



Specifications for the Hydro Series 6000 Gas Chlorination System

HYDRO GAS CHLORINATION SERIES 6000 for 1.5 to 250 PPD CHLORINE FEED

1.01 GENERAL

1.01.1 Completeness

The system shall be complete with all components, equipment, and appurtenances.

1.01.2 Quality Assurance

All materials and components shall be new and unused of first quality by well-known manufacturers. Inferior materials or components shall not be allowed.

1.02 MANUFACTURER

The manufacturer shall be Hydro Instruments, Telford, PA, USA or approved equal. The chlorination system shall be Hydro Instruments Series 6000.

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 fine bubble diffusion type constructed of machined PVC material with porous aluminum oxide.
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.