

# OPERATING AND MAINTENANCE MANUAL

## PEDIATRIC FLOWMETER

**CE**  
0413



**FM - XX Y Y - XX**

<b>Flowmeter Type:</b>	
Liters per minute (LPM)	
3.5 LPM:	03
1 LPM:	01
200 CCM:	200

<b>Color Code:</b>	
USA:	U
ISO:	I

<b>Gas:</b>	
Oxygen:	O
Med Air:	A

<b>Inlet Connection:</b>	
Ohmeda:	OH
Chemtron:	CH
1/8" FNPT:	F2
1/4" FNPT:	F4
1/8" MNPT:	M2
1/4" MNPT:	M4
DISS Male:	DM
DISS Handtight:	DH
DISS Hex Nut:	DN
Puritan:	PB
Schrader:	SH
Oxequip:	XQ
Medstar:	MS
British Male:	BM
French Male:	FM
German Male:	GM
Australian Male:	AM
Japanese Male:	JM
AGA Male:	AG

\* For 60 PSI add '60' to the part number

Eg. **FM - XX Y Y60 - XX**

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

## **IMPORTANT: SAFETY INSTRUCTIONS**

*This manual is to provide you with information on the flowmeter and to ensure the proper use and safety for this product.*

**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.

### **Receiving Inspection**

Once the product is received, open the package and inspect the item for any damage. If damage is evident, contact your rep right away and do not use the product. After thorough inspection of the product, please note any and all caution and warning labels in this manual.

**CAUTION:** The tube inside the FM-200 & FM-01 flowmeters are made of glass and are fragile. Special care should be taken to avoid breaking.

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

**ATTENTION :** Store the product in a sealed package to avoid environmental damage. The operating and storage temperature for the flowmeter should reflect typical environmental conditions of a medical facility environment.

### **User Responsibility**

**▲ 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, repair 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. In compliance with the Amvex Warranty, repair of this device is not to be performed by anyone other than an Amvex trained professional and done in strict accordance to the written instructions provided by Amvex. 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:** Operation of this device is not to be done if flammable anesthetics are present due to the possibility of explosion caused by static charge.

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

- Never attempt to attach a flowmeter directly to a cylinder.
- Never use grease, oil, organic lubricants or flammable materials on or near the flowmeter.
- Never smoke in an area where oxygen is being used.
- Never use any type of flame or flammable or explosive material near the flowmeter.

- Always follow CGA and ANSI standards for Flowmeters and Medical Gas Products (E-7) and Oxygen Handling (G-4).

## Intended Use

The flowmeter is used to dispense a certain flow of the gas specified on the label accurately under the direction of a healthcare professional. This manual and all other labels and inserts are strictly for the ease of operators that have proper tools and knowledge in the repair of this device, and properly trained Amvex representatives. DO NOT change, alter or modify intended use of the product.

## Specifications

Model	Scale	Increments	Accuracy	Max. Flood/Flush	Transport/Storage Requirements
FM-200	0-200 CCM	25 CCM (starts at 25 CCM)	+/- 20 CCM	500 CCM	-40°F to 140°F (-40°C to 60°C)
FM-01	0-01 LPM	0.1 LPM (starts at 0.1 LPM)	+/- 0.1 LPM	2.5 LPM	-40°F to 140°F (-40°C to 60°C)
FM-03	0-3.5 LPM	0.125 LPM from 0.125 to 1 LPM	+/- 0.125 LPM or +/- 10% of reading (whichever is greater)	5 LPM	-40°F to 140°F (-40°C to 60°C)
		0.25 LPM from 1 to 3 LPM			

**⚠ WARNING:** Prior to administering medical air or oxygen, confirm required flow and frequently monitor the flow.

Flowmeters are calibrated at the pressure indicated on the flow tube at 70° F (21 °C), standard atmospheric pressure. Specifications are subject to change without prior notice.

**⚠ MRI WARNING:** This product contains magnetic, ferrous material that may affect MRI results, unless the Flowmeter is ordered as MRI conditional.

## Operating Instructions

1. Turn knob to the off position.
2. Inspect the flowmeter for damage. If any is found, do not use the flowmeter.

**CAUTION:** Over tightening the knob when turning the flowmeter off will cause damage. The flowmeter must be used with the Flow Tube in an upright position.

3. Connect the flowmeter to a supply of appropriate gas and pressure. The Flow Tube specifies the gas and pressure required. The accuracy will be affected if a different pressure, other than the one specified, is used.

**⚠ WARNING:** The accuracy may be affected if the temperature of the gas is different than 70 degrees F (21 degrees Celsius) and the supply pressure is different than that indicated on the Flow Tube.

**NOTE:** The accuracy of the flow will not be affected by the attachment of accessories, however, the indicated flow may change.

**⚠ WARNING:** Connection to the gas source must be done by using only the appropriately indexed fitting.

4. Ensure that the Float Ball is at the very bottom of the Flow Tube when turned off.

**NOTE:** If the Float Ball is not at the bottom of the Flow Tube, the flowmeter is leaking. Please contact your dealer or Amvex Corporation.

5. Adjusting the Flow: Decreasing Flow: Turn the knob clockwise  
Increasing Flow: Turn the knob counter clockwise

6. To set the flow, align the center of the float ball to the indicator line on the Flow Tube.

**▲WARNING:** To avoid injury ALWAYS confirm flow requirement for patient prior to dispensing.  
Check flow frequently while being administered to patient.

7. An undetermined flow will arise if flow is adjusted beyond the highest calibrated indicator.

8. Turn knob completely counterclockwise to achieve maximum flood/flush flow.

**NOTE:** Any flow beyond the highest calibrated line on the Flow Tube with unrestricted flow is flood/flush flow.

## **Cleaning Instructions**

Wipe the outside of product with a clean damp cloth, use a mild cleaning solution. DO NOT gas sterilize with ETO. DO NOT clean with pungent hydrocarbons.

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

## **Troubleshooting**

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

## **Maintenance Prevention**

Inspect the product before and after use for any damage and ease of operation.

**▲WARNING:** When changing connectors on the flowmeter for service or replacement, never re-attach connectors of a different gas. Doing so may result in patient injury or damage to the equipment.

**NOTE:** Disconnect Flowmeter from gas supply before servicing.

## **WARRANTY**

Amvex Corporation warrants its Medical Secondary Equipment to be free from defects in material and workmanship for a period of (12) months 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. 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 is 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 the exclusive terms of 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 be approved by Amvex.

Department: (servicesupport@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.

Authorized Representative  
in the European Union:



Oxygen Care Ltd.  
Corrig Road  
Sandyford Industrial Estate  
Dublin 18