

Application

Model WDR-53 is a round backdraft damper that can be mounted horizontally for vertical up or down airflow. This model can also be mounted vertically for horizontal airflow.

Ratings

Velocity

Up to 2000 fpm (10.2 m/s)

Pressure

Up to 3 in. wg (0.7 kPa)

Temperature

Up to 180°F (82°C)

Start Open Pressure for a 12 inch (305 mm)

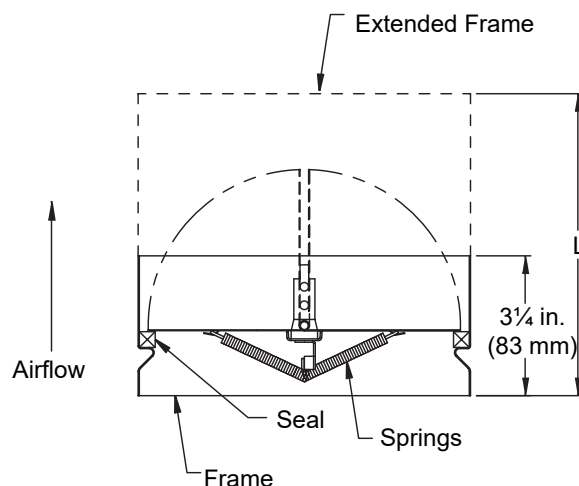
0.08 in. wg (0.02 kPa)



Damper is approximately 1/8 in. (3 mm) undersize.

Construction

	Standard	Optional
Frame Material	Galvanized Steel	-
Frame Thickness	20 ga. (1 mm)	-
Frame Type	Standard	Extended Frame
Blade Material	Aluminum	-
Blade Thickness	.02 in. (0.5 mm)	-
Blade Type	Round	-
Blade Seals	Closed cell neoprene/EPDM/SBR blend	-
Flow Direction	Vertical Up	Horizontal, Vertical Down



Size Limitations

W x H	Minimum Size	Maximum Size
Inches	4	24
mm	102	610

Options

- Clean wrap

Frame Dimensions	
Damper Model	Length
WDR-53 Standard Frame	3.25 in. (83 mm)

WDR-53 Extended Frame	
Damper Diameter	Length "L"
5 in. - 10.999 in. (127 mm - 279 mm)	7.25 in. (184 mm)
11 in. - 16.999 in. (279 mm - 432 mm)	10.25 in. (260 mm)
17 in. - 24 in. (432 mm - 610 mm)	13.25 in. (336 mm)

Pressure Drop Data

Ducted Inlet Ducted Outlet

6 in.		12 in.		24 in.	
Velocity fpm (m/s)	Pressure in. wg (kPa)	Velocity fpm (m/s)	Pressure in. wg (kPa)	Velocity fpm (m/s)	Pressure in. wg (kPa)
500 (2.5)	.233 (.06)	500 (2.5)	.07 (.02)	500 (2.5)	.045 (.01)
1000 (5)	.321 (.08)	1000 (5)	.135 (.03)	1000 (5)	.132 (.03)
1500 (7.6)	.444 (.11)	1500 (7.6)	.228 (.06)	1500 (7.6)	.252 (.06)
2000 (10.2)	.601 (.15)	2000 (10.2)	.392 (.10)	2000 (10.2)	.448 (.11)

Free Inlet Ducted Outlet

6 in.		12 in.		24 in.	
Velocity fpm (m/s)	Pressure in. wg (m/s)	Velocity fpm (m/s)	Pressure in. wg (m/s)	Velocity fpm (m/s)	Pressure in. wg (m/s)
500 (2.5)	.236 (.06)	500 (2.5)	.072 (.02)	500 (2.5)	.049 (.01)
1000 (5)	.317 (.08)	1000 (5)	.105 (.03)	1000 (5)	.136 (.03)
1500 (7.6)	.414 (.10)	1500 (7.6)	.205 (.05)	1500 (7.6)	.274 (.07)
2000 (10.2)	.549 (.14)	2000 (10.2)	.35 (.09)	2000 (10.2)	.484 (.12)

Leakage

Vertical Up Flow		
WDR-53	Leakage cfm/ft ² (cmh @ kPa)	
Damper Diameter	1 in. wg (0.25 kPa)	3 in. wg (.75 kPa)
12 in.	5.7 (.16)	5.1 (.14)
24 in.	4 (.11)	5.4 (.15)

Vertical Down Flow		
WDR-53	Leakage cfm/ft ² (cmh @ kPa)	
Damper Diameter	1 in. wg (0.25 kPa)	3 in. wg (.75 kPa)
12 in.	9.4 (.27)	5.8 (.16)
24 in.	3.9 (.11)	5.5 (.16)

Horizontal Flow		
WDR-53	Leakage cfm/ft ² (cmh @ kPa)	
Damper Diameter	1 in. wg (0.25 kPa)	3 in. wg (.75 kPa)
12 in.	4.9 (.14)	4.9 (.14)
24 in.	3.4 (.01)	4.9 (.14)



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