

ADVANCE Gas Chlorinator Series 600

SEVERN

TRENT

SERVICES

CAPITAL CONTROLS



- ◆ **Manual chlorine gas pressure feed**
- ◆ **Operated with no electricity or water pressure**
- ◆ **Easy installation**
- ◆ **Lightweight and portable**
- ◆ **Recommended for emergency use**
- ◆ **Six capacities to 100 PPD (2kg/h)**
- ◆ **Safe, direct cylinder mounted**

Capital Controls developed the direct gas-pressure chlorinator for applications where electricity, used to operate a booster pump, and water pressure, required for ejector vacuum operation, are unavailable. The ADVANCE™ Model 611's lightweight, compact construction provides portable, manual control for emergency standby chlorination.

Easy to install, for indoor or outdoor installation, each Series 600 feeder is factory-tested and need no field adjustment prior to start-up. Six different flowmeter capacities provide versatility in meeting gas flow requirements. The regulator mounts directly to the container cylinder valve by means of a yoke clamp to provide optimum safety. A choice of check valve/diffuser assemblies for pipeline, clearwell or open channel application have been designed to aid chlorine gas absorption.

A Series 600 gas feeder consists of a pressure regulator, chlorine gas flowmeter, flow control rate valve, gas filter assembly, excess pressure relief valve, manual exhaust valve, diffuser/check valve assembly and pressure and vent tubing to make a complete system.

Applications

For process water, waste treatment and water treatment in the municipal or industrial marketplace.

- ◆ **Emergency chlorination**
- ◆ **Remote, unattended water disinfection**
- ◆ **Standby equipment**

Design Features

- ◆ **Superior materials of construction:** Solid silver rate valve, corrosion-resistant yoke assembly, tantalum springs
- ◆ **Reliable:** Over 35 years experience with gas feeders, integral pressure relief valve, integral gas flow indicator
- ◆ **Versatility:** Ejector diffuser available for open channel addition (porous stone) or pipeline addition (fine hole spray)
- ◆ **Ease-of-maintenance:** Simplicity of design and modularized components such as replaceable inlet capsule for minimized maintenance
- ◆ **Portable:** Operates without electricity or water pressure. Good for emergency or standby operation.

Principle of Operation

Chlorine gas at cylinder pressure, enters the regulator through the inlet valve and filter assembly where the pressure is reduced and controlled to approximately 20 psig (1.4 bar). The gas then moves through the inlet pressure regulating valve, chlorine gas flowmeter and manually controlled rate valve to the check valve/diffuser assembly. The pressure causes the check valve to open, and gas enters the water or process fluid through a porous stone diffuser or fine spray diffuser. (See Figure 1)

A pressure relief valve is contained within the chlorinator to prevent excessive pressure build-up in the system. A manual exhaust valve, installed in the pressure line between the chlorinator and the check valve, is used to exhaust the pressure from the system prior to removing the chlorinator from the cylinder. Both the relief valve and pressure exhaust valve must be relieved to a safe place.

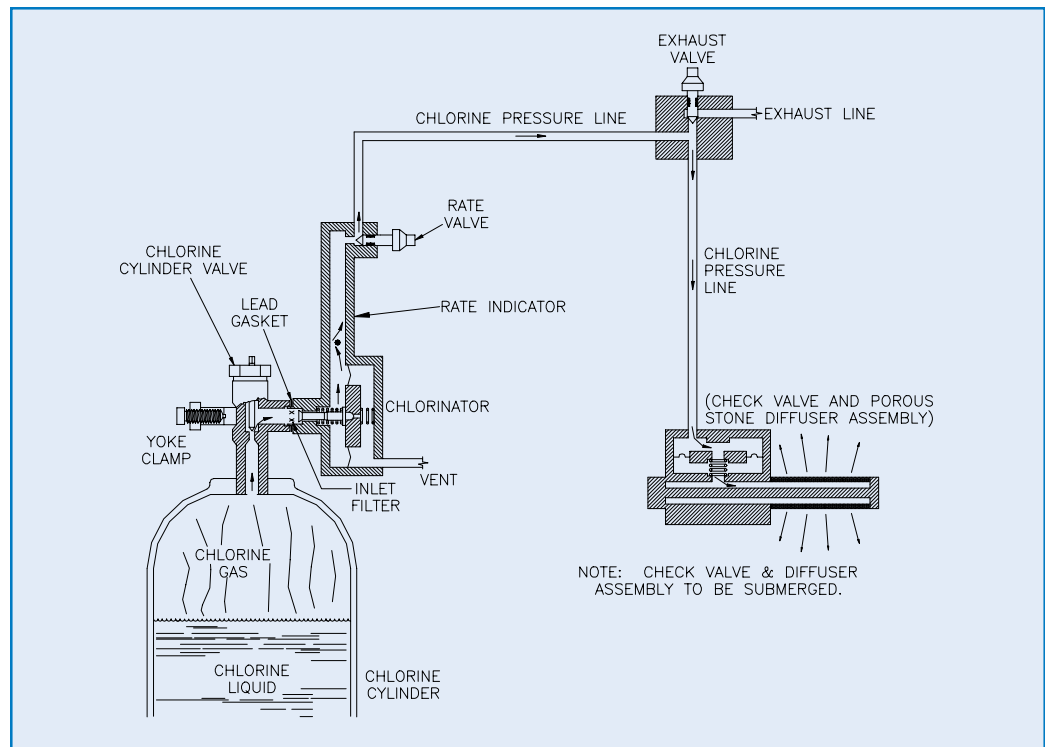


Figure 1 - Gas Chlorinator Flow Diagram

Technical Data

Series 600

GENERAL

Flowmeter: For capacities 40 PPD (0.75 kg/h), the minimum feed capacity for every gas flowmeter is 1/20 th of the maximum capacity and 1/10 th the maximum capacity for capacities 15 PPD (280 g/h) and below. Accuracy is within $\pm 4\%$ of maximum flowmeter capacity.

Maximum Back Pressure: 10 psig (0.7 bar) or 23' of water head over the diffuser

Recommended Gas Pressure Line: Maximum of 25 ft. (8 m)

Mounting: Direct cylinder recommended only

NOTE: Installation on a cylinder valve mounted on a manifold is not recommended due to the possibility of emptying the manifolded container in the event of a line break. In addition, the reliquefaction of chlorine in the manifold is possible. Liquid chlorine is not to be fed to the gas feeder.

Available Flowmeter Capacities		Minimum Ambient Temperatures for Continuous Feed Rates ¹	
PPD	kg/h	°F	°C
100	2	75	24
75	1.4	56	13
40	0.75	35	2
15	280 g/h	26	-3
6	120 g/h	23	-5
2	50 g/h	22	-6

Model Information Code

Model **6** 1 1 _ _

Maximum Capacity _____

1 - 100 PPD (2 kg/h)

Gas Handled _____

B - Carbon Dioxide

C - Chlorine

1. If low fluctuating temperatures are anticipated, an insulated enclosure should be provided to improve feed rates.

Warranty and Capability

Capital Controls offers a one (1) year limited warranty on the Series 600 Chlorinator.

Capital Controls is ISO 9001 certified to provide quality and precision materials. Disinfection technologies, water quality monitors and instrumentation for water and wastewater are areas of specialization. Over 35 years of industrial and municipal application experience in the water and wastewater industries is incorporated into the equipment design to provide high quality comprehensive solutions for the global market.

Brief Specification

The chlorinator design shall be of the gas pressure-operated, direct gas feed type. The chlorinator shall be constructed of materials suitable for wet or dry chlorine service. All springs used in the chlorinator shall be of tantalum alloy. The rate valve and seat shall be solid silver. A diaphragm shall be provided to reduce cylinder pressure to a constant pressure of approximately 20 psig (1 bar). This spring-opposed regulator shall be factory set and shall not require any field adjustment.

The chlorinator shall mount directly on the chlorine cylinder valve by means of a positive yoke type gasketed connection. The chlorinator shall operate from cylinder pressure and not require power for operation. The chlorine gas flowmeter shall be an integral part of the cylinder mounted chlorinator. Excess pressure shall be relieved by a spring-loaded, diaphragm actuated pressure relief valve, located at the chlorinator.

For venting gas pressure during cylinder replacement, a manual vent valve shall be provided.

The diffuser/check valve assembly shall consist of a spring loaded check valve to prevent flooding of the chlorinator. Maximum back pressure at the point of application shall be 10 psig (0.7 bar).

Design improvements may be made without notice.

Represented by:



CAPITAL CONTROLS

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