

Application

The WD-400 series are a non-motorized backdraft damper which may be mounted either vertically for intake air or mounted horizontally to allow vertical airflow down and prevent reverse airflow. The dampers are opened by air pressure differential and closed by springs. Optional motor packs are not available.

Ratings

Pressure

Up to 2.0 in. wg (0.5 kPa)

Velocity

Up to 2,500 fpm (13 m/s)

Temperature

Up to 180°F (82°C)

Construction

	Standard
Frame Material	Galvanized steel
Frame Thickness	18 ga. (1.3mm)
Frame Type	No flange (WD-400 & 410) Flange on intake (WD-430) Flange on discharge (WD-420)
Blade Material	Roll formed aluminum
Blade Thickness	0.025 in. (0.64mm)
Blade Seals	Vinyl
Axle	3/16 in. (4.8mm) dia. zinc plated steel
Axle Bearings	Synthetic
Linkage Material	Galvanized steel

Size Limitations

W x H	Minimum Size	Maximum Size	
		Single Panel	Multiple Panels
WD-400, 410			
Inches	8 x 8	31 x 74	150 x 148
mm	203 x 203	787 x 1880	3810 x 3759
WD-420, 430			
Inches	8 x 8	31 x 74	148 x 148
mm	203 x 203	787 x 1880	3759 x 3759



WD-400: Vertical Mount, No Flange



WD-410: Horizontal Mount, No Flange



WD-420: Flange on Discharge



WD-430: Flange on Intake

* W & H dimensions of each section are furnished approximately 1/8 in (3 mm) under size.

Performance Data

Pressure Drop

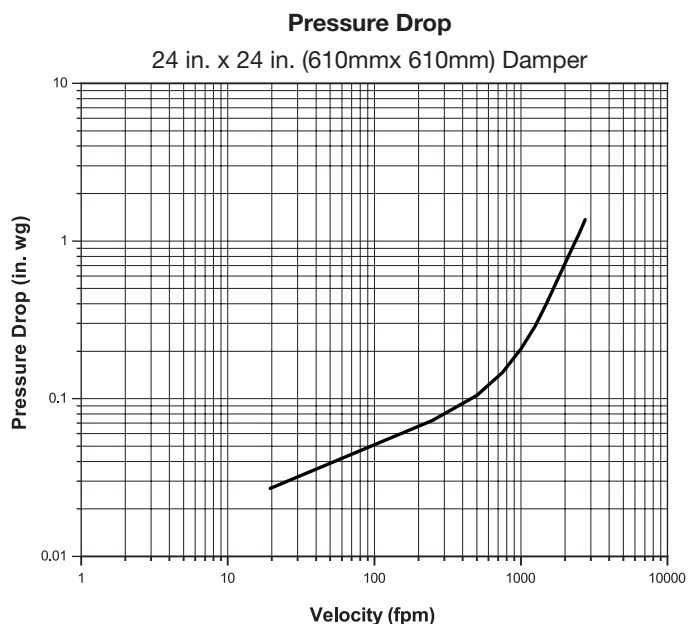
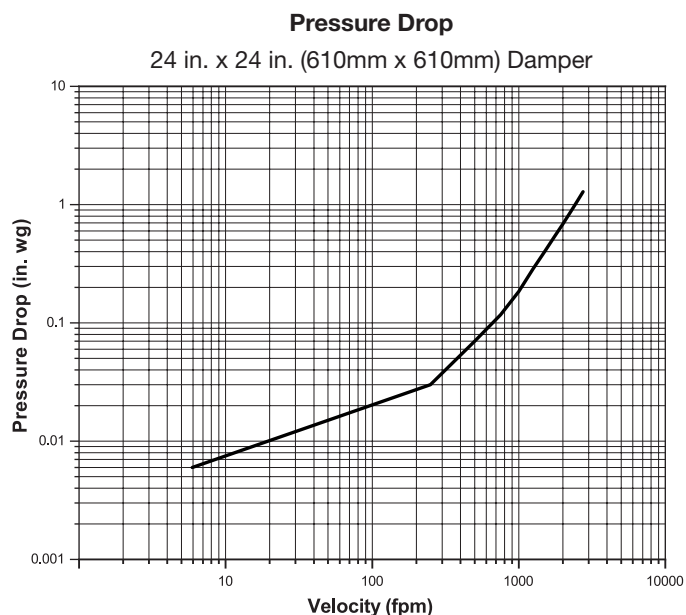
Performance data results from testing a 24 in. x 24 in. (610mm x 610mm) damper in accordance with AMCA Standard 500-D using Figure 5.5 for the WD-400 and Figure 5.7F for the WD-410. All data has been corrected to represent standard air at 0.075 lb/ft³ (1.201 kg/m³).

WD-400

Operational Data	ΔP in. wg (Pa)	Velocity fpm (m/s)
Blades Start to Open	0.006 (1.50)	5.9 (0.03)
Blades Fully Open	0.287 (71.49)	1250 (6.35)

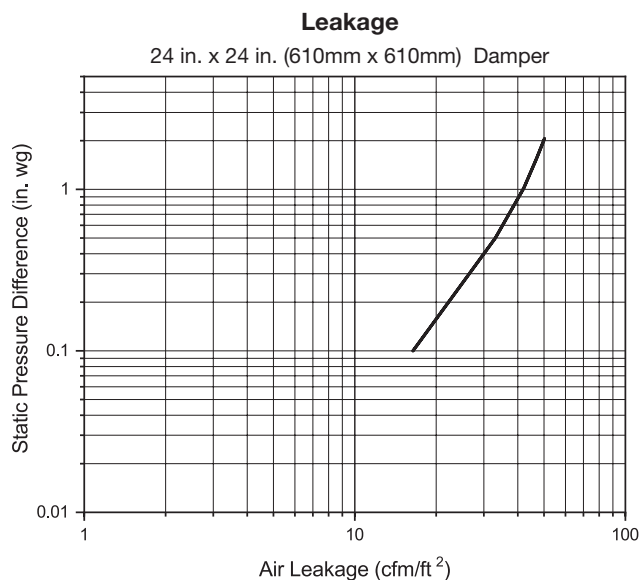
WD-410

Operational Data	ΔP in. wg (Pa)	Velocity fpm (m/s)
Blades Start to Open	0.027 (6.73)	19.47 (0.10)
Blades Fully Open	0.405 (100.88)	1500 (7.62)



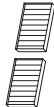
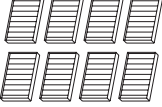
Leakage

Leakage testing was conducted in accordance with AMCA Standard 500-D and is expressed as cfm/ft² of damper face area. All data has been corrected to represent standard air at 0.075 lb/ft³ (1.201 kg/m³).



WD-400/410 Selection

- Multiple section dampers shown below are supplied as equal size sections. Any damper that has multiple sections, both vertically and horizontally, will require field assembly and will require additional reinforcement (not supplied by factory) to support the assembly. These larger dampers must have the additional reinforcement to give them structural stability.
- Please note that the width dimension is always taken as being parallel to the length of the blades.

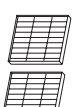
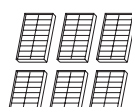
		Width						
		8	32	50	64	100	128	150
Height	8 Up To 74	8 Up To 32 Single Panel One Section 	32 Up Thru 50 Double Panel One Section 	Above 50 Up To 64 Single Panel Two Section 	64 Up Thru 100 Double Panel Two Section 	Above 100 Up To 128 Single Panel Four Section 	128 Up To 150 Double Panel Three Section 	
	74 Up To 148	Single Panel Two Section 	Double Panel Two Section 	Single Panel Four Section 	Double Panel Four Section 	Single Panel Eight Section 	Double Panel Six Section 	
		148						

Note: A 26 in. x 26 in. and a 30 in. x 30 in. WD-410 will be supplied as a Double Panel, One Section damper .

*Width and height given in inches.

WD-420/430 Selection

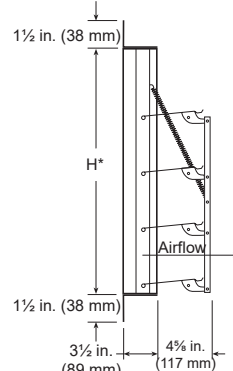
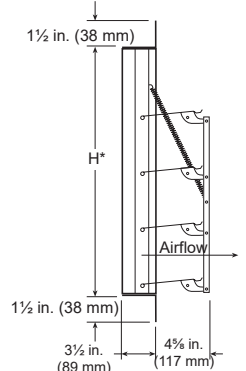
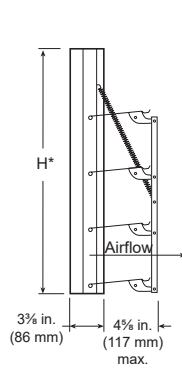
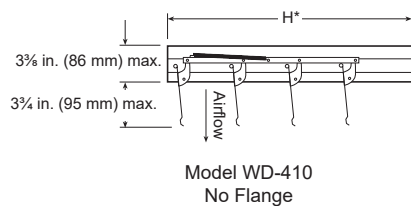
- Multiple section dampers shown below are supplied as equal size sections. Any damper that has multiple sections, both vertically and horizontally, will require field assembly and will require additional reinforcement (not supplied by factory) to support the assembly. These larger dampers must have the additional reinforcement to give them structural stability.
- Please note that the width dimension is always taken as being parallel to the length of the blades.

		Width					
		8	32	64	74	128	148
Height	8	8 Up To 32 Single Panel One Section 	32 Up To 64 Double Panel One Section 	64 Up Thru 74 Triple Panel One Section 	Above 74 Up To 128 Double Panel Two Section 	128 Up To 148 Double Panel Three Section 	
	74	Above 74 Thru 148 Single Panel Two Section 	Double Panel Two Section 	Triple Panel Two Section 	Double Panel Four Section 	Double Panel Six Section 	
		148					

*Width and height given in inches.

Dimensional Data

WD-400 Series Non-motorized Backdraft Damper



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