



MODEL 2101

HIGH CAPACITY GAS CHLORINATOR

The principal use of the REGAL Gas Chlorinator is to chlorinate water, wastewater and industrial process water with gas chlorine. The simple, efficient design has made REGAL Gas Chlorinators the industry standard. Built with heavy duty corrosion resistant parts, REGAL Chlorinators provide safe, long-lasting service.

The REGAL Model 2101 Gas Chlorinators are totally vacuum-operated solution feed type, for high chlorine gas feed rates up to 2000 pounds per 24 hours (40 kg/hr). REGAL Model 2101 Chlorinators are modular in design allowing placement of the vacuum regulator at or near the chlorine storage area, while locating the flow metering and control panel where convenient to the operator. The Chlorinators are of the vacuum operated solution-feed type, designed for mounting directly on a chlorine manifold header valve. A highly efficient, water operated, vacuum-producing ejector assembly also contains a back flow check valve. Chlorine gas flow rate is regulated by a spring opposed diaphragm regulator which is also the safety shut-off valve. All components are connected by safe vacuum piping. Should vacuum be interrupted for any reason anywhere in the system the safety shut-off/inlet valve immediately closes, shutting off the chlorine supply from the pressurized source.

FEATURES

- Fewer parts, simpler design for less down time, easier maintenance and lower costs, year after year.
- Materials that stand up to ultraviolet degradation and chlorine attack...wet or dry.
- **Limited Warranty for the life of the chlorinator** on vital parts...diaphragm and inlet spring against corrosion.
- Combined O-ring/diaphragm sealing of the front and back body parts helps prevent air leaks into the system and eliminates the need for special tightening tools.
- Inlet safety valve "capsule" allows easy removal with minimal disassembly for inspection or cleaning with no special tools.



CAPACITIES

Dual scale metering tubes with maximum capacities of 1000 and 2000 pounds per 24 hours of chlorine gas with corresponding metric scales of 20 and 40 kilograms per hour. The minimum feed rate is 1/20th of maximum for each metering tube.

FLOW RATE ADJUSTMENT

Manually adjustable by means of a flow rate control valve located at the top of the flow meter. Flow rate is then regulated by a special spring-opposed diaphragm operated valve. The system is automatic. It will go off and on as the ejector water is turned off and on and will return to the pre-set flow rate.

EJECTOR REQUIREMENTS

Model 2101 Gas Chlorinators are tested to give the best operation in the system being treated. Generally, the amount of water (GPM) required to operate the ejector depends upon the chlorine flow rate, the ejector back pressure, and the water supply pressure which is available. In all cases, the minimum pressure differential and water flow for your installation should be determined prior to installation and start up.

OPERATION

The vacuum regulator is clamped on the header valve of a chlorine cylinder or ton container manifold. The ejector assembly is either wall mounted or supported by rigid pipe. A chlorine flow meter/rate valve panel is located between these two units and a vacuum line connects the three components.

Water, under pressure is forced through the ejector nozzle which creates a strong vacuum in the ejector body. This pulls gas into the ejector through a special back-flow check valve and then into the nozzle outlet. The gas mixes with the ejector water and is discharged through the diffuser into the water being treated.

The ejector vacuum is transmitted back to the chlorinator through the vacuum line; then through the rate valve and the flow meter and to the back of the diaphragm. With sufficient vacuum, the diaphragm moves backward, opening the spring loaded inlet regulating valve to allow chlorine to enter from the cylinder.

The chlorine passes through the flow rate indicating meter, flow rate adjusting valve and to the ejector.

SPECIFICATIONS

The chlorinator shall be a vacuum-operated, solution-feed type, for mounting directly on the auxiliary header valve of a wall manifold. It shall be REGAL Model 2101 manufactured by Chlorinator Incorporated, Stuart, Florida and shall have a maximum capacity of 2000 pounds per 24 hours (40kg/hr).

The Model 2101 Gas Chlorinator shall consist of the following components: One (1) remote mounted vacuum regulator, one (1) wall mounted chlorine gas flow meter panel with rate valve, and one (1) ejector/check valve assembly. The vacuum regulator shall mount on the wall manifold auxiliary header valve by means of a positive yoke type clamp, having an integral tightening screw with slide bar handle. All metallic bolts shall mate with metallic threaded nut or inserts. Plastic mating threads for metallic bolts shall not be acceptable.

All vacuum regulating and safety functions, including a pressure-relief (vent), shall be incorporated in the manifold or ton container mounted vacuum regulator unit. The inlet safety shut-off/vacuum regulating valve shall be of capsulated construction, easily removable as a unit from the outlet side of the yoke for ease of inspection, cleaning or maintenance.

Vacuum shall be created by an ejector assembly constructed of corrosion resistant plastic. The assembly shall consist of a fixed throat, orifice type nozzle; also, a spring loaded back check valve to prevent water from entering the gas system.

All materials used in REGAL Gas Chlorinators have been carefully chosen for their excellent corrosion-resistant, ultra-violet resistant properties plus their ability to withstand stresses far greater than will be encountered in actual use.

CONTENTS GUIDE MODEL 2101

1 each Model A-2821 Vacuum Regulator with 5/8" Vent and 1" NPT Vacuum Fittings

1 each Model A-2551 (1000 PPD) or A-2552 (2000 PPD) Remote Meter Panel with 1" NPT Vacuum Fittings (For Wall Mounting)

1 each Model A-2920 (1000 PPD) or A-2922 (2000 PPD) Ejector Assembly including Nozzle, Back Pressure Check Valve and 1" NPT Vacuum Fitting

25' VT-3, 5/8" Vent and Vacuum Tubing

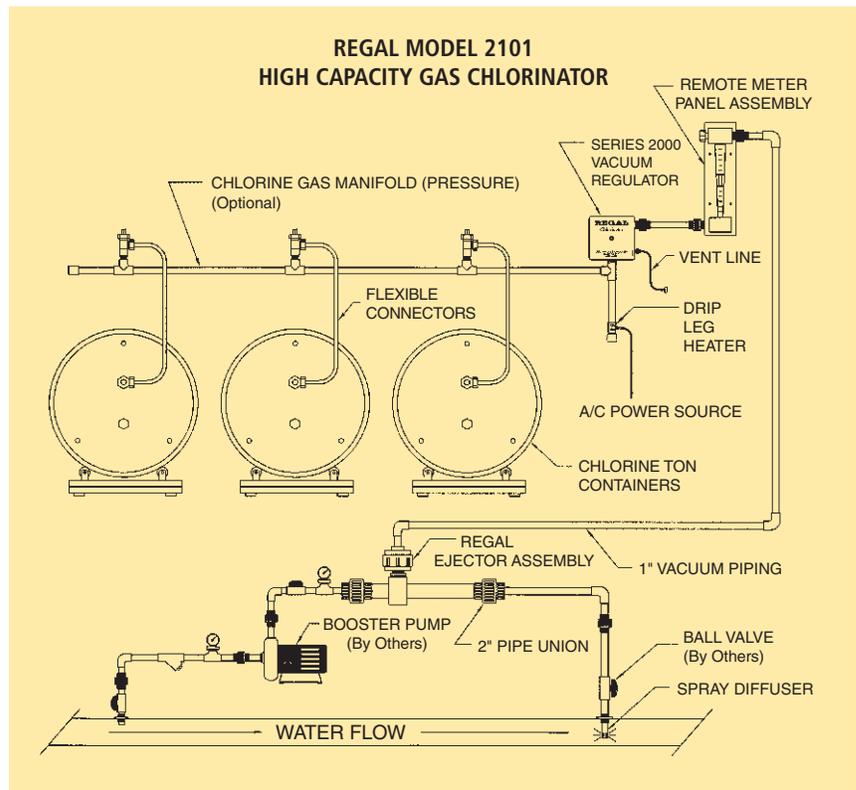
10 each G-201 Lead Cylinder Gaskets

1 each Z-296 Rate Valve Tool

1 each Z-297 Vent Line Bug Screen

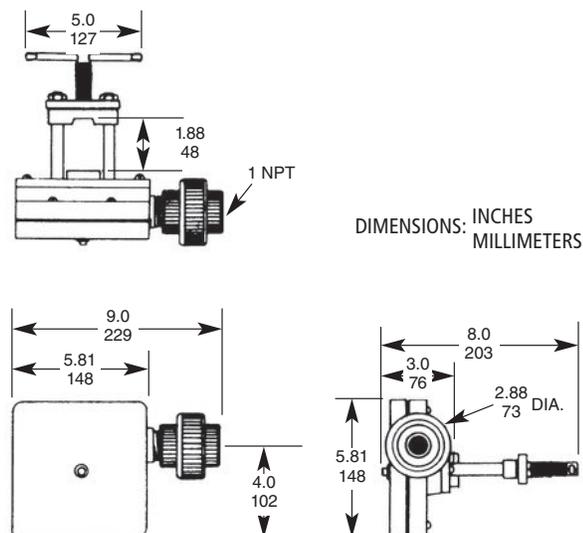
Approximate Shipping Weight: 23 lbs

NOTE: No interconnecting vacuum piping is included.



VACUUM REGULATOR DIMENSIONS

Model 2101
Vacuum Regulator Manifold Mounted
1000/2000 PPD (20/40 Kg/Hr)



DIMENSIONS: INCHES
MILLIMETERS



MODEL 2107

HIGH CAPACITY AUTOMATIC SWITCHOVER GAS CHLORINATOR

The principal use of the REGAL Gas Chlorinator is to chlorinate water, wastewater and industrial process water with gas chlorine. The simple, efficient design has made REGAL Gas Chlorinators the industry standard. Built with heavy duty corrosion resistant parts, REGAL Chlorinators provide safe, long-lasting service.

The REGAL Model 2107 Automatic Switchover Gas Chlorinators are totally vacuum-operated chlorination systems which are designed to automatically switch the chlorine feed from an empty chlorine source to a full chlorine source. It is also designed to provide system-backup. Should a problem develop with either vacuum regulator, chlorination can be continued. The Chlorinators are of the vacuum operated solution feed type, designed for mounting directly on a chlorine manifold header valve. The switchover chlorinators are self-actuating, eliminating the need for a separate switchover module. A separate chlorine gas flowmeter and rate control valve panel may be located wherever it is most convenient for the operator and connected between the vacuum regulator junction at the pressure relief (vent) valve, and the ejector, by means of safe vacuum piping. The ejector assembly contains a back flow check valve. Chlorine gas flow rate is regulated by a spring-opposed diaphragm regulator which is also the automatic safety shut-off valve. Should vacuum be interrupted for any reason anywhere in the system the safety shut-off/inlet valve immediately closes, shutting off the chlorine supply from the pressurized chlorine source. A pressure relief valve designed to "vent" the system also provides a central interconnection point for the vacuum piping.

FEATURES

- Fewer parts, simpler design for less down time, easier maintenance and lower costs, year after year.
- Materials that stand up to ultraviolet degradation and chlorine attack...wet or dry.
- **Limited Warranty for the life of the chlorinator** on vital parts... diaphragm and inlet spring against corrosion.
- Combined O-ring/diaphragm sealing of the front and back body parts helps prevent air leaks into the system and eliminates the need for special tightening tools.
- Inlet safety valve "capsule" allows easy removal with minimal disassembly for inspection or cleaning with no special tools.



ADDITIONAL FEATURES

- System Back-up – Each cylinder's chlorinator has its own vacuum regulating diaphragm and safety/inlet valve insuring that chlorination can be continued if service should be required on either chlorinator.
- Corrosion-resistant, Factory-adjusted Detent Mechanism – Detent does not require any field adjustment assuring that cylinder switchover will occur at the proper time, and that all available gas in supply cylinder will be used.
- In-Use/Stand-by Indication – Prominent indicator on face quickly tells which is the stand-by cylinder and which cylinder is in use.
- Pre-tested/Pre-set – The entire REGAL 2107 Gas Chlorinator is tested as a system at the factory and no field adjustment or calibration is required to place it into operation.

CAPACITIES

Dual scale metering tubes with maximum capacities of 1000 and 2000 pounds per 24 hours of chlorine gas with corresponding metric scales of 20 and 40 kilograms per hour. The minimum feed rate is 1/20th of the maximum for each metering tube.

FLOW RATE ADJUSTMENT

Manual adjustment is by means of a flow rate control valve located at the top of the flow meter/rate valve panel. Flow rate is then regulated by a special spring-loaded, diaphragm-operated valve in the vacuum regulator. The system is automatic. It will turn off and on as the ejector water supply is turned off and on and will return to the preset flow rate.

EJECTOR REQUIREMENTS

Model 2107 Gas Chlorinators are tested to give the best operation in the system being treated. Generally, the amount of water (GPM) required to operate the ejector depends upon the chlorine flow rate, the ejector back pressure, and the ejector water supply pressure which is available. In all cases, the minimum pressure differential and water flow for your installation should be determined prior to installation and start up.

OPERATION

The vacuum regulator is clamped on the header valves of chlorine cylinder or ton container manifolds. The vacuum line is connected from each vacuum regulator unit to the wall mounted, pressure relief (vent) valve, and a single vacuum line connects the outlet of the pressure relief valve to a wall mounted, flow meter/rate valve panel. The ejector assembly is either wall mounted or supported by rigid pipe, and is connected to the flow meter/rate valve panel with a single vacuum line.

OPERATION (continued)

Water, under pressure is forced through the ejector nozzle which creates a strong vacuum in the ejector body. This pulls gas into the ejector through a special back-flow check valve and then into the nozzle outlet. The gas mixes with the ejector water and is discharged through the solution piping into the water being treated.

The ejector vacuum is transmitted through the vacuum line to the rate valve and the flow meter; then through the connector on the pressure relief (vent) valve and on to the back of the operating chlorinator diaphragm. With sufficient vacuum, the diaphragm moves backward, opening the spring loaded inlet regulating valve to allow chlorine to enter from the chlorine source. The chlorine passes through the chlorinator and the flow rate indicating meter/flow rate adjusting valve to the ejector.

When the operating chlorine source starts to run out, the vacuum starts to build up in the system causing the diaphragm of the chlorinator on "stand by" to be drawn back, overcoming a detent mechanism and opening the safety/inlet valve. This allows chlorine gas to be withdrawn from the "stand by" chlorine source to satisfy the increased system vacuum and the vacuum falls back to the operating level. The original chlorine supply also continues to feed until it is empty, virtually assuring that there will be no interruption of chlorination and that full use will be made of all available chlorine. This also reduces the possibility and risk of returning containers with some remaining gas to the supplier.

SPECIFICATIONS

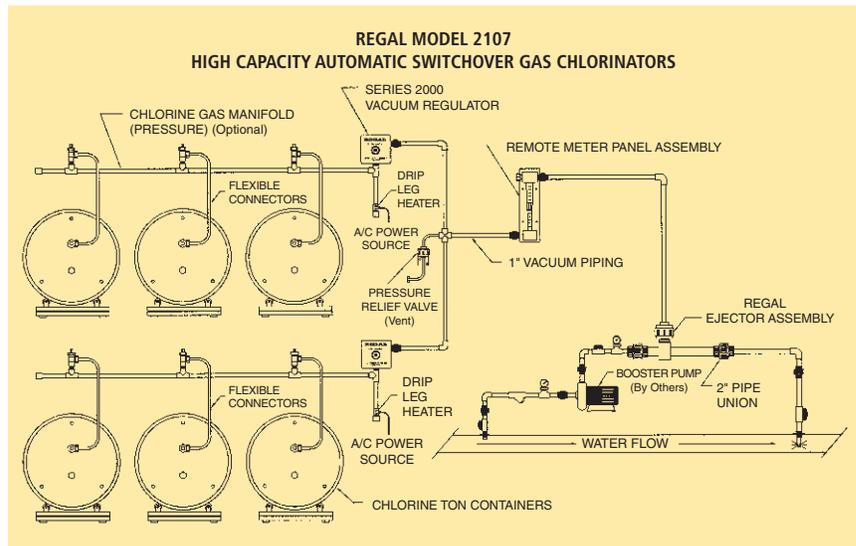
The chlorinator system shall be a vacuum-operated, solution-feed type, and shall automatically switch the chlorine supply from an empty chlorine source to a full chlorine source. It shall be REGAL Model 2107 manufactured by Chlorinators Incorporated, Stuart, Florida, and shall have a maximum capacity of 2000 pounds per 24 hours (40 kg/hr).

The Model 2107 Vacuum Operated Automatic Switchover Gas Chlorinator shall consist of the following components: Two (2) automatic switchover vacuum regulators, one (1) wall mounted pressure relief (vent) valve, one (1) wall mounted chlorine gas flow meter panel with rate valve, and one (1) ejector/check valve assembly. The automatic switchover vacuum regulators shall mount on wall manifold auxiliary header valves by means of a positive yoke type clamp, having an integral tightening screw with slide bar handle. All metallic bolts shall mate with metallic threaded nuts or inserts. Plastic mating threads for metallic bolts shall not be acceptable.

Each chlorinator vacuum regulator shall have its own diaphragm, safety shut-off/inlet valve and switchover detent mechanism, thereby, allowing chlorination to continue should it become necessary to remove either vacuum regulator for service for cleaning or servicing. Switchover detent mechanism, shall be made of corrosion resistant material and shall not require any field adjustment.

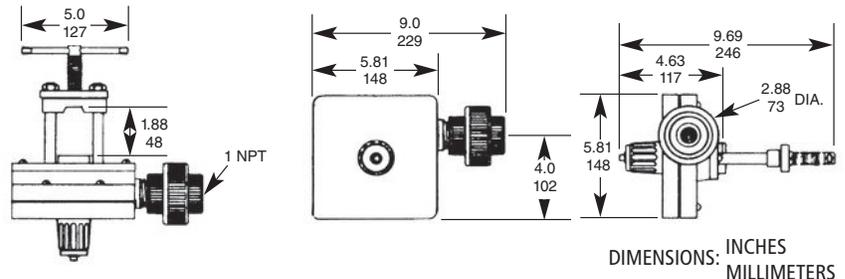
Vacuum shall be completely created by an ejector assembly constructed of corrosion resistant plastic. The assembly shall consist of a fixed throat, orifice type nozzle; also, a spring loaded back check valve to prevent water from entering the gas system.

All materials used in REGAL Gas Chlorinators have been carefully chosen for their excellent corrosion-resistant, ultra-violet resistant properties plus their ability to withstand stresses far greater than will be encountered in actual use.



VACUUM REGULATOR DIMENSIONS

Model 2107
Automatic Switchover Vacuum Regulator Manifold Mounted
1000/2000 PPD (20/40 Kg/Hr)



CONTENTS GUIDE MODEL 2107

2 each Model A-2817 Switchover Vacuum Regulators with 1" NPT Vacuum Fittings Flowmeter and Rate Valve are on Remote Meter Panel

1 each Model A-2551 (1000 PPD) or A-2552 (2000 PPD) Remote Meter Panel with 1" NPT Vacuum Fittings (For Wall Mounting)

1 each Model A-2920 (1000 PPD) or A-2922 (2000 PPD) Ejector Assembly including Nozzle, Back Pressure Check Valve and 1" NPT Vacuum Fitting

1 each Model MS-25 1" SLP Tee with 5/8" Vacuum Tube Fitting for Vent Connection

1 each Model A-300V4 Pressure Relief (Vent) Valve

25' VT-3, 5/8" Vent Tubing

10 each G-201 Lead Cylinder Gaskets

1 each Z-296 Rate Valve Tool

1 each Z-297 Vent Line Bug Screen

Approximate Shipping Weight: 30 lbs

NOTE: No interconnecting vacuum piping is included.

 chlorinators incorporated

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