PARAGON CONTROLS INCORPORATED

Technical Data Sheet

MFE-1000 MICROFLOW AIR/GAS FLOW MEASURING ELEMENT

Description

The **MFE-1000** 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 a piezoid ring static pressure sensing technique combined with a self-averaging total pressure sensing manifold.

The **MFE-1000** 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-1000** 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
- 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-1000 Technical Specifications

1. **Accuracy**
   ±2 % of actual flow rate
2. **Signal Output Connections**
   Standard 1/8 inch female NPT.
   Stainless Steel Compression (optional)
3. **Operable Line Pressure**
   150 psi static pressure
4. **Operating Temperature**
   900°F non-corrosive gas media
   500°F corrosive gas media
5. **Material**
   Type 316 stainless steel

MFE-1000 Ordering Information

MFE-1 ____ ____ ____

Pipe Size:

1 = 0.75”
2 = 1.00”
3 = 1.25”
4 = 1.50"
5 = 2.00"
6 = 3.00"
7 = 4.00"
8 = 6.00”
9 = 8.00"
10 = Specified Other @ _____

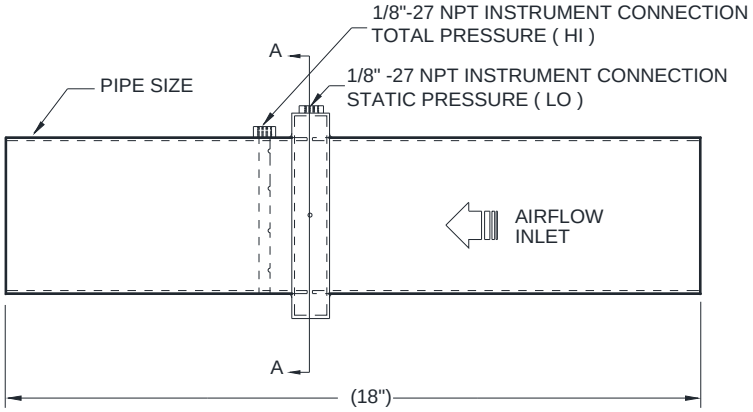
Mounting Connections:

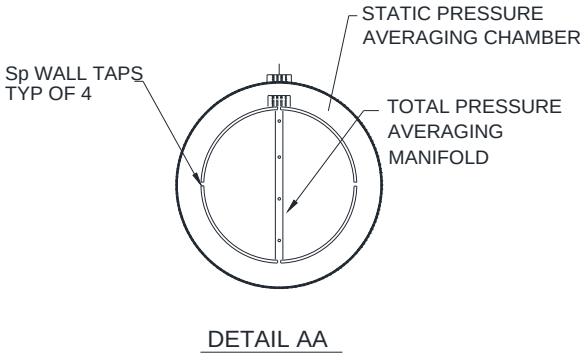
0 = Standard Plain Ends
1 = 150 Pound Pipe Flanges

Process Signal Output Connections:

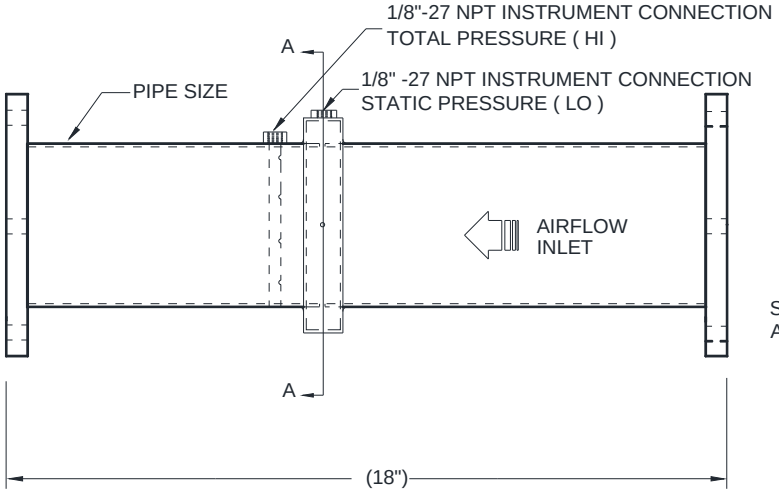
0 = Standard 1/8" FNPT
1 = 1/4" Stainless Steel Compression
2 = Specified Other As _____

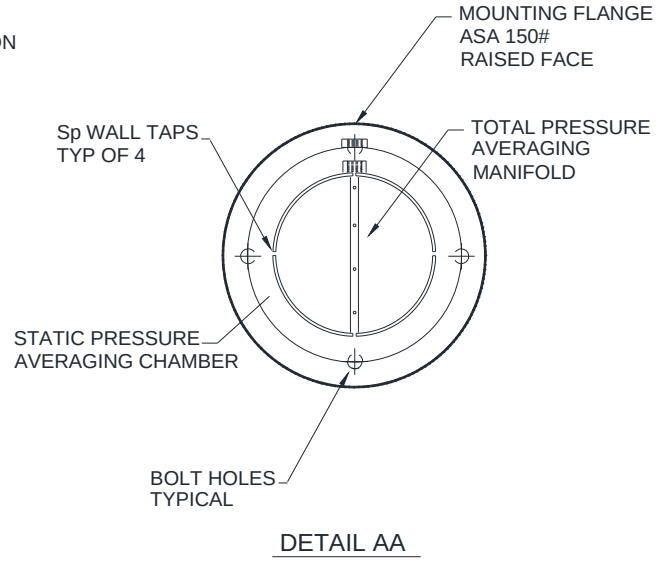
MFE-1000 Dimensions (For Weld In Connections)





MFE-1000 with Optional Mounting Flanges





MFE-1000 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 ±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 signals shall be manifolded to standard 1/8" female NPT fittings for output connection.

Labeling

1. An identification label shall be place 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-1000 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.

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