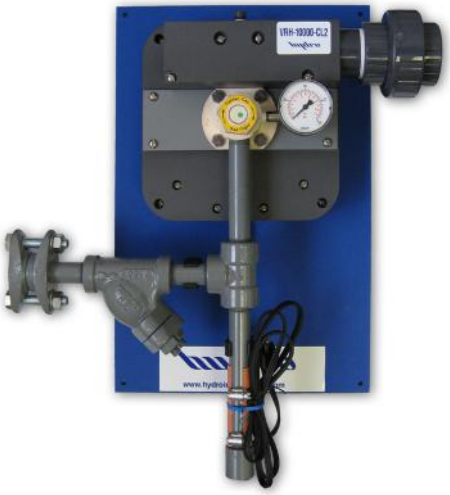
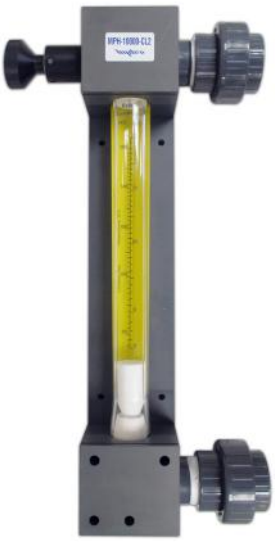
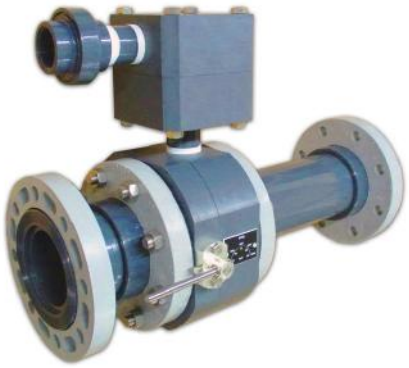
Series 3000
High Capacity
Gas Chlorination Equipment



Hydro Instruments has been manufacturing highest quality gas chlorination equipment since 1978. Our gas chlorination equipment is manufactured using the highest quality materials for both chemical resistance and physical durability. Unlike our competitors, Hydro Instruments body parts are machined from solid PVC type 1 material for maximum wall thickness and strength.

The Series 3000 equipment is comprised of the mechanical components including vacuum regulators, vacuum switchover modules, differential pressure regulators, remote meter panels, and ejectors. These components are offered in various feed capacities, ranging up to 200 kg/hr (10,000 PPD) and systems have a modular design with many configurations and options available.





The Series 3000 vacuum regulators must always be used in conjunction with a chlorine pressure manifold. For manifold design details please refer to Hydro Instruments' relevant technical literature and design guides.

If electronic changeover is to be employed in a system, then please refer to the Hydro Instruments Series CS-110 electronic changeover system literature.

If automatic feed rate control is to be employed then refer to the Hydro Instruments Series OV-110 or OV-1000 Omni-Valve and Series CV-230 Control Valve literature. If Floor Cabinet mounting of the automatic control equipment is to be employed, then please refer to the Hydro Instruments Floor Cabinet literature.

INSTRUMENTS

PROUDLY MADE IN USA

ISO 9001 Certified

600 Emlen Way, Telford, PA 18969 • Telephone: (215) 799-0980 • Fax: (215) 799-0984
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Series 3000 General Specifications

Series 3000 Vacuum Regulators

1. The vacuum regulator shall include a panel for wall mounting, a drip leg with heater, and a diaphragm protected pressure gauge. It shall include a ¾" Union Flange for connection to the chlorine gas manifold.
2. The vacuum regulator body parts shall be constructed of solid machined PVC material for maximum durability and cracking resistance.
3. Vacuum regulator springs shall be made of Tantalum alloy and the inlet valve stem shall be solid silver material.
4. The regulator shall incorporate a pressure relief (vent) valve with separate ports for chlorine feed and chlorine vent.
5. Connections shall be provided for tubing vented gas away from the pressure relief (vent) port of the vacuum regulator to atmosphere outside the building. The outside end of the vent tubing shall be equipped with an insect screen.
6. The regulator shall be equipped with a silver inlet filter screen to remove particulate matter from the gas before it enters the inlet safety valve.
7. The regulator shall include a diaphragm protected, pressure gauge that will indicate if there is chlorine gas pressure in the manifold.
8. The vacuum regulator chlorine gas vacuum outlet port shall be either 1", 1.5", or 2" Schedule 80 PVC piping.
9. The vacuum regulator can be optionally fitted with a Y-Strainer for the chlorine gas upstream of the drip leg in the pressure manifold section.
10. The diameter of the two layer regulating diaphragm shall be at least 10" (25 cm).

Series 3000 Automatic Switchover Module

1. The switchover module shall be a separate mechanical device to automatically switch from empty gas supply to the standby gas supply.
2. The switchover module shall be suitable for wall mounting.
3. The device shall operate entirely by vacuum with no need for external adjustments.
4. The connections shall be either 1" or 1.5" Schedule 80 PVC piping.

Series 3000 Remote Meter

1. The remote meter shall include a gas flow meter tube to indicate the gas flow rate.
2. The gas flow meter shall be suitable for wall mounting.
3. This gas flow meter shall be equipped with a control valve for manual feed rate adjustment.

Series 3000 Differential Pressure Regulator

1. The differential pressure regulator shall maintain a constant pressure differential across a variable or fixed orifice providing a steady flow rate regardless of variations in upstream or downstream pressure.

Series 3000 Ejector

1. The ejector shall be water operated Venturi nozzle type. Ejectors shall provide the operating vacuum for the gas chlorination system.
2. Ejector shall incorporate a spring loaded, normally closed check valve to prevent the backflow of water into the chlorine gas equipment. The check valve shall be suitable for backpressures up to a minimum of 100 psi (7 bar).
3. Ejector check valve shall automatically close upon the loss of vacuum in the Ejector.
4. 2" and 3" ejectors shall have Van Stone style 4 bolt flanged connections. 4" ejectors shall have Van Stone style 8 bolt flanged connections.
5. 2", 3" and 4" ejectors shall be available with a variable area orifice nozzle.

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