



Model WDR-53 Round Backdraft Damper

Application

Model WDR-53 is a round backdraft damper which may be mounted horizontally for airflow down or up or vertically for horizontal airflow.

Ratings

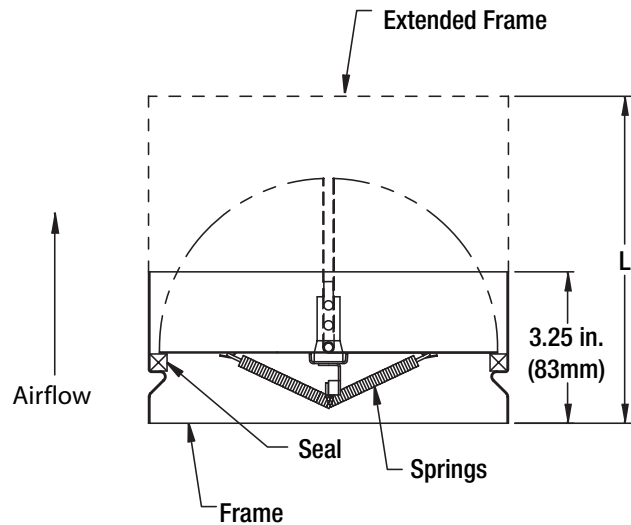
Pressure: 3 in. wg (0.7 kPa)
 Velocity: 2000 fpm (10.2 m/s)
 Temperature: 180°F (82°C)

Start open pressure for
 a 12 inch (305mm): 0.08 in. wg (0.02 kPa)



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

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



Size Limitations

<i>W x H</i>	<i>Minimum Size</i>	<i>Maximum Size</i>
Inches	4	24
mm	102	610

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

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

Options:

- Clean wrap

Ducted Inlet Ducted Outlet

6 in.		12 in.		24 in.	
Velocity (fpm)	Pressure (in. wg)	Velocity (fpm)	Pressure (in. wg)	Velocity (fpm)	Pressure (in. wg)
500	.233	500	.07	500	.045
1000	.321	1000	.135	1000	.132
1500	.444	1500	.228	1500	.252
2000	.601	2000	.392	2000	.448

Free Inlet Ducted Outlet

6 in.		12 in.		24 in.	
Velocity (fpm)	Pressure (in. wg)	Velocity (fpm)	Pressure (in. wg)	Velocity (fpm)	Pressure (in. wg)
500	.236	500	.072	500	.049
1000	.317	1000	.105	1000	.136
1500	.414	1500	.205	1500	.274
2000	.549	2000	.35	2000	.484

Leakage

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

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

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