



Series 6000

Chlorine Pressure Regulator

- 3-Year Limited Warranty
- Hastelloy-C Inlet Adapters
- Solid Machined PVC Construction
- Porous PTFE Teflon Filters & Silver Screen Filters

Hydro Instruments has been manufacturing the highest quality gas chlorine, sulfur dioxide and ammonia equipment since 1978. For applications without electricity or a vacuum source, Hydro Instruments offers the Series 6000 direct injection system. The Series 6000 line offers feed rates up to 250 PPD (5 kg/h) Cl₂ and 100 PPD (2.0 kg/h) NH₃. For automatic feed rate control Hydro Instruments offers the OV-110 Omni-Valve or CV-230 Control Valve.

Quality

Hydro Instruments continually strives to produce the longest lasting and most reliable gas chlorination and sulfonation equipment on the market. We believe that this means using only the highest quality materials and most rugged designs. To avoid cracking, our body parts are machined from solid PVC and designed with heavy wall thickness. For maximum durability and corrosion resistance our inlet adapters are constructed of Hastelloy-C and our yoke assemblies are protected by the finest Epoxy Powder Coating.

Safety

For Hydro, safety is the highest concern. Here are two points that set us apart from the competition:

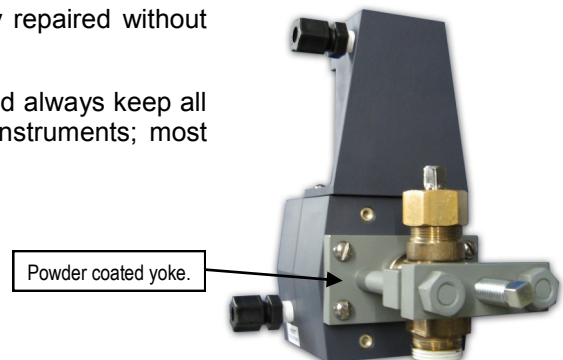
1. Our rugged design and highest quality machined parts maximize safety by avoiding cracks and corrosion.
2. At Hydro Instruments a skilled technician follows a rigorous testing procedure for each and every pressure regulator.

Convenience

Design: Hydro has designed the pressure regulator yoke so that a twisted cylinder wrench can be used for both the cylinder and yoke bolt. One of these wrenches is provided with each pressure regulator purchased from Hydro.

Repairs: Hydro Instruments' equipment is designed to be easily repaired without special tools.

Service: We provide our top quality parts at reasonable prices and always keep all parts in stock. Also, expedited service is the norm with Hydro Instruments; most orders ship the same day and we never charge expediting fees.



Singapore: Hydro Instrument (S) Pte Ltd ● Telephone: (65) 822-31377 ● Fax: (65) 6248-0669

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Technical Data

1.03 CHLORINATION SYSTEM

1.03.1 General

1. The Chlorination system shall be direct pressure type, for dispensing chlorine gas from industry standard one hundred fifty (150) pound cylinders into a water injection point with pressure of 10 psi (0.7 bar) or less.
2. The Chlorination system shall have a chlorine gas feed capacity of up to 250 pounds per day.
3. The system shall convey the gas under pressure from the cylinder mounted pressure regulator through an integral flow meter to the check valve-diffuser assembly.
4. The integral flow meter will allow manual feed rate control.
5. The gas pressure line should be 25 feet or less in length (8 meters).
6. The system shall be constructed of materials suitable for wet or dry chlorine gas service.

1.03.2 Cylinder Mounted Pressure Regulator

1. The one (1) pressure regulator shall mount directly on the gas cylinder valve by means of a corrosion resistant and gasketed yoke assembly complying with the standards of The Chlorine Institute, Inc.
2. The inlet adapter shall be constructed of corrosion resistant Hastelloy C-276 material.
3. The pressure regulator body parts shall be constructed of solid machined PVC material for maximum cracking resistance.
4. Outlet pressure is factory set to 20 PSI (1.4 bar) and does not require adjustment.
5. The pressure regulator springs shall all be of Tantalum material.
6. The pressure regulator shall be equipped with an inlet filter to remove particulate matter from the gas before it enters the inlet valve.
7. The pressure regulator shall include a flow meter tube to indicate feed rate. Flow meter tubes shall indicate flow rates up to 250 pounds per day and down to a minimum of 1/20 of the maximum value.
8. This gas flow meter shall be equipped with a solid Silver rate control valve and solid Silver rate valve sleeve for manual feed rate adjustment.
9. The pressure regulator includes an integral pressure relief valve to prevent excessive pressure build up in the system. The relief valve must be connected to a safe place in the atmosphere outside the building.

1.03.3 Exhaust Valve Assembly

1. Each Series 6000 direct pressure feed system shall include a separate exhaust valve assembly.
2. The exhaust valve assembly shall be mounted in the plastic tubing between the pressure regulator and the check valve diffuser.
3. The exhaust valve assembly is required to allow manual venting of chlorine gas line pressure before changing cylinders.
4. The exhaust vent connection must be connected to a safe place in the atmosphere outside the building. The outside end of the exhaust vent tubing shall be equipped with an insect screen.

1.03.4 Check Valve Diffuser

1. The one (1) check valve-diffuser shall be either: fine spray type constructed of machined PVC material or porous stone fine bubble diffusion type.
2. The chlorine gas is injected under pressure into the water at the check valve-diffuser. The water pressure must be less than 10 psi (0.7 bar = 23' of water head above the diffuser).
3. The check valve shall be a spring loaded, normally closed check valve to prevent the backflow of water into the chlorination equipment.
4. The check valve shall automatically close upon the loss of chlorine gas pressure.

Ordering Information

System Build Numbers

System #: 6- - - -IS

Check Valve Diffuser

1. Spray Diffuser
2. Single Stone Diffuser
3. Double Stone Diffuser

Capacity

2. 1.5 PPD (30 g/h)
3. 4 PPD (75 g/h)
4. 10 PPD (200 g/h)
5. 25 PPD (0.5 kg/h) / 12 PPD NH₃
6. 50 PPD (1.0 kg/h) / 25 PPD NH₃
7. 100 PPD (2.0 kg/h) / 50 PPD NH₃
8. 250 PPD (5.0 kg/h) / 100 PPD NH₃

Mounting

1. Cylinder or manifold mounted.

Gas Type

- C. Chlorine
- A. Ammonia

The systems maximum feed capacity is largely dependent on the withdrawal rate of gas from the cylinder and is a function of the existing ambient temperature.

Materials of Construction

PVC, Polyethylene, Tantalum, Silver, Hastelloy-C, Monel, Viton and PTFE Teflon.

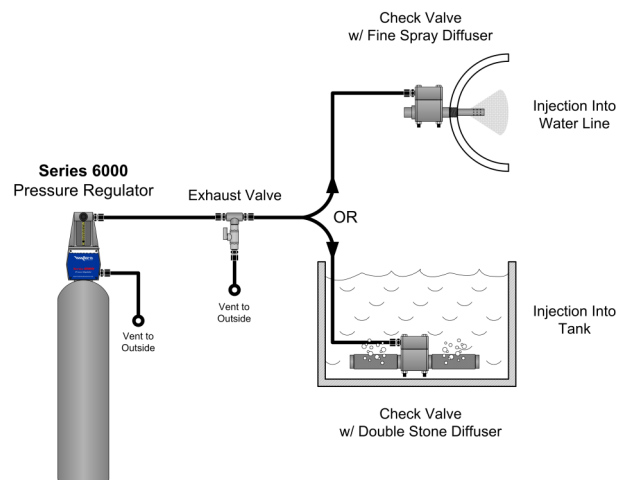
Maximum back pressure at point of application is 10 PSI.

All feed rate capacities shown in this bulletin are for chlorine. For ammonia, multiply each chlorine value by 0.5.

Gas Warning

Where possible gas containers and gas feed equipment should be monitored for leaks. Gas sensitive detectors, which will respond quickly to gas leaks in the atmosphere, should be installed at each site.

System Installation



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