



WD-400 Series

Non-motorized Backdraft Damper Horizontal or Vertical Mount (Intake)

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.

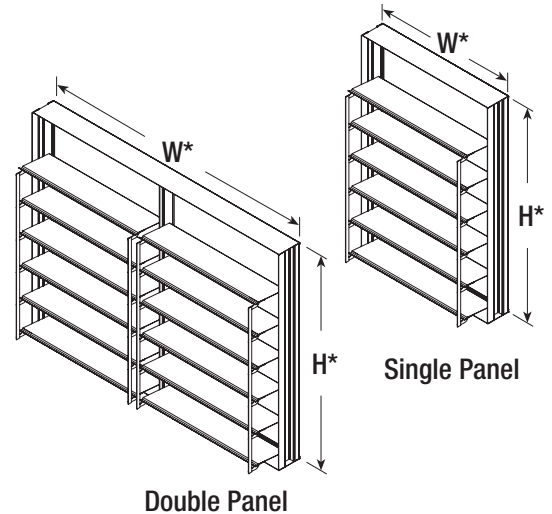
Ratings

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)

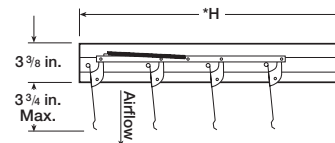
Construction	Standard	Optional
Frame Material	Galvanized steel	-
Frame Thickness	18 ga. (1.3mm)	-
Frame Type	No flange (WD-400 & 410)	-
	Flange on intake (WD-430)	-
	Flange on discharge (WD-420)	-
Blade Material	Roll formed aluminum	-
Blade Thickness	0.025 in. (0.64mm)	-
Blade Seals	Vinyl	-
Axle	3/16 in. (4.8mm) dia. zinc plated steel	304SS
Axle Bearings	Synthetic	-
Linkage Material	Galvanized steel	-



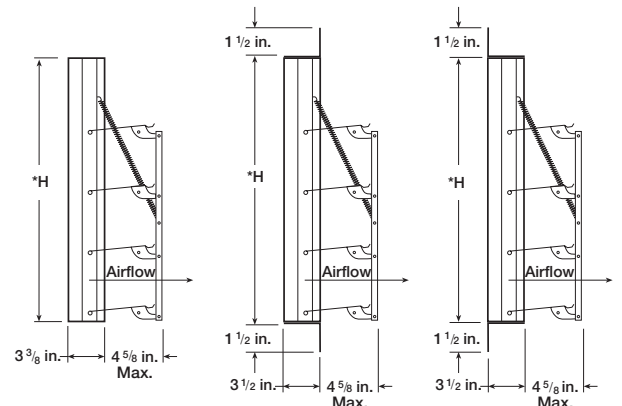
*W & H dimensions furnished approximately 1/8 in. (3mm) under size.

Size Limitations

W x H	Minimum Size	Maximum Size	
		Single Panel	Multiple Panels
	All 400 series	All 400 series	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
			148 x 148
			(3759 x 3759)



Model WD-410
No Flange



Model WD-400
No Flange

Model WD-420
Flange on Discharge

Model WD-430
Flange on Intake

Performance Data

WD-400 Series

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

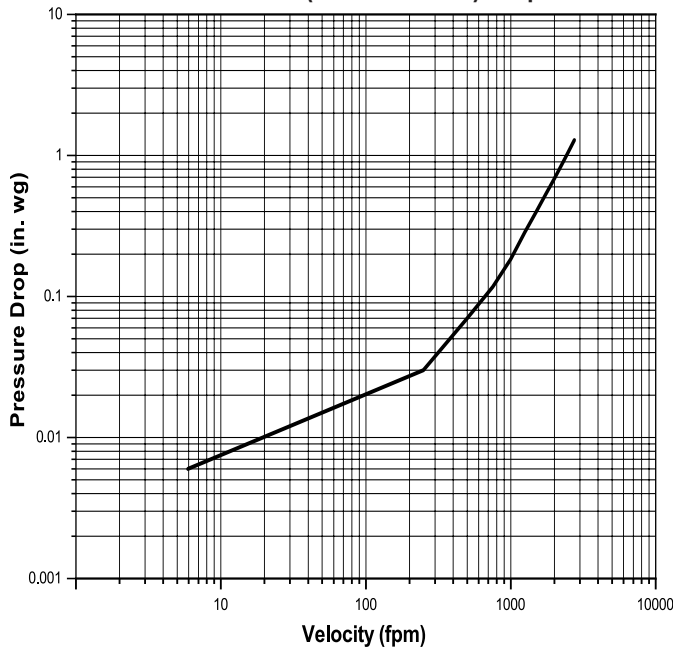
Operational Data	ΔP in. wg (Pa)	Velocity fpm (m/s)
Blades Start to Open	0.006 (1.50)	5.9 (0.03)
Blades Fully Open	0.287 (71.49)	1250 (6.35)

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)

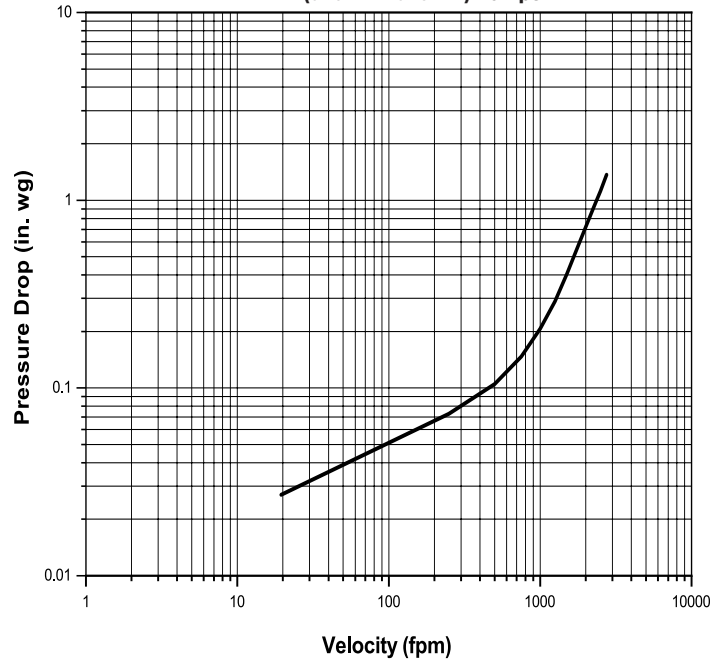
Pressure Drop

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



Pressure Drop

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

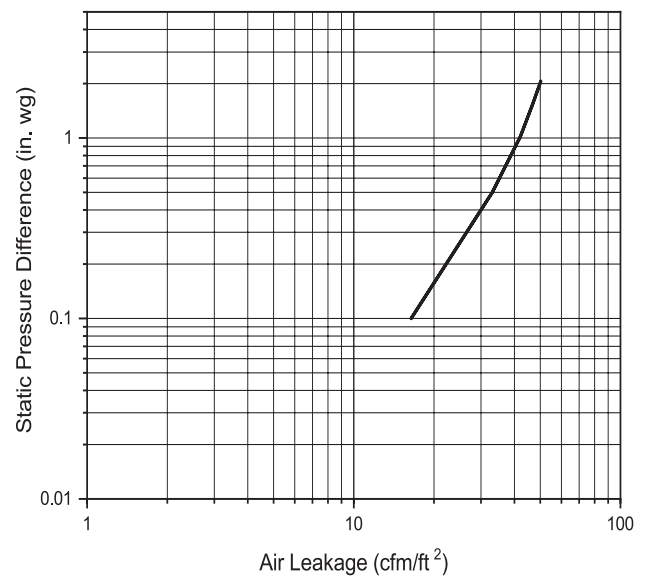


Leakage

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).








































Leakage

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



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




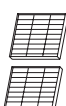

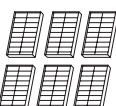
Note: A 26 in. x 26 in. and a 30 in. x 30 in. WD-410 will be supplied as a Double Panel, One Section damper.

*Width and height given in inches.

WD-420/430 Selection

Specifications

- 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
		8 Up To 32	32 Up To 64	64 Up Thru 74	Above 74 Up To 128	128 Up To 148	
Height	8	Single Panel One Section 	Double Panel One Section 	Triple Panel One Section 	Double Panel Two Section 	Double Panel Three Section 	
	74	Single Panel Two Section 	Double Panel Two Section 	Triple Panel Two Section 	Double Panel Four Section 	Double Panel Six Section 	
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*Width and height given in inches.

Specifications

Backdraft dampers meeting the following specifications shall be furnished and installed where shown on plans and/or as described in schedules.

Dampers shall consist of: 18 ga. (1.3mm) galvanized steel frame with 3½ in. (89mm) depth; blades from 0.025 in. (.64mm) roll-formed aluminum; 3/16 in. (4.8mm) dia. plated steel, full length axles turning in acetal bearings; damper shall be equipped with extruded vinyl blade seals; and internal 20 ga. (1mm) galvanized steel tie bar (on-blade) with spring closure.

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 2.0 in. wg (0.5 kPa), velocities to 2500 fpm (13m/s) and temperatures to 180°F (82°C). Testing and ratings to be in accordance with AMCA Standard 500-D.

Basis of design is model WD-400.