Product Information

The ABV Automatic Balancing Valves maintain a constant airflow volume in HVAC applications. The engineered damper blade is calibrated to automatically adjust to varying pressures using physics not electricity giving the ABV true pressure independence.

Airflow Balancing Valves have been very popular in Europe for several years, and we are proud to be the first to build this type of product in the United States and the first to design the product specifically to meet the needs of American applications.

Applications

Residential, Commercial, OEM

• Precise and automatic airflow regulation in supply or exhaust ventilation systems in any residential or commercial building.
• Automatic balancing of the supply grilles in forced air heating and cooling systems in homes.
• Any HVAC applications with a static pressure between 0.2 and 2.0 inches w.c.
• Controlled volume of make-up air.
• OEM Applications such as chilled beams, Fan Coil Units, PTAC units, centralized fan systems, fresh/make-up air systems, and HRV/ERV’s.
• Suitable for application in temperatures ranging from 25º to 150ºF (-4º to 65ºC).

ABV Sizes Available • Airflow Range

Nominal 4" Diameter • 20 to 130 CFM
Nominal 5" Diameter • 20 to 130 CFM
Nominal 6" Diameter • 50 to 275 CFM

Note: Airflow range determined through +/- 10% of average airflow over 0.2" to 2" W.C.

Warranty

Every ABV product comes with a product replacement warranty to be free from manufacturing defects for a period of 5 years from the date of purchase. Semiannual cleaning is suggested to ensure the precise operation of the valve.

Lab Calibrated

Every ABV features a unique, patent-pending set-point adjustment arm that allows for easy adjustment of the airflow rate through each valve. Each ridge of the set-point adjustment indicator has been laboratory calibrated in accordance with ANSI/AMCA 500-D-12. Each ridge is lab proven to deliver a flow rate within 10% of the set point from 0.2" up to 2.0" of water column.
Features & Benefits

They Work Using Physics, Not Electricity

1. The desired airflow is set by moving the set-point adjustment arm to the desired airflow in CFM (cubic feet per minute).

2. Then the fixed stator blade applies the exact amount of tension on the moving damper blade to hold the airflow at the targeted airflow.

3. Then the pressure differential across the moving damper blade gives the blade lift to automatically adjust to changes in static pressure & air velocity. This is what gives it “pressure independence”.

Using physics, the Airflow Balancing Valves will constrain the airflow volume to precise factory calibrated volumes as marked on the front of the valve.

Adaptability
Patented quick connect adapter ring for easy use with field plates and boxes.

UL Classified
UL2043 Tested and Classified.

Bi-Directional
By flipping the valve it changes from exhaust to supply.

Steri-Balance™
Anti-microbial agent to prevent mold and bacteria.

Sealed Tight
Raised gasket for insertion into round duct or flat rubber gasket for connection to adapter plate.

Total Control
20-24 Set-points that can be viewed and adjusted through the grille.

Lab Calibrated
Airflow lab-tested at each set point.
Units tested in accordance with AMCA 500-D-12, Figure 5.1.
ABV-4 and ABV-5 have 20 individual manual set points. ABV-6 has 24 individual manual set points. The most common ventilation flow rates are labeled on the products.
The performance data for those set points is reported here. Performance data for each individual manual set point is available upon request.
ABV Assemblies
The ABV Automatic Balancing Valve can be supplied as a part of several assemblies for numerous applications. The ABV can be flipped around in all assemblies to go from exhaust to supply applications without any modification.

ABV with Square/Rectangular Transition
Allows the ABV to be inserted into square/rectangular duct, plenum boxes or grille boxes. The transition plate is intended to go inside the square/rectangular duct or plenum box and can be used with legs turned in or out (for space gain).

4" Model with 6" x 6" transition shown.

ABV with Grille Mounts
The ABV can be supplied with a grille mount box with or without a grille. The grille mount box is a flanged galvanized steel box that allows the insertion of a grille.

ABV with Fire Damper in a UL Rated Assembly
The ABV can be supplied as a part of a UL rated assembly with a UL 555 rated Fire Damper when penetrating fire rated walls and floors. This assembly employs an ABV, square/rectangular transition, flanged sleeve, slimline fire damper (static or dynamic) and optional grille.

Unlike some competitors, the entire assembly that is provided is UL rated and approved (not just the fire damper).
## Competition Comparison

<table>
<thead>
<tr>
<th>Feature</th>
<th>AAB Model ABV</th>
<th>Aldes Model CAR-II*</th>
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<tbody>
<tr>
<td>Can be provided in a UL rated assembly with UL rated fire damper</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Effective Operating Pressure Range</td>
<td>0.2-2.0 In. WG</td>
<td>0.2-0.8 In. WG</td>
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<tr>
<td>Engineered for use in Imperial Measurements</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Qualifies for ARRA section 1605 and Buy America 49 U.S.C. section 50101 for use in all FAA, FHWA, AMTRAK and FTA projects.</td>
<td>Yes</td>
<td>No</td>
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<tr>
<td>Bi-Directional to be used for Supply or Exhaust Applications</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Anti-Microbial agent infused into plastic to deter mold &amp; bacterial growth</td>
<td>Yes - Steri-Balance™</td>
<td>No</td>
</tr>
<tr>
<td>Quick Connect adapter ring to be used to attach to almost any adapter plate</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Total Unique Set-Points (4&quot; and 5&quot; model)</td>
<td>20</td>
<td>Non-Adjustable</td>
</tr>
<tr>
<td>Total Unique Set-Points (6&quot; model)</td>
<td>24</td>
<td>Non-Adjustable</td>
</tr>
<tr>
<td>Set Point Range (CFM) (4&quot; model)</td>
<td>20-130</td>
<td>10-60</td>
</tr>
<tr>
<td>Set Point Range (CFM) (6&quot; model)</td>
<td>50-275</td>
<td>75-175</td>
</tr>
<tr>
<td>Airflow Accuracy range</td>
<td>+/- 10% within 0.2-2.0&quot; WG</td>
<td>+/- 15% for under 50 CFM and +/-10% within 0.2-0.8&quot; WG</td>
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<tr>
<td>Hydraulic blade dampener for extremely quiet operation</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>5-Year Warranty</td>
<td>Yes</td>
<td>Yes</td>
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*Aldes model CAR-II is made by the Anjos company and private labeled for several other manufacturers.*
Automatic Airflow Balancing is a brand of Metal Industries, Inc. which was founded in 1947 and has been focused on providing the highest quality products to the HVAC industry and doing so with respect for our customers, our employees and the environment.

As an American owned company built on a tradition of integrity and respect, we strive to meet the needs of the HVAC market with a relentless focus on the customer. All Metal Industries products offer best in class lead time and are backed by a tireless support team of industry professionals.

AUTOMATIC AIRFLOW BALANCING
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