

Portacel[®] Disinfection Systems

Vacuum Regulator

Introduction

The Portacel[®] Vacuum Regulator manufactured by Siemens Water Technologies operates as a pressure reducing valve to transfer gas under vacuum within the dosing system. The Regulator functions only when a vacuum is present and shuts off safely, in the event of vacuum failure.

Design and Operation

The Vacuum Regulator consists of a sealed cavity with a diaphragm, gas inlet valve, vacuum outlet, high pressure vent and vacuum status indicator.

With a vacuum supplied to the cavity, the diaphragm is pulled towards the back of the Regulator and opens the gas inlet valve.

In the event of vacuum failure, an opposing spring returns the diaphragm to its original position and reseals the gas inlet valve.

If the supply of gas fails on any of the Regulators, the diaphragm pulls a sealing 'O' ring onto the back of the Regulator. This acts as a high vacuum shut off and prevents moisture from being pulled from the cylinder into the supply pipework. The vacuum status indicator shows the status of the unit if either of the above failures occur.

In the event of the gas inlet valve letting gas through when there is no vacuum, the excess gas passes to a vent which releases it safely to an external atmosphere.

Key Benefits

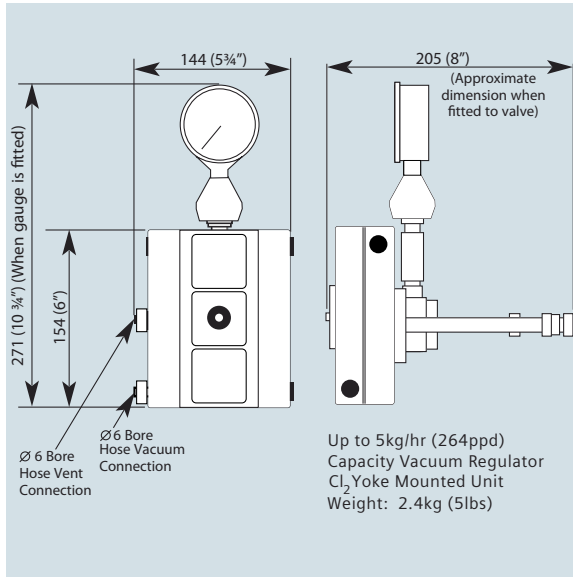
- Range of four units with capacities up to 250 kg/hr (13,200 ppd)
- Shuts off gas supply in the event of a vacuum failure
- Durable components
- Indication of state of gas supply
- Does not require an auxiliary pressure reducing valve
- Suitable for chlorine, sulphur dioxide or ammonia gas
- Units incorporate an integral pressure relief valve
- Low part count construction for low maintenance



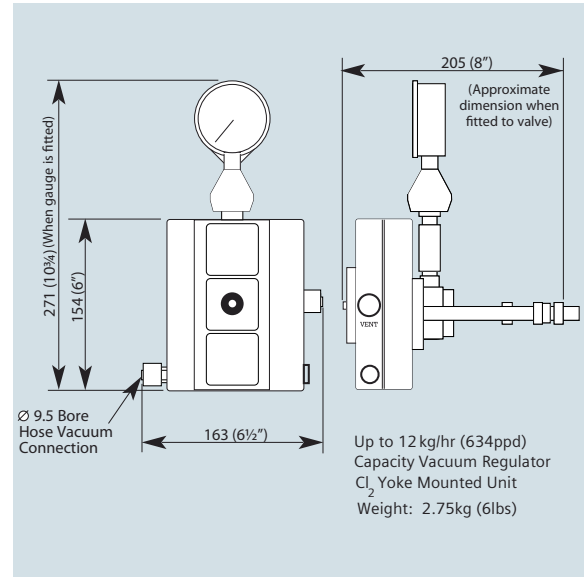
250kg/hr (13,200ppd) vacuum regulator

Product Sheet

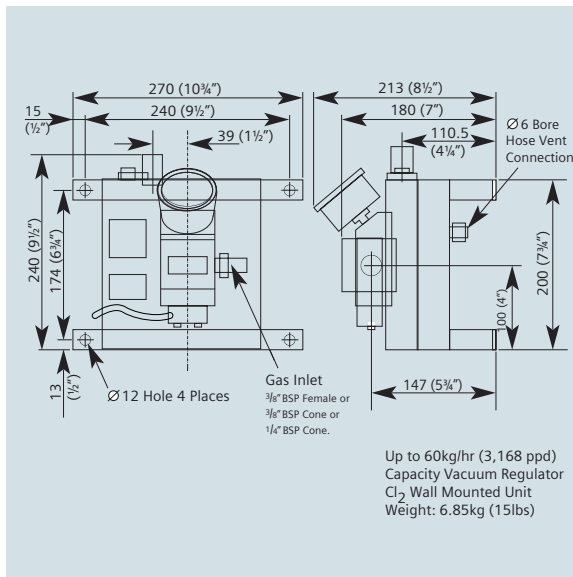
Product Dimensions



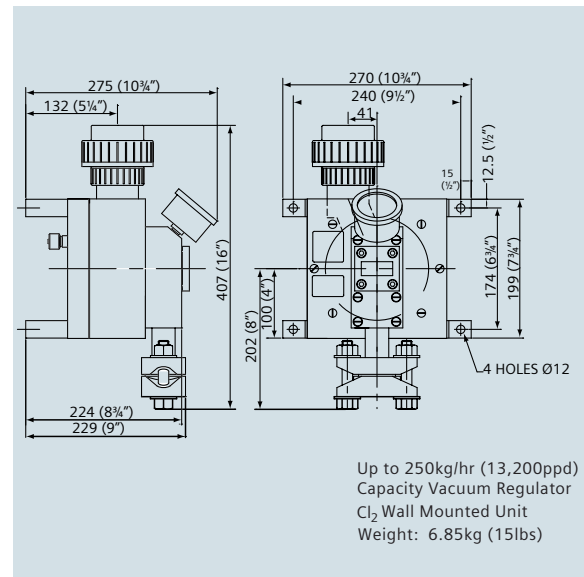
Up to 5kg/hr (264ppd) Vacuum Regulator



Up to 12kg/hr (634ppd) Vacuum Regulator



Up to 60kg/hr (3,168ppd) Vacuum Regulator



Up to 250kg/hr (13,200ppd) Vacuum Regulator

Not to scale

General Specification

The Portacel® Vacuum Regulator will regulate the supply of pressurized; chlorine, sulphur dioxide or ammonia gas into a vacuum dosing system at a rate of up to 5, 12, 60, or 250 kg/hr (264, 633, 3,168, 13,200ppd). The Vacuum Regulator is manufactured by Siemens Water Technologies

The Regulator consists of a sealed cavity, diaphragm and opposing return spring, gas inlet valve, vacuum outlet, high pressure vent and vacuum status indicator.

In the event of high vacuum caused by gas supply failure the Regulator will seal off the vacuum from the supply.

In the event of vacuum failure the return spring safely shuts off the gas supply inlet valve.

If gas pressure occurs in the vacuum cavity it will be vented safely to an external atmosphere.

Option 1:

5, 12, or 60 kg/hr (264, 633, 3,168ppd) versions

A heater will ensure that the supply of gas does not condense in the dosing system.

Option 2:

5, 12, or 60 kg/hr (264, 633, 3,168ppd) versions

A manual isolating valve will enable the Regulator to be shut off from the gas supply.

Option 3 (5, 12, or 60 kg/hr (264, 633, 3,168ppd) versions)

A pressure gauge will be fitted to the Regulator to indicate gas supply pressure.

Option 4 mounting configurations

Size (kg/hr)	Cylinder Mounted	Yoke Mounted	Wall Mounted
5 (264ppd)	■	■	■
12 (633ppd)	-	■	■
60 (3,168ppd)	-	-	■
250 (13,200ppd)	-	-	■

Technical Data

Up to 5 kg/hr (264ppd) capacity (basic build)

Capacity	Up to 5 kg/hr (264ppd)
Overall dimensions	See drawing
Power requirements	240v or 110v 50/60Hz for heater
Operating temperature	0 - 50°C (32°F - 122°F)
Pressure rating	16 bar (232psi)
Connections	Vacuum 10mm (½") bore EVA tube; Vent 10mm (½") bore EVA tube
Display	Loss of vacuum, loss of gas
Vacuum regulation	38 mm Hg - 28mm H

Up to 12 kg/hr (633ppd) capacity (basic build)

Capacity	Up to 12 kg/hr (633ppd)
Overall dimensions	See drawing
Power requirements	240v or 110v 50/60Hz for heater, 6VA heater when fitted
Operating temperature	0 - 50°C (32°F - 122°F)
Pressure rating	16 bar (232psi)
Connections	Vacuum 10mm (½") bore EVA tube
Display	Loss of vacuum, loss of gas

Technical Data (continued)

Up to 60 kg/hr (3,168ppd) capacity

Capacity	Up to 60 kg/hr (3,168ppd)
Overall dimensions	See drawing
Weight	6.85 kg (15lbs)
Power requirements	240v or 110v 50/60Hz for 6w heater
Operating temperature	0 - 50°C (32°F - 122°F)
Pressure rating	16 bar (232psi) maximum
Connections	Vacuum 3/4" (20mm) solvent cement spigot, gas 3/4" BSP female
Display	Pressure gauge 16 bar (232psi) maximum

Up to 250 kg/hr (13,200 ppd) capacity (Chlorine only)

Capacity	Up to 250 kg/hr (13,200ppd)
Overall dimensions	See drawing
Weight	6.85kg (15lbs)
Power requirements	None
Operating temperature	0 - 50°C (32°F - 122°F)
Pressure rating	16 bar (232psi) maximum
Connections	Vacuum 2" NB socket union uPVC, gas supply 1" NPT ammonia union



5kg/hr (264ppd) vacuum regulator



60 kg/hr (3,168ppd) vacuum regulator

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Literature Number: WT.025.435.000.IE.PS.0309
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