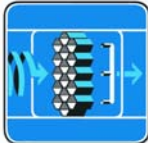


# SUMMARY of PRODUCTS

HVAC Systems Control  
Airflow, Space, & Building Pressurization



*Accurate airflow measurement for demanding applications*



**AIR MONITOR**  
**CORPORATION**

# Airflow Measuring Stations



## **FAN-E AIRFLOW MEASURING STATION.**

The FAN-E Station is a multi-point, self-averaging Pitot traverse station with integral air straightener honeycomb cell, capable of continuously measuring fan discharges or ducted airflow with a certified accuracy of 2% or better when tested according to AMCA Standard 610. The traverse station offers its high degree of measuring accuracy by virtue of log-Tchebycheff sensor locations, Fechheimer Pitot sensing ports, honeycomb airflow processing, and instantaneous pneumatic averaging of multiple pressure values. The FAN-E station is designed for measurement locations with very limited straight duct runs and/or highly disturbed airflow. Patent No. 3,748,901.

**AMCA CERTIFIED** in accordance with Standard 610.



## **VOLU-probe/VS AIRFLOW PROBE TRAVERSE STATION.**

The VOLU-probe/VS Station utilizes one or more VOLU-probes, factory mounted in a rigid welded galvanized casing, to sense and average separate total and static pressure traverses of an air stream with a certified accuracy of + 2% when tested according to AMCA Standard 610. Multiple sets of Fechheimer Pitot total and static pressure sensing ports, positioned on an equal area basis along the length of each probe, traverse the duct cross-section and average the sensed pressures in separate internal manifolds. The VOLU-probe/VS station is designed for applications having limited straight duct runs and/or moderately disturbed airflow. Patent No. 4,559,835.

**AMCA CERTIFIED** in accordance with Standard 610.



## **Aluminum LO-flo PITOT TRAVERSE STATION.**

The Aluminum LO-flo Station combines many features of the FAN-E and the VOLU-probe/VS Stations into a Pitot Traverse Station designed specifically to measure airflow in small round ductwork between 4" and 8" in diameter. Honeycomb air straightener combined with a multi-point, self-averaging Fechheimer Pitot flow sensing probes provide the means of measuring low air volumes of 35 to 1,700 CFM within +2% of actual airflow.



## **ELECTRA-flo/CM THERMAL AIRFLOW MEASURING STATION.**

The ELECTRA-flo/CM Station combines thermal dispersion measurement technology with integral air straightener honeycomb cell to assure measurement accuracy within 2-3% of actual flow under extreme conditions caused by turbulent, rotating, and multi-directional airflows normally present near fan inlets or discharge ducts and directly downstream from duct elbows, transitions, etc. ELECTRA-flo sensors are factory calibrated to NIST traceable standards. Each station is accompanied by an ELECTRA-flo transmitter for local data display, performing configuration and calibration, and to provide analog outputs of airflow and temperature.



## **VOLU-flo/OAM OUTSIDE AIR STATION.**

The VOLU-flo/OAM Station is a companion component to the Monitor/Controller, providing ease of installation and commissioning by mounting the Outside Reference, Inlet Airflow, and ambient temperature sensors into a rugged, welded galvanized steel casing having a layer of expanded metal of known fixed resistance. In selected applications, the known resistance-to-airflow relationship allows the combined system to be pre-calibrated at the Factory for plug-n-play operation.

# Airflow Measuring Probes



## ***VOLU-probe/1,2,3,4 AIRFLOW TRAVERSE PROBES.***

The VOLU-probe Airflow Traverse Probes consist of multiple Fechheimer Pitot total and static pressure sensing ports positioned along the length of each probe to traverse the duct cross-section, average the sensed pressures in their separate internal manifolds, and provide a measurement of velocity pressure accurate to within 2-3% of actual flow. The VOLU-probe is available in externally and internally mounted, insertable/removable and self-supported versions to fit the needs of both new installations and retrofit applications ranging from commercial building HVAC to laboratory, pharmaceutical and electronics production, and health care institutions. Patent No. 4,559,835.



## ***VOLU-probe/FI FAN INLET AIRFLOW TRAVERSE PROBE.***

The VOLU-probe/FI Fan Inlet Probe consists of a pair of offset mounted traverse probes that are installed directly in the fan's inlet bell mouth at the throat location. The VOLU-probe/FI combines the air processing effect of the nozzle-shaped fan inlet bell mouth with the Fechheimer derivative of the multi-point, self-averaging Pitot to accurately measure inlet velocity pressure (and calculable air volume) with an accuracy of 3% for most fan types. The VOLU-probe/FI is available in both aluminum and stainless steel construction. Patent No. 3,733,900.



## ***VOLU-probe/SS STAINLESS STEEL AIRFLOW TRAVERSE PROBES.***

The VOLU-probe/SS Airflow Traverse Probes consist of multiple Fechheimer Pitot total and static pressure sensing ports positioned along the length of each separate side-by-side probe, to traverse the duct cross-section, average the sensed pressures in their separate manifolds, and provide a measurement of velocity pressure accurate to within 2-3% of actual flow. The VOLU-probe/SS is constructed of Type 316 stainless steel, and is available in externally and internally mounted versions to fit the needs of harsh, corrosive or high temperature applications such as fume hood and laboratory exhaust, pharmaceutical and electronics production, and industrial process exhaust. Patent No. 4,559,835.



## ***ELECTRA-flo THERMAL PROBE ARRAY.***

The ELECTRA-flo Array utilizes thermal dispersion technology in multi-point probes to measure average airflow and temperature with an accuracy of 2-3% in applications having limited straight duct runs and/or moderately disturbed airflow. The rugged anodized aluminum probes have aerodynamic sensor apertures that condition turbulent airflow having pitch and yaw angles up to +30 degrees, resulting in measured point velocities within + 2% of actual flow traceable to NIST standards. Each probe array is accompanied by an ELECTRA-flo transmitter for local data display, performing configuration and calibration, and to provide analog outputs of airflow and temperature.



## ***ELECTRA-flo/FI THERMAL FAN INLET AIRFLOW PROBE.***

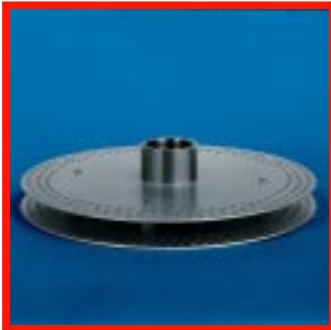
The ELECTRA-flo/FI Fan Inlet Probe utilizes dual point thermal dispersion technology sensors installed directly in the fan's inlet bell mouth at the throat location. The ELECTRA-flo's aerodynamic sensor apertures, assisted by the air processing effect of the nozzle-shaped fan inlet bell mouth, provide accurate measurement for most fan types. Anodized aluminum sensor housings and stainless steel adjustable support struts are both durable and easy to install. ELECTRA-flo sensors are factory calibrated to NIST traceable standards. Each fan inlet assembly is accompanied by an ELECTRA-flo transmitter for local data display, performing configuration and calibration, and to provide analog outputs of airflow and temperature.

# Outside Air Monitor, Pressure Sensors, and Meters



## ***VOLU-flo/OAM OUTSIDE AIR MONITOR.***

The VOLU-flo/OAM Outside Air Monitor was designed specifically to measure the volume of outside air being introduced into occupied building space, in compliance with the ventilation requirements of ASHRAE 62-99. The easy to install VOLU-flo/OAM can measure inlet velocities as low as 150 FPM with an accuracy of  $\pm 5\%$ , without being affected by the presence of directional wind and gusts. Models are available for new and retrofit installation onto most single and dual inlet package air handlers as well as many built-up systems, providing local display of data and direct analog interface with the BAS for data logging purposes and/or control of the outside air damper(s).



## ***S.O.A.P. STATIC OUTSIDE AIR PROBE.***

The S.O.A.P. static outside air probe was designed for accurate and instantaneous sensing of outside static air pressure levels without being adversely impaired by the presence of directionalized gusting wind. Typical locations are an elevated position in an outdoor parking lot, in a below ground recess (landscaped or lawn area), away from buildings, in a below ground location like a parking garage with non-forced ventilation, or on a rooftop mounted pole sufficiently elevated to be outside any anticipated wind induced pressure envelope.



## ***S.A.P. /B,P,S,R STATIC PRESSURE SENSORS.***

Available in aluminum or stainless steel construction and four separate mounting configurations, the S.A.P. family of static pressure sensors generate a steady, non-pulsating output of room, space or plenum pressure.

Model B – Electrical Junction Box Mount  
Model P – Suspended Mount via Pipe  
Model S – Surface Mount  
Model R – Recessed Flush Mount



## ***STAT-probe STATIC PRESSURE PROBE.***

The STAT-probe Static Pressure Probe consists of multiple Fechheimer static pressure sensing ports positioned along the length of the probe to traverse the duct cross-section, average the sensed static pressures in the internal manifold, and provide a measurement of static pressure accurate to within 2-3% of actual pressure. As a primary static pressure sensing means, the STAT-probe is ideally suited to meet the need for inexpensive and accurate duct static pressure measurement in both new installation and retrofit applications ranging from commercial building HVAC to laboratory, pharmaceutical and electronics production, and health care institutions.



## ***AIRFLOW METERS.***

The Airflow Meters are differential pressure, dry type gauges which are custom dual scaled in user selected units of pressure, velocity, or volume to provide continuous fan and duct capacity monitoring, airflow measuring station readout, and mechanical systems operations monitoring with a measured accuracy of  $\pm 2\%$ .

The Airflow Meters are available in three configurations: Single meter with wall mount bracket; single meter in a portable enclosure; and, multiple meters in a central monitoring panel.

# Electronic Transmitters & Transmitter-Controllers



## **VELTRON DP100 TRANSMITTER.**

The VELTRON DP100 ultra-low differential pressure transmitter, with a 1% of Natural Span accuracy, is suited for non-critical measurement of static, differential or velocity pressure in general HVAC applications. The 2-wire, 4-20mA VELTRON DP100 is available in eight different standard and bi-polar full spans covering a range of 10.0 to 0.1 Inches w.c.



## **VELTRON DPT 2500 TRANSMITTER.**

The VELTRON DPT 2500 ultra-low differential pressure and flow transmitter, with a 0.5% of Natural Span accuracy, is designed for moderately critical HVAC applications where more than a utilitarian transmitter is desirable. In addition to being a 4-20mADC, 2-wire transmitter available in seven different standard and bi-polar natural spans covering a range of 10.0 to 0.1 Inches w.c., the VELTRON DPT 2500 offers a selection of standard and optional features: Integral 3-way zeroing valve; built-in square root function for flow applications; custom calibratable spans down to 0.04" w.c.; NEMA 1 and 12 enclosures; and an integral 3-1/2" digital liquid crystal display.



## **VELTRON DPT 2500-plus TRANSMITTER.**

The VELTRON DPT 2500-*plus* ultra-low differential pressure and flow "smart" transmitter, with a 0.25% of Natural Span accuracy, is designed for demanding HVAC and process applications where high accuracy and microprocessor based functionality are needed. The VELTRON DPT 2500-*plus* is a 4-wire, 24VAC/VDC powered device available in nine different standard and bi-polar Natural spans covering a range of 25.0 to 0.05 IN w.c. Key features include: Microprocessor based configuration and calibration; backlit graphical LCD; analog output configurable for 0-10VDC or 4-20mA; AUTO-zero capability; adjustable digital low pass filter and 5:1 turndown capability. Optional NEMA 12 version shown.



## **VELTRON II TRANSMITTER.**

The VELTRON II ultra-low differential pressure and flow "smart" transmitter, with its 0.1% of Natural Span accuracy, is intended for the most critical and demanding HVAC and industrial applications that require the utmost accuracy and long-term stability. The VELTRON II's long list of features include: Microprocessor based configuration and calibration; four lines of process data display via the optional graphical LCD; four analog outputs individually configurable for 0-10VDC or 4-20mA; AUTO-zero capability; adjustable digital low pass filter; membrane keypad interface; 10:1 turndown capability; three-mode (P,I,1/D) controller with soft start and internal/external adjustable set points; and nine different standard and bi-polar natural spans covering a range of 25.0 to 0.05 Inches w.c.



## **ELECTRA-flo TRANSMITTER.**

The ELECTRA-flo "smart" transmitter, when used with an ELECTRA-flo station, probe array or fan inlet probe, provides high accuracy measurement of average airflow and temperature utilizing multi-point thermal dispersion technology combined with the capability of processing up to 32 individual points of measurement. The microprocessor based transmitter comes standard equipped with a multi-line graphical LCD for configuration, calibration and display of data; dual analog outputs of flow and temperature individually configurable for 0-10VDC or 4-20mA; LonWorks communication; digital low pass filter; individual sensor diagnostics; and, a password protected membrane keypad interface.

# SUMMARY OF PRODUCTS

## about Air Monitor Corporation

Air Monitor Corporation was founded in 1967 with the invention of the multi-point, self-averaging Pitot tube airflow traverse station with built-in air straightener, now generically referred to as "airflow measuring station" or "flow monitor". More than 1,000,000 Air Monitor systems have since been installed worldwide.

**In 1972**, the first volumetric control of airflow was demonstrated in Air Monitor's Santa Rosa laboratory, demonstrating that the combined use of its airflow measuring stations and commercial pneumatic instrumentation could successfully control duct flow rates and fan capacities at constant volume, and volumetrically synchronize the air volumes of two fan (or duct) systems.

**In 1975**, Air Monitor introduced the first stand-alone, functionally engineered airflow control centers utilizing ultra-low span, high accuracy pneumatic transmitter and control instrumentation.

**In 1978**, the first electronic transmitter with natural spans below 0.5 Inches w.c. and accuracies better than 1.0% were made available for pressurization and airflow measurement applications.

**In 1980**, Air Monitor introduced the first engineered control centers that utilized industrial quality, electronic instrumentation and control logic capable of performing critical airflow and pressurization control applications.

**In 1985**, Air Monitor introduced the first multi-point, self-averaging traverse probe offering a cost effective means to retrofit existing HVAC systems with accurate flow measurement.

**In 1986**, AUTO-zero was created by Air Monitor, thus making available to the HVAC and Process industries transmitters capable of 0.25% of full span measurement accuracy and natural spans all the way down to 0.1 Inches w.c.

**In 1989**, Air Monitor introduced the first ultra-low range, multi-variable mass flow transmitter that internally compensated for the effects of process temperature and pressure, and provided

separate outputs corresponding to the process pressure, temperature, and mass flow.

**In 1993**, The microprocessor based dedicated control center was developed, combining Air Monitor's proven high accuracy, ultra-low range, AUTO-zero transmitters with the microprocessor's capability for system logic design flexibility, field expandability and reconfigurability, information communication, and data processing efficiency.

**In 1998**, Air Monitor further expanded the performance envelope of its transmitters by offering 0.1% of natural span accuracy and span ranges as low as .05 Inches w.c.

**In 1999**, Air Monitor offered the first flow measuring stations and probes to be independently performance tested and certified in accordance with the AMCA 610 Standard for airflow measuring stations; and Air Monitor was the first manufacturer of airflow measuring stations to employ the ASHRAE prescribed log-Tchebycheff guidelines for placement of flow measurement sensors.

**In 2001**, the VOLU-flo/OAM Outside Air Monitor was introduced, specifically designed for measurement and control of the volume of outside air being introduced into occupied building space, in compliance with the ventilation requirements of ASHRAE 62-99. The easy to install VOLU-flo/OAM measures inlet velocities as low as 150 FPM at an accuracy of  $\pm 5\%$ , without being affected by the presence of directional and gusting wind.

**In 2005**, Air Monitor adds the ELECTRA-flo family of thermal dispersion technology airflow measurement systems to compliment its Fechheimer Pitot products. Multi-point probes arrays, stations and fan inlet probe measure airflow with an accuracy of 2-3% in applications having limited straight duct runs and/or moderately disturbed airflow. Ideally suited for clean, dry applications having high turndown or operate at very low velocities.

## Product Brochures

### Airflow Measuring Stations

FAN-E Airflow Measuring Station  
Aluminum LO-flo Pitot Traverse Station  
VOLU-probe/VS Airflow Traverse Station  
ELECTRA-flo/CM Thermal Airflow Measuring Station

### Airflow Measuring Probes

VOLU-probe/1,2,3,4 Airflow Traverse Probes  
VOLU-probe/FI Fan Inlet Airflow Traverse Probes  
VOLU-probe/SS Stainless Steel Airflow Traverse Probes  
STAT-probe Static Pressure Probe  
ELECTRA-flo/FI Thermal Fan Inlet Airflow System

### Pressure Sensors and Probes

S.A.P./B,P,S,R Shield Static Air Probes  
S.O.A.P. Static Outside Air Probe

### Electronic Transmitters and Transmitter-Controllers

VELTRON DP100 Differential Pressure Transmitter  
VELTRON DPT 2500 Differential Pressure & Flow Transmitter  
VELTRON DPT 2500-*plus* Differential Pressure & Flow Transmitter  
VELTRON II Microprocessor Based Transmitter  
ELECTRA-flo Plus Thermal Airflow Measurement System

### Room/Hood Monitors/Controllers, Electronic Control Systems

VOLU-flo/OAM Outside Air Monitor  
SENTRY Room Pressurization Monitor & Controller

### Accessory Products

Airflow Meters



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