

# ULTRAC AMS

## Airflow Measuring Stations

Accurate,  
Reliable,  
Repeatable  
Air Flow  
Measurement

SPEC EP-0001-7



ULTRAC AMS

### ULTRAC AMS

- Accurate and repeatable airflow measurement
- AMCA Certified for Airflow Station Performance
- Incorporates multiple measuring points for equal area averaging of flows resulting in improved accuracy and reliability
- Economical, light weight rugged construction and ease of installation make the ULTRAC AMS the choice of HVAC professionals
- 12 inch flanged steel casing frames aluminum hexagon-celled straightening vane that eliminates turbulence and corrects flow direction enhancing the velocity profile
- Design eliminates nonessential hardware that can cause build up of dirt and foreign matter on the measuring assembly decreasing accuracy
- Available in Rectangular, Round or Oval configurations

### Specifications For Standard Units

**Accuracy:** +/-2% to 6000 feet per minute (+/.05% at 2000 feet per minute)

**Temperature:** Maximum operating 400°F

**Pressure:** Maximum operating, 6-in. w.c.

**Pressure drop:** Less than 0.13 in. w.c. at 2000 feet per minute with 3/8" cell

**Flow strengthening vanes:** 3/8" aluminum hexagon cell

**Maximum design flow:** 6000 ft./min.

**Casing:** 16-gauge galvanized sheet metal

**Length:** 12-in. overall

**Pitot/static sensors:** rigid copper hard drawn, to ANSI H 23.1 and ASTM B88 standards

**Internal fittings:** copper, to ANSI B 16.22 standards

**Process connections:** 1/2-in. NPT female

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## Airflow Measuring Stations

### Applications

**ULTRATECH ULTRAC** Airflow Measuring Stations (AMS) provide accurate, repeatable measurement of air movement through ducts and piping. Lightweight, rugged construction coupled with ease of installation and economical pricing make these devices particularly applicable to the HVAC trade. Durable, quality construction ensures long-term, trouble-free operation. ULTRAC Airflow Measuring Stations are compatible with manometers, differential pressure gauges, and differential pressure transmitters used for airflow indication and control.

### Description

ULTRAC Airflow Measuring Stations use multiple averaging Pitots to determine total velocity and static pressure measurements. The Pitot sensors are placed across the flow stream according to industry standards for equal-area averaging (the standard Pitot traverse). ULTRAC's Unique AMS construction eliminates nonessential hardware that can cause build-up of dirt and foreign matter on the measuring assembly.

ULTRAC Airflow Measuring Stations are available in round, rectangular and oval configurations. All configurations feature a sensor assembly that allows for duct expansion and contraction. The 12-inch flanged steel casing has an aluminum, hexagon-celled straightening vane section that is mechanically fastened to the inlet. This eliminates turbulence and corrects flow direction, thereby improving the velocity profile.

Various casing designs are available, as are most types of proprietary duct connecting systems. Contact ULTRATECH about these options.

### Suggested Specifications

Airflow measuring stations shall be of the multiple averaging Pitot, static pressure sensor type, with all total pressure sensors distributed for equal-area-averaging of flows. They shall be of unitary (spool-piece) construction, of not less than 16-gauge sheet steel with flanged duct connections. Flow-straightening vanes shall be incorporated into the structure. Internal Pitot and static sensor shall be constructed of copper to ASTM B88 standards. Instrument connections shall be 1/2" NPT Female. Mounting hardware shall not penetrate the sensor assembly.

The airflow measuring stations shall be ULTRAC AMS, as manufactured by ULTRATECH INDUSTRIES, INC., Garner, NC, U.S.A.

### Ordering Information



#### Casing Design

- 3 – Rectangular with no flanges
- 4 – Flat oval with no flanges
- 5 – Round with no flanges
- 6 – Rectangular with angle flanges
- 7 – Flat oval with angle flanges
- 8 – Round with angle flanges
- 9 – Rectangular with sheet metal flanges
- Z – Special

#### Materials

- 1 – Standard – 16-ga. galv. Casing, aluminum straightening vanes, copper probes
- 2 – All stainless steel
- 3 – Stainless steel casing
- 4 – Stainless steel straightening vanes
- 5 – Stainless steel probes
- 6 – Stainless steel casing & straightening vanes
- 7 – Stainless steel casing & probes
- 8 – Stainless steel straightening vanes & probes
- 9 – Coated (specify)
- Z - Special

#### Probe/Straightening Vane Design

- 1 – Standard-3/8" straightening vanes, multiple total, single bullet-nose static
- 2 – 3/4" straightening vanes (products approx. 50% of specified pressure drop)
- 3 – Multiple static probes on cylinder surface
- 4 – Multiple bullet-nose static probes
- 5 – 2 & 3 above
- 6 – 2 & 4 above
- Z – Special

#### Dimensions

long side x short side or diameter

#### Options

- B – Bolt holes in flanges (specify)
- C – Special instrument connections (specify)
- D – Damper with actuator (specify)
- H – Above standard process air pressure (specify)
- W – All welded construction
- Z - Special



Ultratech Industries certifies that the ULTRAC AMS Airflow Measuring Station shown herein is licensed to bear the AMCA Certified Ratings Seal-Airflow Measurement Station Performance. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 611 and comply with the requirements of the AMCA Certified Ratings Program.

Performance ratings include the effect of an integral air equalizer-straightener cell in the AMS.

#### Test Results—AMS 913-36 X 36

AMP (CFM)	REF (CFM)	REF (FPM)	Accuracy (%)	Pressure Drop
51687	52262	5743	-1.00	0.837
45824	45778	5063	0.10	0.682
39309	37017	4113	-1.91	0.436
26209	26743	2972	2.00	0.254
18047	18188	2021	0.78	0.126
9401	9013	1002	-4.30	0.042

#### Test Data

**Model:** AMS

**Type:** Differential Pressure

Effective Area: 9.25 Square Feet

Conversion Formula: (CFM/Effective Area/4005)<sup>2</sup>

Size & Shape Tested: 36" x 36" Rectangular

Applicable Sizes Rated: Rectangular stations with cross-sectional areas between 4.5 and 18.0 square feet.

Test Setup: AMCA Standard 610, Figure 1

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