APPLICATION
Ruskin model EAMS015 is an AMCA certified electronic air measurement station with an integral heated mass flow sensor and controller. The complete unit is factory assembled and calibrated to provide effective setpoint monitoring down to 100 FPM (.51 m/s). The compact slip fit design and accuracy makes this a smart solution for duct flow measuring applications. The high performance heated mass flow sensor is positioned behind the air scoop manifold inside the sensor chase, protecting it from large particulate. The unit comes standard with an application specific control panel that provides a 0-10V output, proportional to the flow.

STANDARD CONSTRUCTION
CONTROL ENCLOSURE
12” (305) 18 (1.3) gauge galvanized steel.
AIR SCOOP MANIFOLD
.75” (19) aluminum tube with Venturi duct averaging ports.
SENSOR CHASE
.75” (19) aluminum tube placed at 90° to the air scoop manifold.
SENSOR
Electronic heated mass flow.
CONTROLLER
Application specific set points factory calibrated.
Program logic & calibration in nonvolatile EPROM.
ACCURACY
3% over measuring range.
POWER REQUIREMENTS
24 VAC +/- 15%, 10VA, 50/60 Hz.
OUTPUT SIGNAL
0-10V calibrated output signal (or Field Selectable BACnet).
VELOCITY REQUIREMENTS
Product Range - 100 to 2000 FPM (0.51 m/s to 10.1 m/s)
(Measured through face area)
OPERATING TEMPERATURE
-20°F to 120°F (-29°C to 50°C) standard.
MINIMUM SIZE
Single 12”w x 12”h x 18”d (305 x 305 x 457).
MAXIMUM SIZE
Single section - 18 sq. ft. (1.67m²)

Notes:
1. Values shown in ( ) are millimeters unless otherwise indicated.
2. Refer to installation manual for additional details.
3. Units are furnished actual size ordered and dimensioned to the inside of the flanges.

FEATURES
• Electronic heated mass flow sensor
• Factory calibrated controller in nonvolatile EPROM
• BACnet compatibility
• Temperature and altitude compensated

Ruskin EAMS015 helps satisfy the requirements for minimum outside air as required by the following.
• ASHRAE 62.1, 90.1 and 189.1.
• California Title 24
• International Mechanical Code (IMC)
• International Energy Conservation Code (IECC)

VARIATIONS
The EAMS015 is available with several options to fit your specific application.
• 120 volt primary / 24 volt secondary power transformer shipped loose.
• Aluminum construction
## Airflow Resistance

### Test Run Pressure Drop Through Manifold

<table>
<thead>
<tr>
<th>Test Run</th>
<th>Pressure Drop In WG</th>
<th>Volume CFM Pa</th>
<th>Velocity CFM</th>
<th>FPM</th>
</tr>
</thead>
<tbody>
<tr>
<td>Airflow Resistance Size 12” x 12” (305mm x 305mm)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>0.158</td>
<td>39</td>
<td>2,584</td>
<td>1,220</td>
</tr>
<tr>
<td>2</td>
<td>0.103</td>
<td>26</td>
<td>2,065</td>
<td>975</td>
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<tr>
<td>3</td>
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<td>691</td>
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<tr>
<td>4</td>
<td>0.027</td>
<td>7</td>
<td>968</td>
<td>457</td>
</tr>
<tr>
<td>5</td>
<td>0.005</td>
<td>1</td>
<td>460</td>
<td>217</td>
</tr>
</tbody>
</table>

| Airflow Resistance Size 36” x 36” (914mm x 914mm) | | | | |
| 1 | 0.041 | 10 | 23,247 | 10,971 | 2,583 | 13.1 |
| 2 | 0.026 | 6 | 18,477 | 8,720 | 2,053 | 10.4 |
| 3 | 0.016 | 4 | 12,735 | 6,010 | 1,415 | 7.2 |
| 4 | 0.010 | 2 | 9,603 | 4,532 | 1,067 | 5.4 |
| 5 | 0.005 | 1 | 4,509 | 2,128 | 501 | 2.5 |

Ruskin Company certifies that the EAMS015 Air Measurement Station shown herein is licensed to bear the AMCA Certified Rating Seal - Airflow Measurement Station Performance. The ratings shown are based on tests and procedures performed in accordance with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings Seal applies to airflow measurement performance only.
INSTALLATION

The EAMS015 Electronic Air Measurement Station with integral controller is a NEMA 1 rated electrical enclosure.

1. Remove the EAMS015 from its shipping container and inspect for damage. Always handle the EAMS015 unit by its frame. DO NOT LIFT by the air scoop manifold. Do not drop or apply excessive bending, twisting or racking loads. Inspect the duct work for any obstruction or irregularities that might interfere with its installation. If it is to be installed in ductwork, the ductwork may need to be supported to prevent sagging due to the EAMS015 unit's weight.

2. The EAMS015 integral controller is factory calibrated and tested in order to perform correctly in its job specific application. The integral control unit is mounted directly to the side of the EAMS015, under a protective cover. A wiring schematic label is located on the cover for field wiring connections. The enclosure is NEMA 1 rated and should only be used in an environmentally controlled space that is free from moisture and excessive airborne particulate.

3. Loosen the enclosure cover screws, remove the cover and connect 24 VAC supply to exposed terminal block on the EAMS015 unit. The air measurement sensor is powered from the EAMS015 controller. Refer to wiring schematic on the cover plate or in this document for further details.
Furnish and install, at locations shown on plans or as in accordance with schedules, an electronic air measurement station capable of measuring a range from 100 to 2,000 FPM (.51 m/s to 10.1 m/s). The complete air measurement package shall be factory assembled into one turnkey product and calibrated to the specific job requirements. Unit shall be assembled and calibrated in an ISO 9001 certified facility. The air measurement station shall consist of air scoop manifold and an electronic heated mass flow sensor. The sensor in the assembly shall be installed in a protective sensor chase behind an air scoop manifold to prevent large airborne particles from settling on the sensing element. Electronic sensing elements directly exposed to the air stream are unacceptable. The assembly shall provide a ±3% average measuring accuracy over the product measuring range. Each unit shall be factory calibrated and the assembly shall be licensed to bear the AMCA Certified ratings seal for Airflow Measurement Station Performance. Controller shall be field adjustable to provide an output signal within 1% of setpoint. All performance and accuracy ratings shall be supported by data collected from tests performed on an AMCA registered wind tunnel. A factory furnished and calibrated controller shall be programmed, in nonvolatile EPROM, with the job specific flow range. Factory calibration shall be available to ensure accuracy of the final assembly prior to shipping to the job site. The manufacturer shall furnish a data chart that is a representation of the final test. The test data chart shall show, as a minimum, output signal and corresponding flow. The controller shall report a 0-10 V linear output that is proportional to the flow and shall be altitude and temperature compensating. Air measurement stations shall be, in all respects, equivalent to Ruskin Model EAMS015.

**SUGGESTED SPECIFICATION**

Furnish and install, at locations shown on plans or as in accordance with schedules, an electronic air measurement station capable of measuring a range from 100 to 2,000 FPM (.51 m/s to 10.1 m/s). The complete air measurement package shall be factory assembled into one turnkey product and calibrated to the specific job requirements. Unit shall be assembled and calibrated in an ISO 9001 certified facility. The air measurement station shall consist of air scoop manifold and an electronic heated mass flow sensor. The sensor in the assembly shall be installed in a protective sensor chase behind an air scoop manifold to prevent large airborne particles from settling on the sensing element. Electronic sensing elements directly exposed to the air stream are unacceptable. The assembly shall provide a ±3% average measuring accuracy over the product measuring range. Each unit shall be factory calibrated and the assembly shall be licensed to bear the AMCA Certified ratings seal for Airflow Measurement Station Performance. Controller shall be field adjustable to provide an output signal within 1% of setpoint. All performance and accuracy ratings shall be supported by data collected from tests performed on an AMCA registered wind tunnel. A factory furnished and calibrated controller shall be programmed, in nonvolatile EPROM, with the job specific flow range. Factory calibration shall be available to ensure accuracy of the final assembly prior to shipping to the job site. The manufacturer shall furnish a data chart that is a representation of the final test. The test data chart shall show, as a minimum, output signal and corresponding flow. The controller shall report a 0-10 V linear output that is proportional to the flow and shall be altitude and temperature compensating. Air measurement stations shall be, in all respects, equivalent to Ruskin Model EAMS015.