



GAS SULPHONATOR

Models 710/720/750

Dual scale metering tubes are provided with the following maximum capacities.

Minimum feed rate is 1/20th of maximum

Capacities

Model 710 - 4, 10, 25, 50 or 100 PPD
(75, 200, 500, 900 or 2000 gms/hr)

Model 720 - 250 PPD (5 kg/hr)

Model 750 - 500 PPD (10 kg/hr)

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

The standard ejector is designed to withstand static back pressure up to 200 psig (14.1 g/cm²).

The amount of water required to operate the ejector depends upon the sulphur dioxide feed rate, water back pressure and water supply pressure available. Generally, the higher the sulphur dioxide flow and higher back pressure, the greater the water flow is required.

The principal use of the REGAL Gas Sulphonator is to de-chlorinate water, wastewater and industrial process water with sulfur dioxide. REGAL Sulphonators are based on the same simple, efficient design that has made REGAL Gas Chlorinators the industry standard. Built with heavy duty corrosion-resistant parts, REGAL Sulphonators provide safe, long-lasting service.

The REGAL Sulphonator incorporates the very best available materials with the latest technology in design and construction, to reduce maintenance, simplify construction and improve operation.

Usage is typically a ratio of 1:1 sulfur dioxide to chlorine gas.

The REGAL Gas Sulphonator is a **vacuum-operated**, solution feed type, designed for mounting directly on a sulfur dioxide cylinder valve or for mounting on wall manifold or ton container adaptor, REGAL Model TAY-200. The sulfur dioxide flow rate is manually adjusted and is regulated by a spring opposed diaphragm regulator which also contains the safety shut-off valve. Vacuum is provided by a highly efficient water operated ejector which is close coupled with the sulfur dioxide outlet. The ejector assembly contains a back flow check valve.

Other industry applications include:

- Potable water
- Paper
- Textile
- Industrial



OPERATION

The sulphonator is clamped on the sulfur dioxide cylinder valve. The ejector assembly is attached to the solution outlet at the point of injection. A vacuum line provided connects the ejector to the sulphonator.

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 outlet into the water being treated.

The ejector vacuum is transmitted back to the sulphonator 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 sulfur dioxide to enter from the cylinder.

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

GENERAL SPECIFICATIONS

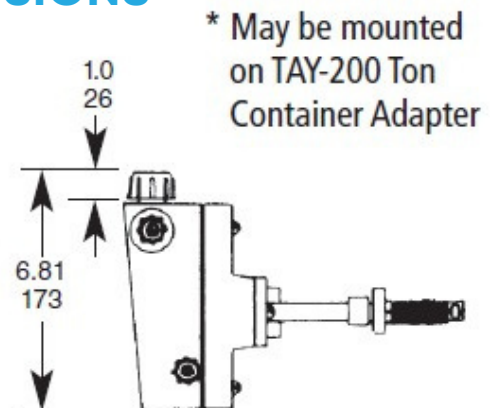
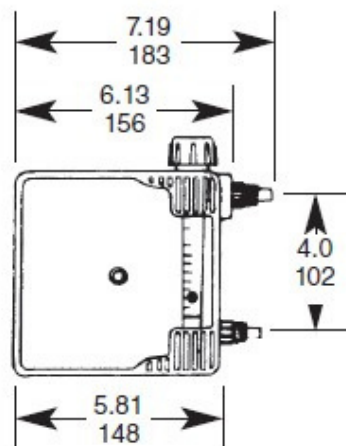
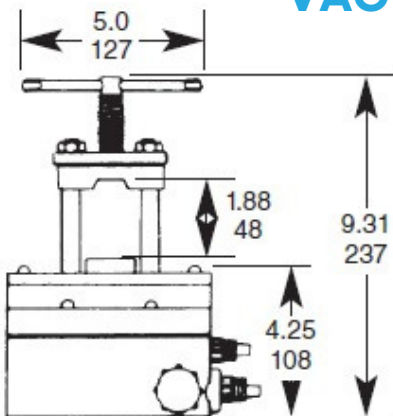
The Sulphonator(s) shall be of the REGAL Model 700 Series manufactured by Regal Systems, Inc. DBA Chlorinators located in Stuart, Florida with capacities ranging from 4 to 500 lbs/24 hours (PPD). It will be a vacuum operated solution feed type and mount directly on the sulfur dioxide cylinder valve by means of a positive yoke type clamp having an integral tightening screw with slide-bar handle.

All metering and flow adjusting shall be incorporated in the sulphonator regulator.

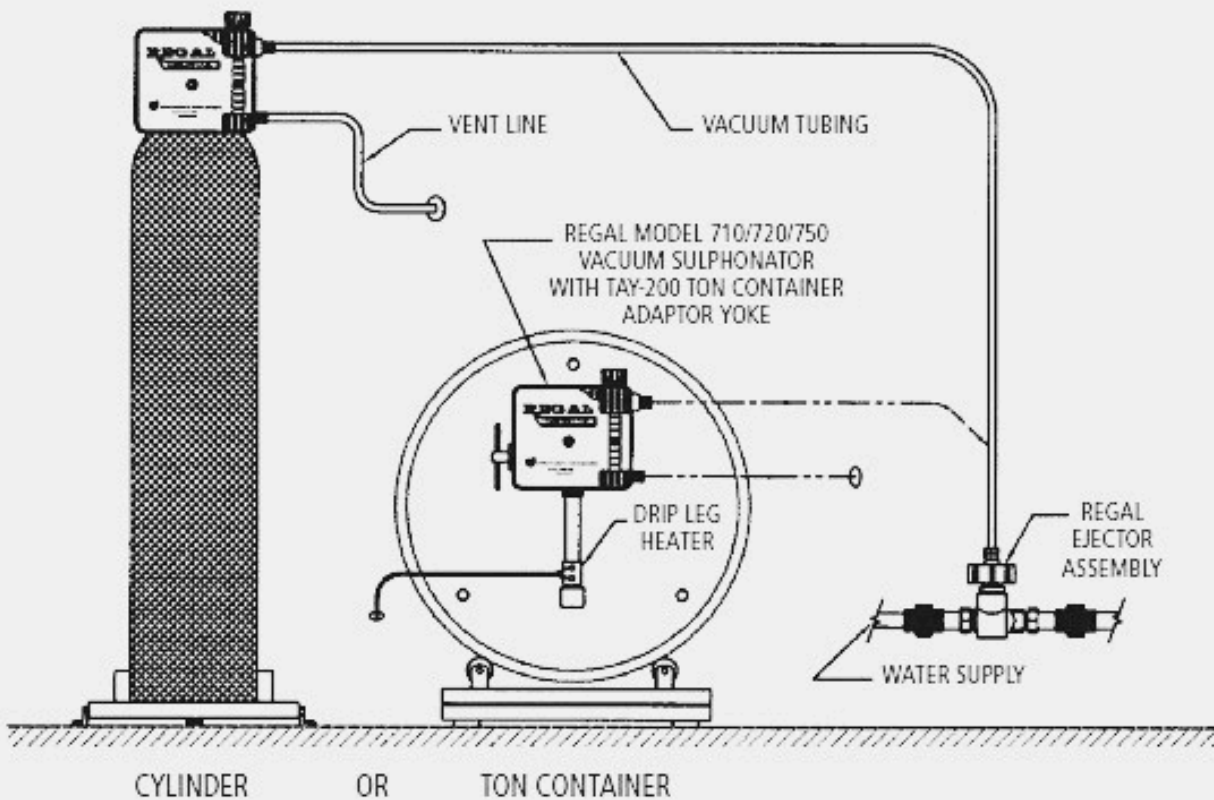
The inlet safety shut-off/vacuum regulating valve shall be of capsulated construction, easily removable as a unit from the outlet side of the yoke for ease of inspection, cleaning or maintenance.

Vacuum shall be created by an ejector assembly connected directly to the sulfur dioxide solution diffuser. The assembly shall consist of a single piece, venturi-recovery throat to prevent misalignment; and a back flow check valve to prevent water from entering the gas system.

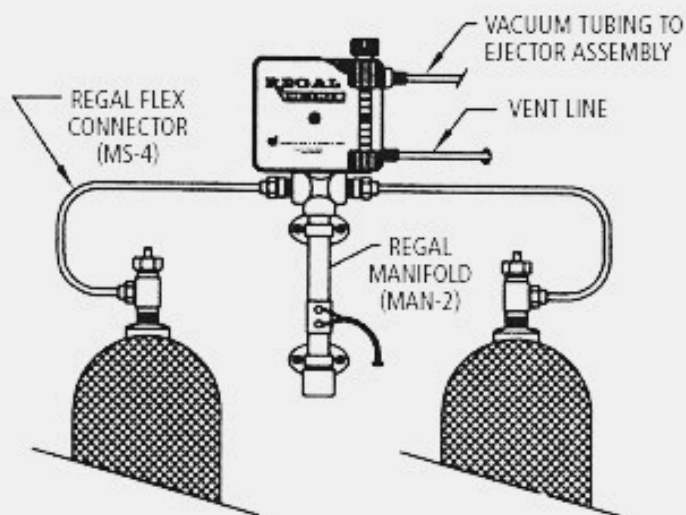
VACUUM REGULATOR DIMENSIONS



REGAL MODEL 710/720/750 SINGLE CYLINDER/TON CONTAINER SULPHONATORS



REGAL MODEL 710/720/750 WALL MOUNTED MANIFOLD SYSTEM



CONTENTS GUIDE

MODEL 710

REGAL GAS SULPHONATOR

Direct Cylinder Mounted, Vacuum Operated

Available Maximum Feed Rates: 4, 10, 25, 50, 100 lbs/24 hrs, (75, 200, 500, 900 gms/hr)

Standard Package and Instructions Includes:

Qty:	Part #	Description
1	A-710	Vacuum Regulator with 3/8" vent and vacuum fittings Assembly Note: Includes (2) ZZ-250 Vacuum Fitting - 3/8" OD Tube x 1/4" NPT
1	A-920-S	Ejector Assembly includes nozzle**, high pressure check valve, and 3/8" vacuum fitting
25 FT	VT-1	3/8" vent and vacuum tubing
10	G-201	Lead cylinder gaskets
1	Z-296	Rate valve tool
1	Z-297	Vent line bug screen

OPTIONAL EJECTORS:

- Low Pressure Ejector **A-921-S**

UPGRADE OPTIONS:

- Fittings and Tubing Size 1/2" or 5/8"

Approximate Shipping Weight: 8 lbs.

MODEL 720

REGAL GAS SULPHONATOR

Direct Cylinder Mounted, Vacuum Operated

Available Maximum Feed Rates: 250 lbs/24 hrs, (5000 gms/hr)

Standard Package and Instructions Includes:

Qty:	Part #	Description
1	A-720	Vacuum Regulator with 1/2" vent and vacuum fittings Assembly Note: Includes (2) ZZ-260 Vacuum Fitting - 1/2" OD Tube x 1/4" NPT
1	A-922-S	Ejector Assembly includes nozzle**, high pressure check valve, and 1/2" vacuum fitting
25 FT	VT-2	1/2" vent and vacuum tubing
10	G-201	Lead cylinder gaskets
1	Z-296	Rate valve tool
1	Z-297	Vent line bug screen

OPTIONAL EJECTORS

WITH 1/2" FITTINGS:

- Low Pressure Ejector **A-923-S**

UPGRADE OPTIONS:

- Fittings and Tubing Size 5/8"

Approximate Shipping Weight: 10 lbs.

MODEL 750

REGAL GAS SULPHONATOR

Direct Cylinder Mounted, Vacuum Operated

Available Maximum Feed Rates: 500 lbs/24 hrs, (10kg/hr)

Standard Package and Instructions Includes:

Qty:	Part #	Description
1	A-750	Vacuum Regulator with 5/8" vent and vacuum fittings Assembly Note: Includes (1) ZZ-270 Vent Fitting - 5/8" OD Tube x 1/4" NPT and (1) ZZ-271 Vacuum Fitting- 5/8" OD Tube x 3/8" NPT
1	A-925-S	Ejector Assembly includes nozzle**, high pressure check valve, and 5/8" vacuum fitting
25 FT	VT-3	5/8" vent and vacuum tubing
10	G-201	Lead cylinder gaskets
1	Z-296	Rate valve tool
1	Z-297	Vent line bug screen

OPTIONAL EJECTORS

WITH 5/8" FITTINGS:

- Low Pressure Ejector **A-926-S**

Approximate Shipping Weight: 10 lbs.