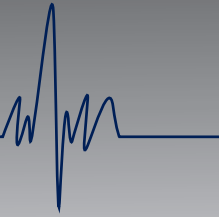




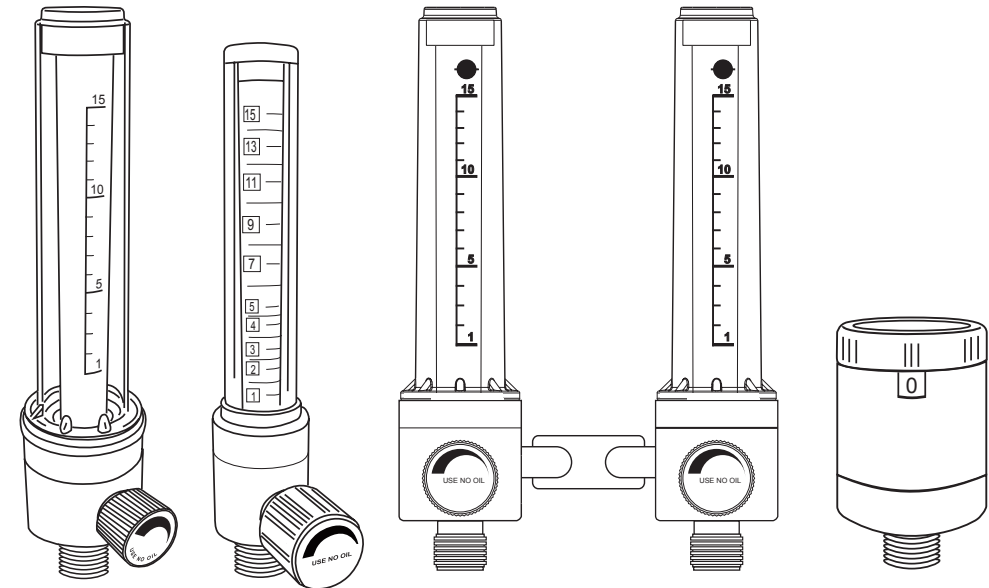
Solutions Start Here...



**Solutions Start Here**  
[www.smpcanada.com](http://www.smpcanada.com)

**SMP Canada**  
10 Sims Crescent, Richmond Hill  
Ontario, L4B-1K9 Canada  
Tel: (905) 764-7767 Fax: 1-866-627-9798  
[support@smpcanada.com](mailto:support@smpcanada.com)

## MEDICAL FLOWMETER “BFM SERIES”



FDA CE<sub>0434</sub> GMP ISO 13485:2003 CERTIFIED

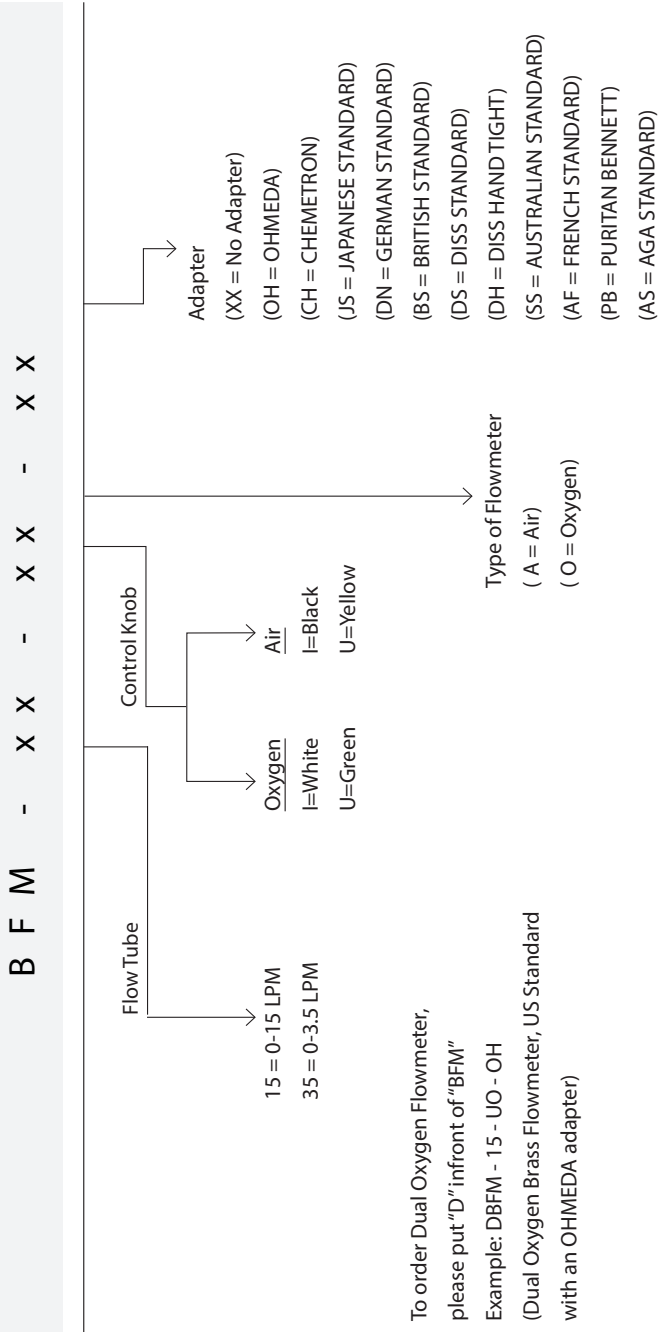
**USER & MAINTENANCE MANUAL**



# USER MANUAL

## MEDICAL FLOWMETER BFM SERIES

### ORDERING GUIDE



To order Dual Oxygen Flowmeter, please put "D" in front of "BFM"  
 Example: DBFM - 15 - UO - OH  
 (Dual Oxygen Brass Flowmeter, US Standard with an OHMEDA adapter)



# USER MANUAL

## MEDICAL FLOWMETER BFM SERIES

### TABLE OF CONTENTS

RECEIVING INSPECTION.....	3
RESPONSIBILITY OF USER.....	3
GENERAL.....	4
OPERATION.....	4
SPECIFICATIONS.....	5
ACCURACY.....	6
OPERATIONAL TEMPERATURE LIMIT.....	6
TRANSPORTATION / STORAGE TEMPERATURE.....	6
CALIBRATED INLET PRESSURE.....	6
MAINTENANCE & REPAIR.....	7
TROUBLESHOOTING.....	7
REUSABLE HUMIDIFIER (Optional).....	8
MAINTENANCE & CLEANING.....	9
WARRANTY CARD.....	WC

### **IMPORTANT: SAFETY INSTRUCTIONS**

This manual provides you with important information about the Flowmeter 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 SMP Canada before attempting to use the device.

### **NOTICE**

**DO NOT** permit untrained persons to install, operate or maintain this equipment. **DO NOT** attempt to install or operate this equipment until you have read and fully understand these instructions. If you do not fully understand these instructions, contact your local distributor for further information.



# USER MANUAL

## MEDICAL FLOWMETER **BFM SERIES**

### **RECEIVING INSPECTION**

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

### **ATTENTION:**

It is crucial to allow the product to remain in the original packaging for 24 hours to adjust 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.

### **RESPONSIBILITY OF USER**

#### **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 are 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.



# USER MANUAL

## MEDICAL FLOWMETER BFM SERIES

**!** **CAUTION:** For medicinal use the law restricts this device to use by or on the order of a physician.

**!** **WARNING: USE NO OIL!**

Oxygen is a non-flammable gas, however, oxygen substantially increase its risk to become flammable when combined with oil, grease and other hydrocarbons. These materials should never be used or applied on any part of the oxygen flowmeter or other equipment used with oxygen.

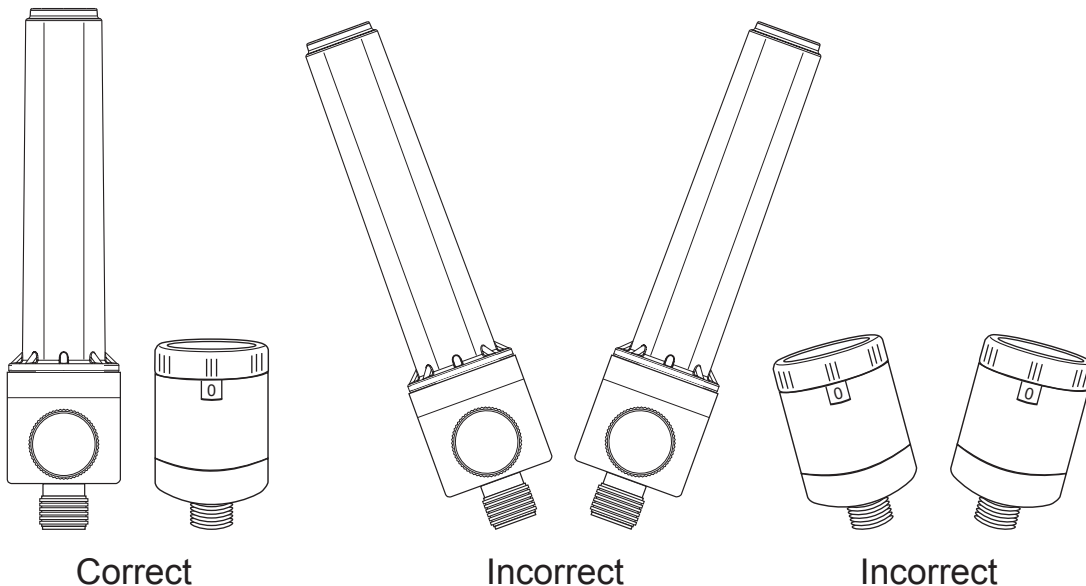
**DO NOT** smoke in the area where oxygen is in use.

### GENERAL

The flowmeters are intended to be used with a 345 kPa (50 psi) gas source. **NEVER** attempt to attach a flowmeter directly to a cylinder.

### OPERATION

Figure 1





# USER MANUAL

## MEDICAL FLOWMETER **BFM SERIES**

1. Attach flowmeter to a 345 kPa (50 psi) gas source. Ensure flow meter is in a vertical position (See figure 1).
2. Turn control knob counter-clockwise to begin and increase flow.
3. Adjust to desired flow setting. Take reading at center of ball.
4. Turn control knob clockwise to decrease and stop flow. Do not tighten control knob.

The adjusting knob on the Top of the dial flowmeter determines the oxygen flow out of the flowmeter.

### **SPECIFICATIONS**

**Flowmeter Inlet**      Female 1/8" NPT,  
A Quick Adapter, or others

**Flowmeter Outlet**    Male 9/16" UNF, Male BSP 3/8", or others

#### Available Adapters

- OHMEDA
- DISS
- DISS HAND TIGHT
- CHEMETRON
- GERMAN (DIN)
- BRITISH (BS)
- AUSTRALIAN
- FRENCH
- JAPANESE
- AGSS
- PURITAN BENNETT



# USER MANUAL

## MEDICAL FLOWMETER **BFM SERIES**

Flowmeter connector or humidifier can be installed with flowmeter outlet.

### **ACCURACY**

Flow accuracy within  $\pm 10\%$  to meet medical standard

### **OPERATIONAL TEMPERATURE LIMIT**

Maximum 120°F (49°C) and Minimum 0°F (-18°C).

### **TRANSPORTATION / STORAGE TEMPERATURE**

Maximum 140°F (60°C) and Minimum -40°F (-40°C).

### **CALIBRATED INLET PRESSURE**

Flowmeters are calibrated at 50 psi inlet pressure.

### **NOTE:**

Some flowmeter models may be supplied with an open 1/8-27 NPT female inlet port for connection to customer's piping. Always use thread sealants compatible with the gases involved. Use 15 to 20 foot-pounds torque for assembly. Always test for leaks on the connections before putting into service.



# USER MANUAL

## MEDICAL FLOWMETER BFM SERIES

### **MAINTENANCE & REPAIR**

**Cleaning** - Flowtube and cover are made of polycarbonate material. Solvents and cleaning solutions may seriously affect the strength and transparency of the material. Use only cleaning solutions recommended by the manufacturer. If cleaning of the unit is desired, the exterior surfaces can safely be wiped off with a clean, lint-free cloth and isopropyl alcohol.

**Maintenance** - This unit should be periodically checked and repaired, if necessary, or when malfunction is suspected or occurs.

**Repairs** - Repairs must be performed by a qualified equipment repairman

### **TROUBLESHOOTING**

Problem	Probable Cause	Suggested Solution
Flow will not shut off	<ol style="list-style-type: none"><li>1. Leakage</li><li>2. Defective Valve</li></ol>	<ol style="list-style-type: none"><li>1. Replace seal or replace housing</li><li>2. Replace body assembly</li></ol>
Sticking indicating ball	<ol style="list-style-type: none"><li>1. Debris in flow tube</li></ol>	<ol style="list-style-type: none"><li>1. Clean flow tube &amp; float ball with dry cloth and swab</li></ol>
Knob will not turn	<ol style="list-style-type: none"><li>1. Valve seized</li></ol>	<ol style="list-style-type: none"><li>1. Replace body assembly</li></ol>

#### **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 product.

#### **CAUTION:**

Disconnect the device from gas supply before servicing.





# USER MANUAL

## MEDICAL FLOWMETER **BFM SERIES**

### REUSABLE HUMIDIFIER (Optional)



#### **Purpose**

The SMP reusable humidifier utilizes a diffuser type humidification process to provide stable moisture content for maximum patient comfort during the administering of oxygen.

#### **Specification**

135ml max. line 2psi release



# USER MANUAL

## MEDICAL FLOWMETER **BFM SERIES**

### **WARNING**

1. Remove product from package and inspect for damage. If there is any damage, do not use.
2. Only personnel instructed and trained in its intended use should operate this product.
3. Be sure all connections are tight and leak free.

### **MAINTENANCE & CLEANING**

- Sterile water should be applied to humidifier and be replaced every day.
- Humidifier should be sterilized periodically.
- Since the oxygen would be delivered to patient through it, innocuous liquid (e.g. diluted white vinegar), gas or mild soap should be applied to clean for preventing the residue.
- Humidifier bottle can be sterilized with 100°C steam.
- Do **NOT** use hot water for more than 30 minutes.
- Air dry before use.
- High pressure with high temperature way is **NOT** recommend for preventing deformation or damage.
- Storage condition: -25°C ~ 60°C
- Operation condition: 4°C ~ 36°C



# USER MANUAL

## MEDICAL FLOWMETER BFM SERIES

### WARRANTY

Components of this system are warranted under use against any and all manufacturing defects from the date of purchase for 5 years. Other components are covered by their manufacturer's warranties. Any failure resulting from defective parts of faulty workmanship, as determined during evaluation by SMP Canada, will be repaired under warranty. This warranty will be voided for any unit that has been subjected to misuse, negligence, accident or repairs performed by those other than SMP Canada.

### **WARRANTY CARD**

To validate your 5 year warranty, please fill out and mail this card to SMP Canada  
within 10 days from the purchase date

MODEL \_\_\_\_\_ LOT NO. \_\_\_\_\_

YOUR NAME \_\_\_\_\_

COMPANY NAME \_\_\_\_\_

ADDRESS \_\_\_\_\_

CITY \_\_\_\_\_ STATE / PROVINCE \_\_\_\_\_

ZIP / POSTAL CODE \_\_\_\_\_ PHONE \_\_\_\_\_

PURCHASED FROM \_\_\_\_\_

DATE RECEIVED \_\_\_\_\_