Coriolis Mass Flow Controller

CMFC-9000

Installation &
Quick-Start Guide

Covered by U.S. Patent no. 8,404,076 B2; Japan Patent no. 5,602,884
Other Patents Pending
# TABLE OF CONTENTS

- Introduction: 3
- Installation and Mounting: 3
- Electrical Connections & User Interface: 4
- Start-up Procedure: 5
- Warranty: 6
- Service and Repair: 6
Introduction

The CMFC-9000 Series is a family of advanced flow controllers based on the Coriolis principle, and is comprised of one assembly as depicted in Figure 1.

![Figure 1. Model CMFC-9000 Coriolis Mass Flow Controller Assembly](image)

Installation and Mounting

For best performance, securely mount the Model CMFC-9000 Flow Controller Assembly to a solid, flat horizontal surface.

Flow Controller Fluid Connections

The CMFC-9000 series flow controllers use 3/8” flared connections for input and 1/4” flared connection for output.
Flow Controller Electrical Connections & User Interface

- RS232 FACTORY COMMUNICATION
- ZERO FLOW CALIBRATION
- OPTIONAL MOUNTING

**DETAIL A**
SCALE 1.5:1

- SET-POINT RETURN (BLUE)
- 0-10V SET POINT (BLACK)
- 0-10V OUT (BLUE)
- OUTPUT RETURN (BLUE)
- +24V RETURN (BLACK)
- +24V POWER SUPPLY (WHITE)
**CMFC-9000**

**CORIOLIS MASS FLOW CONTROLLER**

**Start-up Procedure**

1. Connect all cables, and apply power. Let the sensor complete the initialization process as indicated by a steady green LED on the top panel. Fully open the control valve by applying 10 V to the set-point input and purge all air from the controller. Once air is purged, apply 0 V to the set-point input to fully close the control valve.

2. Manually zero the meter by pressing the green push-button on the front panel and wait for the red LED to stop blinking. The Coriolis flow controller is now ready for use.

CAUTION: Fluid flowing through the sensor (or entrained air in the sensor) while performing a zero-flow calibration will result in an inaccurate zero setting and hence, inaccurate flow rate readings. Make sure fluid flow in the sensor is completely shut-off during zeroing.

---

**5**

www.malema.com
**Warranty**

Malema Sensors warrants to the buyer that its products are free from defects in materials and workmanship at the time of shipment and during the WARRANTY PERIOD. Malema Sensors obligation under this warranty is limited to the replacement of the product(s) by same product(s) manufactured by Malema Sensors or repair of the product(s) at the Malema Sensors facility.

Malema Sensors products are sold with the understanding that the buyer has determined the applicability of the product(s) to its intended use. It is the responsibility of the buyer to verify acceptability of performance to the actual conditions of use. Performance may vary depending upon these actual conditions.

**Warranty Period**

This warranty is in effect for twelve (12) months from the date of shipment from Malema Sensors place of business.

**Warranty Claim**

If Malema Sensors products are found to be defective in materials or workmanship within twelve (12) months of the date of shipment, they will be repaired or replaced with same product at the discretion of Malema Sensors at its place of business at no charge to the buyer.

**Warranty**

To return the products, please obtain an RMA number for the product by contacting Malema Sensors (West Coast Office), at (800) 637-6418 or (408) 970-3419.

Malema will provide shipping address upon issuing an RMA number.