

Application and Design

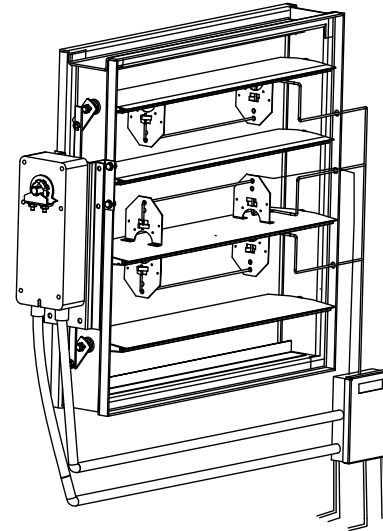
The IAQ-42 is an aluminum airfoil blade damper that utilizes Patented Speciflow™ Technology with integral airflow monitoring and control capability. This air measuring control damper helps buildings meet the minimum outdoor air requirements of ASHRAE Standard 62 or California Title 24 by providing accurate monitoring and control of outside air. The IAQ-42 enables a LEED-EB credit for Outdoor Air Delivering Monitoring and another LEED-EB credit for Increased Ventilation. Its also IECC (International Energy Consumption Code) compliant with a leakage rating of 3 cfm/ft² @ 1 in. wg (55 cmh/m² @ .25 kPa) or less.

Ratings

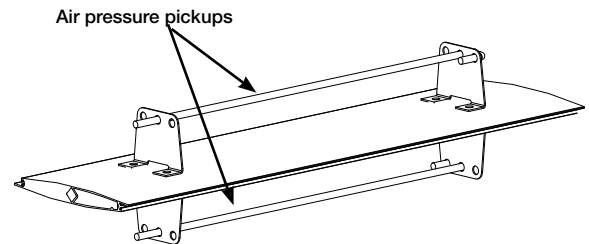
Velocity: 300 to 2000 fpm (1.5 - 10.2 m/s)
Leakage: 8 cfm/ft² @ 4 in. wg (146 cmh/m² @ 1 kPa)
 3 cfm/ft² @ 1 in. wg (55 cmh/m² @ .25 kPa)
Temperature: -20°F to 180°F (-29°C to 82°C) Consult factory for temperature lower than -20°F (-29°C)

Monitor Accuracy: 5% of reading

Construction	Standard	Optional
Frame Material	Galvanized Steel	-
Frame Material Thickness	16 ga. (1.5mm)	-
Frame Type	5 in. x 1 in. hat channel	-
Blade Material	Extruded Aluminum	-
Blade Type	Airfoil	-
Blade Action	Opposed	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	EPDM	Silicone
Jamb Seals	304SS	-
Sleeve	12 in.	-
Sleeve Gauge	20 ga.	14 ga. or 16 ga.
Flange	None	1.5
Air Straightener	Yes	Louver Models ESD-635, ESJ-401LT, EVH-602
Actuator	24VAC 50/60 Hz	24VAC w/ auxiliary switches
Controller	Lon based programmable	None
Control Signal	0-10 VDC	2-10 VDC, 4-20 mAdc
Controller Box Dimension	12 in. W x 16 in. H x 6 in. deep (305mm W x 406mm H x 152mm deep)	

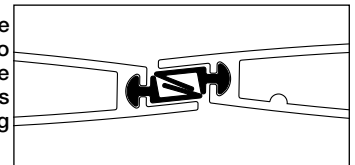


*W & H dimension furnished approximately 1/4 in. (6mm) undersize.



Blade Overlap

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



Features

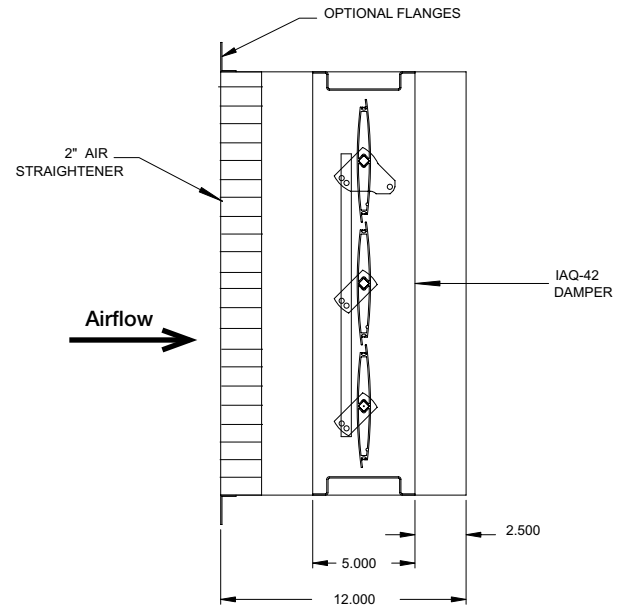
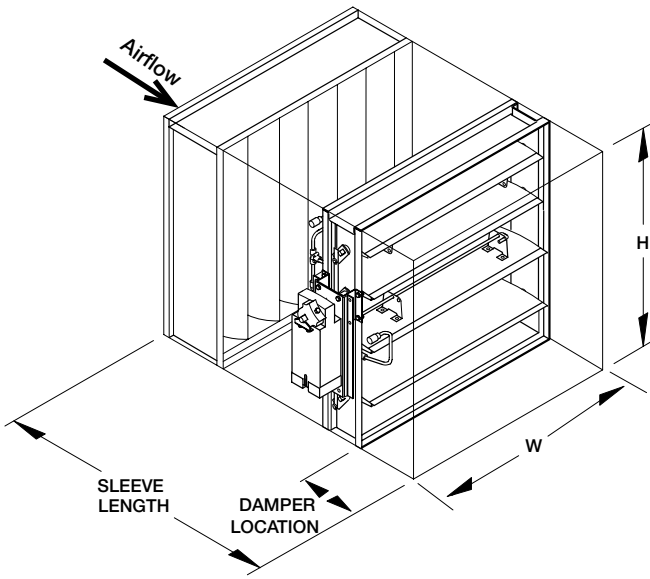
- Patented Speciflow™ Technology
- Temperature compensation for changes in air density
- One minute response to pressure changes and setpoint changes
- 24VAC modulating actuator mounted externally or internally
- Control Panel-ship loose
- 0-10 VDC feedback for airflow, temperature, and position
- 0-10 VDC for setpoints (consult factory for 4-20 mA)

W x H	Minimum Size		Maximum Size	
	External	Internal	Single Section	Multiple Section*
Inches	12 x 8	12 x 10	60 x 74	92 x 74
mm	305 x 203	305 x 254	1524 x 1880	2337 x 1880

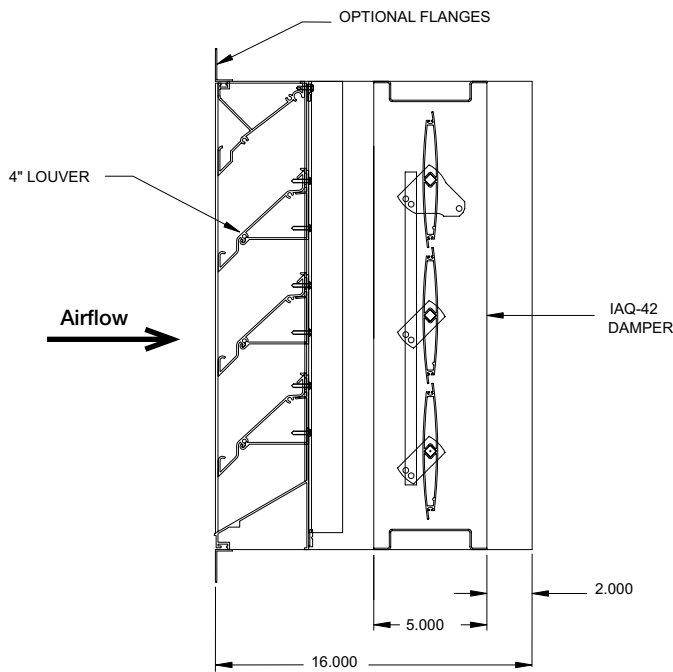
* For sizes larger than listed, consult factory.

IAQ mounting styles

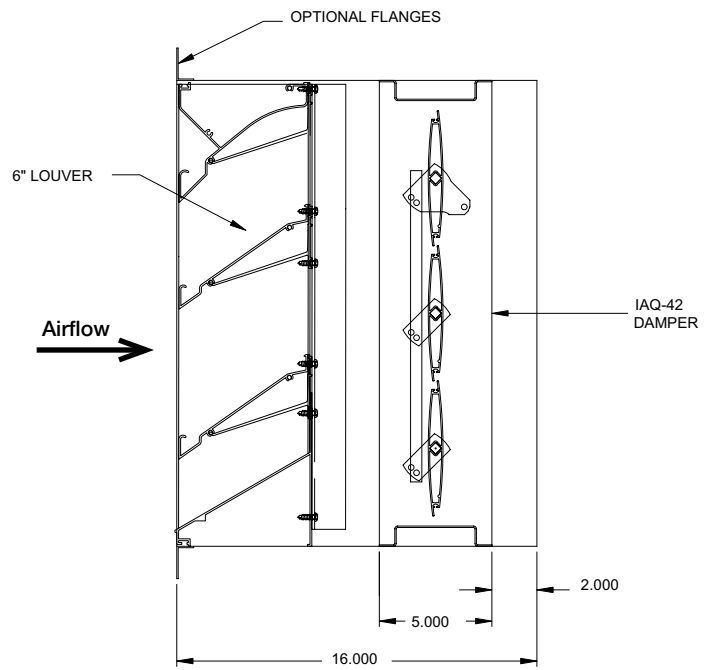
External Mount



IAQ-42 with straightener



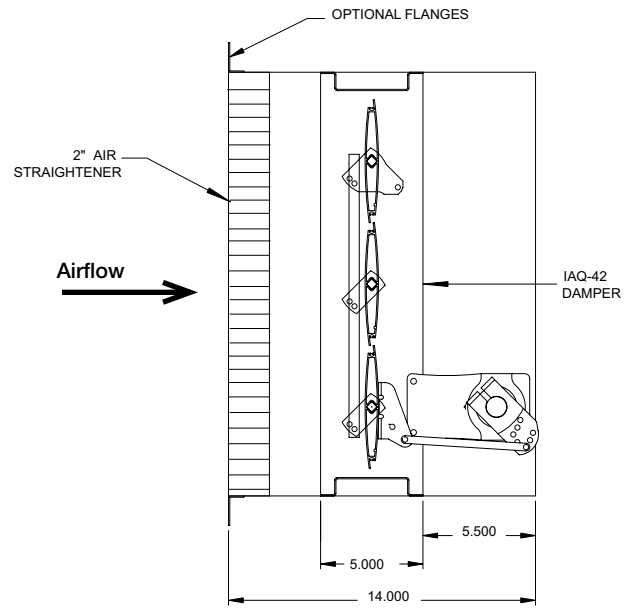
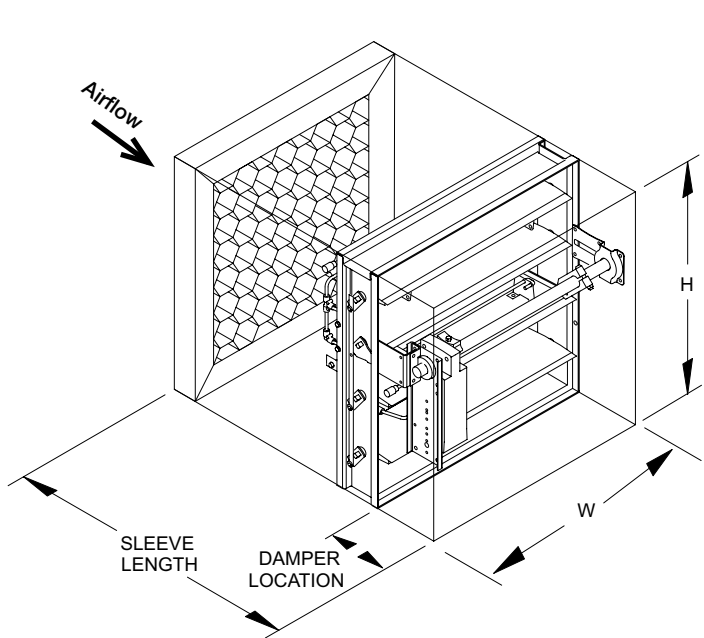
IAQ-42 with 4 in. (102mm) louver



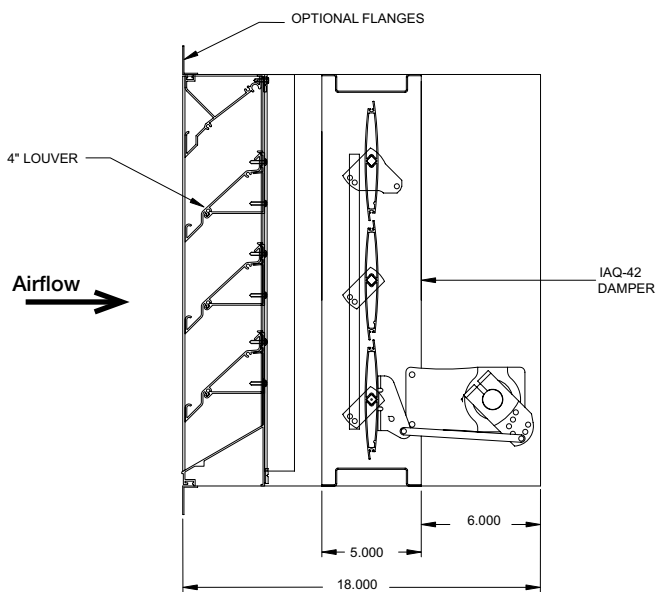
IAQ-42 with 6 in. (152mm) louver

IAQ mounting styles cont.....

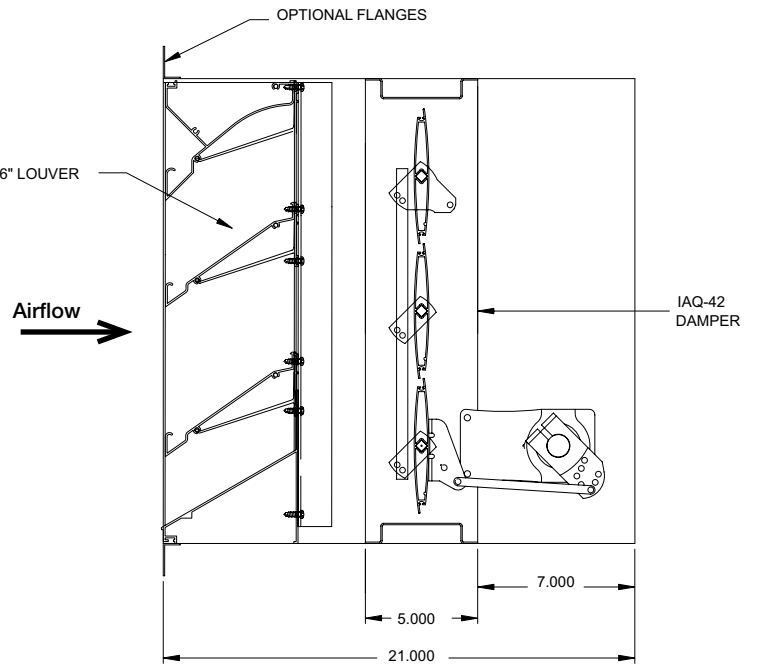
Internal mount



IAQ-42 with straightener

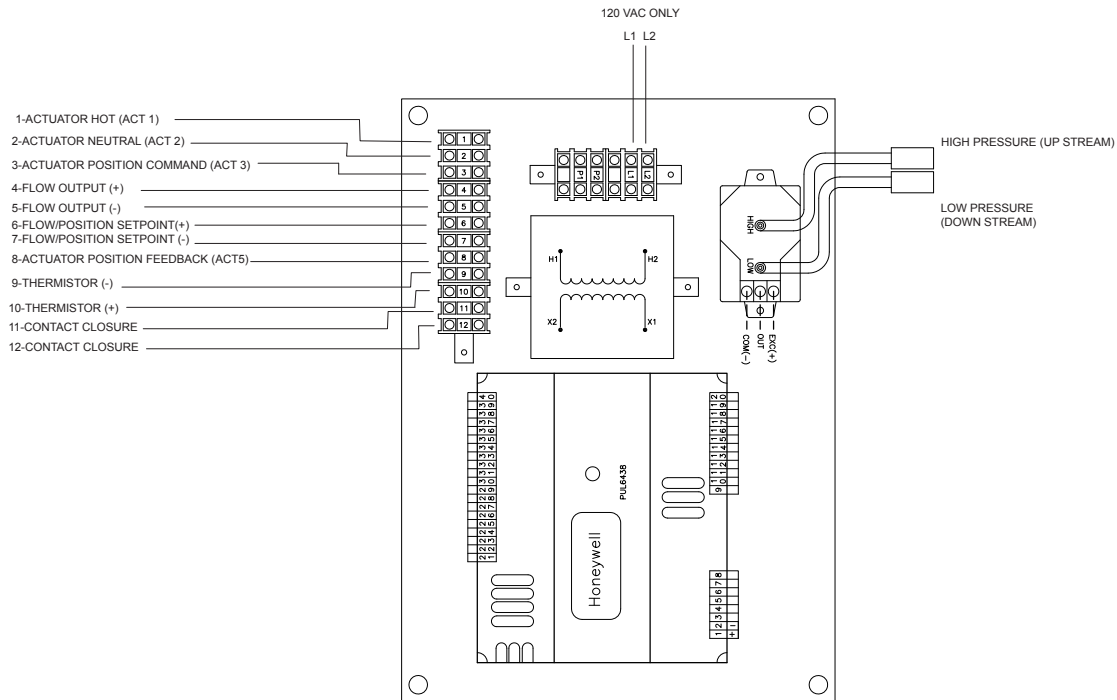


IAQ-42 with 4 in. (102mm) louver



IAQ-42 with 6 in. (152mm) louver

Wiring Diagram



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 incorporate air pressure pickups with patented Speciflow™ Technology mounted on damper blades and 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); 1/2 in. (13mm) dia. plated steel axles turning in acetal bearings; EPDM blade seals for 250°F (121°C) maximum temperature; flexible stainless steel jamb seals; and external (out of the airstream) blade-to-blade linkage.

Each air measuring damper shall include a 24VAC electric modulating actuator and Lon-based controller designed for this application furnished by the damper manufacturer. Each air measuring damper shall be calibrated in an AMCA accredited laboratory and a certification chart shall accompany the air measuring damper.

Damper manufacturer's printed application and performance data including pressure, velocity, and temperature limitations shall be submitted for approval showing damper suitable for pressures to 4 in. wg (996 Pa), velocities to 2000 fpm (10.2 m/s) and temperatures to 180°F (82°C). 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 IAQ-42.

