

**Jupiter
Type 4
Tube
Owner's
Manual**



Forward

Thank you for purchasing a Cimarron Composites Type 4 Tube.

The content of this manual contains information for the use of Cimarron Gas Tubes. Please read this manual completely before operating and filling the tube. Please keep this manual for future reference.

Cimarron's tube can only be serviced by trained personnel who have read and understand this manual.

This manual contains pertinent information as well as Cautions and Notices that must be followed to reduce the risk of personal injury during operation. Improper operation procedures may damage components or compromise the structural integrity of the tube. These Cautions and Notices are not all inclusive. Cimarron Composites, LLC cannot possibly warn of all the potentially hazardous consequences caused by a failure to follow these instructions.

If you need further information or have any questions, please contact:

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Table of Contents

REGULATORY INFORMATION	4
OPERATION AND SAFETY INFORMATION	4
GAS SERVICE	4
PRESSURE RELIEF DEVICES AND VALVES	5
REVISION HISTORY	6

Regulatory Information

For regulatory purposes a compressed gas is defined by the ICC as "... any material or mixture having in the container either an absolute pressure exceeding 40 pounds per square inch at 70°F, or an absolute pressure exceeding 104 pounds per square inch at 130°F, or both; or any liquid flammable material having a Reid vapor pressure exceeding 40 pounds per square inch absolute at 100°F." (See §700 of ICC Regulations.)

This tube was designed and tested in accordance with ISO 11515 which specifies the minimum requirements for the design, construction and performance testing of composite reinforced tubes between 450 liters and 3,000 liters water capacity, for transport, storage and use of compressed or liquefied gases with test pressure up to and including 1,600 bar with a design life of at least 15 years. The expected service temperatures are between -40°C and +65°C.

Composite tubes can be used alone or in batteries to equip trailers or skids (ISO modules) or multiple element gas containers (MEGC) for the transportation and distribution of gases. This International Standard does not include consideration of any additional stresses that can occur during service or transport, (e.g. torsional / bending stresses). However it is important that the stresses associated with mounting the tube are considered by the assembly manufacturer and the tube manufacturer.

Cylinders must not be charged except by the owner or with the owner's consent, and only in accordance with the Regulations of the Interstate Commerce Commission.

Operation and Safety Information

This Type IV cylinder is designed to contain 549-2276 liters and operate at 3625psi (250 bar). It can be used to transport compressed or liquefied gases with expected service temperatures between -40 °C to +65°C. Type IV cylinders are not intended to contain toxic, oxidizing or corrosive gases.

Avoid dragging or sliding cylinders. It is safer to move cylinders even short distances by using a suitable lifting fixture. Protect cylinders from any object that will produce a cut or other abrasion in the surface of the overwrap.

Damage to overwrap is acceptable if width of cut is 1mm or less, with a depth of less than 5 mm, and a length of no more than 123 mm.

Suitable pressure regulating devices must be used in all cases where gas is admitted to systems having pressure rating limitations lower than the cylinder pressure. (See Pressure Relief Devices and Valves)

Do not store tubes near highly flammable solvents, combustible waste material and similar substances, or near unprotected electrical connections, gas flames or other sources of ignition.

Never force connections that do not fit. The external boss thread is a 4-3/4"-8UN-2A and is intended for mounting purposes. The internal boss thread is a 3-1/4"-8UN-2B and is intended to mate with the user's fluid connection.

Gas Service

Clearly mark each tube with the compressed gas contents of that tube.

This tube was tested in accordance with ISO 11515 such that the tube does not have a dedicated gas service, however, type 4 tubes manufactured and tested to ISO 11515 are not intended to contain toxic, oxidizing or corrosive gases.

This tube is not recommended for use in the storage and transport of oxygen.

Pressure Relief Devices and Valves

While this tube is not sold with a pressure relief device, when selecting valves and pressure relief devices, make sure you include the following considerations in addition to the operation and usage requirements of the tube design.

Pressure relief devices must operate as designed in order to perform their required task. Different types of problems can prevent normal operation:

- The inlet piping connected to the device must not be smaller in diameter than the inlet opening of the device. An inlet pipe that is smaller than the device inlet opening could alter the operating characteristics for which the device was designed.
- The discharge piping connected to the device must be no smaller than the discharge opening of the device. A discharge pipe that is smaller than the device discharge opening could cause pressure to develop on the discharge side of the device while operating.
- Multiple devices discharging into a discharge manifold or header is a common practice. The discharge manifold or header must be sized so the cross-sectional area is equal to or greater than the sum of the discharge cross-sectional areas of all the devices connected to the discharge manifold or header. Failing this requirement, the devices would be subjected to pressure on the discharge side of the device while operating. Even a small amount of pressure here could adversely affect the operation of the device.
- Constant leakage of the device can cause a build-up of scale or other solids around the discharge opening. This build-up can prevent the device from operating as designed.
- Discharge piping connected to the device must be supported so as not to impart any loadings on the body of the device. These loadings could affect or prevent the proper operation of the device including proper re-closure after operating.
- Drain holes in the device body and discharge piping, when applicable, must be open to allow drainage of liquids from over the device disk on spring loaded valves. Any liquid allowed to remain on top of the device disk can adversely affect the operating characteristics of the device.

PRD recommendation: Emcara LT162-192 or equivalent

NOTE: Before final selection of PRD it is recommended that you consult local jurisdiction.

Revision History

Revision A – 2/6/17 Initial Release

Revision B – 10/19/17 Updated: Regulatory Information, Operation and Safety Information, Pressure Relief Devices and Valves

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