



**P O R T E R**

## **Instruction Manual Medical Preset Regulators And Preset Regulators**

### **CAUTION:**

Always close inlet valves before disconnecting the downstream appliances. Preset Regulators are designed to deliver gas when inlet pressure is supplied to the regulator.

### **IMPORTANT:**

For your own safety, make sure that each operator reads and understand these instructions. Failure to follow these instructions can result in serious personal injury.

### **Description**

#### **Medical Preset Regulators**

Note: Each type of regulator is designed and built for specific gases and for definite inlet pressures and delivery pressure settings.

Medical regulators reduce the source pressure of a cylinder, manifold or pipe line to the desired working pressure. A constant delivery pressure is maintained with varying inlet pressure. Two stage models have two pressure reduction stages in a common body. The first stage reduces pressure approximately 90% and is preset at the factory.

*Inlet connections are to <sup>1</sup>CGA Standard V-1, outlet fittings are to <sup>2</sup>CGA Standard V-5.*

All models have an inlet pressure gauge and a sintered metal filter in the inlet that filters out particles larger than 10 microns. All models are equipped with relief valves to protect the regulator from excess pressure. This is not intended to be a protective device for the downstream system.

#### **Preset Regulators**

Preset regulators have a non-adjustable delivery pressure, calibrated at the factory. Medical Preset Regulators are usually set for a delivery pressure of 50 PSIG (pounds per square inch gauge).

This is the fixed inlet pressure, for the downstream appliances, which are equipped with flow indicators.

Compressed Gas Association

1235 Jefferson-Davis Hwy, Arlington, VA 22202

<sup>1</sup>CGA Standard V-1 "Compressed Gas Cylinder Valve Inlet"

<sup>2</sup>CGA Standard V-5 "Diameter Indexed Safety System"

## **Safety Instructions**

1. Handle cylinder with care. Chain or otherwise secure cylinders to a permanent fixture. Take care when moving. To transport cylinders (except when in cylinder carts), remove regulators and replace with valve cap. Never use any cylinder in other than an upright position.
2. Do not oil or grease equipment. The equipment does not require lubrication. Oil or grease is easily ignited and burns violently in the presence of oxygen.
3. "Crack" cylinder valve before installing regulator. Open valve slightly and then close. This will clear valve of dust or dirt that may be carried to the regulator and cause damage or accident. Do not discharge flow of gas at any person or flammable material.
4. Be sure all connections are tight. Don't force connections. Never test for leaks with a flame. Use a soapy water solution and check for bubbles.
5. Use recommended pressure settings. Improper pressures are wasteful. Extreme pressure build-up in regulators is a warning they need repair.
6. Do not work with damaged or leaking equipment. Use soapy water when checking for leaks. Do not use frayed or damaged hose or tubing.
7. Handle equipment with care. Its continued good service and your safety depend on it.
8. Keep work area well ventilated. Flammable materials burn violently in an oxygen atmosphere. Flames and glowing materials (tobacco smoking) must be avoided.
9. Do not force connections and threads. The differences are intentional for the various gases.

## **Set-Up Instructions**

1. Secure gas cylinder in a vertical position; valve end up.
2. Remove cylinder valve cap.
3. Open cylinder valve momentarily to blow out any dust and dirt. Do not discharge flow of gas at any person, flames or flammable material.
4. Attach regulator to cylinder using proper CGA connection or pin-indexed yoke.
5. Properly connect appliance to outlet connection of regulator.
6. Slowly open cylinder valve until it is fully open.
7. Tests for gas leakage should be made at this time. Use a soapy water solution at all connections and check for bubbles. Tighten connections as required and wipe off soap solution.

## **Functional Test of Regulator**

1. Preset Regulator. Close the downstream valve.
2. Close the cylinder valve.
3. The cylinder pressure gauge should read full pressure. Any pressure drop will indicate leakage in the system. If leakage is found in the regulator, remove from service.

## Shut Down

1. Close supply valve and bleed down system. The flow and pressure gauges will drop to zero.
2. Preset Regulator. Close the downstream valve when changing cylinders or regulators.

## Maintenance Instructions

1. Gauge, orifice and regulator are sized for each other. Only original equipment parts should be used in replacement, making sure they match.
2. Inspect and test after each use.
3. Inspect for damaged connectors. Replace them.
4. If leaks or defects are found in the regulator, have it repaired by an individual qualified to do so.
5. Use thread sealants that are compatible with oxygen.
6. Sterilization shall be done in a manner that is compatible with all materials in the regulator.
7. Suggested Reference 3CGA Pamphlet G4.1 "Cleaning Equipment for Oxygen Service."

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## Repair

Have only qualified repairmen service, test and clean the equipment.



### CAUTION

**BE SURE TO USE TWO WRENCHES when tightening or removing hoses from the gas fittings.**

**Caution:** Make certain hoses are not crimped. Always use two wrenches when tightening, to assure that the connectors are not loosened.



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