



600 Emlen Way
Telford, PA 18969

Hydro Instruments Model SVR-1000-CL2 Vacuum Regulator **Specification SVR-1000-CL2**

HYDRO INSTRUMENTS MODEL SVR-1000-CL2 for
2000 PPD (40 Kg/h) CHLORINE FEED

1.01 GENERAL

1.01.1 Completeness

The vacuum regulator 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 Model SVR-1000-CL2.

1.03 SPECIFICATIONS

1.03.1 General

1. The Chlorination system shall be a vacuum operated, solution feed, and automatic switchover type for dispensing chlorine gas from industry standard 150 lb cylinders or pressurized gas manifolds.
2. The Chlorination system shall have a chlorine gas feed capacity of not less than 2000 pounds per day (40 Kg/h).
3. The system shall convey the gas under vacuum from the cylinder or manifold mounted vacuum regulators to the ejector assemblies.
4. The chlorination system shall automatically switch the gas supply from an empty cylinder to a full one.
5. The system design shall permit the entire system to be vacuum checked in the field without the use of special tools.
6. The system shall be constructed of materials suitable for wet or dry chlorine gas service.

1.03.2 Cylinder or Manifold Mounted Vacuum Regulator

1. To comply with the standards of The Chlorine Institute, Inc., the vacuum regulator shall mount directly on the cylinder valve or manifold header valve by means of a corrosion resistant yoke assembly. The sealing of these mating surfaces shall be achieved by the use of a lead gasket.
2. Each Vacuum Regulator shall have a 2000 PPD (40 Kg/h) feed rate capacity.
3. In order to avoid corrosion, each vacuum regulator shall use an inlet capsule constructed of solid Hastelloy C-276 material, which shall carry a lifetime warranty.
4. For maximum durability and in order to avoid cracking, each regulator shall have body parts machined from solid PVC. Injection molded PVC or ABS body parts (which possess insufficient wall thickness), shall not be accepted.
5. The inlet valve stem, bearing washer and vent plug shall all be machined from solid silver for maximum corrosion resistance.
6. Vacuum regulator inlet valve and vent springs shall both be tantalum alloy and shall carry a lifetime warranty.
7. Each vacuum regulator shall have a two-layer ECTFE (Halar) diaphragm, which controls vacuum and a spring loaded, normally closed inlet valve, which closes upon loss of vacuum.
8. Each regulator shall possess an internal switchover mechanism to automatically shift from standby to in-service upon depletion of the on-line cylinder. The regulators shall have a clear status indicator (standby or in-service).
9. Each regulator shall incorporate a pressure relief (vent) valve with separate ports for chlorine feed and chlorine vent. Vacuum regulators, which do not possess integral vent mechanisms, and compromise safety by having a single exit port for vent and feed shall not be acceptable.
10. Connections and tubing shall be provided for venting gas away from the pressure relief (vent) port of each vacuum regulator to the outside atmosphere (outside of the building). The outside end of the vent tubing shall be equipped with an insect screen.
11. Each regulator shall be equipped with a silver screen inlet filter to remove particulate matter from the gas before it enters the inlet safety valve.
12. Each regulator shall have a mechanism to indicate when the cylinder is empty and requires replacement.