

Application

The AMD-23 combines the functionality of an accurate airflow measuring station and a low leakage control damper into one compact assembly that both measures and regulates airflow volumes to a target set-point. The AMD-23 comes standard with a modulating actuator and a properly sized pressure transducer that output a signal proportional to cfm. A field supplied controller can then 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.

Ratings

Velocity

300 - 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 (55 cmh/m² @ 0.25 kPa)

Temperature

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

Transducer Operating Temperature

32°F to 140°F (0°C to 60°C)

Airflow Monitoring Accuracy

5% of reading

W x H	Minimum Size		Maximum Size	
	External	Internal	Single Section	Multiple Section
Inches	6 x 6	8 x 6	48 x 74	144 x 148
mm	152 x 152	203 x 152	1219 x 1880	3658 x 3759

Features & Control Options

- 24 VAC modulating actuator mounted externally or internally (NEMA 2)
- Factory supplied 0-10 VDC or 4-20 mA pressure transducer
- Clean wrap
- Retaining Angle

*When 12 ga. (2.7 mm) frame is selected and the damper height is less than 17 inches (432 mm), low profile top and bottom frame members are utilized. These low profile frame members will be made from 16 ga. (1.5 mm) material.

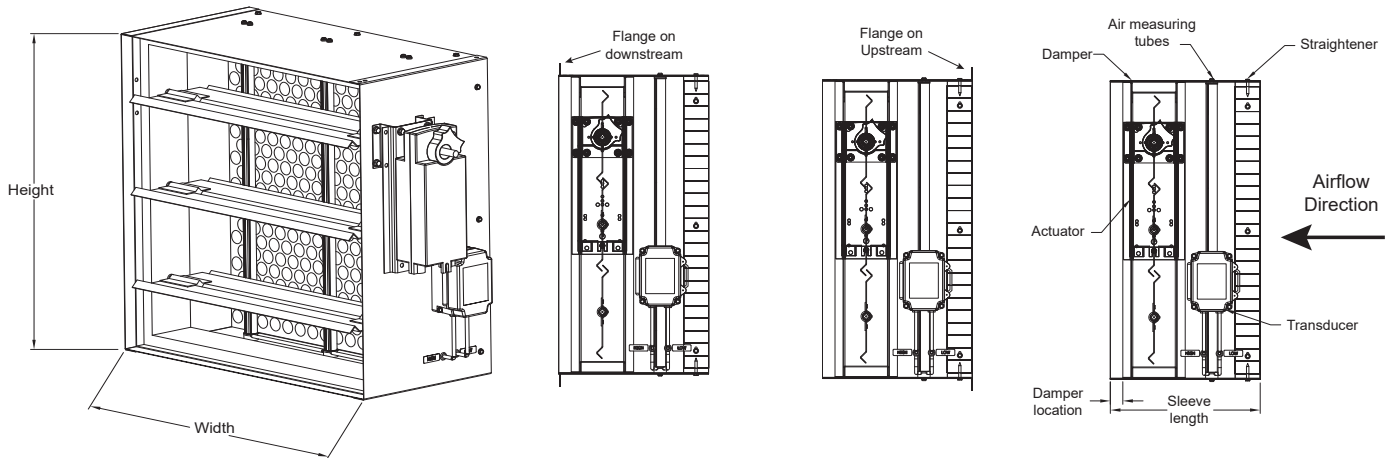


W & H dimension furnished approximately ¼ in. (6 mm) undersize.

Construction

	Standard	Optional
Frame Material	Galvanized Steel	-
Frame Material Thickness	16 ga. (1.5 mm)	12 ga. (2.7 mm)*
Frame Type	5 in. x 1 in. hat channel	-
Blade Material	Galvanized steel	-
Blade Type	3V	-
Blade Action	Parallel	-
Linkage	Plated steel out of airstream, concealed in jamb	316SS
Axle Bearings	Synthetic (acetal) sleeve type	316SS
Axle Material	Plated steel	316SS
Blade Seals	TPE	Silicone
Jamb Seals	Stainless Steel	-
Sleeve	12 in. (305 mm)	12 in. - 48 in. (305 mm - 1219 mm)
Sleeve Gauge	20 ga. (1 mm)	14 ga. or 16 ga. (2 mm - 1.5 mm)
Flange	None	1½ in. (38 mm); Upstream side, Downstream side, Both Sides
Air Straightener	Polycarbonate Honeycomb	-
Actuator	24 VAC 50/60 Hz	24 VAC w/ auxiliary switches, Manual quadrant

AMD-23 Mounting Styles



Factory Supplied Controls

By adding a factory supplied controller AMD series airflow measuring dampers become a turn-key solution for measuring and controlling the flow of air. Go to www.greenheck.com for complete instructions.

Constant Volume Controller

Greenheck's Constant Volume Controller is a highly configurable analog based controller. The controller can accept a cfm setpoint either remotely by way of an analog input or locally by using touch sensitive buttons on its cover. The controller then regulates the position of the AMD's actuator to deliver the requested cfm. An analog output on the controller also supplies a signal that is proportional to the real-time cfm.

The Constant Volume Controller features a two line backlit LCD display to show the user the current CFM setpoint, the real-time cfm, the current pressure reading, and the AMD's actuator position.

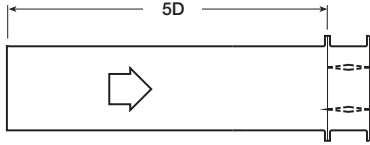


Pressure Drop Data



Greenheck Fan Corporation certifies that the model AMD-23 shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Programs. The AMCA Certified Ratings Seal applies to Air Leakage and Air Performance ratings.

AMCA 5.2



12 in. x 12 in. (305 mm x 305 mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.05
1000	0.15
1500	0.31
2000	0.52
2500	0.80
3000	1.12
3500	1.51
4000	1.92

24 in. x 24 in. (610 mm x 610 mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.10
1500	0.21
2000	0.36
2500	0.54
3000	0.76
3500	1.01
4000	1.32

36 in. x 36 in. (914 mm x 914 mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.09
1500	0.18
2000	0.31
2500	0.46
3000	0.64
3500	0.86
4000	1.12

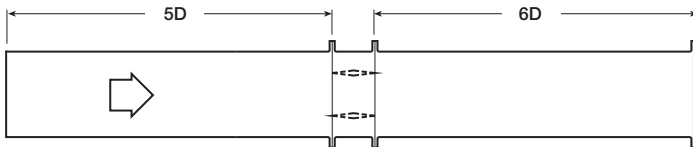
12 in. x 48 in. (305 mm x 1219 mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.04
1000	0.11
1500	0.23
2000	0.39
2500	0.58
3000	0.81
3500	1.10
4000	1.43

48 in. x 12 in. (1219 mm x 305 mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.11
1500	0.22
2000	0.38
2500	0.57
3000	0.79
3500	1.06
4000	1.38

AMCA 5.3



12 in. x 12 in. (305 mm x 305 mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.04
1000	0.12
1500	0.24
2000	0.40
2500	0.60
3000	0.84
3500	1.12
4000	1.44

24 in. x 24 in. (610 mm x 610 mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.09
1500	0.17
2000	0.28
2500	0.43
3000	0.60
3500	0.80
4000	1.03

36 in. x 36 in. (914 mm x 914 mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.07
1500	0.14
2000	0.23
2500	0.35
3000	0.48
3500	0.64
4000	0.82

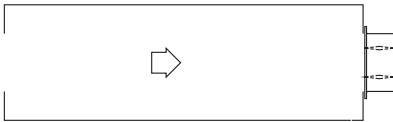
12 in. x 48 in. (305 mm x 1219 mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.10
1500	0.20
2000	0.34
2500	0.51
3000	0.72
3500	0.97
4000	1.26

48 in. x 12 in. (1219 mm x 305 mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.09
1500	0.19
2000	0.33
2500	0.50
3000	0.71
3500	0.96
4000	1.24

AMCA 5.5



12 in. x 12 in. (305 mm x 305 mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.07
1000	0.25
1500	0.54
2000	0.92
2500	1.41
3000	2.02
3500	2.73
4000	3.53

24 in. x 24 in. (610 mm x 610 mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.05
1000	0.20
1500	0.41
2000	0.71
2500	1.10
3000	1.54
3500	2.09
4000	2.76

36 in. x 36 in. (914 mm x 914 mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.05
1000	0.17
1500	0.36
2000	0.62
2500	0.96
3000	1.36
3500	1.84
4000	2.40

12 in. x 48 in. (305 mm x 1219 mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.06
1000	0.20
1500	0.43
2000	0.74
2500	1.13
3000	1.59
3500	2.14
4000	2.78

48 in. x 12 in. (1219 mm x 305 mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.05
1000	0.20
1500	0.42
2000	0.72
2500	1.11
3000	1.56
3500	2.12
4000	2.77

AMCA Certified Leakage Data

Air leakage is based on operation between 32°F (0°C) and 120°F (49°C).

Tested for leakage in accordance with ANSI/AMCA Standard 500-D, Figure 5.5.

Tested for air performance in accordance with ANSI/AMCA Standard 500-D, Figures 5.2, 5.3 and 5.5.

Torque

Data are based on a torque of 5.0 in. lb./ft² (0.56 N·m) applied to close and seat the damper during the test.

AMD-23 Maximum Damper Width	Leakage Class*	
	1 in. wg (0.25 kPa)	4 in. wg (1 kPa)
60 in. (1524 mm)	1A	1



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*Leakage Class Definitions

The *maximum* allowable leakage is defined by AMCA as the following:

- Leakage Class 1A - 3 cfm/ft² @ 1 in. wg (class 1A is only defined at 1 in. wg).
- Leakage Class 1
 - 4 cfm/ft² @ 1 in. wg
 - 8 cfm/ft² @ 4 in. wg
 - 11 cfm/ft² @ 8 in. wg
 - 12.6 cfm/ft² @ 10 in. wg

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