

AMS AIR MEASURING STATION

APPLICATION

Ruskin model AMS is factory assembled and tested to provide accurate setpoint monitoring at all times. The unit comes standard with a honeycomb airflow straightener, pressure sensing station and a high performance glass-on-silicone pressure transducer. The sensing blades are extruded aluminum with a clear anodize finish. The pressure transducer output signal is field selectable and can be routed to a building automation system for continuous monitoring of the flow. With a simple dip switch setting you may choose either a 0 to 5 vdc or 0 to 10 vdc output signal. The output signal is proportional to flow.

STANDARD CONSTRUCTION

SLEEVE

9" (229) long x 16 ga. (1.6) galv. G60 (for slip-fit duct connection).

AIR FLOW STRAIGHTENER

.50" (13) Honeycomb Cell x 3" (76) 3000 series aluminum alloy.

SENSOR BLADE

6063T6 extruded aluminum, clear anodize finish.

SENSOR PORT FITTINGS

Brass.

PRESSURE TRANSDUCER:

RU-274-R2-VDC.

ACCURACY

3% deviation average across measurement range.

POWER REQUIREMENTS

12-40 VDC or 12-35 VAC.

OUTPUT SIGNAL

0-5 or 0-10 VDC dip switch selectable proportional to flow.

VELOCITY

Product Range - 300 to 5000 FPM (1.5 to 25 m/s).

Operating Range - 300 to 2,000 FPM (1.5 to 10.2 m/s).

-Standard units with RU274-R2-VDC (1.5 to 25 m/s).

Operating Range - 300 to 5,000 FPM (1.5 to 25 m/s).

Units with AMS810 high pressure transducer.

OPERATING TEMPERATURE

-22° F to +140° F standard (-30°C to 60°C).

MINIMUM SIZE

Single-6"w x 6"h (152 x 152).

MAXIMUM SIZE

Single section - 60"w x 72"h (1524 x 1829).

Multiple section assembly - 120"w x 72"h (3048 x 1829).

NOTES:

1. Values in parentheses () are millimeters unless otherwise indicated.
2. Refer to installation manual for additional details.



Air enters honeycomb side and exits Probe side



FEATURES

- Honeycomb airflow straightener
- Anodized aluminum sensing blades
- Factory piped low pressure transducer with 0-10 VDC output

Ruskin AMS helps satisfy the requirements for minimum outside air as required by the following.

- ASHRAE 62.1, ASHRAE 90.1 and ASHRAE 189.1.
- California Title 24
- International Mechanical Code (IMC)
- International Energy Conservation Code (IECC)

VARIATIONS

The AMS is available with several options to fit your specific application.

- Flanged connection
- DPT-IQ transducer with display

AIR PERFORMANCE

| TEST RUN | TEST SET UP FIG 1 | | | | |
|---|-------------------|----------------------|------------------------|----------------------|---------------------------------|
| | PAMS in W.G. | Reference Volume CFM | Reference Velocity FPM | Indicated Volume CFM | % Accuracy to Reference Airflow |
| AIR PERFORMANCE SIZE 12" x 12" (305 x 305) | | | | | |
| 1 | 0.016 | 301 | 301 | 296 | -1.75 |
| 2 | 0.046 | 488 | 488 | 501 | 2.76 |
| 3 | 0.170 | 979 | 979 | 964 | -1.53 |
| 4 | 0.654 | 1,951 | 1,951 | 1,891 | -3.09 |
| 5 | 2.075 | 3,437 | 3,437 | 3,368 | -2.01 |
| 6 | 4.131 | 4,844 | 4,844 | 4,752 | -1.90 |
| AIR PERFORMANCE SIZE 24" x 24" (610 x 610) | | | | | |
| 1 | 0.020 | 1,583 | 396 | 1609.47 | 1.67 |
| 2 | 0.070 | 2,998 | 750 | 3003.51 | 0.18 |
| 3 | 0.125 | 3,895 | 974 | 4008.96 | 2.93 |
| 4 | 0.495 | 7,925 | 1,981 | 7955.81 | 0.39 |
| 5 | 1.525 | 13,894 | 3,474 | 13932.83 | 0.28 |
| 6 | 3.250 | 20,042 | 5,011 | 20309.01 | 1.33 |
| AIR PERFORMANCE SIZE 36" x 36" (914 x 914) | | | | | |
| 1 | 0.009 | 2,318 | 258 | 2343.60 | 1.10 |
| 2 | 0.022 | 3,669 | 408 | 3737.59 | 1.87 |
| 3 | 0.111 | 8,893 | 988 | 8702.564 | -2.14 |
| 4 | 0.430 | 18,463 | 2,051 | 17651.25 | -4.40 |
| 5 | 1.280 | 31,160 | 3,462 | 31200.63 | 0.13 |
| 6 | 2.830 | 45,561 | 5,062 | 47217.30 | 3.64 |

AIRFLOW RESISTANCE

| AMCA ΔPd Test Data | | |
|----------------------------|----------|-------------|
| TEST SIZE | VELOCITY | ΔPd |
| 12" x 12" (305 x 305) | 301 | 0.003 |
| | 488 | 0.008 |
| | 979 | 0.042 |
| | 1951 | 0.151 |
| | 3437 | 0.424 |
| | 4844 | 0.834 |
| TEST SIZE | VELOCITY | ΔPd |
| 24" x 24" (610 x 610) | 396 | 0.010 |
| | 750 | 0.025 |
| | 974 | 0.040 |
| | 1981 | 0.135 |
| | 3474 | 0.360 |
| | 5011 | 0.730 |
| TEST SIZE | VELOCITY | ΔPd |
| 36" x 36" (914 x 914) | 258 | 0.000 |
| | 408 | 0.003 |
| | 988 | 0.094 |
| | 2051 | 0.069 |
| | 3455 | 0.145 |
| | 5036 | 0.351 |

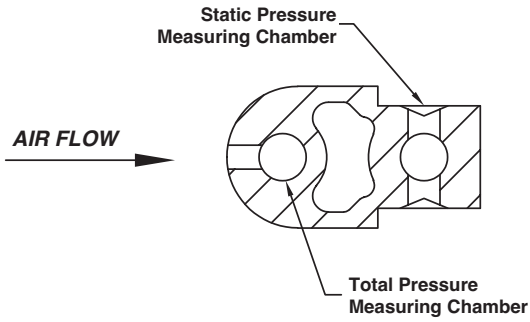
| $CFM = (K) \times (PAMS^M)$ | | |
|-----------------------------|--------|--------|
| SIZE | K | M |
| 12" x 12" | 2338.0 | 0.50 |
| 24" x 24" | 11292 | 0.498 |
| 36" x 36" | 27427 | 0.5222 |

Ruskin certifies that the AMS Air Monitoring Station shown herein is licensed to bear the AMCA Certified Rating Seal - Airflow Measuring Station Performance. The ratings shown are based on tests and procedures performed in accordance with AMCA publication 611 and comply with requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to airflow measurement performance only.

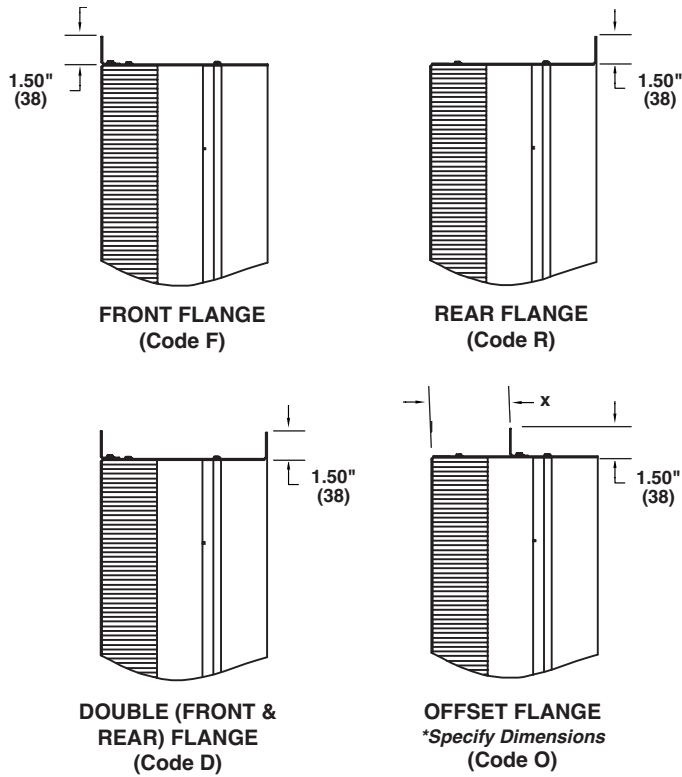


DIMENSIONAL DETAILS

AMS SENSING BLADE DETAIL

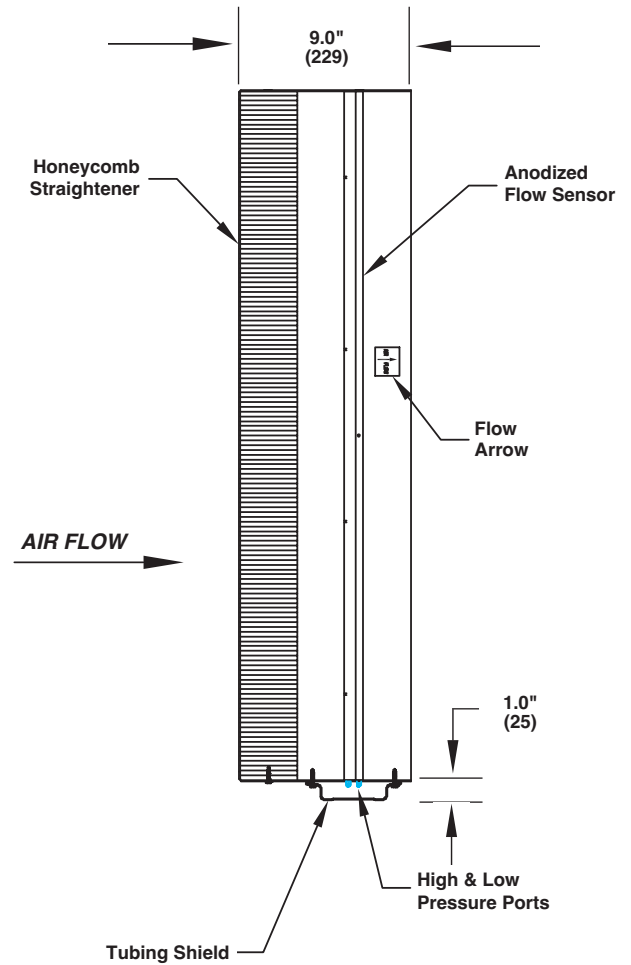


MOUNTING FLANGE OPTIONS



SPECIFICATION

Furnish and install, at locations shown on plans or as in accordance with schedules, an air measuring station with integral pressure transducer. The complete air measuring package shall be factory assembled into one turnkey product and factory commissioned for the specific job requirements. Unit shall have a measuring range from 300 to 5,000 feet per minute (1.5 to 25 m/s). The Air measuring station shall consist of 1/2" x 3" (13 x 76) 3000 series aluminum alloy honeycomb, 6063T5 extruded aluminum sensing blades with anodized finish and a glass-on-silicone GL-Si capacitance sensor pressure transducer capable of measuring up to six field selectable pressure ranges up to 1" water column. The transducer shall be accurate to $\pm 1\%$ of full scale and be contained in a NEMA 4 (IP-65) painted steel enclosure. Transducer shall be factory mounted and piped to high and low brass pressure fittings from the sensor averaging ports. All sensor tubing shall terminate in solid brass barbed fittings. Tubing and associated fittings to be contained in a formed steel protective tubing shield to protect pressure station during transit and installation. The Air Measuring Station shall be licensed to bear the AMCA Certified Ratings Seal for Air Flow Measurement Stations. Air Measuring Stations shall be, in all respects, equivalent to Ruskin Model AMS.





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