

### Application and Design

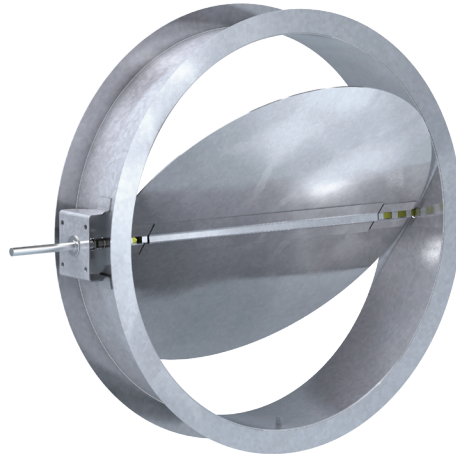
Model HCDR-050 is a light duty round control damper with a flanged style frame. It is designed to control airflow and provide shut off in HVAC or industrial process control system.

### Ratings:

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

**Velocity:** Up to 3000 fpm (15.2 m/s)

**Temperature:** -40 to 250°F (-40 to 121°C) Maximum



\* Diameter = Actual Inside Dimension

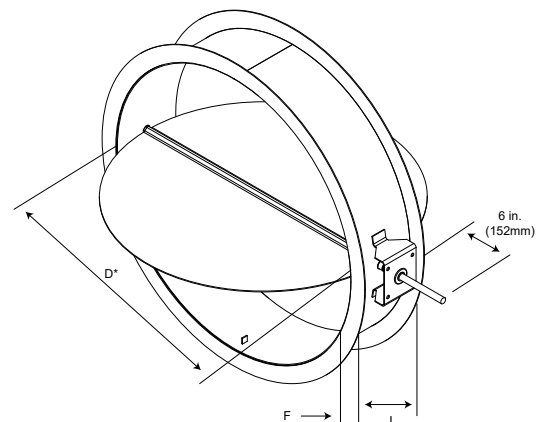
	Standard	Optional
<b>Frame and Blade Material</b>	Galvanized steel	Painted, 304SS or 316SS
<b>Frame Type</b>	Flanged Channel	
<b>Blade Seals</b>	None	EPDM
<b>Blade Stop</b>	Pin stop	
<b>Blade Type</b>	Round butterfly	
<b>Axle Bearing</b>	Stainless steel sleeve	
<b>Axle Material</b>	Plated Steel	316SS
<b>Axle Seals</b>	None	
<b>Finishes</b>	Mill finish	Hi Pro Polyester

Diameter	Minimum Size	Maximum Size
<b>Inches</b>	6	24
<b>mm</b>	152	609

### Features

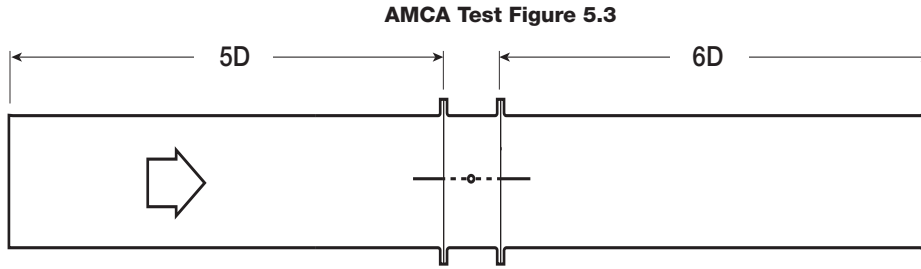
- Mounting flanges can be ordered with bolt holes, per factory standards or customized to match your requirements.
- Wide range of commercial actuators available.

Diameter D Inches (mm)		Frame Depth (J)	Frame & Flange Gauge (mm)	Flange Width F Inches (mm)	Axle Size Inches (mm)	Blade Thickness Gauge (mm)
From	To					
6 (152)	12 (305)	6 (152mm)	14 (2)	1.25 (32)	0.375 (9.5)	16 (1.5)
12.001 (305)	24 (609)	8 (203mm)	14 (2)	1.5 (32)	0.375 (9.5)	16 (1.5)



## 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

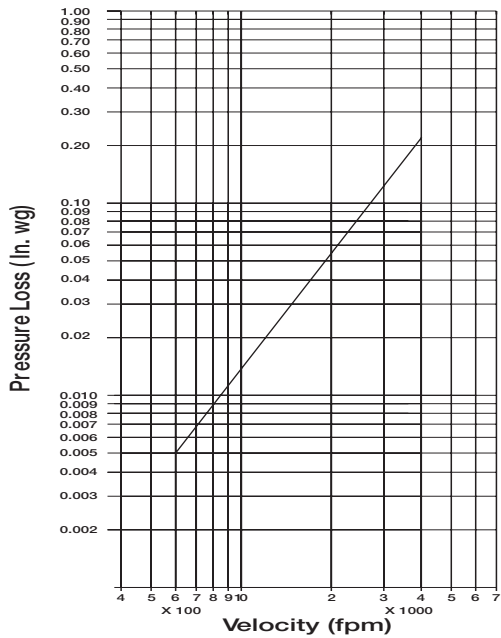
This pressure drop data was conducted in accordance with AMCA Standard 500-D using Test Figure 5.3. All data has been corrected to represent standard air at a density of 0.075 lb/ft<sup>3</sup> (1.2 kg/m<sup>3</sup>).

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.

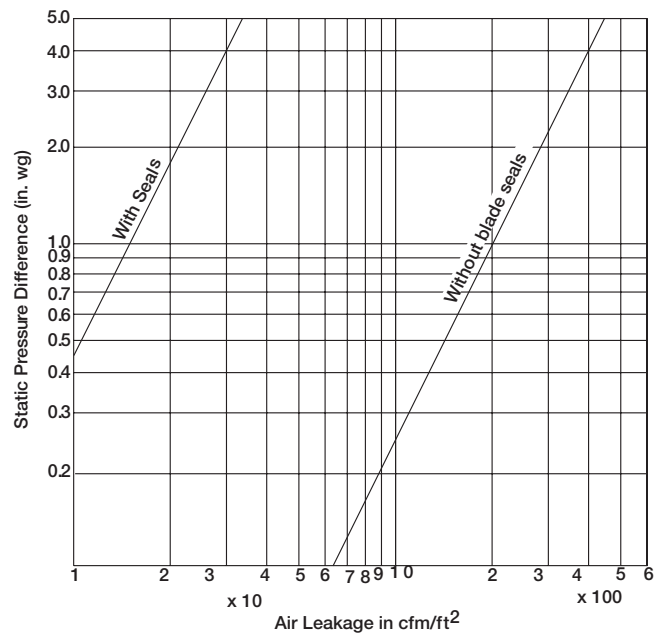
## Leakage Data

Damper leakage (with blades fully closed) varies based on the type of blade stops and low leakage seals applied. HCDR-050 is available with no seals (standard) or with EPDM blade seal. 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>).

**Pressure Drop**  
**12 in. (305mm) Diameter Damper**

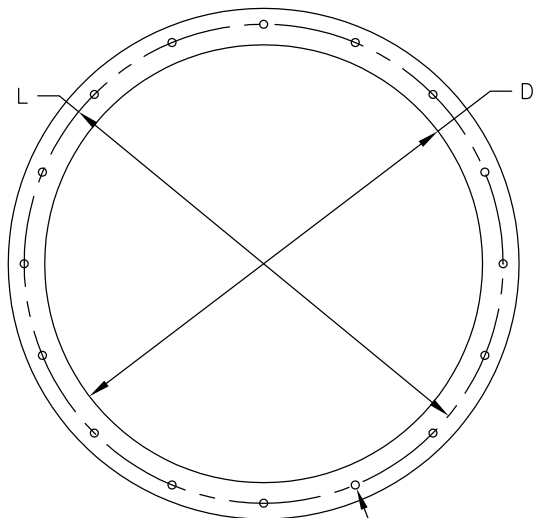


**Leakage**  
**12 in. (305mm) Diameter Damper**



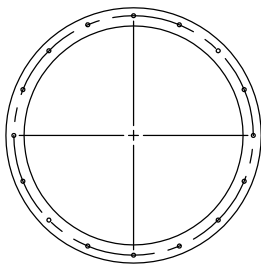
## Bolt Holes

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

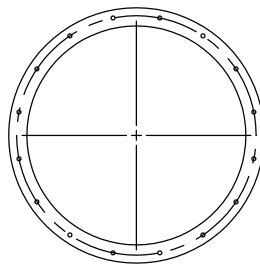


(N)  $\phi$ M HOLES  
ON  $\phi$ L BOLT HOLE DIA.

Recommended Bolt Hole Pattern (Bolt Holes Parallel to Axle Centerline)					
Diameter Inches (mm)		Number of Holes N	Mounting Hole Diameter in. (mm) M	Bolt Circle Diameter L	Degrees Between Holes
From	To				
6 (152)	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)					



Parallel on Centerline



Straddle on Centerline

## Specifications

Control dampers meeting the following specifications shall be furnished and installed where shown on plans and/or as described in schedules.

Dampers shall consist of a round channel frame, single axle, and single circular blade fabricated from galvanized steel. Damper axle shall be continuous pivoting in stainless steel sleeve bearings pressed into each side of the damper frame.

Damper manufacturer's printed application and performance data including pressure, velocity and temperature limitations shall be submitted for approval showing damper suitable for pressures to 6 in. wg (1.5 kPa), velocities to 3000 fpm

(15.2 m/s) and temperatures to 250°F (121°C). Testing and ratings to be in accordance with AMCA Standard 500-D.

Specifier may add the following:

Dampers shall be equipped with blade seals for low leakage performance. Testing and ratings shall be per AMCA Standard 500-D.

Basis of design is model HCDR-050.