Dear Customer,

Thank you for your purchase. We appreciate this opportunity to service your flow measurement and control needs with a Brooks Instrument device. Brooks' award-winning meters and controllers consistently rank at the top of their category for accuracy, reliability and user preference, as judged by the audience that matters - real users of flow instrumentation, like you.

But Brooks' products are only half of the story. You are backed by Brooks' unsurpassed local technical expertise in virtually every corner of the planet. Your local Brooks product and application specialist is truly your "partner in flow". They have been extensively trained to help you select the optimal solutions for your flow measurement or control needs and offer years of experience solving application problems just like yours.

Should you require any additional information concerning Brooks' products and services, please contact your local Brooks Sales and Service office listed on the back cover of this guide.

Sincerely,
Brooks Instrument

Visit us online at: www.BrooksInstrument.com

This Quick Start Guide applies to the following Brooks product(s):
• E-Series: 5850EMH, 5851EMH

In an effort to be more eco-friendly, Brooks is no longer supplying printed instruction manuals with the product shipments to reduce our paper consumption. For your product's complete instruction manual, please download it at: www.BrooksInstrument.com/Manuals.

The instrument may be located anywhere in the process line, as long as the following conditions are met:
• Ambient temperature must remain between 85° and 105°C (185°F and 221°F).

The instrument can be mounted in any orientation. It's best if the mounting orientation matches the orientation specified on the Calibration Data Sheet. Refer to Figure 1 for the different mounting options:

Quick Start Guide
5850EMH High Temperature Thermal Mass Flow Controllers
Metal Seal

Step 1: Location/Orientation

Step 2: Mounting the Controller to a Plate, Shelf or Panel

Step 3: Gas Connections

After mounting the Controller, carefully connect and tighten the process lines. Ensure the fittings are leak-free.
Step 5: Electrical Connections

After the flow controller has been installed in the system it is ready for operation.

Controller: You must provide a setpoint/command signal to the controller. The controller will read the setpoint signal and will automatically adjust the valve to the appropriate position to achieve the desired flow and will provide a flow signal proportional to the full scale flow of the device as indicated on the device label.

Step 6: Operation

To insure proper operation, the Model 585xEMH must be connected per Figure 5. As a minimum, the following connections must be made:

- Chassis Ground (Pin 14)
- Signal Common (Pin 10)
- Signal Output (Pin 2)
- +15 Vdc Supply (Pin 5)
- -15 Vdc Supply (Pin 6)
- Valve Voltage Out (Pin 7)
- Command Input (Pin 8)
- Supply Voltage Common (Pin 9)
- +5 Vdc Reference Output (Pin 11)
- Valve Override (Pin 12)
- Not Used (Pin 3)
- Not Used (Pin 4)
- 0-5 Volt Signal Common (Pin 10)
- 7-pin Circular Connector on the remote electronics module

Each device is factory adjusted to provide a flow signal of zero volts (±10 mVdc) at zero flow. The adjustment is made in our calibration laboratory which is temperature controlled to the temperature specified at the time of order. After initial installation and warm-up in the gas system, the zero flow indication may be other than the factory setting. This is primarily caused by changes in temperature between our calibration laboratory and the final installation. The zero flow reading can also be affected, to a small degree, by changes in line pressure and mounting attitude.

To check zero, always mount the controller in its final configuration and apply power to the instrument and any associated heaters for 60 minutes to reach a stable thermal condition prior to applying flow. Flow the process fluid into the instrument and allow sufficient time for the sensor to reach normal operating temperature. Note: Before zeroing the instrument, zero pressure differential MUST be established across the device. Once there is pressure across the instrument during the zero process, any detected flow through the sensor will be misinterpreted as the zero flow reading. This will result in calibration inaccuracy during normal operation.

Close the shutoff valve downstream of this instrument to eliminate any pressure differential across the instrument. Once zero differential pressure is established and verified, check the flow output signal using a suitable voltmeter. If it differs from the factory setting, adjust it by removing the lower pot hole plug (refer to Figure 4) which is located closest to the 7-pin circular connector on the remote electronics module. Adjust the zero potentiometer until the desired output signal is within ±10 mV of zero on the output of the device.

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Equipment Receipt and Return Procedures

Receipt of Equipment

If the packing case is damaged, the local carrier should be notified at once regarding their liability. Carefully remove the equipment from the packing case and inspect for damage or missing parts. If damaged, please contact Brooks Instrument at one of the locations listed on the back of this Quick Start Guide.

Return Shipment

Please note that prior to returning any instrument to the factory Brooks Instrument requires the completion of Form RPR003-1, a Brooks Instrument Decontamination Statement, as well as a Materials Safety Data Sheet (MSDS) for fluid(s) used in the instrument. Copies of these forms can be found online at BrooksInstrument/Returns.com along with complete details on how to process your return shipment or you can contact your nearest Brooks location for the necessary forms and instruction.