

## 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

### 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)

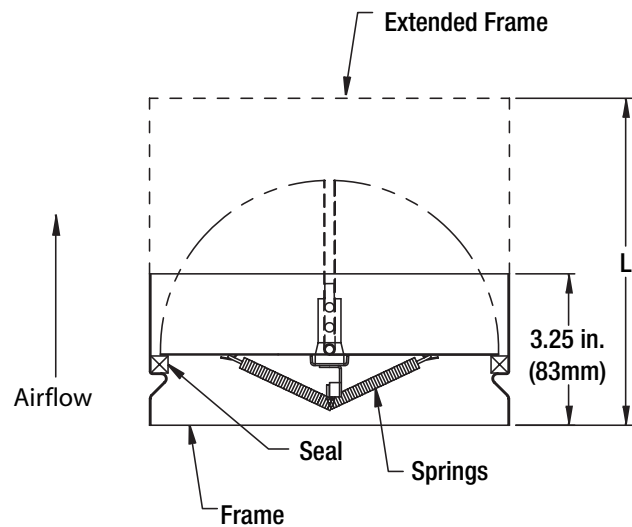
0.08 in. wg (0.02 kPa)



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

## Construction

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



## Size Limitations

W x H	Minimum Size	Maximum Size
<b>Inches</b>	4	24
<b>mm</b>	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

## Pressure Drop Data

### 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 <sup>2</sup> )	
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 <sup>2</sup> )	
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 <sup>2</sup> )	
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



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