



MFE-3000 MICROFLOW AIR/GAS FLOW MEASURING ELEMENT

Description

The **MFE-3000** is a differential pressure (head) device specifically designed to provide continuous, accurate and reliable measurement of ultra low air/gas volumetric flow rates over a wide operating range. This flow sensing element utilizes the piezoid ring static pressure sensing technique, combined with a self-averaging total pressure sensing manifold. The **MFE-3000** incorporates area reducing transitions on the entering and leaving ends to accelerate air velocity through the sensing plane resulting in greater flow measurement accuracy.

The **MFE-3000** produces a velocity pressure output which is easily converted to velocity/volume using the standard air (scfm) equation of:

$$Q = 4002A\sqrt{P_v}$$

Where:

Q = Air volume, in scfm

A = Area, in square feet

P_v = velocity pressure which is the measured difference between the total and static pressures, in inches of water

The output of the **MFE-3000** requires no correction (k) factor, and when actual air/gas density is determined the output of this device provides accurate mass flow measurement.

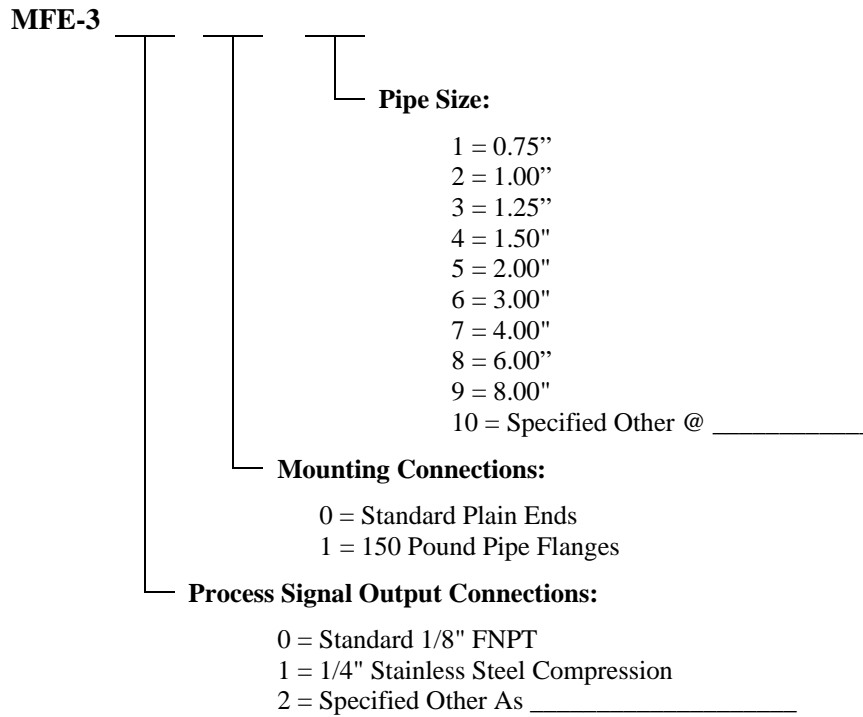
Features

- ±2% accuracy
- Designed for low airflow applications
- Reducing connections on entering and leaving ends to accelerate air velocity for improved accuracy
- Can be operated continuously in temperatures up to 900°F for non-corrosive gas media and 500°F for corrosive gas media
- Standard construction is Type 316 stainless steel
- 150 pound mounting flanges are optional

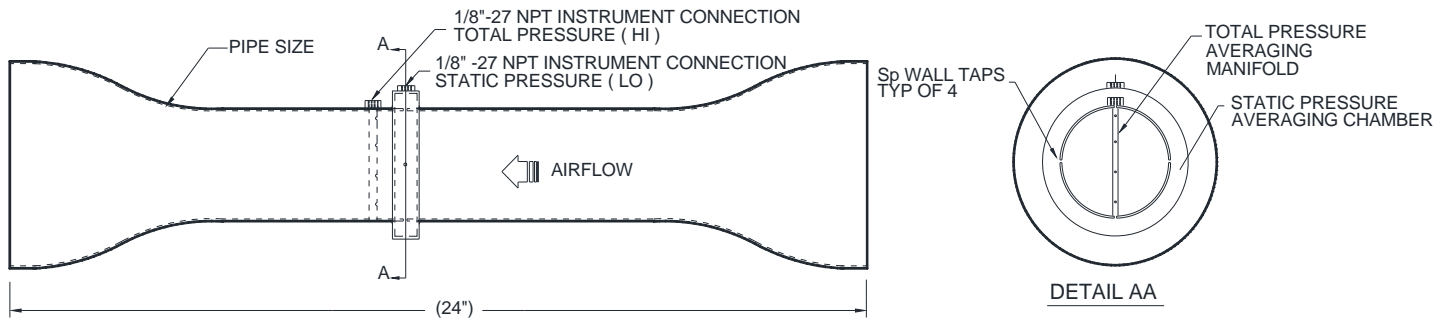
MFE-3000 Technical Specifications

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|---|---|
| <p>1. Accuracy
±2 % of actual flow rate</p> <p>2. Process Input Connection
Standard 1/8 inch NPT
Compression (optional)</p> <p>3. Operable Line Pressure
150 psi static pressure</p> | <p>4. Operating Temperature
900°F non-corrosive gas media
500°F corrosive gas media</p> <p>5. Material
Type 316 stainless steel</p> |
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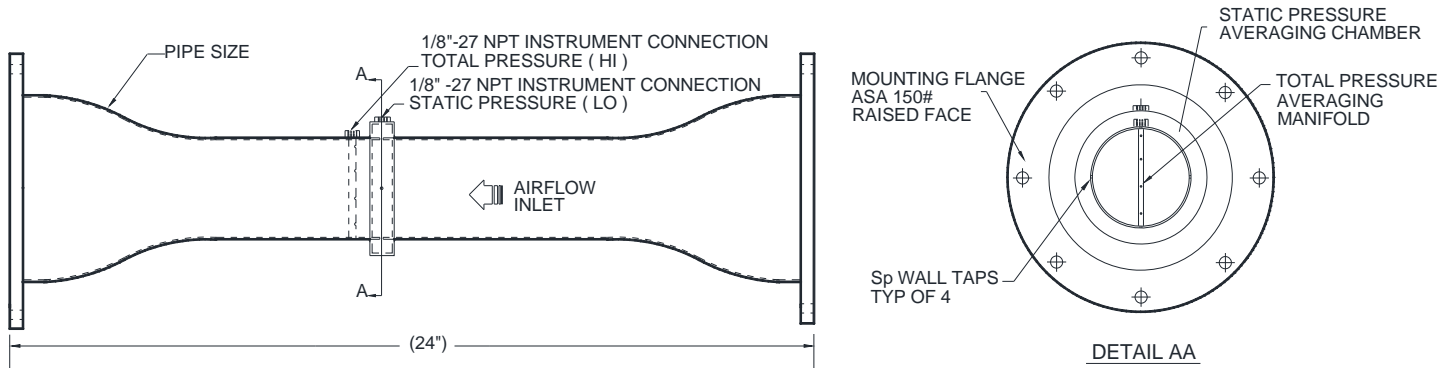
MFE-3000 Ordering Information



MFE-3000 Dimensions (For Weld In Connections)



MFE-3000 with Optional Mounting Flanges



MFE-3000 Specification Guide

General

1. Provide where indicated a self-averaging differential pressure airflow measuring station. The airflow measurement station shall incorporate multiple static pressure and total pressure measurements providing equal area traverse of the flow measurement plane.
2. The airflow measurement device shall produce a velocity pressure output signal that can be converted to velocity/volume without the need for factory correction (k) factors. The output of the airflow sensing element shall be within $\pm 2\%$ of actual flow rate.
3. The airflow sensing element shall be all welded construction, and fabricated of Type 316 stainless steel. Both the static and total pressure signal shall be manifolded to standard 1/8" NPT fittings for output connection.

Labeling

1. An identification label shall be placed on each primary flow element showing airflow direction and listing the model number; system served, size and identifying tag number.

Manufacturer

1. Airflow sensing elements shall be Paragon Controls Inc. Model MFE-3000 or equal as approved by the Engineer.
2. Naming of a manufacturer does not automatically constitute acceptance of this standard product nor waive the responsibility of the manufacturer to comply totally with all requirements of the proceeding specification.