



# Chemical Injection Technologies

## Product/Specification Bulletin

### SUPERIOR™ TCA-1

## Universal Chlorine Ton Container Adaptor

### GENERAL DESCRIPTION

The SUPERIOR™ TCA-1 Universal Chlorine Ton Container Adaptor is designed to allow virtually any direct cylinder mounted gas chlorinator vacuum regulator to be mounted directly onto the gas outlet valve of a U.S. standard one (1) ton chlorine container.

Unlike direct cylinder mounting, direct ton container mounting often poses a problem of liquid chlorine entering the gas system when first using a newly refilled ton container, as well as having impurities build up in the chlorinator inlet areas. The SUPERIOR™ TCA-1 ton container adaptor eliminates those problems while allowing the gas chlorine user to take advantage of the lower chlorine gas costs associated with ton containers. It also eliminates the use of pressurized flexible connectors and wall manifold mountings.

### FEATURES

**1. UNIVERSAL CHLORINATOR REGULATOR MOUNTING** - The SUPERIOR™ TCA-1 adaptor is designed with a Chlorine Institute approved U.S. standard chlorine valve. Virtually any direct cylinder mounted gas chlorinator vacuum regulator can be mounted onto the TCA-1 chlorine gas outlet valve, and the entire assembly then mounted directly onto the gas outlet valve of a ton container. With the TCA-1, new or previously in-service direct cylinder mounted gas chlorinators do not need any modifications to use chlorine ton containers.

**2. LIQUID CHLORINE DIVERTER/VAPORIZER TRAP** - Liquid chlorine is often trapped in the internal piping of a ton container and can enter the chlorinator system, particularly when the gas valve is first opened. The SUPERIOR™ TCA-1 adaptor contains internal piping that diverts this liquid into the bottom of an expansion pipe which is fitted with an external heater to vaporize any remaining chlorine liquid.

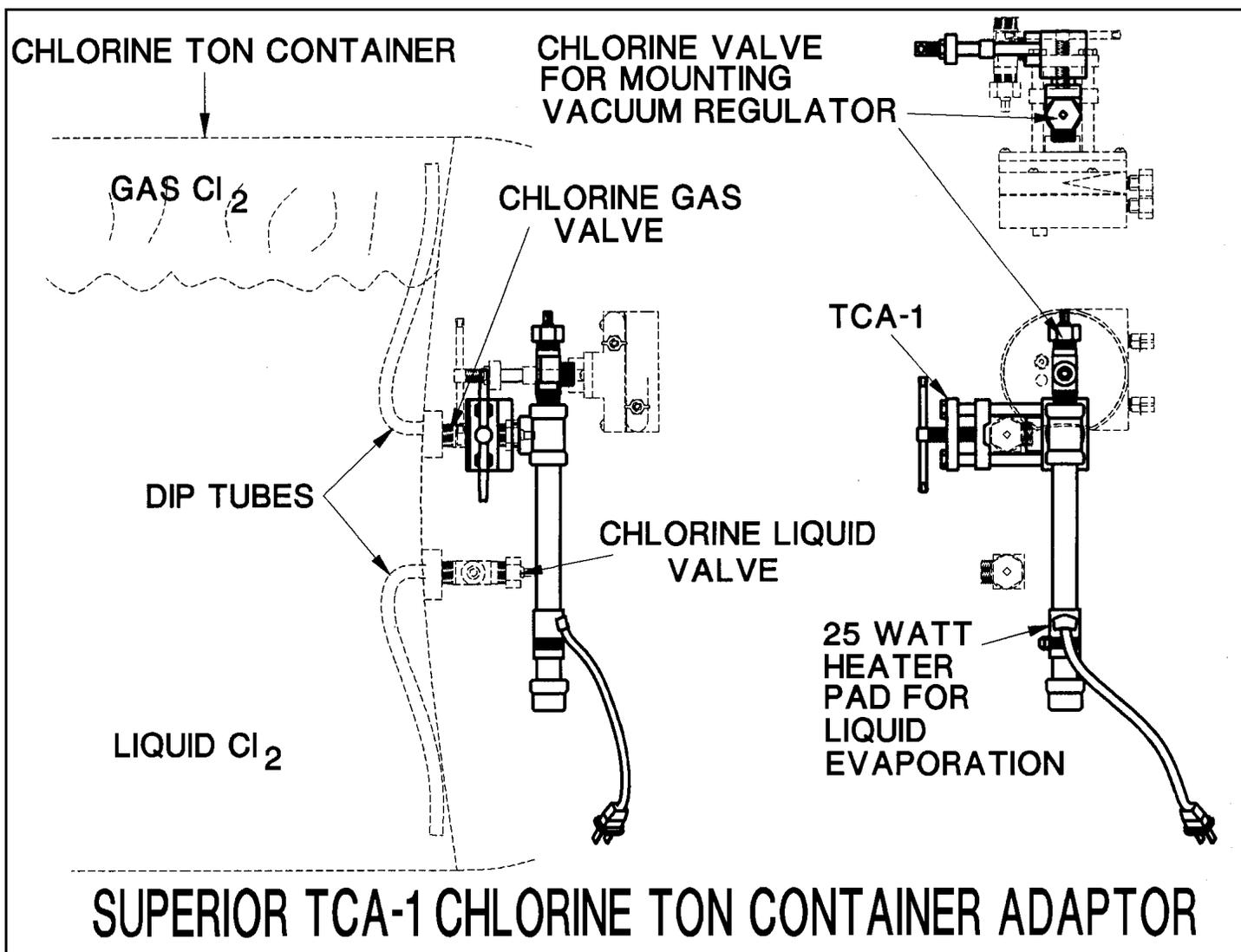
**3. HIGH EFFICIENCY INLET FILTER** - In addition to the problem of liquid chlorine entering the gas system, ton containers also pose a much higher chance for impurities to be introduced into the chlorinator and cause potential operational difficulties. In chlorine cylinders, these impurities are usually retained in the bottom of the cylinder as the liquid boils off the surface and leaves the cylinder as a gas, in much the same manner as a distillation process. But when liquid from the ton container is introduced into the gas piping and evaporates, the residue will build up in the piping or in the chlorinator itself. The SUPERIOR™ TCA-1 incorporates a very high efficiency filter right at the inlet connection between the TCA-1 and the ton container valve. This filter traps all impurities greater than 25 microns. The filter is easily removable from the inlet and can be cleaned and reused, or replaced.

**4. SUPER THICK HEAVY DUTY PLASTIC COATING PREVENTS CORROSION** - The TCA-1 is totally encased in a bonded plastic protective coating that is about 1/16" thick. Chlorine gas cannot penetrate this coating to cause corrosion of the underlying metal. This is the thickest coating used in the gas chlorinator industry.



### MOUNTING AND INSTALLATION

A direct cylinder mounted chlorinator vacuum regulator is mounted onto the auxiliary chlorine gas valve of the TCA-1 adaptor using the regulator's own cylinder mounting yoke and a lead gasket. The TCA-1 and the vacuum regulator then become an integral assembly for mounting directly on the gas outlet valve (top valve) of a chlorine ton container. It is not necessary to remove the vacuum regulator from the TCA-1 unless service or maintenance is required. The TCA-1 and regulator are then mounted onto the ton container valve using the adaptor's high strength yoke assembly. The adaptor inlet is specially designed to ensure easy alignment with the ton container valve outlet.



## SPECIFICATIONS

The gas chlorinator ton container adaptor shall be a SUPERIOR™ model TCA-1 direct mounting chlorine ton container adaptor manufactured by Chemical Injection Technologies, Incorporated, Fort Pierce, Florida, USA.

The ton container adaptor shall be designed to mount directly onto the gas outlet valve of the ton container by means of a positive yoke type clamp. The yoke clamp shall have an integral tightening screw with slide bar handle. The adaptor shall contain an auxiliary chlorine valve which shall permit the mounting of a standard direct cylinder mounted chlorinator vacuum regulator.

The adaptor shall contain a high efficiency inlet filter which shall be capable of trapping all impurities greater than 25 microns in diameter. The filter shall be chemically inert to the effects of all forms of chlorine, and shall be capable of easy removal, cleaning and reuse.

The adaptor shall also contain internal piping to divert liquid chlorine into the bottom of a vaporization and expansion chamber. The vaporization chamber shall contain an externally mounted 25 watt heater to vaporize any liquid which may enter the chamber.

A plastic coating of 0.025" minimum thickness shall cover all external steel surfaces for corrosion protection.

MAXIMUM CAPACITY: 500 pounds per 24 hours (10 Kg/Hr)

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