

# OPERATING AND MAINTENANCE MANUAL

## CLICK STYLE AND MINI CLICK STYLE GAS REGULATORS



**CE**  
0413

### Models Included:

GR4-870	GR4-540	GRM4-870	GRM4-540
GR8-870	GR8-540	GRM8-870	GRM8-540
GR15-870	GR15-540	GRM15-870	GRM15-540
GR25-870	GR25-540	GRM25-870	GRM25-540

CAUTION: Federal (USA) law restricts this device to sale by or on the order of a physician.

THIS DEVICE IS CLEANED FOR OXYGEN SERVICE IN ACCORDANCE WITH CGA PAMPHLET G.4.1.

## **IMPORTANT: SAFETY INSTRUCTIONS**

***READ AND UNDERSTAND ALL THE SAFETY AND OPERATING INSTRUCTIONS CONTAINED IN THIS BOOKLET.***

***IF YOU DO NOT UNDERSTAND THESE INSTRUCTIONS, OR HAVE ANY QUESTIONS, CONTACT YOUR SUPERVISOR, DEALER OR THE MANUFACTURER BEFORE ATTEMPTING TO USE THE APPARATUS.***

**⚠ WARNING:** Indicates a potentially hazardous situation, if not avoided, could result in death or serious injury.

**ATTENTION:** Indicates a potentially hazardous situation, if not avoided, could result in minor or moderate injury.

**CAUTION:** Indicates a potentially hazardous situation, which, if not avoided could result in property damage.

***IT IS VERY IMPORTANT TO ALLOW PRODUCT TO REMAIN IN ORIGINAL PACKAGING FOR 24 HOURS TO ACCLIMATIZE TO ROOM TEMPERATURE BEFORE USE***

- DO NOT attempt to operate this device unless you are properly trained in its use or are supervised by someone educated on the proper use of the apparatus. DO NOT use this device on patients who have stopped breathing without using proper resuscitation equipment.
- On its own, Oxygen is not flammable. However, all material that burn in air will burn much quicker with Oxygen present. **OIL AND/OR GREASE BECOME HIGHLY COMBUSTIBLE WHEN OXYGEN IS PRESENT. USE NO OIL OR GREASE OR ANY OTHER PETROLEUM-BASED FLAMMABLE SUBSTANCE ON OR AROUND OXYGEN EQUIPMENT.**
- DO NOT allow Oxygen or Oxygen equipment to be exposed to fire, heat, sparks, electrical switches or other possible sources of ignition. DO NOT store oxygen equipment or use at temperature of less than 0° F or more than 120° F.
- DO NOT USE THE OXYGEN REGULATOR IF OIL OR GREASE IS PRESENT OR IF REGULATOR IS DAMAGED. Take the regulator to a qualified repair technician for cleaning and/or repairing before use. Inspect the regulator inlet filter in the inlet connection and verify that it is clean. If it appears dirty, take it to a qualified repair technician for replacement.
- Inspect the cylinder valve and regulator thoroughly for dust, oil and grease. Wipe dusty parts with a damp cloth. **DO NOT USE THE CYLINDER IF OIL OR GREASE IS PRESENT.** Inform your gas supplier of this condition immediately.
- Clean the external surfaces of the regulator with a damp cloth. If more cleaning is required, return the regulator to your dealer. **DO NOT SUBMERSE THE REGULATOR IN WATER!**
- Train personnel who use and transport oxygen therapy equipment in the proper handling of cylinders and other related equipment (Ref. CGA Pamphlet G-4 "Oxygen").
- NEVER alter the regulator in any way.
- This regulator is equipped with a relief valve. If you hear a hissing or popping sound coming from the regulator, close the cylinder valve or gas inlet and contact your dealer. The regulator relief valve is not designed to protect any downstream device or apparatus.
- Inspect the gas cylinder valve for leaks before putting it into service. If a leak is found around the cylinder valve stem, close the valve, place the cylinder outdoors in a safe area and inform your gas supplier immediately.
- Secure gas cylinders to a wall, post or cart with cylinder valves up. DO NOT allow cylinders to tip or fall. Never allow the temperature of the cylinder contents to exceed 120° F. DO NOT store cylinders near sources of heat or flame.
- NO SMOKING - Remove matches, cigarettes, lighters and lighter fluids from the patient and from the oxygen therapy area before administering oxygen. Remove other flammable materials from the area.
- Make sure that the person installing or using the cylinder, regulator and other oxygen apparatus has clean hands that are free of hand lotions, vaseline, hair spray or any other similar products.
- Keep cylinder valve closed at all times when the cylinder is not in use.
- If practical, keep a spare cylinder of oxygen available.

- When not attached to a cylinder, store the regulator in its original container in a clean protected storage area free from grease, oils, dirt, lint and other sources of contamination.
- If the pressure relief valve on the underside of the regulator begins to vent oxygen, turn off the system and remove the unit, then it can be serviced.

### **Regulator Description**

1. Swivel Yoke (used on small D and E size cylinders). This connection must have a sealing washer.
2. Nut and Swivel. There is no sealing washer used with this connection. Tighten this fitting to the larger cylinder valves with a wrench.

### **Specifications**

<b>FLOW RANGE</b>	<b>ACCURACY</b>
0-1 LPM	+/- 20% from 0-1 LPM
1.5-25 LPM	+/- 10% above 1 LPM

*Inlet pressure range 3000 PSI maximum. Preset 55 PSI +/-5 PSI*

### **Connecting The Regulator To A Cylinder**

1. Chain or secure the cylinder to a wall, stand or cart. Remove the protective dust cover from the cylinder valve. Keep this cover and reinstall it on the cylinder valve if the regulator is removed and the cylinder is to be used again.
2. Purge the cylinder valve of foreign materials by opening and closing it. See your oxygen cylinder dealer for more detailed information.
3.
  - a. If the regulator has a yoke type inlet connection, be sure that sealing washer is in place on the regulator yoke connection. Place the two pins on the regulator yoke into the matching holes on the cylinder valve. Be sure that the pointed end of T-handle fits into the small round recess on the opposite side of the valve. Hand tighten the T-handle.
  - b. If the regulator has a CGA 540 connection, install the end swivel on the cylinder valve and with a wrench.

### **Setup For Use**

1. Be sure the regulator is in the “OFF” position by rotating the knob counterclockwise to the “0” position.
2. Stand so that the cylinder valve is between you and the regulator.

**⚠WARNING:** Never stand in front or behind a regulator when opening the cylinder valve. Always stand so that the cylinder is between you and the regulator.

3. Open the cylinder valve very SLOWLY, about one full turn counter clockwise.
4. If you detect a hissing sound, there is a leak in the system. Turn the cylinder off and turn the regulator on. This will relieve any built up pressure. Try tightening the regulator to the cylinder and opening the cylinder again. If this does not help, shut the system down again and contact a service representative.
5. Adjust the flow rate setting by turning the knob clockwise until the desired setting shows through the window.

**⚠WARNING:** NEVER try to remove the regulator unless the cylinder is off and pressure has been relieved.

**⚠WARNING:** At any time the regulator, cylinder or other apparatus does not operate in its usual or normal manner, stop using the apparatus and notify your dealer immediately.

***FLOW RATES ARE NOT ACCURATE WHEN A BACK-PRESSURE OF MORE THAN 2 PSIG EXISTS DOWNSTREAM OF THE REGULATOR.***

## **Closing The Regulator**

1. When you have finished using oxygen, close the system by turning the cylinder valve clockwise to the “OFF” position.

**CAUTION:** Oxygen will continue to flow from the outlet orifice assembly until the cylinder valve is closed (Reference CGA Pamphlet P-14, “Accident Prevention in Oxygen Rich and Oxygen Deficient Atmospheres”). It is very important to always close the cylinder valve after using.

## **Removing The Regulator From A Cylinder**

1. Close the cylinder valve.
2. Wait for the oxygen to flow out of the regulator, then turn the knob to the “OFF” position
3. Remove the regulator from the cylinder by loosening the T-handle or removing the inlet nut.
4. When not attached to a cylinder, store the regulator in its original container in a clean protected area free from grease, oil and other contamination.

### **WARRANTY**

Amvex Corporation warrants its Medical Secondary Equipment to be free from defects in material and workmanship for a period of Five (5) years from the date of shipment. Within the first twelve (12) months from date of shipment Amvex will repair or replace any part which is proven to be defective at Amvex’s cost. After the first twelve (12) months, Amvex will send the parts to the customer free of charge, but the shipping and installation will be borne by the Customer.

This warranty is valid only when the product has been properly installed according to Amvex specifications, used in a normal manner and serviced according to factory recommendations. It does not cover failures due to damage which occurs in shipments or failures which resulted from accidents, misuse, abuse, neglect, mishandling, alteration, misapplication or damage that may be attributable to acts of God.

**AMVEX CORPORATION DOES NOT HONOR VERBAL STATEMENTS CONCERNING THE WARRANTY.**

The distributor and/or dealer are not sanctioned to create verbal warranties about the product described in this agreement. Any statements will not be honored or be made part of the agreement of sale. This document is the final, complete and exclusive terms of the agreement.

**THIS WARRANTY IS EXCLUSIVE AND REPLACES ALL OTHER WARRANTIES.**

Amvex Corporation shall not, under any circumstances, be liable for incidental or consequential damages including, but not limited to, profit loss, loss of sales or injuries to person(s) or property. Correction of non-compliances as noted above will result in completion of all liabilities of Amvex Corporation whether based on agreement, neglect or otherwise. Amvex Corporation reserves the right to stop manufacturing any product or change materials, designs or specifications without notice.

All claims for warranty must first be approved by Amvex’s Service Department: (support@amvex.com or 905-764-7736). A valid Return Goods Authorization (RGA) number must be obtained from Amvex prior to commencement of any warranty claim.

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