

Application and Design

The AMD-42V combines the functionality of an accurate airflow measuring station and an ultra low leakage control damper into one compact assembly that both measures and regulates airflow volumes to a target set-point. The AMD-42V comes standard with a modulating actuator and a properly sized pressure transducer that output a signal proportional to cfm. A field supplied controller can use the transducer's signal along with the flow formula: $CFM = Area * K * (P_{transducer})^m$ to regulate the modulating actuator to the target set-point. K & m are factory supplied variables specific to each damper. The AMD-42V is also available with a factory supplied LON controller that accepts a target flow set-point as an input (either analog or digital) and then positions the damper to achieve that set-point.

Ratings

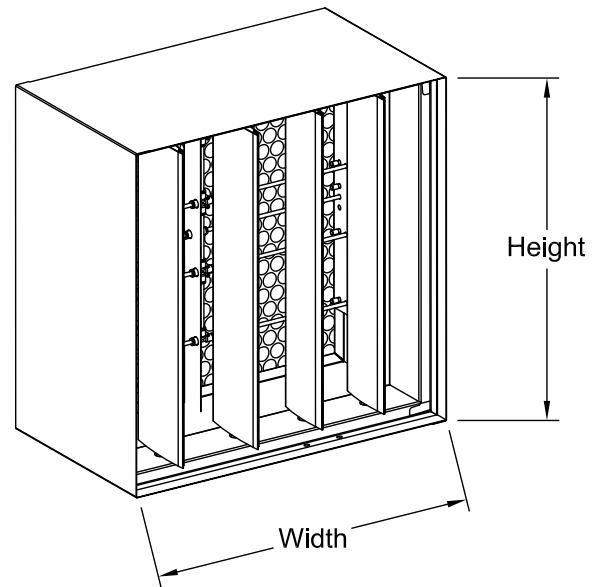
Velocity: 300 to 2000 fpm (1.5 - 10.2 m/s)

Leakage: 6 cfm/ft² @ 4 in. wg (110 cmh/m² @ 1 kPa)
3 cfm/ft² @ 1 in. wg (55cmh/m² @ .25 kPa)

Temperature: -20°F to 180°F (-29°C to 82°C) Consult factory for temperature lower than -20°F (-29°C)

Monitor Accuracy: 5% of reading

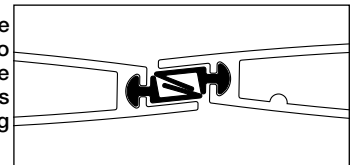
Construction	Standard	Optional
Frame Material	Galvanized Steel	-
Frame Material Thickness	16 ga. (1.5mm)	12 ga. 14 ga.
Frame Type	5 in. x 1 in. hat channel	-
Blade Material	Extruded Aluminum	-
Blade Type	Airfoil	-
Blade Action	Parallel	
Linkage	Plated steel out of airstream, concealed in jamb	
Axle Bearings	Synthetic (acetal) sleeve type	Bronze, 304SS
Axle Material	Plated steel	304SS
Blade Seals	TPE	Silicone
Jamb Seals	304SS	-
Sleeve	12 in. (305mm)	12 in. - 48 in. (305mm - 1219mm)
Sleeve Gauge	20 ga.	14 ga. or 16 ga.
Flange	None	1 1/2 in. (38mm); Upstream side, Downstream side, Both Sides
Air Straightener	Polycarbonate Honeycomb	-
Actuator	24VAC 50/60 Hz	24VAC w/ auxiliary switches or manual quadrant



*W & H dimension furnished approximately 1/4 in. (6mm) undersize.

Blade Overlap

Blades overlap to provide added resistance to leakage. When pressure increases, the blade seals are forced together creating a tighter seal.



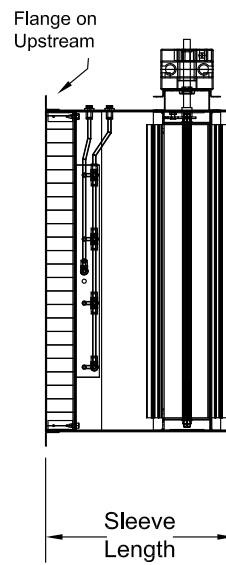
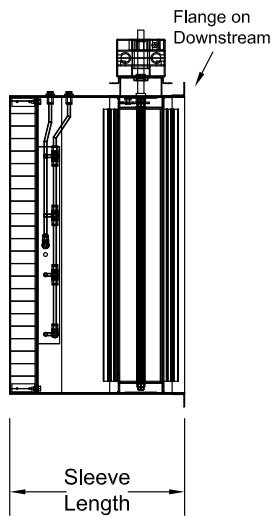
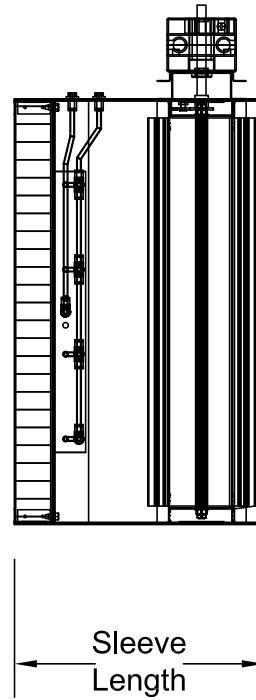
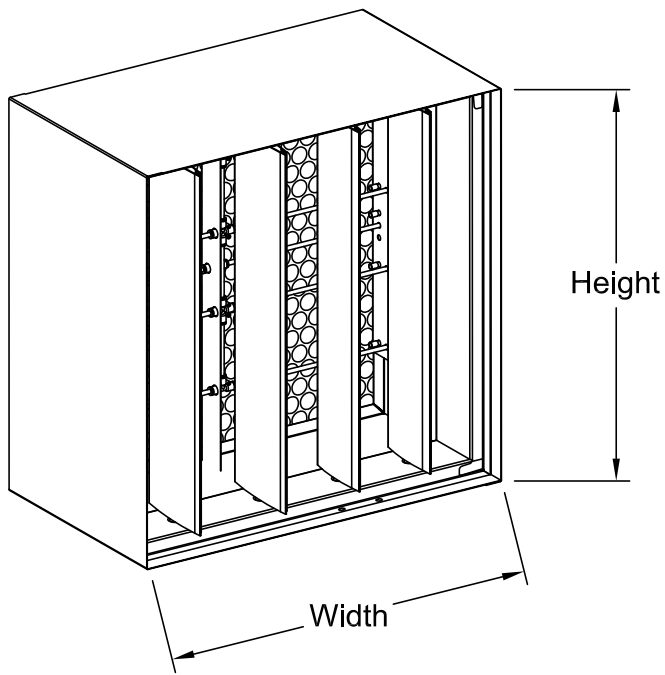
Features & Control Options

- 24VAC modulating actuator mounted externally or internally (NEMA 2)
- Factory supplied 0-10 VDC pressure transducer
- Optional factory supplied LON controller (0-10 VDC, 2-10 VDC, or 4-20 mA)

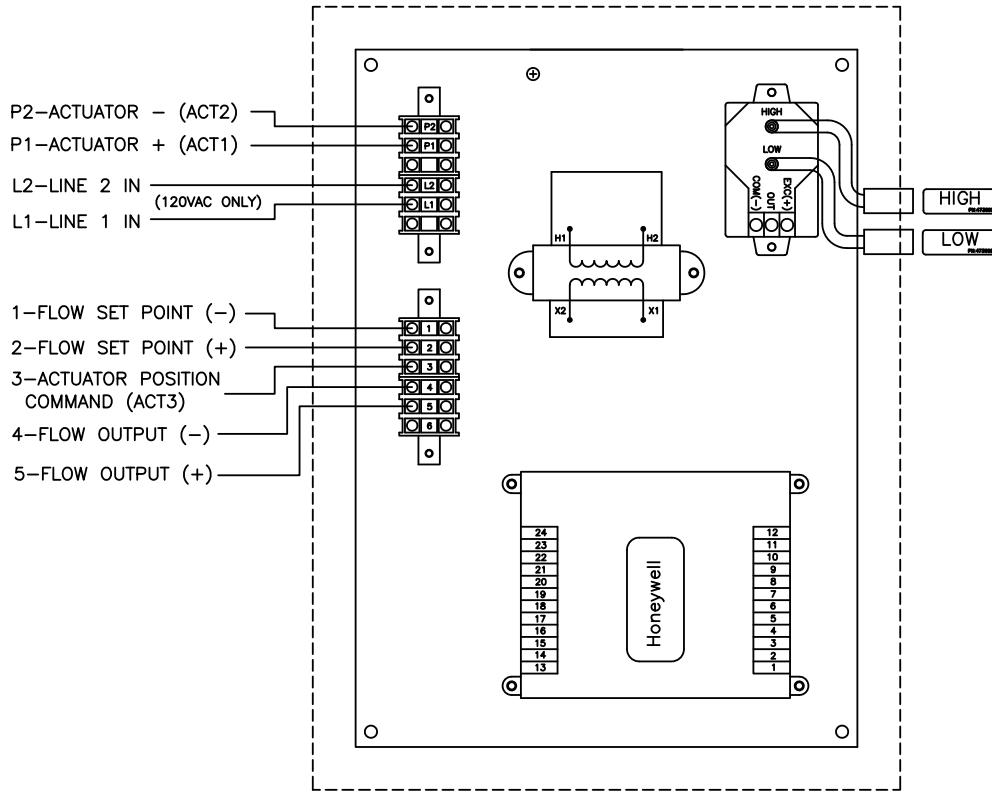
W x H	Minimum Size		Maximum Size
	External	Internal	Single Section
Inches	6 x 6	8 x 12	74 x 60
mm	152 x 152	203 x 305	1880 x 1524

* For sizes larger than listed, consult factory.

AMD-42V Mounting Styles & Specifications



Wiring Diagram for Controller



Specifications

Control dampers meeting the following specifications shall be installed where shown on plans as an air monitor station integral to the minimum outside air damper. The air measuring damper shall control the minimum amount of outside air as recommended by ASHRAE Standard 62 or California Title 24.

The air measuring damper shall consist of: 16 ga. (1.5mm) galvanized steel hat channel frame with 5 in. (127mm) depth; airfoil shaped, extruded aluminum blades (0.063 in. [1.6mm] thick) with metal blade to blade overlap (seal to seal only contact is not acceptable). Axles shall be 1/2 in. (13mm) dia. plated steel turning in acetal bearings;

TPE blade seals for 250°F (121°C) maximum temperature; flexible stainless steel jamb seals; and external (out of the airstream) blade-to-blade linkage.

Damper leakage rating to be in compliance with the IECC (International Energy Consumption Code) and not to exceed 3 cfm/ft² (55 cmh/m²) at 1 in. wg (249 Pa). Testing and ratings to be in accordance with AMCA standard 500-D. Basis of design is Greenheck model AMD-42V.

