

Hydro Instruments 3000 Series High Capacity Chlorinator

Introduction

Hydro Instruments manufactures the highest quality gas chlorination equipment in the world. Because corrosion resistance is critical, only the very best materials are used.

Unlike the competition, Hydro makes all parts by machining, not injection moulding. This more costly method of production is used by Hydro Instruments for one simple reason; our priority is product quality and maximum product durability, not low cost of production. Hydro Instruments equipment carries a 3-Year warranty that matches or exceeds all major brands.

This equipment safely injects chlorine gas into the process water at a controlled rate. Systems can be designed to be completely modular or several components can be provided in wall or floor cabinets. A description of each component is included in this brochure.

Switchover Module

The purpose of the Hydro Model SOH-2000-CL2 switchover module is to automatically change to a standby set of ton containers when the duty set becomes empty. Allowing feed from one side only, the device requires no external adjustments. The operation involves two diaphragms and a spring-loaded pivot mechanism. When the duty set of ton containers becomes empty, the internal vacuum level increases. When it reaches approximately 10" Hg, the spring-load on the pivot mechanism will be overcome and the device will change position to draw from the standby set of ton containers.

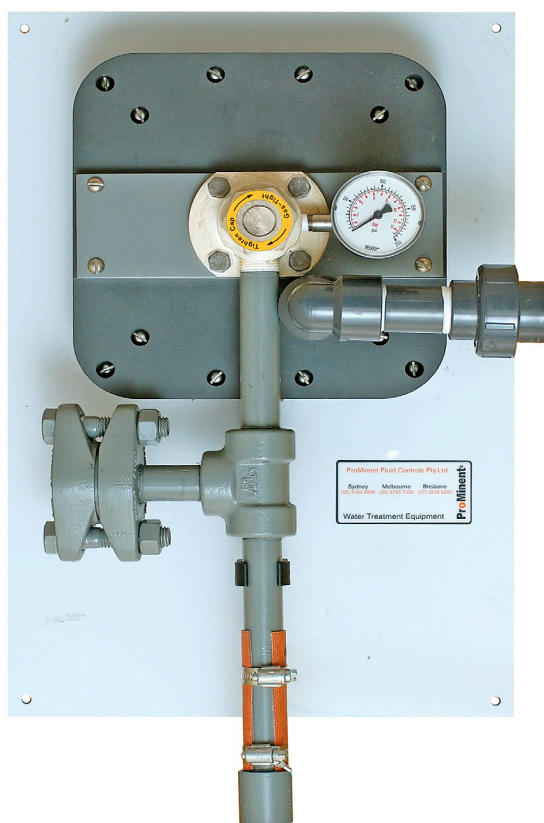
The SOH-2000-CL2 has a maximum capacity of 4,000 PPD (80 kg/hr) and includes a wall-mounting bracket.

Ejector

The EJH-2000-CL2 Ejector creates the vacuum that operates the system and mixes the Chlorine with the water. It also incorporates a check valve to prevent backflow of water into the equipment when the ejector is not operating. Water line connections are 2" flange type. In order to meet various hydraulic conditions, nozzle/diffuser sets are available in four sizes. The EJH-2000-CL2 has a maximum capacity of 2000 PPD (40 kg/hr).

Feed Rate Control

Systems are available with manual and automatic feed rate control. Control modules are available for wall or floor mounting. Any combination of these options can be provided by Hydro Instruments.



Indication – Visual feed rate indication is achieved with a flow tube. Capacities of 250, 500, 1000, and 2000 PPD (5, 10, 20, & 40 kg/hr) are available.

Manual control – A large ergonomic control knob is used for this function.

Automatic control – The Hydro OV-110 Omni-Valve is used to provide automated feed rate control based on one or two 4-20mA input signals. See the Hydro OV-110 product literature for complete details.

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Manifolds

The manifold has four purposes:

Collect Chlorine gas from multiple containers.

For each ton container the manifold should have one Chlorine valve and one flexible connector. In order to extend the life of this valve and to increase safety, it is recommended that an isolation valve also be used.

Trap and evaporate liquid Chlorine.

For each ton container there must be at least 10" (25 cm) of drip leg length. Multiple drip legs may be required. Each drip leg must have a 25-Watt heater that is continuously energized.

Filter impurities out of the Chlorine gas.

An inline Chlorine gas filter is installed after the drip leg(s).

Reduce the pressure in order to avoid re-liquification in the piping between the manifold and the vacuum regulator.

Slight changes in temperature may cause the Chlorine leaving the containers to condense. In order to avoid

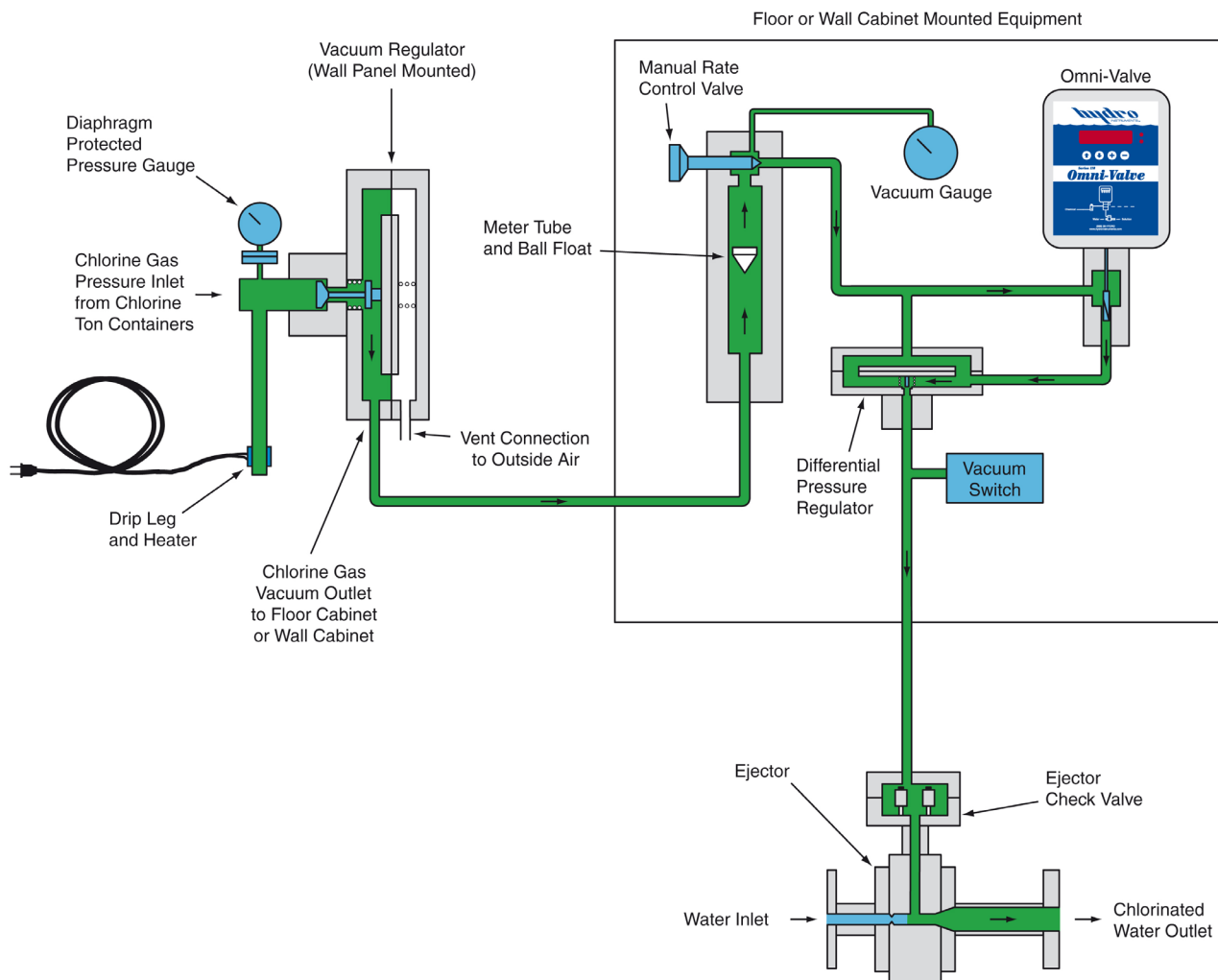
this re-liquification in the pipe between the manifold and the vacuum

regulator, a PRV should be incorporated to reduce the pressure to approximately 50 PSI. Great care must be taken with manifold construction and operation to avoid leaks because the Chlorine is under pressure throughout. Any pressurized leak has the potential to release the contents of every ton container in use.

Vacuum Regulators

The Hydro Model VRH-2000-CL2 Vacuum Regulator has a maximum capacity of 10,000 PPD (200 kg/hr). Its purpose is to reduce the Chlorine gas from pressure to vacuum. The inlet safety valve is spring-loaded (normally closed). Vacuum must be present for the valve to open. If the inlet safety valve becomes dirty or damaged and cannot seal, leaking Chlorine gas will be directed to vent at a safe pressure of 1 PSI.

The VRH-2000-CL2 Vacuum Regulator includes a wall-mounting panel, a drip leg with 25-Watt heater and a diaphragm-protected pressure gauge.



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