Safe/Reliable/Economical

Chlorinators

Sulphonators

Ammoniators

chlorinators incorporated

Safety is designed and built into the REGAL.

The REGAL gas chlorinator mounts directly onto the cylinder, which is a major safety factor. Also, the design and structure of the REGAL mounting yoke is an additional safety feature.

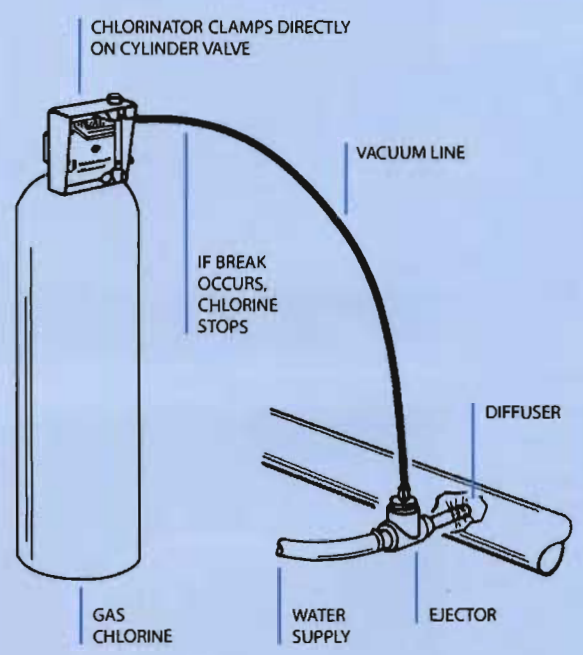
The yoke is built with the heaviest slide bars and tightening bolt in the industry.

Safe

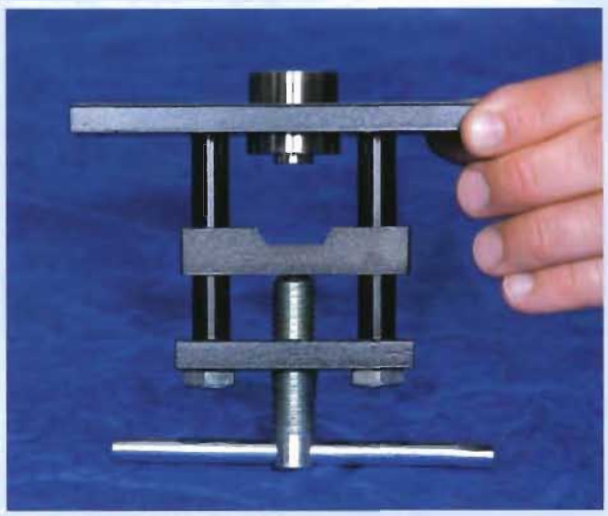
Our convenient, built-in handle makes it easier to mount the regulator to the cylinder while reducing the chance of misaligning the chlorinator's inlet adaptor with the cylinder valve. Unlike competitors that require a wrench to tighten the yoke assembly, this handle also discourages the use of excessive force which could cause gas leaks from either damaging the unit and/or improper sealing of the lead gasket to the cylinder valve.

An innovative, high strength fluoropolymer coating gives the REGAL yoke high resistance to corrosion from either chlorine, sulfur dioxide or ammonia.

REGAL ALL-VACUUM GAS CHLORINATION SYSTEM



Safety starts right at the cylinder valve, with the REGAL heavy-duty vise-type mounting yoke.



Built-in tightening handle

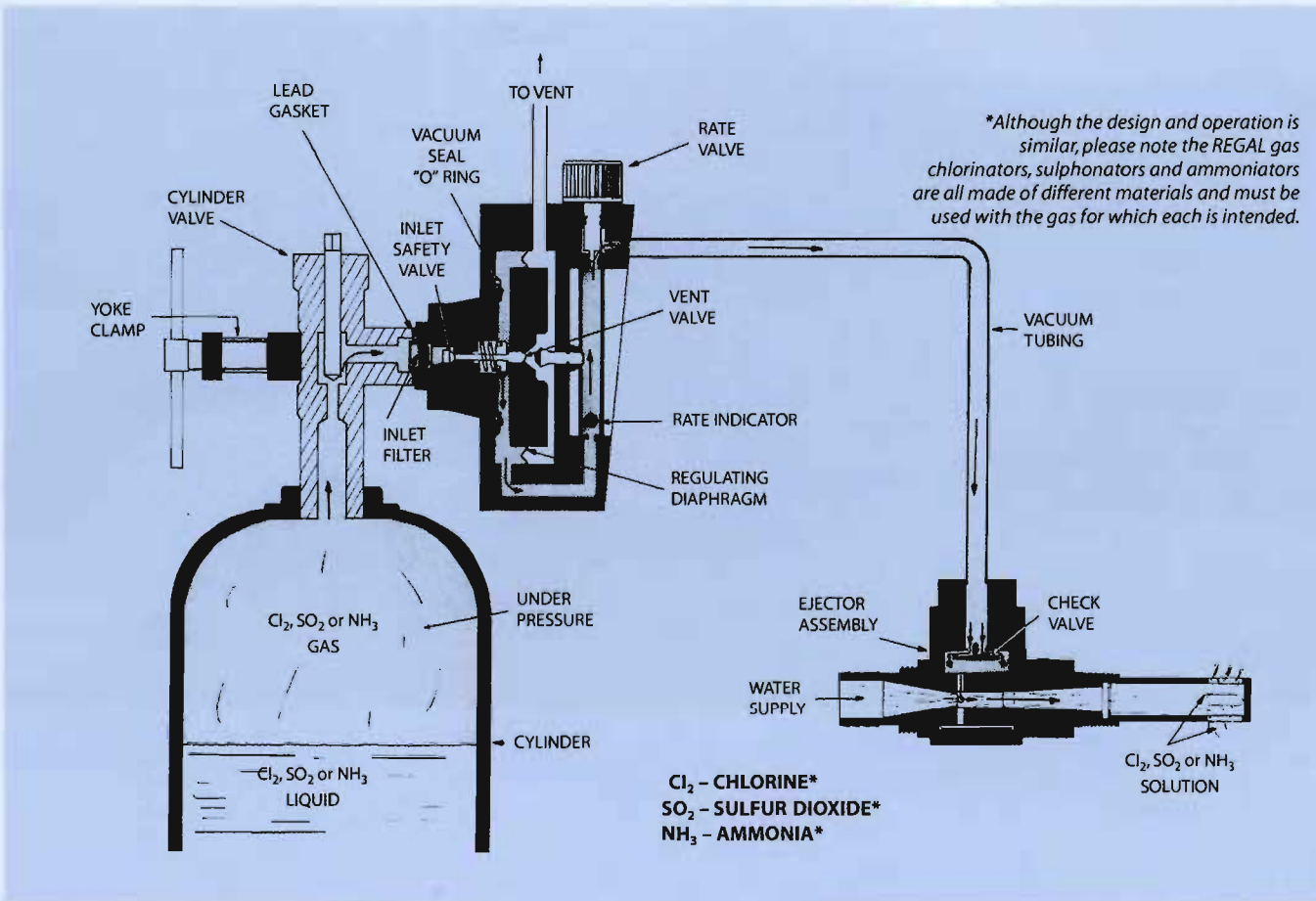
REGAL safety extends throughout the entire all-vacuum system.

Chlorine is never under pressure in the REGAL system. A vacuum – created by water being forced under pressure through the ejector nozzle – pulls on an extremely tough and resilient diaphragm which pushes open a spring-loaded inlet safety shut-off valve. The vacuum draws the gas from the cylinder, through the regulator, then through high-strength vacuum tubing into the ejector. It then mixes with the water that is rushing through the ejector and is diffused into the water being treated.

Every surface the gas touches, from the time it leaves the cylinder until it enters the water, consists of highly advanced, corrosion-resistant materials. There are no **supply** pressure lines, valves, or fittings to break or corrode. Should anything happen to cause a break in any part of the system, air will leak in and the vacuum will be lost. With no vacuum to pull it open, the spring on the inlet safety valve snaps the valve shut, stopping the gas supply immediately and automatically.

An adjustable feed rate valve and feed rate indicator are built into the REGAL, to allow the flow of gas to be manually adjusted and observed.

The **ALL VACUUM REGAL SYSTEMS** virtually eliminate the problems associated with **Pressure Type Manifold Systems.** The safety and reliability of REGAL systems has been proven by years of customer usage worldwide.



*Although the design and operation is similar, please note the REGAL gas chlorinators, sulphonators and ammoniators are all made of different materials and must be used with the gas for which each is intended.

Reliability is also designed and built into the REGAL.

Simplicity is one key to reliability — and the REGAL design is simpler and more efficient than any other comparable unit. It has only 68 parts — up to 60% fewer than competitive units. The design is so simple and logical that very little time is needed for learning how to use and service it. Only a few basic tools are needed for servicing.

Reliable

Another key to reliability is corrosion resistance, and every one of the REGAL's 68 parts is made of materials best suited to handle the gas form of CL_2, SO_2, or NH_3. (Please note: REGAL gas chlorinators, sulphonators and ammoniators are all made of different materials and must be used with the gas for which each is intended). These feeders are designed for gas use only. The liquid form of these chemicals WILL cause damage to system components. Therefore, if liquid chemical does enter the system components, contact the factory immediately.

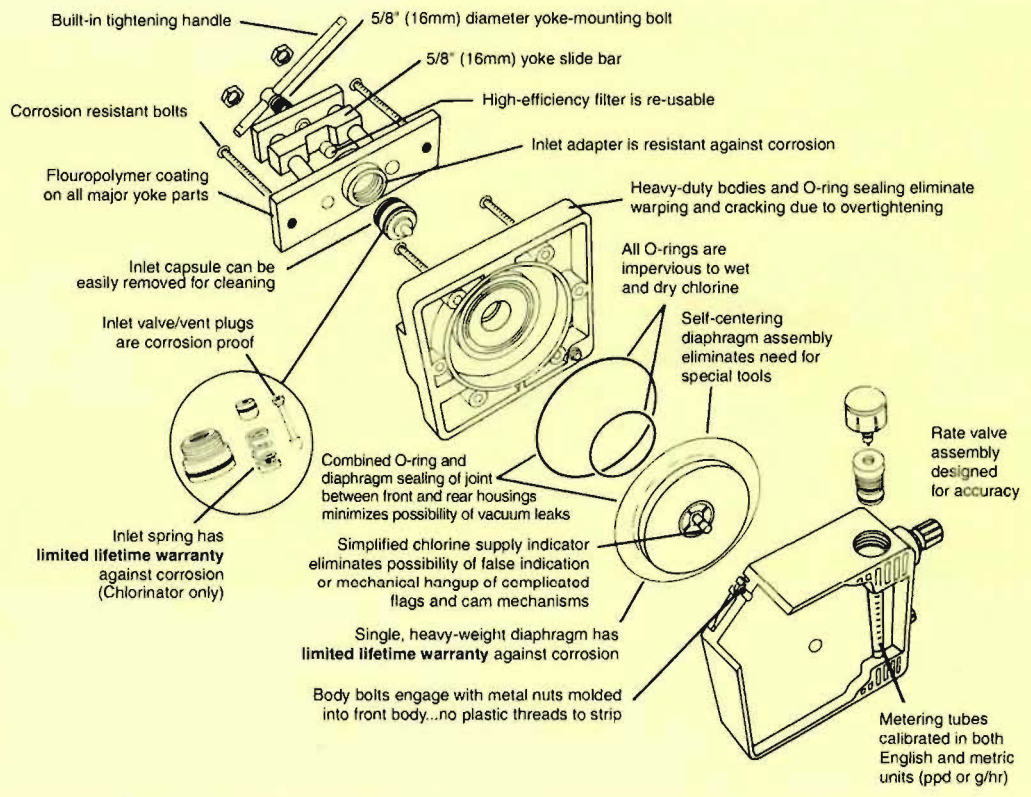
Every REGAL is completely hand-assembled by highly skilled technicians who are responsible for the unit passing inspection before it leaves his or her hands. This involves careful visual inspection at every step of the process and bench testing of the completed unit.

When the assembling technician is completely satisfied with the unit, it is sent to the REGAL testing room, where it must pass a series of stringent tests to ensure its operating performance. These tests are performed against standard, high-efficiency performance curves. When possible, custom applications may also be tested if the customer supplies the necessary data.

THE REGAL INSIDE STORY

REGAL Gas Chlorinators/ Gas Sulphonators are easy to maintain

- **Efficient, simple design**
- **Only 68 parts**
- **Quality materials that stand up to wet and dry chlorine attack**
- **Only screwdriver and pliers needed for servicing**
- **Capacities up to 2000 lbs/day**



The REGAL ejector is another factor in the system's reliability and economy.

The ejector performs three of the system's most vital functions:

- It creates the vacuum that pulls the gas from the cylinder.
- It mixes the chlorine, sulfur dioxide, or ammonia with the water.
- It keeps water from entering the system.

The REGAL ejector consists of four components, all of them made of very strong, special plastic, which enables it to withstand a back-pressure rating of 200 psig. It can be taken apart for cleaning – and put back together – in minutes, with no special tools.

Our nozzle has been designed to produce the highest vacuum at the lowest pressures and water flow rates. A booster pump may be required under certain conditions. Our single-piece nozzle will never misalign and its operating characteristics will never change. Therefore, we can pre-test every one against an optimum performance curve.

A check valve is incorporated into the ejector assembly to prevent water from entering the vacuum tubing when the system is shut-off.

REGAL offers two distinctly different check valves – one for high back pressures, one for low. Both are designed and built for the highest reliability, highest performance and lowest maintenance.

HOW THE EJECTOR PRODUCES A VACUUM

Vacuum is created by water under pressure flowing through a very efficient, constant differential venturi in the nozzle. At the venturi, there is a pressure drop as the molecules of water pass at high speed through the restricted venturi and immediately step back out to a larger unrestricted area. This always forms a vacuum as long as the inlet supply pressure is high enough to overcome the total system backpressure.


LOW PRESSURE EJECTOR

REGAL is the most economical because it lasts longer.

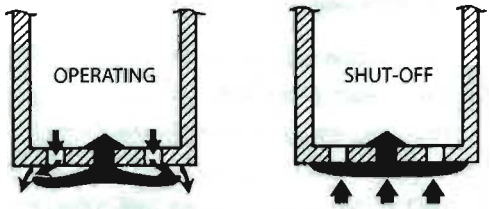
Economical

WHY TWO CHECK VALVES? BECAUSE COMPROMISES DON'T WORK.

High and low back pressures require entirely different kinds of check valves. REGAL gives you both. For high pressures, REGAL offers a single piece check valve that utilizes pressure to close it.

Where back pressure isn't strong enough to close the check valve we've designed a check valve with a closing spring strong enough to give a tight seal, and a diaphragm with large enough surface area to eliminate any friction loss or pressure drop across the check valve.

Both check valves are made of materials highly resistant to chemical attack by both wet and dry chlorine, sulfur dioxide, or ammonia.

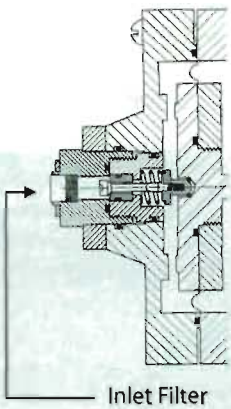


One-Piece Ejector Valve Stops
High-Pressure Wear Problems

OPTIONAL DUAL CHECK VALVE EJECTOR TO 500 PPD.

The REGAL Dual Check Valve Ejector has a ball check valve as the primary check valve backed up by a spring loaded 0-ring/poppet check valve.

Single-Purpose Low-Pressure Valve
Assures Tight Low-Pressure Seal



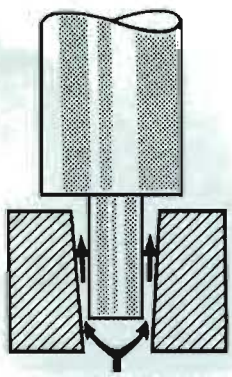
REGAL FILTER CATCHES FINER PARTICLES, SAVES MONEY, TOO.

REGAL uses an innovative corrosion resistant filter that is suitable for chlorine or sulfur dioxide systems. It saves money because it can be cleaned and reused.

RATE VALVE WITH TAPERED OPENING ELIMINATES VALVE SEAT, FOR MORE ACCURATE SETTINGS – AND LONGER LIFE.

The "seat" used in most rate valves is subject to wear, and is frequently damaged, particularly at low feed rates.

By eliminating the seat, and relying instead on a tapered opening to control the flow, we have not only greatly extended the life of the rate valve, but also increased its accuracy. Rates can be set as easily and accurately at the bottom end of the metering tube as at the top, and the maximum feed rate can be changed by merely changing the flow metering tube.

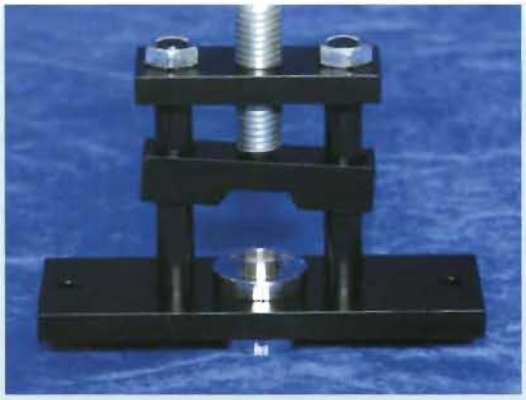


"Seatless" Rate Valve

The diaphragm and the inlet safety shut-off spring are corrosion-proof.

CORROSION-RESISTANT, METALLIC INLET ADAPTER

The inlet adapter is the last point at which the gas is still under pressure and therefore must be made of a material strong enough to handle the pressurized gas without being compromised. The REGAL inlet adapter is made from a special metal alloy that is virtually impervious to attack by dry, wet, or even liquid chlorine and sulfur dioxide under normal circumstances and operating conditions.



SUPER-STRONG DIAPHRAGM

The diaphragm opens the inlet safety valve to allow and maintain a steady flow of gas while the system is in operation. Any damage to the diaphragm – even a tiny crack or pinhole – would prevent it from performing these functions. Therefore, the REGAL diaphragm is made from a highly advanced material that is much thicker and stronger than the competition.

CORROSION-PROOF, HEAVY DUTY INLET SAFETY VALVE SPRING

Particles small enough to get through the REGAL filter do, in time, build up on the inlet safety shutoff valve, valve seat, and spring. These must be cleaned periodically. In competitive units this is a tough, time consuming, and costly job. In the REGAL these components are housed in a capsule that can be removed with just a screwdriver and pliers, taken apart for cleaning, reassembled, and put back in place, both quickly and easily. The heavy duty spring, one of the most critical parts in any gas chlorinator, carries a LIMITED LIFETIME WARRANTY.

We have placed LIMITED LIFETIME WARRANTIES against corrosion on the diaphragm and inlet safety shut-off spring in all REGAL chlorinators and sulphonators.

As a whole, the system and all its components need very little servicing, and are easy to take apart for cleaning.

The same quality, simplicity and ease of maintenance has been developed into ALL models of REGAL standard units, switchover systems and high capacity gas chlorinators.

REGAL Wall-Mounted Chlorinators For Multi-Cylinder Chlorination

When larger reserve and/or feed rate capacities are needed, REGAL offers a choice of wall manifolds interconnecting one or more cylinders/ton containers to vacuum regulator(s).

However, because direct cylinder mounting is one of the basic safety features of the REGAL, manifolding does reduce its inherent safety by adding the hazards associated with pressurized flexible connectors. On that basis, manifolding should be avoided if possible.

REGAL Ton-Container Mounting Adaptor TAY-200

These adaptors make it possible for users with continuous feed rate requirements of 500 ppd or less to benefit from REGAL safety, reliability, and economy, and still benefit from the lower gas costs associated with ton containers.

The REGAL mounts directly on the adaptor, with its positive mounting yoke, and the adaptor is then mounted directly on the ton container – eliminating the need for hazardous, pressurized, flexible connectors while providing greater flexibility in locating the container.

REGAL Series 2000 High Capacity Gas Chlorinators

All the features that have made the REGAL Series 200 low to medium-capacity units the standard of the industry are embodied in the Series 2000 High Capacity Gas Chlorinators.

- They mount directly to the valves of approved gas manifold assemblies.
- They employ the same safe operating principle: chlorine is drawn through the regulator and metering panel by a vacuum created by water being forced under pressure through an ejector nozzle. Chlorine is never under pressure in the system.
- Their simple design uses fewer parts than competitive units; all parts are designed for maximum strength, and are made of corrosion resistant or corrosion proof materials.
- They do not require cabinets, therefore they save space.
- They are quick and easy to service and maintain.
- They can be used in multi-point applications.
- Automatic switchover models are available.

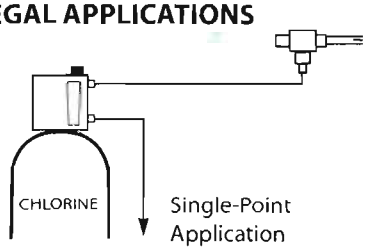
REGAL Series 200 Feed Rates For Chlorine

Gas feed rate capacities: 1.5, 4, 10, 25, 50, 100, 250, or 500 pounds per 24 hours (75, 200, 500, 900, 2000, 5000 gms./hr and 10kg/hr). Each unit may be adjusted to a minimum feed rate equal to 1/20th of its capacity.

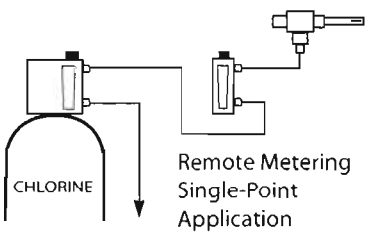
REGAL Series 2000 Feed Rates For Chlorine

Gas feed rate capacities: 1000 or 2000 pounds per 24 hours (20 or 40 kg/hr.) Each unit may be adjusted to a minimum feed rate equal to 1/20th of its capacity.

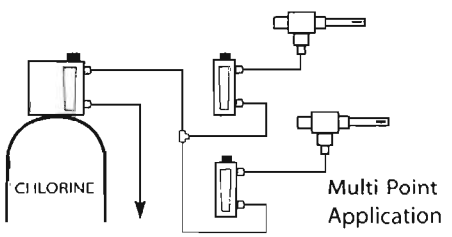
REGAL APPLICATIONS



Single-Point Application



Remote Metering Single-Point Application



Multi Point Application

chlorinators incorporated

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