

VOLU-trol/F

Pitot Measurement / Control Station

The VOLU-trol/F is a multi-point, self-averaging Pitot measurement/control station with integral air straightener-equalizer honeycomb cell, and integral control damper capable of continuously measuring and controlling ducted airflow with an accuracy of 2% or better. The VOLU-trol/F derives its high degree of accuracy from a combination of precision sensor locations, honeycomb airflow processing, pneumatic averaging of a large number of sensed airflow pressures and patented symmetrical averaging (Patent No. 3,685,355), which requires that all stages in the averaging process occur at a point where there is a balanced array of sensors present, thereby assuring that each sensed pressure is given equal weight in the averaging process. With no maximum size or capacity limits, the VOLU-trol/F affords a high degree of flexibility in VAV system design. The VOLU-trol/F is very well suited to VAV applications where control of noise and installed system cost is important.



Specifications

- Configurations. Rectangular and circular.
- Accuracy. 2% of actual airflow.
- Operating Temperature. Continuous operation to 120°F.
- Air Equalizer-Straightener Cell. Corrosion resistant 3003 aluminum. 3" deep x 1/2" cell.
- Total Pressure Manifold. Copper tubing assembled with 50/50 tin/lead solder. Galvanized mounting and support brackets.
- Static Pressure Header and Sensors. Copper tubing. Galvanized mounting bracket.
- Connection Fittings. 1/4" brass compression type located on the long dimension of rectangular stations.
- Damper Blades. 14 ga galvanized sheet metal, parallel to width dimension.
- Damper Bearings. Bronze.
- Damper Linkage. External, mechanical.
- Casing Depth. 24"
- Casing. Rectangular. 14 gauge galvanized sheetmetal, intermittent welded casing with metal caulking.
Circular. 18 gauge galvanized sheetmetal, spot welded casing seams.
- Flanges. Rectangular. 1-1/2" wide, 90° formed. Sizes up to 144" x 144"
Circular. Sizes 10" to 24" 1" wide flanges or beaded edge
Sizes >24" and <45" 1-1/2" wide flanges
Sizes > 45" 3/16" x 2" bar stock flanges
- Optional Construction. Air Equalizer-Straightener. Type 304 & 316 Stainless Steel
Total & Static Pressure Manifolds. Type 316 Stainless Steel
Casing, Flanges, Damper. Aluminum & Stainless Steel
Connection Fittings. Stainless Steel
Damper Actuator. Electronic & Pneumatic

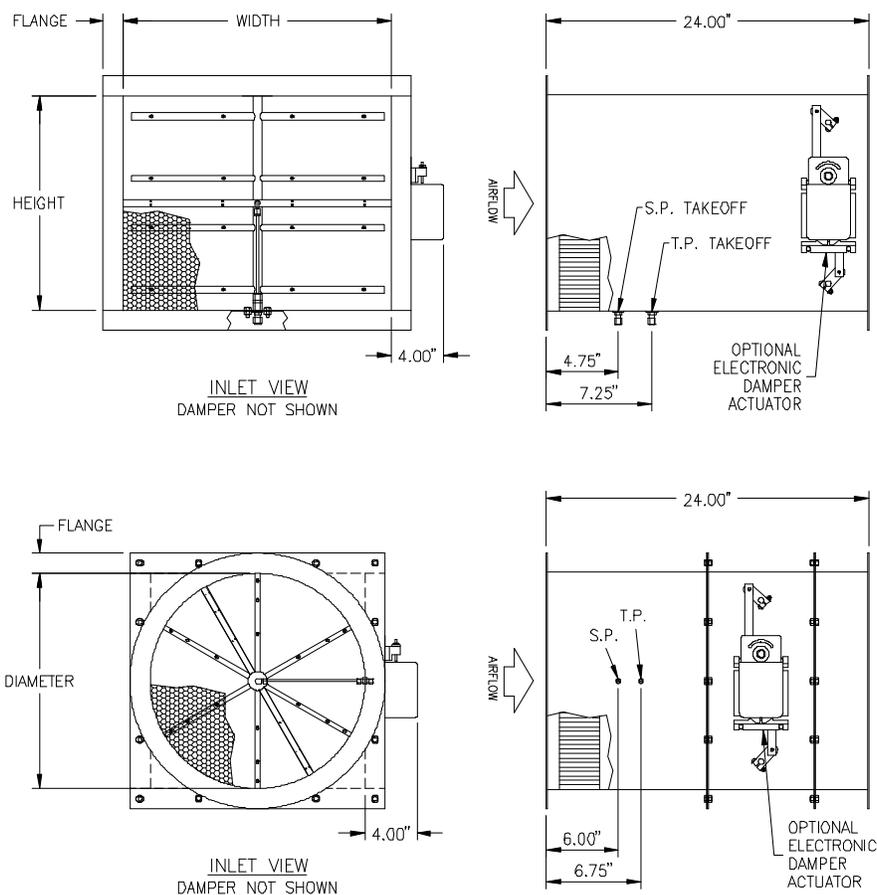
Accurate airflow measurement for demanding applications



AIR MONITOR
CORPORATION

VOLU-trol/F Pitot Measurement/Control Station

Dimensional Specification



Suggested Specification

Provide where indicated, airflow measurement/control station(s) capable of continuously monitoring and controlling the duct capacities (air volumes) they serve.

Each airflow measurement/control station shall contain multiple total and static pressure sensors positioned in a log-Tchebycheff pattern. Rectangular stations having a cross-section greater than 4 square feet will have a minimum of 25 points of measurement. For stations having a dimension less than 18", locate the points of measurement at the center of equal areas not more than 6" apart, and use a minimum of two measurement points per side. For a station having a dimension greater than 56", the maximum distance between measurement points will be 8". For circular ducts having a diameter of 18" or greater, locate measurement points on three systematically disposed diameters. For round stations smaller than 18", locate the measurement points on two perpendicular diameters.

The airflow measurement/control station(s) shall be fabricated of a minimum of 14 [18] ga. galvanized steel, welded casing in 24" depth with 90° connecting flanges in a configuration and size equal to that of the duct it is mounted

into. Each station shall be complete with an open parallel cell air straightener-equalizer honeycomb mechanically fastened to the casing and external signal connection fittings.

Damper blades shall be fabricated of 14 ga. galvanized sheet metal and arranged parallel to the width dimension of the station. Damper shall include bronze bearings and external mechanical linkage. [Damper shall include (pneumatic, electronic) actuator].

An identification label shall be placed on each station casing listing model number, size, area, and specified airflow capacity.

The airflow measurement section shall be AMCA certified and capable of measuring the airflow rates within an accuracy of $\pm 2\%$.

The airflow measurement/control station(s) shall be the VOLU-trol/F as manufactured by Air Monitor Corporation, Santa Rosa, California.

