

## Application

Model HBR-050 is a light duty round industrial backdraft damper with a flanged style frame. It allows air to be drawn into a draft relief application or to prevent backflow in an HVAC or a process application.

## Ratings

### Velocity

Up to 3000 fpm (15.2 m/s)

### Temperature

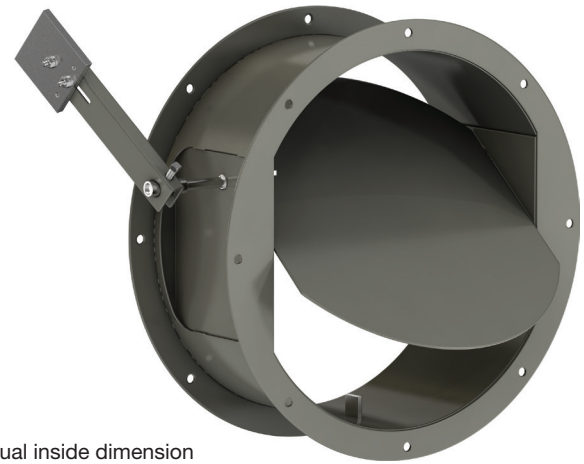
Up to 250°F (121°C)

### Pressure

Up to 6 in. wg (1.5 kPa) - differential pressure

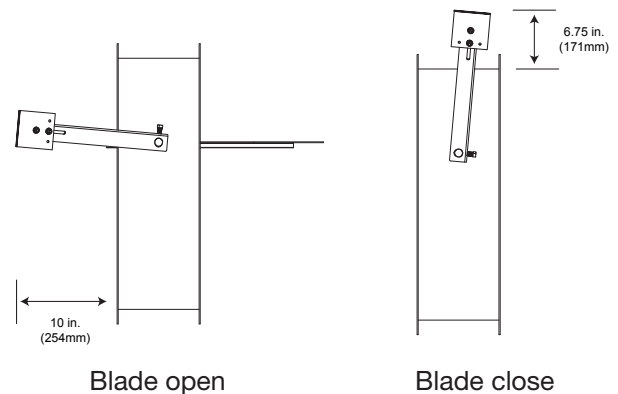
## Construction

|                       | Standard              | Optional                           |
|-----------------------|-----------------------|------------------------------------|
| <b>Frame Material</b> | Galvanized steel      | Painted, 304SS, or 316SS           |
| <b>Frame Type</b>     | Flanged channel       | -                                  |
| <b>Blade Material</b> | Galvanized steel      | Painted, 304SS, 316SS              |
| <b>Blade Seals</b>    | None                  | -                                  |
| <b>Blade Stop</b>     | Pin                   | -                                  |
| <b>Blade Type</b>     | Round                 |                                    |
| <b>Axle Bearing</b>   | Galvanized steel ball | -                                  |
| <b>Axle Material</b>  | Plated steel          | 316SS                              |
| <b>Airflow</b>        | Horizontal            | Vertical up, Vertical down         |
| <b>Paint Finishes</b> | Mill finish           | Hi Pro Polyester                   |
| <b>Mounting Holes</b> | None                  | On centerline, Straddle centerline |

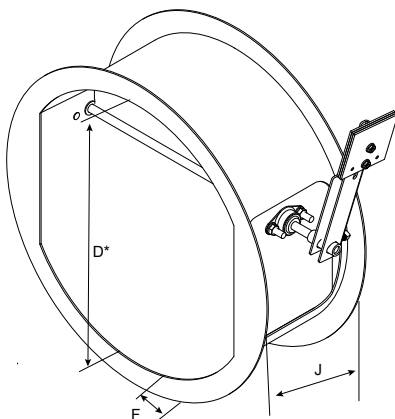


\*Actual inside dimension

Advise air flow direction & counterbalance weight location when ordering



| Diameter | Minimum Size | Maximum Size |
|----------|--------------|--------------|
| Inches   | 7¼           | 24           |
| mm       | 184          | 610          |



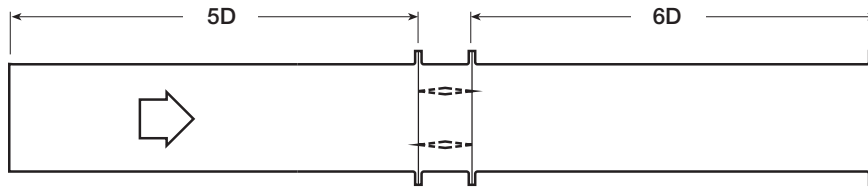
| Diameter D<br>Inches (mm) |             | Frame<br>Depth J<br>Inches<br>(mm) | Frame &<br>Flange<br>Gauge<br>(mm) | Flange<br>Width F<br>Inches<br>(mm) | Square<br>Axle<br>Inches<br>(mm) | Blade<br>Thickness<br>Gauge<br>(mm) |
|---------------------------|-------------|------------------------------------|------------------------------------|-------------------------------------|----------------------------------|-------------------------------------|
| Above                     | Through     |                                    |                                    |                                     |                                  |                                     |
| 7¼<br>(184)               | 12<br>(305) | 6<br>(152)                         | 14<br>(2)                          | 1.25<br>(32)                        | 0.5<br>(12.7)                    | 16<br>(1.5)                         |
| 12<br>(305)               | 18<br>(457) | 8<br>(203)                         | 14<br>(2)                          | 1.5<br>(32)                         | 0.5<br>(12.7)                    | 16<br>(1.5)                         |
| 18<br>(457)               | 24<br>(610) | 8<br>(203)                         | 14<br>(2)                          | 1.5<br>(32)                         | 0.5<br>(12.7)                    | 16*<br>(1.5)                        |

\* with reinforcements

## Performance Data

### AMCA Test Figure 5.3

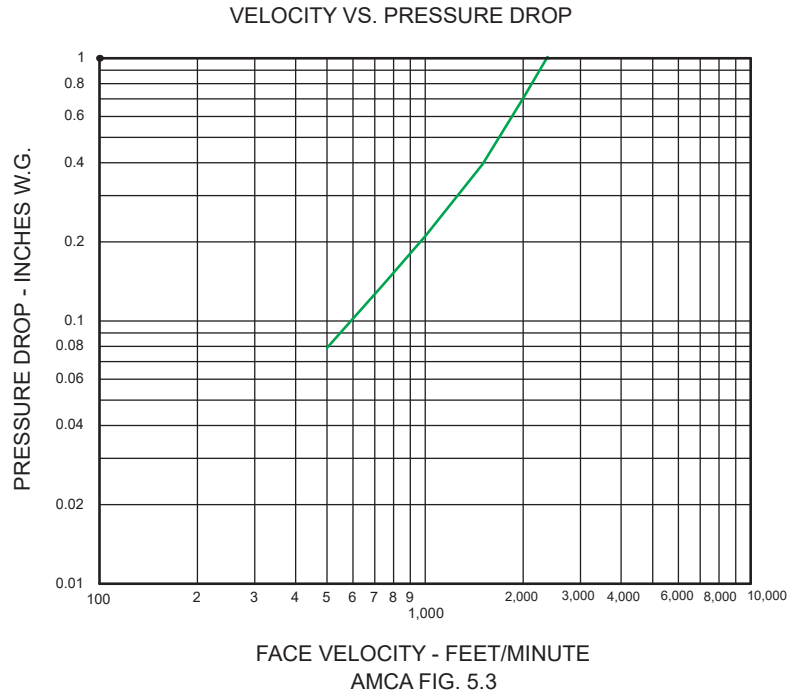
Figure 5.3 illustrates a fully ducted damper. This configuration has low pressure drop because entrance and exit losses are minimized by straight duct runs upstream and downstream of the damper.



### Pressure Drop Data

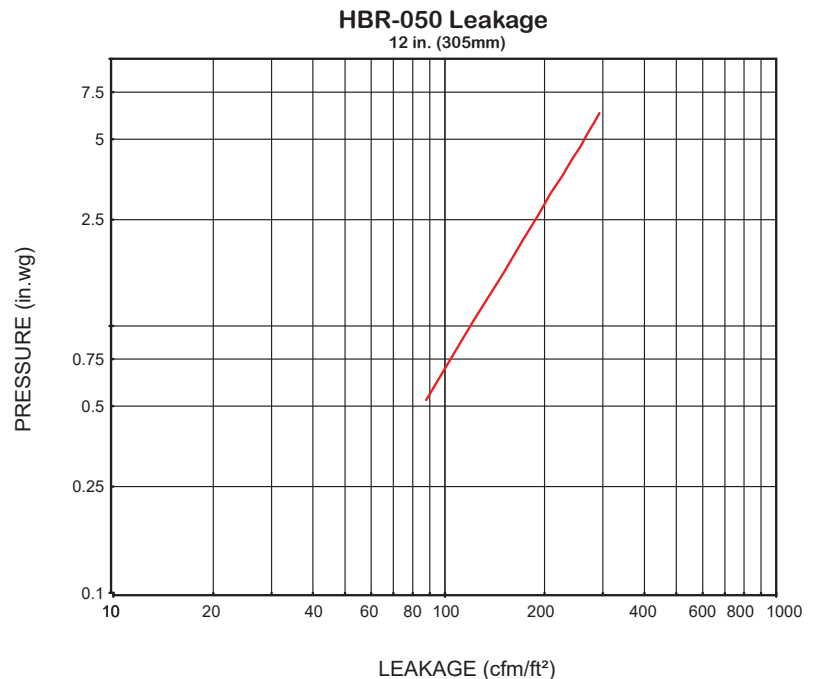
This pressure drop data was conducted in accordance with AMCA Standard 500-D using Test Figure 5.3. All data has been corrected to represent standard air at a density of 0.075 lb./ft<sup>3</sup> (1.2 kg/m<sup>3</sup>).

Actual pressure drop found in any HVAC system is a combination of many factors. This pressure drop information along with an analysis of other system influences should be used to estimate actual pressure losses for a damper installed in a given HVAC system.



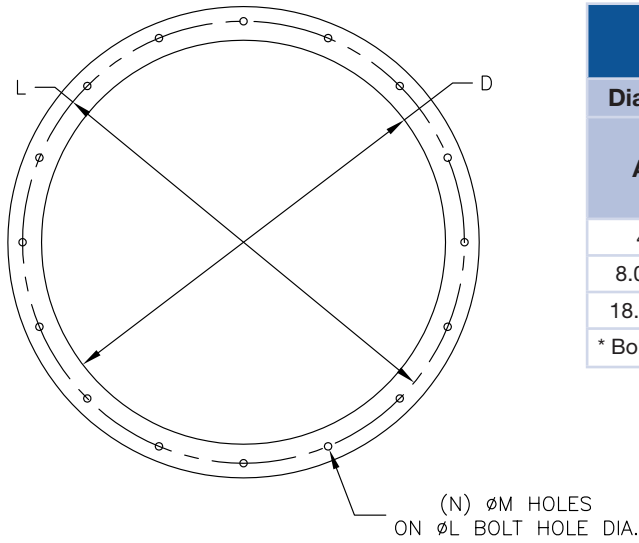
### Leakage Data

Damper leakage (with blade fully closed) varies based on the type of blade stops and low leakage seals applied. Model HBR-050 is available with no seals. Leakage testing was conducted in accordance with AMCA Standard 500-D and is expressed as cfm/ft<sup>2</sup> of damper face area. All data has been corrected to represent standard air at a density of 0.075 lb./ft<sup>3</sup> (1.2 kg/m<sup>3</sup>).



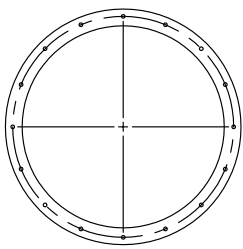
# Mounting Holes

The recommended bolt hole pattern is shown in the table below. Customer must specify bolt holes that are parallel to the axle centerline or that straddle the axle centerline as shown in the diagrams below. The factory can also provide bolt hole sizes and patterns other than those shown.

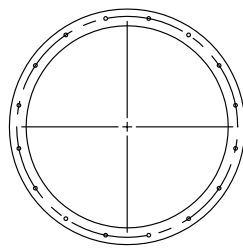


| Recommended Bolt Hole Pattern<br>(Bolt Holes Parallel to Axle Centerline) |          |                 |                                   |                        |                       |
|---|----------|-----------------|-----------------------------------|------------------------|-----------------------|
| Diameter Inches (mm)  |          | Number of Holes | Mounting Hole Diameter in. (mm) N | Bolt Circle Diameter L | Degrees Between Holes |
| Above   | Through  |                 |                                   |                        |                       |
| 4 (102)   | 8 (203)  | 4               | 3/8 (9.5)                         | *                      | 90                    |
| 8.001 (203)   | 18 (457) | 8               | 7/16 (11)                         | *                      | 45                    |
| 18.001 (457)  | 24 (610) | 12              | 7/16 (11)                         | *                      | 30                    |

\* Bolt Circle Diameter = Damper Diameter + Flange Height + 1/4 in. (6mm)



On Centerline



Straddle Centerline

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