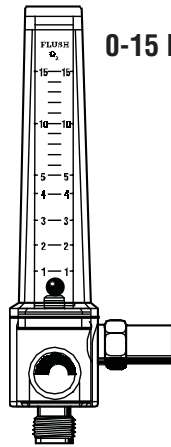


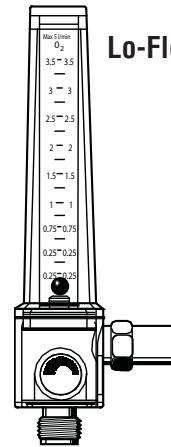


Pressure Compensated Flowmeter

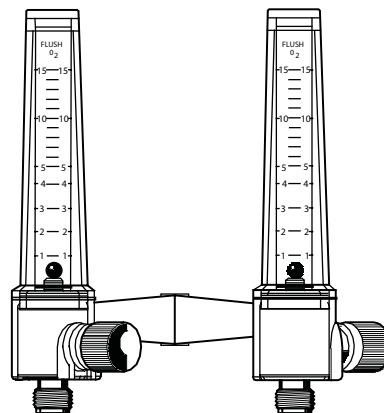
Instructions for Use



0-15 L/MIN



Lo-Flo 0-3.5 L/MIN



User Responsibility

This Product will perform in conformity with the description thereof contained in this operating manual and accompanying labels and/or inserts, when assembled, operated, maintained and repaired in accordance with the instructions provided. This Product must be checked periodically. A defective Product should not be used. Parts that are broken, missing, plainly worn, distorted or contaminated should be replaced immediately. Should such repair or replacement become necessary, Ohio Medical recommends that a telephone or written request for service advice be made to the nearest Ohio Medical Regional Service Center. This Product or any of its parts should not be repaired other than in accordance with written instructions provided by Ohio Medical and by Ohio Medical trained personnel. The Product must not be altered without the prior written approval of Ohio Medical's Quality Assurance Department. The user of this Product shall have the sole responsibility for any malfunction which results from improper use, faulty maintenance, improper repair, damage, or alteration by anyone other than Ohio Medical.

Ohio Medical products have unit serial numbers with coded logic which indicates a product group code, the year of manufacture and a sequential unit number for identification.

AAA A 12345



This alpha character indicates the year of product manufacture and when the serial number was assigned; "Y" = 1995, "Z" = 1996, "A" = 1997, etc. "I" and "O" are not used.

Precautions

Warnings - possible injury to patient or operator

- WARNING** ⚠ **Never use any petroleum based lubricants in an Oxygen environment, as these materials are highly combustible in the presence of Oxygen. The only Oxygen service lubricants recommended for this equipment are Sentinel OPG (6700-0067-200) or Vac-Kote 37951M (0220-0091-300).**
- ⚠ **Do not use a flowmeter with any cracked or damaged plastic components, gas leaks, loose fittings or knobs, or any missing components. Supply gas pressure can cause parts to be expelled and injury may occur.**
- ⚠ **The flowmeter is only intended for the gas specified on the label. Do not use the flowmeter with any other gasses. Inaccurate flow indications and patient injury may occur.**
- ⚠ **The Pre-Use Checkout Procedure must be performed before using this equipment on each patient. If the flowmeter fails any part of the Pre-Use Checkout Procedure, it must be removed from service and repaired by qualified service personnel.**
- ⚠ **After patient use, respiratory therapy equipment may be contaminated. Handle in accordance with your hospital's infection control policy.**
- ⚠ **Following sterilization with ethylene oxide, parts should be quarantined in a well ventilated area to allow dissipation of residual ethylene oxide gas absorbed by the material. Follow sterilizer manufacturer's recommendations for specific aeration periods required.**

Precautions

- ⚠ **Clean and sterilize all respiratory therapy equipment before shipment to ensure transportation personnel and service personnel are not exposed to any hazardous contamination.**
- ⚠ **On models with a power outlet, the supply pressure at the flowmeter will decrease during periods of high flow from the power outlet. This will cause a decrease in flowmeter accuracy. The actual flow from the flowmeter outlet will be lower than indicated.**
- ⚠ **The only acceptable method of sterilization is with ethylene oxide. Routine cleaning with certain disinfectants or liquid sterilizing agents may cause deterioration and cracking of the plastic components, ultimately leading to equipment failure and possible patient or operator injury.**
- ⚠ **The Lo-Flo 3.5 flowmeter is not to be used on patients requiring more than 3.5 l/min oxygen.**
- ⚠ **The Lo-Flo 3.5 flowmeter is not for resuscitation. 5 l/min max.**
- ⚠ **The flowmeter is calibrated using the gas supply pressure shown on the product at a temperature of 21°C (70°F). Varying pressure, temperature or both will reduce accuracy.**
- ⚠ **When changing probes or connectors for service replacement, make sure never to mix adapters of different gases or vacuum. Cross connection can result in serious patient injury or damage to the equipment.**
- ⚠ **After changing probes or connectors for service replacement, verify that there are no leaks.**
- ⚠ **Prior to any servicing, disconnect the flowmeter from the gas supply.**

Caution - possible damage to equipment

- CAUTION**
- ⚠ **Do not use excessive force when closing the flow control knob. This may cause a decrease in valve life.**
 - ⚠ **Do not steam autoclave or liquid sterilize the flowmeter. Severe impairment to the operation of the flowmeter will result. The only acceptable method of sterilization is with gas (ethylene oxide).**
 - ⚠ **Only competent individuals trained in the repair of this equipment should attempt to service it.**
 - ⚠ **Detailed information for more extensive repairs is included in the service manual solely for the convenience of users having proper knowledge, tools and test equipment, and for service representatives trained by Ohio Medical.**

Precautions

Definitions

MAX

= Maximum



= Do not use petroleum based lubricants on this equipment



= Read scale at the ball center line for l/min

FLUSH

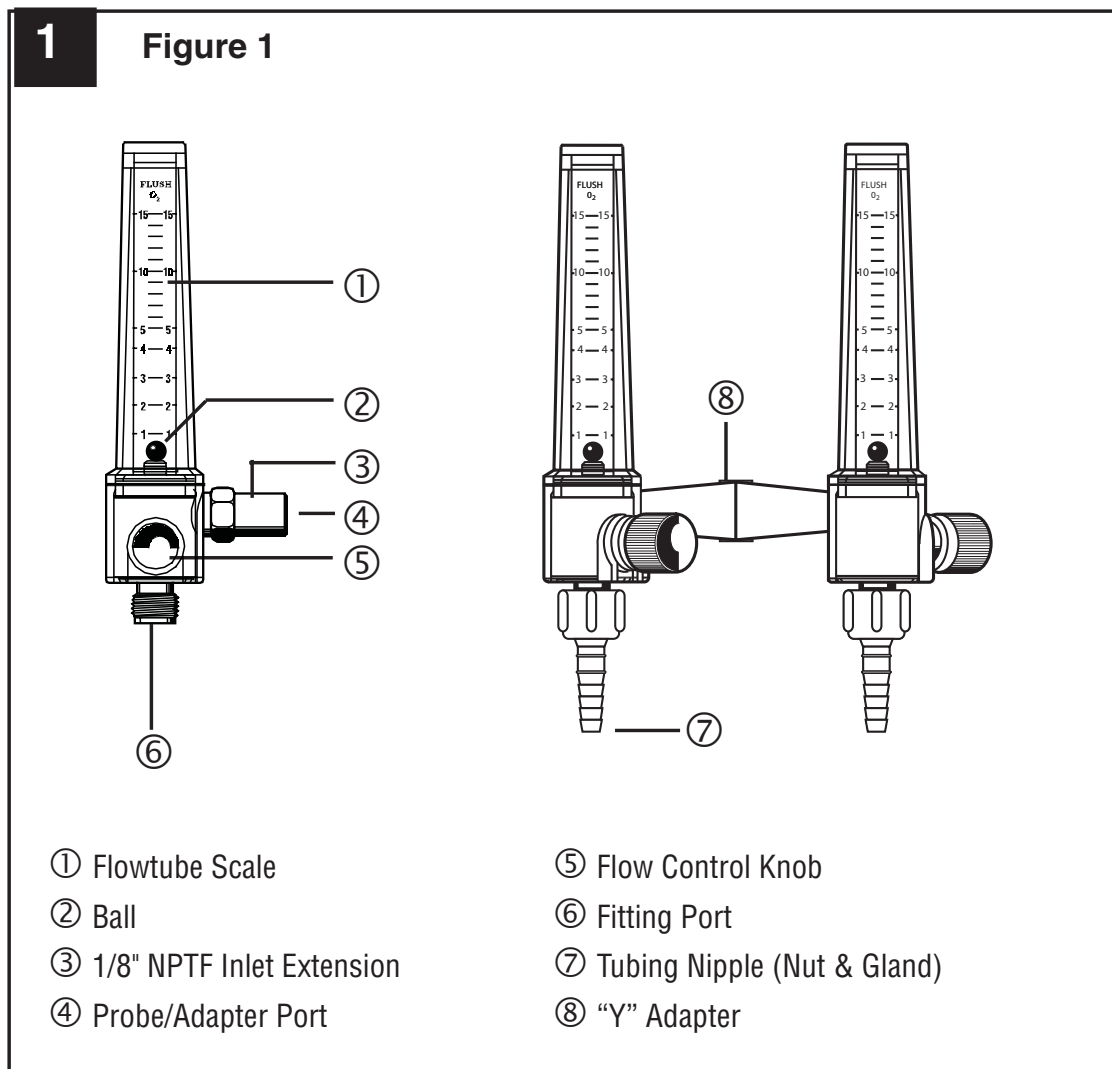
= > 15 - 90 l/min



=  European Union Representative

Operation

Pressure Compensated Flowmeter



Operation

Environmental Specifications

Storage temperature range: -20°C (-4°F) to +60°C (+140°F)

Equipment Setup

Connect the Pressure Compensated Flowmeter inlet adapter to an appropriate oxygen or air gas supply depending on model, at 4 Bar (60 Psig) or 3.4 Bar (50 Psig), as shown on the label. The 0 - 15 l/min flowmeter is factory calibrated to be accurate to $\pm 1/4$ l/min or $\pm 10\%$ of reading (whichever is greater) at 70°F (21°C) and 4 bar supply pressure. The Lo-Flo 3.5 model is calibrated to be accurate to $\pm 1/8$ l/min between 0.25 and 3.5 l/min.

Operating flowmeters at extreme temperatures (approaching 0 or 40C) may cause an additional error of up to 15% of the indicated flow.

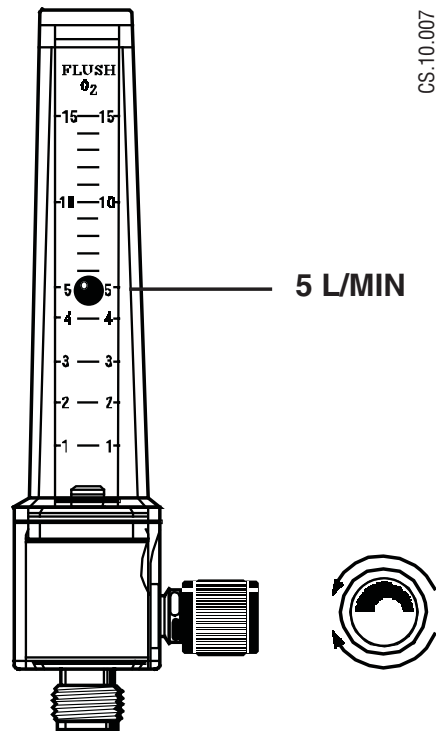
Ensure the flowmeter is securely attached to or locked into the gas outlet. The flowmeter must be positioned vertically to ensure maximum accuracy.

Setting the Flow Rate

2

Figure 2

1. Rotate the flow control knob anti-clockwise to increase flow or clockwise to decrease flow. Flow rate in liters per minute is indicated by aligning the CENTER of the ball with the scale increments on the flowtube. Flow rates on the Twin Pressure Compensated Flowmeter are adjusted independently.
2. Flow rate may change with a change in downstream resistance (backpressure at the therapy device). This change may be compensated for, without accuracy loss, by simply re-adjusting the flow rate.



Operation

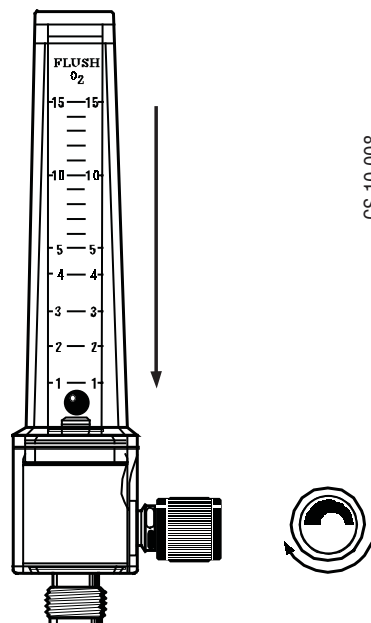
Pre-Use Checkout Procedure

The Pre-Use Checkout Procedure must be performed before using this equipment on each patient. Do not connect the flowmeter to the therapy device until this procedure is completed. All tests must be performed with the appropriate gas supply depending on model. There should be no leaks.

3

Figure 3

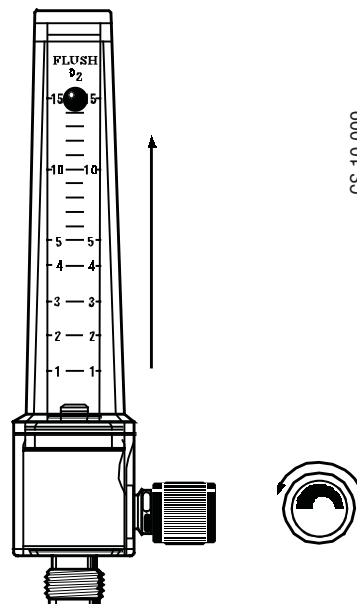
1. Rotate the flow control knob clockwise (decrease) to shut off the flow. The ball should rest at the bottom of the flow tube and not move.



4

Figure 4

2. Rotate the flow control knob anti-clockwise (increase). The ball should rise immediately after rotation is begun, and rise smoothly and steadily with continued anti-clockwise rotation of the flow control knob. When a desired flow is set, the ball should maintain a steady position.
3. Rotate the flow control knob anti-clockwise (increase) until the ball reaches the top of the flowtube. Continue to rotate flow control knob anti-clockwise (increase). With the 0 - 15 l/min model, listen for and feel a large increase in delivered gas flow. With the Lo-Flo 3.5 model, there should be little change in sound and feel when the flow control knob is fully opened.
4. Rotate the flow control knob clockwise (decrease) to shut off the flow



Operation

5. Power Outlet models only:

Attach an appropriate high-pressure hose to the power outlet fitting. Gas must flow freely through the hose.

Remove the hose. Gas flow must stop and there should be no leaks.

Patient Setup

1. If not previously done, connect the Pressure Compensated Flowmeter adapter to the appropriate gas supply.
2. Make sure the Pre-Use Checkout Procedure has been performed.
3. Attach a therapy device or a tubing nipple to the fitting port of the flowmeter. Attach connective tubing.
4. Power Outlet models only:
If an accessory device is required, first connect a high-pressure hose to the therapy device. Connect the high-pressure hose to the power outlet fitting. Gas will escape momentarily while the connection is made.
5. Check all connections for leaks and tighten them securely if required.
6. Rotate the flow control knob until the CENTER of the ball aligns with the desired flow rate on the flowtube.
7. Follow hospital protocol for therapy administration.

Troubleshooting

If the flowmeter does not operate and you have performed the Pre-Use Checkout Procedure, the following procedures may be used to correct the problem:

Problem	Possible Cause	Remedy
No gas flow is being delivered not made	Gas supply depleted	Replenish gas supply
	Adapter connection	Reconnect adapter
	Supply or gas outlet obstructed	Clear obstruction
	Outlet fitting obstructed	Replace fitting
Flow will off	Flow Control Knob rotated anti-clockwise (increase)	Rotate Flow Control Knob CW (decrease) to shut off flow
Inaccurate or flow indications	Improper supply pressure, gas, or temperature	Correct gas supply unstable conditions
	Non-vertical position	Mount vertically
static buildup	Leaks, sticking ball, Manual	Refer to Service

Important: If above action does not correct the problem or other problems exist, refer servicing to qualified service personnel.

Cleaning and Sterilization

The flowmeter may be externally cleaned using a solution of water and a mild detergent.

- WARNING** ⚠ **After patient use, respiratory therapy equipment may be contaminated. Handle in accordance with your hospital's infection control policy.**
- ⚠ **Following sterilization with ethylene oxide, parts should be quarantined in a well ventilated area to allow dissipation of residual ethylene oxide gas absorbed by the material. Follow sterilizer manufacturer's recommendations for specific aeration periods required.**
- ⚠ **The only acceptable method of sterilization is with ethylene oxide. Routine cleaning with certain disinfectants or liquid sterilizing agents may cause deterioration and cracking of the plastic components, ultimately leading to equipment failure and possible patient or operator injury.**

CAUTION ⚠ Do not steam autoclave or liquid sterilize the flowmeter. Severe impairment to the operation of the flowmeter will result. The only acceptable method of sterilization is with gas (ethylene oxide).

1. The flowmeter should only be sterilized if it is contaminated or maintenance is to be performed. Sterilization is not recommended as a standard procedure after each use.
2. The only acceptable method of sterilization is with ethylene oxide. Ethylene oxide mixtures can be used at temperatures of 52 - 57°C (125 - 135°F). If this temperature cannot be obtained, room temperature sterilization with 100% ethylene oxide can also be used.
3. The flowmeter should be sterilized with the flow control knob turned fully anti-clockwise (Increase).
4. After each sterilization check the operation of the flowmeter by performing the Pre-Use Checkout Procedures.

Warranty

Ohio Medical's Authorized Dealers as new merchandise and are extended to the first Buyer thereof, other than for purpose of resale.

For a period of thirty-six (36) months from the date of original delivery to Buyer, to Buyer's order, or to an Ohio Medical Authorized Dealer, this product, other than its expendable parts, is warranted to be free from functional defects in materials and workmanship and to conform to the description of the product contained in the service manual and accompanying labels and/or inserts, provided that the same is properly operated under conditions of normal use, that regular periodic maintenance and service is performed and that replacements and repairs are made in accordance with the instructions provided. This same warranty is made for a period of ninety (90) days with respect to the expendable parts. The foregoing warranties shall not apply if the product has been repaired other than by Ohio Medical or in accordance with written instructions provided by Ohio Medical, or altered by anyone other than Ohio Medical, or if the product has been subject to abuse, misuse, negligence, or accident.

Ohio Medical's sole and exclusive obligation and Buyer's sole and exclusive remedy under the above warranties is limited to repairing or replacing, free of charge, at Ohio Medical's option, a product, which is telephonically reported to the nearest Ohio Medical Regional Service Office and which, if so advised by Ohio Medical, is thereafter returned with a statement of the observed deficiency, not later than seven (7) days after the expiration date of the applicable warranty, to the designated Ohio Medical Service Office during normal business hours, transportation charges prepaid, and which, upon Ohio Medical's examination, is found not to conform with the above warranties. Ohio Medical *shall not be otherwise liable for any damages including, but not limited to incidental damages, consequential damages, or special damages.*

There are no express or implied warranties which extend beyond the warranties hereinabove set forth. Ohio Medical makes no warranty of merchantability or fitness for a particular purpose with respect to the product or parts thereof.



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