RUSKIN®

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AMS050
AIR MEASURING STATION WITH INTEGRAL DAMPER

APPLICATION

The AMCA certified AMS050 combines an air measuring station with an ultra low-leak, high performance control damper. The complete assembly is tested to provide effective setpoint monitoring and adjustment. The unit is class 1A leakage and performance rated and includes 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 AMS050 can be used with any building automation system. Multiple control options are available.

STANDARD CONSTRUCTION

SLEEVE
15" (381) long x 16 ga. galv. G60 (for slip-fit duct connection).

AIR FLOW STRAIGHTENER
1/2" (13) Honeycomb Cell x 3" (76) 3000 series aluminum alloy.

SENSOR BLADE
6063T5 extruded aluminum, clear anodize finish.

SENSOR PORT FITTINGS
Brass.

PRESSURE TRANSDUCER:
RU-274-R2-VDC, 0-5 or 0-10 VDC output (field selectable).
Output signal is proportional to CFM.

ACCURACY
3% Deviation Average Across Measurement Range.

POWER REQUIREMENTS
12-40 VDC or 12-35 VAC.

DAMPER BLADES
6" (152) wide, 6063T5 extruded aluminum, airfoil shape.

SEALS
Ruskiprene blade edge seals and stainless jamb seals.

BEARINGS
Molded synthetic.

LINKAGE
Plated steel, concealed in frame.

AXLES
1/2" (13) plated steel hex.

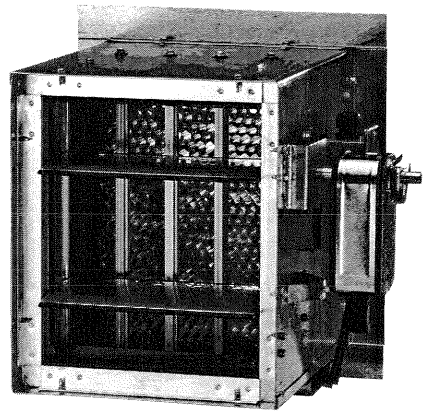
MINIMUM SIZE
Single-6"w x 6"h (152 x 152).

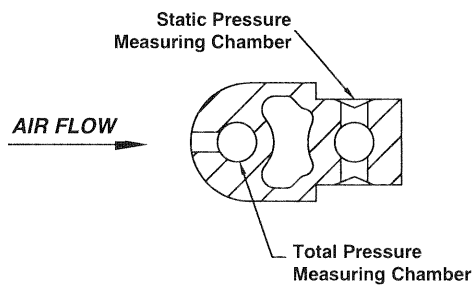
MAXIMUM SIZE
Single section - 60"w x 72"h (1524 x 1829).
Multiple section assembly - unlimited.

VELOCITY REQUIREMENTS
Product Range - 300 to 5000 FPM.
Operating Range - 300 to 2,000 FPM.
-Standard units with RU274-R2-VDC.
Operating Range - 300 to 5,000 FPM.
-Units with AMS070V controller or AMS810 (high pressure) transducer.

OPERATING TEMPERATURE
-22° F to +140° F standard.

Ruskin Company certifies that the AMS050 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.





FEATURES

- Low-leak Class 1A Damper
- Honeycomb airflow straightener
- Anodized aluminum sensing blades
- Factory piped low pressure transducer with 0-10 VDC output

Ruskin AMS050 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 AMS050 is available with several options to fit your specific application.

- Stainless steel axle bearings
- Stainless steel linkage (includes axles, tie bars & control arms)
- Special material, flanged or extended sleeve
- 24VAC Actuator (LF24MFT30001 or AF24MFT30001)
- AMS810 pressure transducer with LCD display
- AMS070V Controller package

Package includes factory calibration of control module and air measurng station in a complete turnkey assembly (reference AMS070V data sheet)

Notes:

1 Dimensions shown in ( ) indicate millimeters.
2. Refer to installation manual for additional details
3. To order, send completed Order Process Sheet with purchase order.

AIR PERFORMANCE

AMCA TEST FIGURE 1					AMCA TEST FIGURE 2				
PAMS in W.G.	Reference Volume CFM	Reference Velocity FPM	Indicated Volume CFM	% Deviation Average = 2.09%	PAMS in W.G.	Reference Volume CFM	Reference Velocity FPM	Indicated Volume CFM	% Deviation Average = - 0.75
AIR PERFORMANCE SIZE 12 x 12 (305 x 305)									
4.190	5,070	5,070	5,199	2.55%	4.040	5,008	5,008	5,104	1.93%
2.010	3,563	3,563	3,585	0.62%	2.260	3,791	3,791	3,804	0.35%
0.650	2,074	2,074	2,025	-2.37%	0.670	2,163	2,163	2,056	-4.94%
0.150	995	995	964	-3.12%	0.190	1,085	1,085	1,087	0.14%
0.045	498	498	524	5.25%	0.040	548	548	494	-9.89%
0.005	143	143	172	20.55%	0.005	143	143	172	20.55%
AIR PERFORMANCE SIZE 24 x 24 (610 x 610)									
4.060	20,274	5,069	20,736	2.28%	3.750	20,174	5,044	19,924	-1.24%
1.930	14,168	3,542	14,266	0.69%	1.770	14,094	3,524	13,659	-3.09%
0.610	8,101	2,025	7,994	-1.33%	0.540	8,056	2,014	7,518	-6.67%
0.160	4,028	1,007	4,078	1.24%	0.140	4,006	1,002	3,813	-4.81%
0.150	4,005	1,001	3,948	1.43%	0.130	3,983	996	3,674	-7.77%
0.015	1,199	300	1,240	3.43%	0.040	1,996	499	2,031	1.75%
AIR PERFORMANCE SIZE 36 x 36 (914 x 914)									
3.790	45,485	5,054	48,031	5.60%	3.590	45,100	5,011	46,707	3.56%
1.780	31,557	3,506	32,532	3.09%	1.720	31,650	3,517	31,962	0.99%
0.570	18,158	2,018	18,086	-0.40%	0.540	18,193	2,021	17,589	-3.32%
0.150	9,052	1,006	9,087	0.39%	0.130	8,774	975	8,441	-3.79%
0.140	8,757	973	8,770	0.15%	0.040	4,491	499	4,597	2.37%
0.015	2760	307	2,773	0.46%	0.015	2,763	307	2,773	0.35%

AIRFLOW RESISTANCE

Pressure Drop in WG	Volume CFM	Velocity FPM
AIR FLOW RESISTANCE 12 x 12 (305 x 305)		
2.174	5,039.6	5,039.6
1.052	3,562.4	3,562.4
0.352	2,081.7	2,081.7
0.093	1,000.4	1,000.4
0.042	499.5	499.5
0.005	143.5	143.5
AIR FLOW RESISTANCE 24 x 24 (610 x 610)		
0.995	20,150.8	5,037.7
0.489	14,136.0	3,534.0
0.167	8,101.2	2,025.3
0.042	4,004.8	1,001.2
0.021	2,009.6	502.4
0.010	1,200.4	300.1
0.005	579.6	144.9
AIR FLOW RESISTANCE 36 x 36 (914 x 914)		
0.643	45,175.5	5,019.5
0.307	31,468.5	3,496.5
0.113	18,153.0	2,017.0
0.036	9,051.3	1,005.7
0.031	8,763.3	973.7
0.010	4,485.6	498.4
0.005	2,760.3	306.7
0.000	1,371.6	152.4

$CFM = (K) \times (PAMS^M)$		
SIZE	K	M
12 x 12	2518	0.5061
24 x 24	10249.5	0.5029
36 x 36	24166	0.51555

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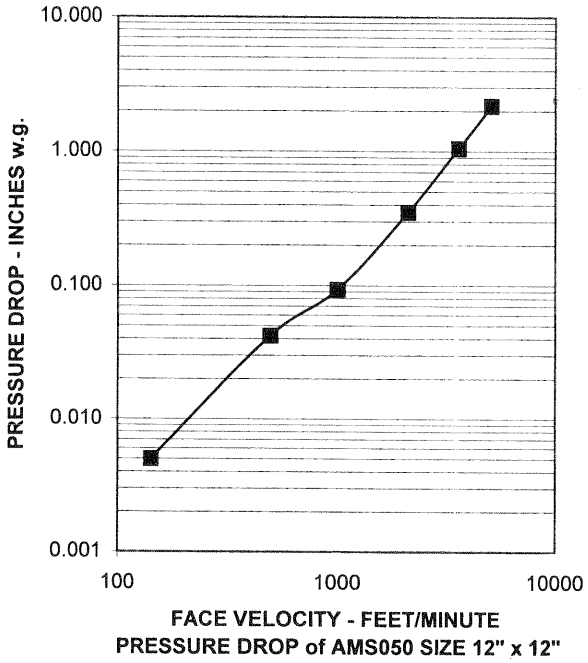
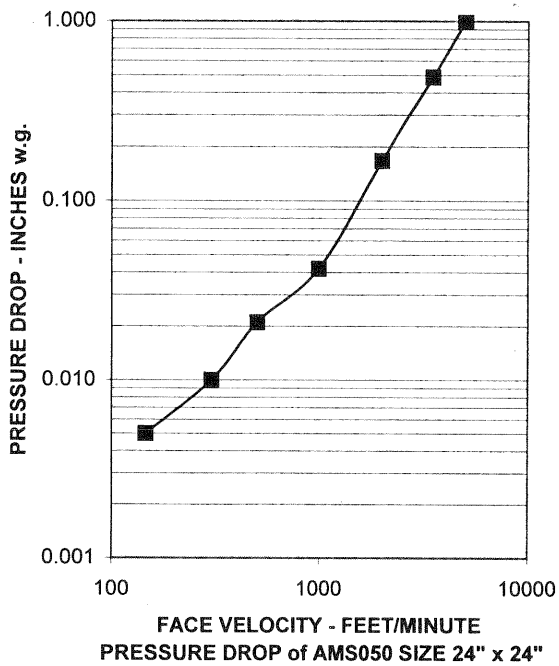
amca CERTIFIED RATINGS
AIRFLOW MEASUREMENT STATION
AIR PERFORMANCE
AIR MOVEMENT AND CONTROL ASSOCIATION INTERNATIONAL, INC.

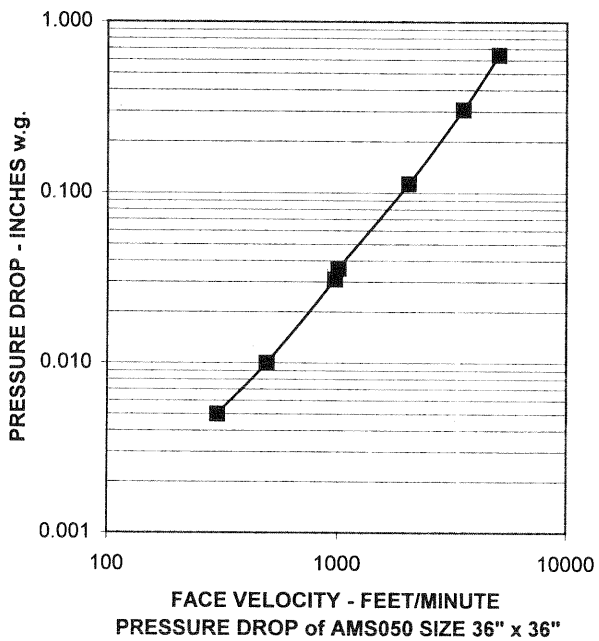
AIR PERFORMANCE



PRESSURE DROP of AMS050 SIZE 12" x 12"



PRESSURE DROP of AMS050 SIZE 24" x 24"



PRESSURE DROP of AMS050 SIZE 36" x 36"

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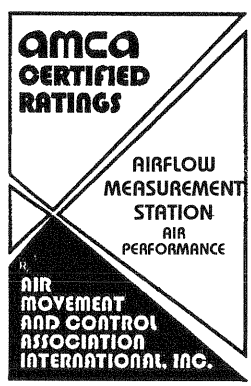
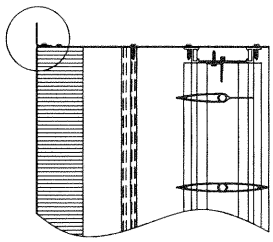


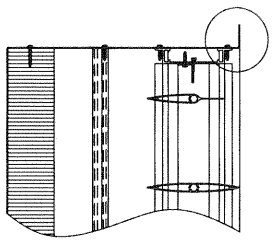
NOTES

1. Ratings are based on AMCA Standard 610-93 Test Setup figure 1 using differential pressure output.
2. Performance of the AMS050 will be ±3% of curve shown for AMCA 610-93 Test Fig. 1 applications.
3. Size and shape tested include 12" x 12", 24" x 24" (305 x 305, 610 x 610) and 36" x 36" (914 x 914) rectangular. Rated sizes from .5 square feet to 18 square feet.
4. Indicated volumes = *(K) (PAMS^{M})*

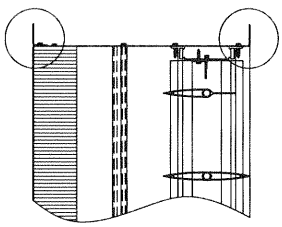
MOUNTING FLANGE OPTIONS



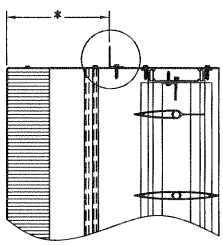
FRONT FLANGE



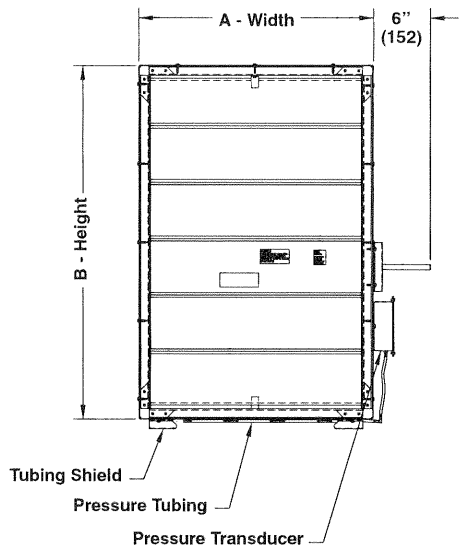
REAR FLANGE

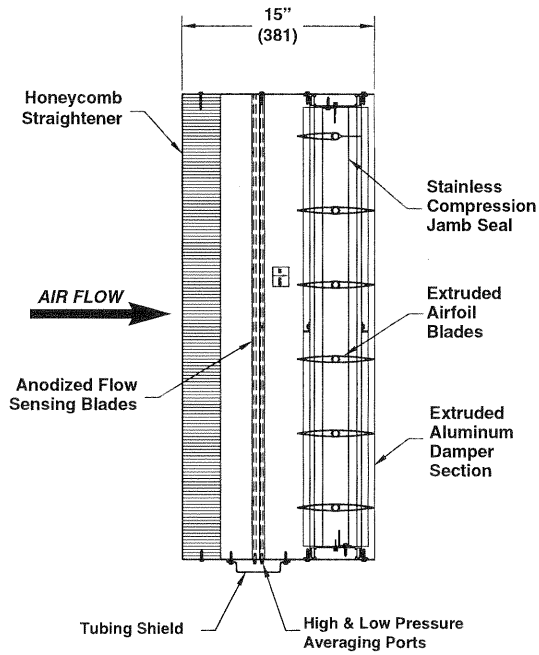


DOUBLE (FRONT & REAR) FLANGE



OFFSET FLANGE
**Specify Dimensions*





SUGGESTED SPECIFICATION

Furnish and install, at locations shown on plans or as in accordance with schedules, an air measuring station with integral pressure transducer and class 1a leakage extruded aluminum control damper. The complete air measuring package shall be factory assembled into one turnkey product and calibrated for the specific job requirements. Unit shall have a measuring range from 300 to 2,000 feet per minute. 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 ±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. The damper section shall consist of 6063T5 extruded aluminum frame and blades. Blade edge seals shall be extruded TPR double edge design with inflatable pocket to enable air pressure to assist in seal-off and shall be mechanically locked in extruded blade slots. Adhesive or clip-on type seals are not acceptable. Axle bearings shall be non-corrosive molded synthetic and shall be molded to fit the hexagonal damper shaft to reduce leakage. Linkage shall be concealed in a linkage chase with dust cover to prevent collection of airborne particles to accumulate on the mechanical parts. Complete assembly shall be constructed, piped and commissioned in an ISO 9001 certified facility. Air Measuring Stations accuracy shall be 3% deviation average across the entire range. The damper and measuring station assembly shall be tested as a complete assembly and shall be licensed to bear the AMCA Certified Ratings Seal for Airflow Measurement Stations. Turnkey assembly shall be, in all respects, equivalent to Ruskin Model AMS050.