PTFE</li> <li>Springs: alloy C-4, coated</li> <li>O-rings: FPM</li> </ul>			<ul style="list-style-type: none"> <li>Enclosure: PVC</li> <li>Rate valve: PVC</li> <li>Springs: alloy C-4, silver coated</li> <li>O-rings: FPM</li> </ul>	
Options	<ul style="list-style-type: none"> <li>Contact pressure gauge</li> <li>Heated liquid trap</li> <li>Flow limiting nozzle</li> <li>Residual-pressure device</li> <li>3.1 Certificate</li> </ul>	<ul style="list-style-type: none"> <li>Contact pressure gauge</li> <li>Heated liquid trap</li> <li>3.1 Certificate</li> </ul>	<ul style="list-style-type: none"> <li>Pressure gauge</li> <li>Set with injector and PE hose</li> <li>3.1 Certificate</li> </ul>	<ul style="list-style-type: none"> <li>Automatic control</li> <li>Supply voltage: 110-240 V; 50/60 Hz or 24 VDC</li> <li>Input/output signal: (0)4-20 mA</li> <li>3.1 Certificate</li> </ul>	
Benefits	<ul style="list-style-type: none"> <li>Integrated filter</li> <li>Cylinder-empty indication</li> <li>Integrated pressure-relief valve</li> <li>Reliable metal inlet valve</li> </ul>	<ul style="list-style-type: none"> <li>Integrated filter</li> <li>Integrated pressure-relief valve</li> <li>Reliable metal inlet valve</li> </ul>	<ul style="list-style-type: none"> <li>Integrated filter</li> <li>Cylinder-empty indication</li> <li>Integrated pressure-relief valve</li> <li>Reliable metal inlet valve</li> </ul>	<ul style="list-style-type: none"> <li>Linear gas flow</li> <li>Special rate valve</li> <li>Automatic or manual capacity adjustment</li> <li>Integrated differential-pressure regulator</li> </ul>	<ul style="list-style-type: none"> <li>Linear gas flow</li> <li>Special rate valve</li> <li>Automatic or manual capacity adjustment</li> <li>Operates under sonic flow conditions</li> </ul>



For more information, see the Vaccumperm Data Booklet:

<http://net.grundfos.com/qr/i/99557091>