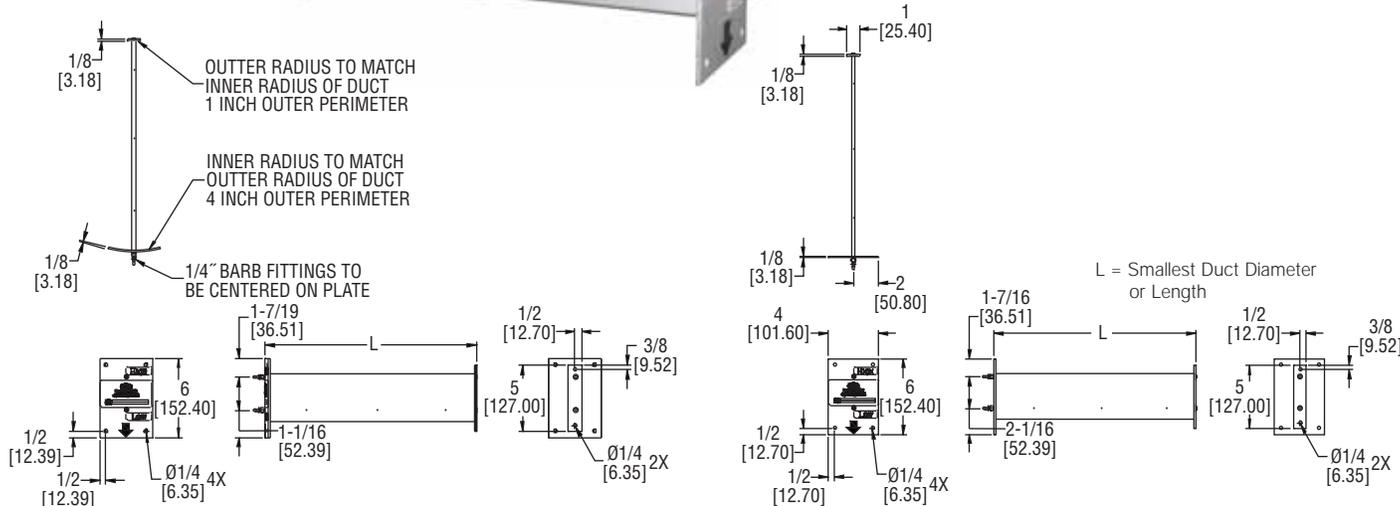




# Series DAFM Duct Air Flow Measuring Probe

## Specifications - Installation and Operating Instructions



The DAFM Model Duct Air Flow Measuring Probe uses evenly distributed total and static pressure measuring points to deliver an accurate measurement of flows in a duct. The Air Flow Measuring Probe can be completely installed from outside of the duct making it very easy to install. With its lightweight and durable construction in addition to its ease of installation, this product lends itself to being used in the HVAC industry. These air flow measuring probes may be ordered to fit into either round or rectangular duct installations.

### INSTALLATION

When you unpack the Model DAFM Duct Air Flow Measurement Probe ensure that there is no visible damage from shipping. Inspect each sensing point on the probes to ensure that they are not filled with debris from shipping. If there is obvious shipping damage, the probe must be replaced prior to use in order to avoid inaccurate measurements. Please contact Dwyer Instruments, Inc. if it is necessary to replace your air flow measurement probe.

### RECTANGULAR DUCT MODELS

#### Determining Probe Number and Placement for Rectangular Ducts

- To determine the number of probes you need please consult the chart below.

Short Duct Dimension	<12'	12' - 23'	24' - 35'	36' - 59'	60' - 89'	>89'
Number of Probes	1	2	3	4	5	6

- In order to determine where to place your probes, divide the short duct dimension by number of probes.
- Divide the result by two and this will be the distance from the side of the duct to the first probe location.
- The next probe will be placed two times the resulting distance from step two from the first probe. So, if the first probe was placed 4' from the side of the duct, your next probe would be placed 8' from the first probe, or 12' from the side of the duct.
- Continue this pattern until you have determined all probe locations.

### SPECIFICATIONS

- Wetted Materials:** Aluminum with clear anodized finish.
- Accuracy:** ±2% (Note: Field Calibration May Be Required).
- Max. Temperature:** 400°F (204°C).
- Minimum Design Flow:** 400 fpm (2.03 m/sec).
- Maximum Design Flow:** 12,000 fpm (60.96 m/sec).
- Process Connections:** 1/4" barb.
- Straight Run Requirements:** 5 diameters or longest side dimensions.

**Example:** You have a duct with a 24' side, and upon consulting the chart determined that you needed 3 probes for this size duct.

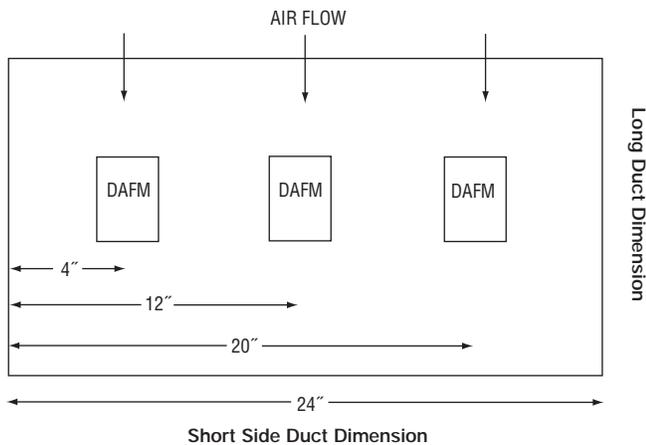
$$24 / 3 = 8$$

$$8 / 2 = 4$$

Therefore, the first probe is placed 4' from the side of the duct.

The second probe is placed 4' + 8' = 12' from the side of the duct.

The third probe is placed 4' + (2 x 8) = 20' from the side of the duct.



**Figure 1:** Top view illustration of probe placement example.  
**Note:** Illustration not to scale.

Please note that all probes should be installed vertically and running parallel to each other if installed in a rectangular duct.

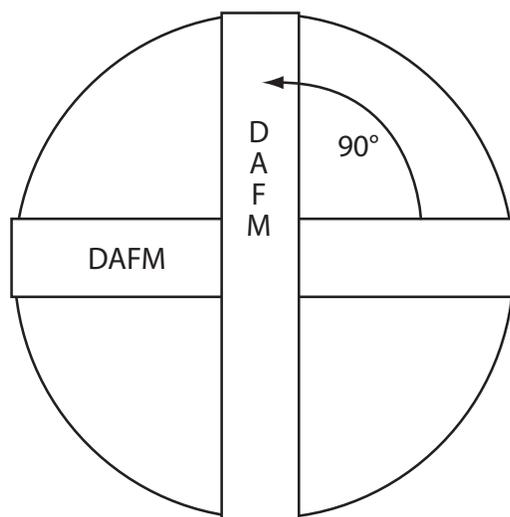
### RECTANGULAR DUCT PROBE INSTALLATION

1. Cut 4" X 1" holes at locations calculated above in side of duct.
2. Place silicon bead around holes.
3. Slide DAFM into holes and screw four self drilling screws into duct to attach DAFM.
4. Connect 1/4" OD plastic tubing to barb fittings on DAFM.
5. Check all fittings and tubing connections for leaks using a leak detector.
6. Tee all high and low ports into one high and one low line and connect to transmitter or gage.
7. The devices should be checked once a year for build-up of dirt of debris common in an HVAC system.

### CIRCULAR DUCT MODELS

#### Determining Probe Number and Location for Round Ducts

1. Note that in round ducts only two probes are needed. The quantity of probes needed does not depend on size of the duct.
2. Locate probes 90 degrees apart. See Figure 2 for an example.



**Figure 2:** Cross-sectional view of probe placement in a round duct.

### ROUND DUCT PROBE INSTALLATION

1. Cut 4" X 1" holes at locations calculated above in side of duct.
2. Place silicon bead around holes.
3. Slide DAFM into holes and screw four self drilling screws into duct to attach DAFM.
4. Connect 1/4" OD plastic tubing to barb fittings on DAFM.
5. Check all fittings and tubing connections for leaks using a leak detector.
6. Tee all high and low ports into one high and one low line and connect to transmitter or gage.
7. The devices should be checked once a year for build-up of dirt of debris common in an HVAC system.

### CALIBRATION

Sometimes field calibration may be required if the probe is installed in a bad location i.e. immediately downstream of an elbow. In order to calibrate, you must either perform a traverse of the duct or a sum of the air registers and compare this with the DAFM output. Then, you must make the correction to the effective area in the computer to make up for the error.

### MAINTENANCE

Upon final installation, the device should be checked once a year for a build up of dirt or debris that can be common in an HVAC system. Also check the mounting stability once a year. Other than this no routine maintenance is required. The DAFM model is not field serviceable and should be returned if repair is needed (field repair should not be attempted and may void warranty). Be sure to include a brief description of the problem plus any relevant application notes. Contact customer service to receive a return goods authorization number.