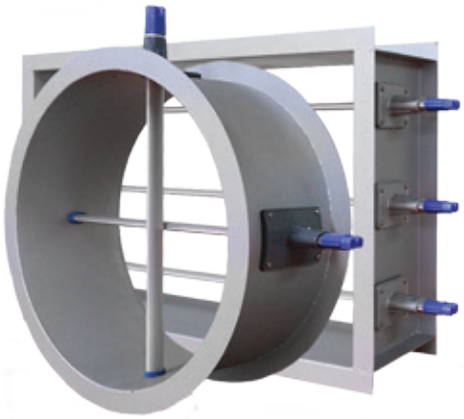
SERIES JFM-S FloSen® Airflow Measuring Stations



- **High Accuracy**
- **Aero-Dynamic Elliptical Shape**
- **Easy Installation**
- **No Straightener Required**

The Series JFM-S FloSen® Airflow Measuring Stations provide accurate, repeatable measurement of air movement in HVAC ducts. The Probes patented elliptically-shaped sensor design with improved aerodynamic characteristics outperforms more traditional devices, and overcomes loss of accuracy caused by fluid separation at the sensor body. It is designed to maintain a constant parallel airflow pattern over the static sensing ports for more accurate, steady signals under all duct conditions. The elimination of separation results in a stabilized static pressure signal, helping to eliminate "hunting" during fan control.

FloSen® Airflow Probes used in the Sensocon Airflow Measuring Stations utilize a unique in-line groove for total pressure sensing and dual ports for static pressure sensing which produces a higher differential pressure for very low velocity measurements. The total and static pressure measuring points are distributed for equal-area averaging of flows resulting in improved accuracy and reliability. This design permits accurate and stable measurement in highly turbulent flow locations with directional pitch and yaw varying up to 20 degrees without the need for air flow straighteners which restrict airflow and can easily become clogged. The elliptical shape of the FloSen® Airflow Probes allows air to glide unrestricted around the aerodynamically designed sensors and offers the lowest pressure drop of any airflow measuring device available minimizing HVAC operating costs.

The JFM-S Airflow Measuring Stations have been designed for complete installation between ducts. The quantity of FloSen® Airflow Measuring Probes selected for each Flow Station is based on ASHRAE and AMCA standards to produce assured airflow measuring accuracy over a flow turn-down ratio of 17:1.

COMPARISONS

ELLIPSE VS. ROUND

The Elliptical Advantage

- Flow boundary layers attached to probe surface
- No separation effects
- No vacuum effects
- No vortex generation
- Low drag coefficient
- High repeatability

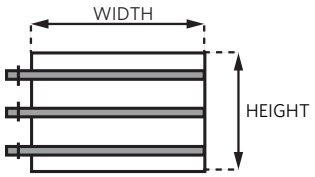
- Low static pressure signal affected by separation
- Vacuum effects limit turndown ratio to 4 to 1
- Variable intensity vortices generated downstream, creates signal amplifications, vibrations and acoustic problems
- High drag coefficient creates high pressure loss

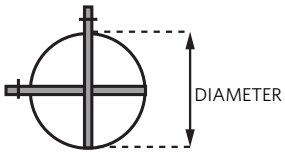
SPECIFICATIONS

Velocity Range: 300 - 5000 FPM (1.5 - 25 m/s)
Probe Length: 8 - 120" (200 - 3000mm)
Accuracy: +/- 1% F.S.
Repeatability: +/- 0.1% F.S.
Temperature Ranges: -40° to 180°F (-40° to 80°C)
Turn-Down Ratio: 17:1
Pressure Loss: 0.004" w.c. @ 700 FPM (1 Pa @ 3.5 m/s)
Materials (Probe): Anodized Aluminum or PVC
Materials (Station): 14 ga Galvanized Steel
Flow Coefficient: 0.785

PROBE DENSITY

The number of FloSen® Airflow Measuring Probes for a given application has been selected based on ASHRAE and AMCA Standards to produce assured airflow measuring accuracy.





FOR SQUARE AND RECTANGULAR DUCTS

Height Dimension	FloSen® Probes Required
4" - 12" (200 - 300mm)	1
12" - 24" (300 - 600mm)	2
24" - 36" (600 - 900mm)	3
36" - 64" (900 - 1600mm)	4
64" - 100" (1600 - 2500mm)	5
100"+ (2500mm +)	6

FOR CIRCULAR DUCTS

Diameter	FloSen® Probes Required
8" - 12" (100 - 300mm)	1
12" - 48" (300 - 1200mm)	2
48"+ (1200mm +)	3

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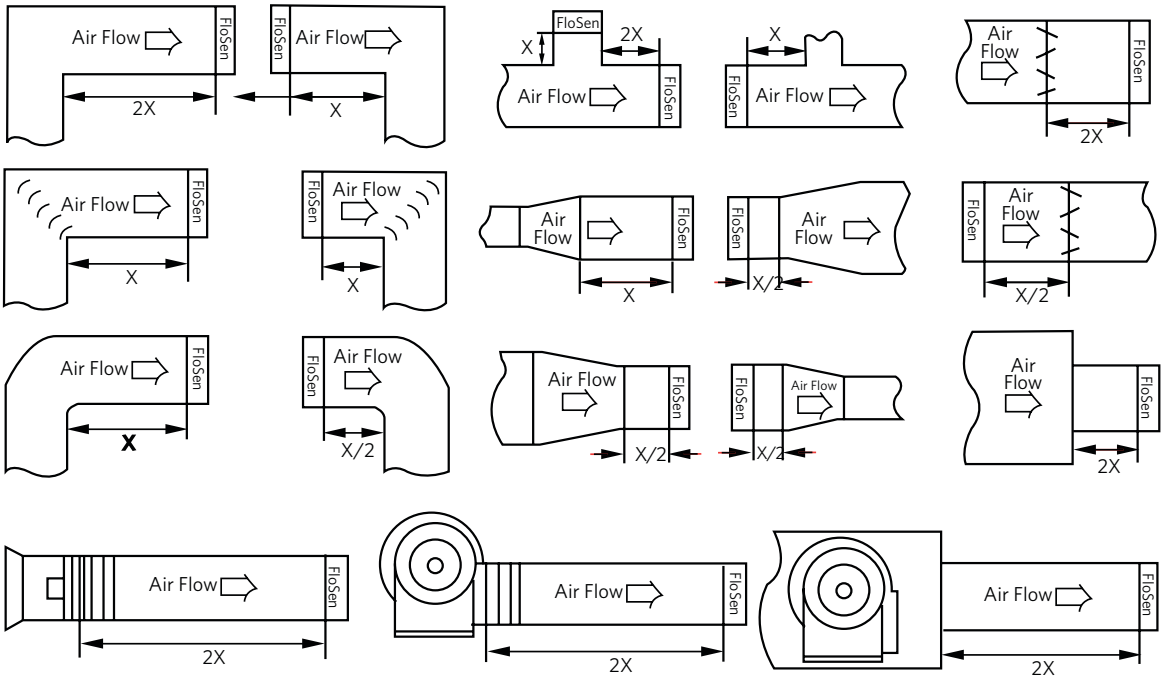
INSTALLATION REQUIREMENTS

RECTANGULAR DUCT

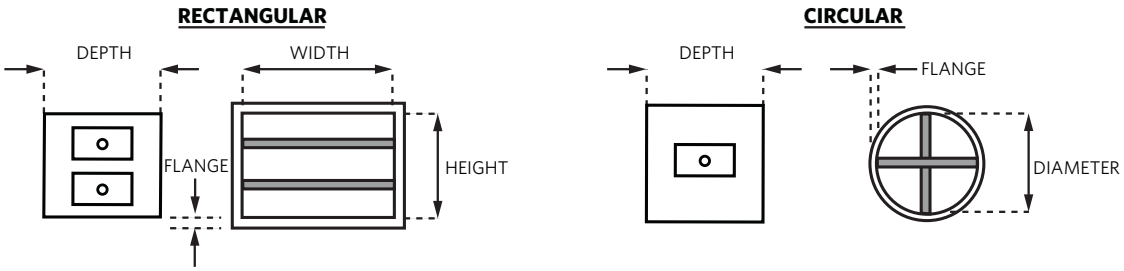
$$X = \frac{2(LxH)}{L+H}$$

CIRCULAR DUCT

X = Duct Diameter



DIMENSIONS



STATION CONFIGURATION

All FloSen® Airflow Measuring Stations are custom made to the user's specifications. If your requirements are not met within the below parameters contact Sensocon with your application specific needs.

PROBE MATERIAL

☐ Aluminum
☐ PVC

STATION/CASE MATERIAL

☐ 14 gauge galvanized steel
☐ _____

FITTINGS

☐ 2 touch fitting for 3/16 x 5/16 tubing
☐ _____

SHAPE/DIMENSIONS

RECTANGULAR

☐ Length: _____
☐ Width: _____
☐ Depth: 8"
  ☐ Other: _____
☐ Flange: 1.5"
  ☐ Other: _____

CIRCULAR

☐ Diameter: _____
☐ Depth: 8"
  ☐ Other: _____
☐ Flange: 1.5"
  ☐ Other: _____