

# OPERATING AND MAINTENANCE MANUAL

## - CLICK STYLE GAS REGULATORS -



### GR25-870VX-TPP (with optional power take-off) and GR15-870C

*Basic matrix shown. Consult the Amvex Catalogue for full matrix or contact your Amvex representative.  
The product package label contains your product identifier and description.*

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RX ONLY



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## IMPORTANT: SAFETY INSTRUCTIONS

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This manual provides you with important information about the Gas Regulator and should be read carefully to ensure the safe and proper use of this product.

Read and understand all the safety and operating instructions contained in this booklet before using this product.

If you do not understand these instructions, or have any questions, contact your supervisor, dealer or the manufacturer before attempting to use the apparatus.

<b>WARNING:</b>	Indicates a potentially hazardous situation, which if not avoided, could result in death or serious injury
<b>ATTENTION:</b>	Indicates a potentially hazardous situation, which if not avoided, could result in minor or moderate injury
<b>CAUTION:</b>	Indicates a potentially hazardous situation, which if not avoided, could result in damage to the device or other property
	Consult operating manual
	Use no oil

## RECEIVING INSPECTION

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Remove product from package and inspect for damage. Verify that the model received is in working order. If product is damaged or incorrect, do not use. Contact your dealer, equipment provider or manufacturer.

**ATTENTION:** It is very important to allow product to remain in original packaging for 24 hours to acclimatize to room temperature before use.

## USER RESPONSIBILITY

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**WARNING:** Service of this device should only be performed by properly trained individuals.

This product performs as explained in this manual. This holds true as long as the assembly, use and maintenance are properly followed according to our instructions. Periodic review of this device is recommended. If any damage or defects are present, the product should not be used. This includes parts that may have been altered, contaminated, worn or missing. If any of the above are noted, immediate repair/replacement is required. If this device is subject to

improper maintenance, repair, use and/or abuse leading to malfunction of the device, replacement is the sole responsibility of the user.

**WARNING:** 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 (REF. CGA Pamphlet G-4 "Oxygen").

**WARNING:** DO NOT use this device on patients who have stopped breathing without using proper resuscitation equipment.

### **TO MINIMIZE THE RISK OF EXPLOSION OR FIRE:**

- Make sure that the person installing or using the cylinder, Gas Regulator and other oxygen apparatus has clean hands that are free of hand lotions, petroleum based product, hair spray or any other similar products.
- Inspect the cylinder valve and Gas Regulator thoroughly for dust, oil and grease. **DO NOT USE THE CYLINDER IF OIL OR GREASE OR ANY OTHER PETROLEUM-BASED FLAMMABLE SUBSTANCE IS PRESENT.** Inform your gas supplier of this condition immediately.
- **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 or use oxygen equipment at temperatures of less than 0°F (-17°C) or more than 120°F (48°C)
- **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.
- **DO NOT** allow cylinders to tip or fall. Never allow the temperature of the cylinder contents to exceed 120°F (48°C). **DO NOT** store cylinders near sources of heat or flame

## **INTENDED USE**

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The Amvex Click Style Gas Regulator is used to control the gas pressure of medical compressed gas accurately under the direction of a healthcare professional. The Gas Regulators are available for Yoke style and CGA. The units are machined brass finished with an anodized aluminum body. The Amvex Click Style Gas Regulators are available in 0-25 LPM.

## **SPECIFICATIONS**

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### **Gas Regulator Description**

1. Swivel Yoke (used on small D and E size cylinders). This connection must have a sealing washer.

Part Number	Flow Range	Accuracy
GR25-870VX-TPP	0 - 1 LPM	+/- 20% from 0-1 LPM
	1.5 - 25 LPM	+/- 15% above 1 LPM
GR15-870C	0 - 1 LPM	+/- 20%
	1.5 - 15 LPM	+/- 15%

*Inlet pressure max 3000 PSI maximum. Preset 50 PSI +/- 10 PSI*

## OPERATING INSTRUCTIONS

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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.

### 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 Gas 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 Gas Regulator has a yoke type inlet connection, be sure that sealing washer is in place on the Gas Regulator yoke connection. Place the two pins on the Gas 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.

**ATTENTION:** Sealing washers should be checked for damage or contamination before each use. If either is visible, replace immediately. It is recommended that a new seal be used each time the cylinder is changed.

**ATTENTION:** Fittings attached to auxiliary ports are factory set to ensure proper flow. If user attaches additional fittings to the auxiliary port, care must be taken to ensure factory setting is maintained, by holding factory fittings in place with a wrench to keep it from rotating. Flow should be verified whenever changes are made.

### Setup For Use

1. Be sure the Gas 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 Gas Regulator .

**WARNING:** Never stand in front or behind a Gas Regulator when opening the cylinder valve. Always stand so that the cylinder is between you and the Gas 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 Gas Regulator on. This will relieve any built up pressure. Try tightening the Gas 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 Gas Regulator unless the cylinder is off and pressure has been relieved.

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

**WARNING:** There is no flow between increments.

**ATTENTION:** Flow rates are not accurate when a back-pressure of more than 2 PSIG exists downstream of the Gas 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 Gas Regulator , then turn the knob to the "OFF" position
3. Remove the Gas Regulator from the cylinder by loosening the T-handle or removing the inlet nut.
4. When not attached to a cylinder, store the Gas Regulator in its original container in a clean protected area free from grease, oil and other contamination.
5. Amvex recommends replacing the sealing washer when the Gas Regulator is mounted to a different cylinder.

## CLEANING INSTRUCTIONS

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Clean the external surfaces of the Gas Regulator with a damp cloth. If more cleaning is required, return the Gas Regulator to your dealer.

**CAUTION:** DO NOT submerge the Gas Regulator in any form of liquid. This will cause damage and void any warranty on the product.

## TROUBLESHOOTING

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Contact your dealer or the technical support department at Amvex Corporation for assistance if the Gas Regulator does not function.

## PREVENTATIVE MAINTENANCE

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Inspect the product before and after use for any damage and ease of operation. Test product by following the operating instructions and verify that they meet the specifications located in this manual. To test the flow accuracy, you will need another flowmeter.

**ATTENTION:** 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 relieve valve is not designed to protect any downstream device or apparatus.

**CAUTION:** Disconnect Flowmeter from gas supply BEFORE SERVICING.

### WARRANTY

Amvex LLC 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 LLC will repair or replace any part which is proven to be defective at Amvex's cost. After the first Twelve (12) months, Amvex LLC 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 occurring in shipments or failures resulting from accidents, misuse, abuse, neglect, mishandling, alteration, misapplication or damage that may be attributable to acts of God.

AMVEX LLC 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 LLC 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 LLC whether based on agreement, neglect or otherwise. Amvex LLC 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 Repair Department:

(customerservice.ca@ohiomedical.com or 905-764-7736). A valid Return Goods Authorization (RGA) number must be obtained from Amvex prior to commencement of any warranty claim.

Authorized Representative  
in the European Union:

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