

### 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)**

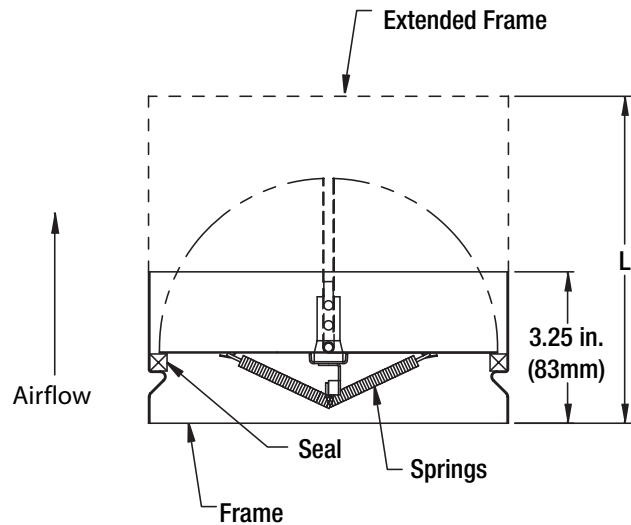
0.08 in. wg (0.02 kPa)



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

### Construction

|                        | Standard                            | Optional                  |
|------------------------|-------------------------------------|---------------------------|
| <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 |
|--------|--------------|--------------|
| 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

## 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                |

## Document Links

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[Installation Instructions](#)



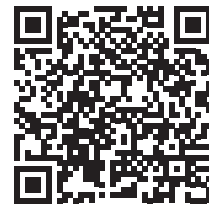
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[Damper Product Selection Guide](#)



[Specifications](#)



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