

Application

AC-81R control dampers employ a rugged round channel frame and a single round blade for automatic air control and manual balancing in medium to high pressure and velocity applications.

Standard Construction

Frame: Galvanized steel channel, see table for details.

Blades: Galvanized steel, see table for details.

Axles: Plated steel, see table for details.

Bearings: Bronze.

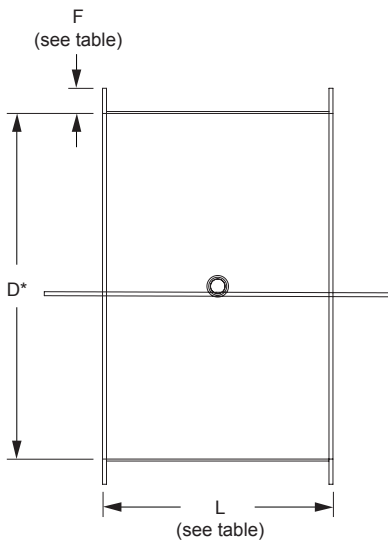
Control Shaft: 6" (13) long round drive axle, see table for details.

Minimum Size: 4" Ø (122 Ø)

Maximum Size: 60" Ø (1524 Ø)

Options

- Factory installed external mount actuator:
 - Manual locking quadrant.
 - 24 VAC 120 VAC 230 VAC
 - Pneumatic Modulating
- Outboard bearings
- Neoprene blade seals.
- Continuous blade stops.
- Bolt holes: One side Both sides
- Type-304 stainless steel construction.
- Type-316 stainless steel construction.

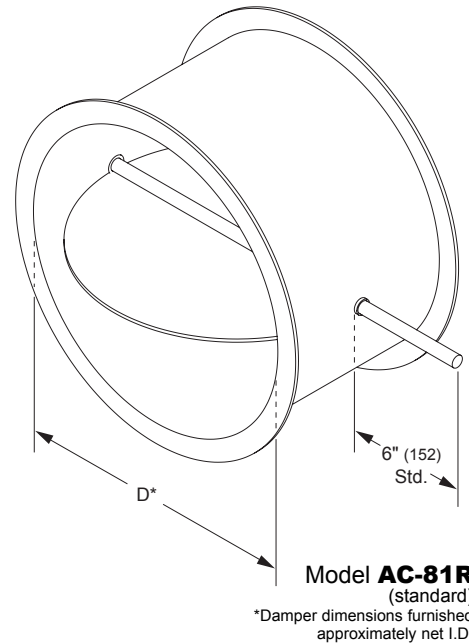


Ratings

Damper Diameter	Maximum System Pressure	Maximum System Velocity
12" (305)	10.0 in. wg (2.5 kPa)	6000 fpm (30.4 m/s)
24" (610)	8.0 in. wg (2.0 kPa)	6000 fpm (30.4 m/s)
36" (914)	8.0 in. wg (2.0 kPa)	5000 fpm (25.4 m/s)
48" (1219)	6.5 in. wg (1.5 kPa)	4000 fpm (20.3 m/s)
60" (1524)	6.5 in. wg (1.5 kPa)	4000 fpm (20.3 m/s)

Leakage (no seals): 54.0 cfm/ft² @ 10 in. wg (0.28m³/s/ m² @ 2.5 kPa)
 50.0 cfm/ft² @ 8 in. wg (0.26m³/s/ m² @ 2.0 kPa)
 35.0 cfm/ft² @ 4 in. wg (0.18m³/s/ m² @ 1.0 kPa)
 18.0 cfm/ft² @ 1 in. wg (0.09m³/s/ m² @ 0.25 kPa)

Temperature: -25°F to 225°F (-32°C to +107°C)

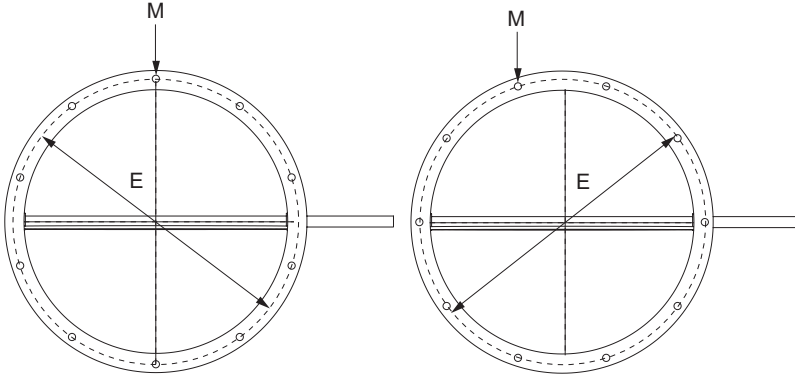


Standard Construction Table					
Damper Diameter (D)	Frame			Blade Thickness	Diameter Axle
	Depth (L)	Flange (F)	Thickness		
4" (102) ≤ D ≤ 12" (305)	6" (178)	1.25" (32)	10 ga. (3.5)	10 ga. (3.5)	1/2" (13)
12" (305) < D ≤ 14" (356)	8" (203)	1.50" (38)	10 ga. (3.5)	10 ga. (3.5)	1/2" (13)
14" (356) < D ≤ 24" (610)	8" (203)	1.50" (38)	10 ga. (3.5)	10 ga. (3.5)	3/4" (19)
24" (610) < D ≤ 42" (1067)	8" (203)	2.00" (51)	10 ga. (3.5)	3/16" (4.8)	3/4" (19)
42" (1067) < D ≤ 48" (1219)	8" (203)	2.00" (51)	10 ga. (3.5)	3/16" (4.8)	1" (25)
48" (1219) < D ≤ 60" (1524)	8" (203)	2.50" (64)	3/16" (4.8)	1/4" (6.4)	1" (25)

Information is subject to change without notice or obligation.

NOTE: Dimensions in parentheses () are millimeters.

AC-81R Bolt Hole Dimensions



Bolt Holes
Straddle Axle Centerline

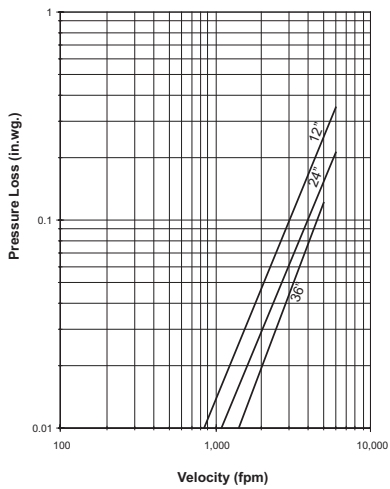
Bolt Holes
Parallel to Axle Centerline

Dimension	Description
M _____ inches	Hole Diameter
E _____ inches	Bolt Hole From Circle Diameter
G ___ @ ___(x) inches	Number of Holes

Airflow Performance Data

Pressure Loss vs. Velocity

Figure 5.3 — Ducted Inlet and Outlet



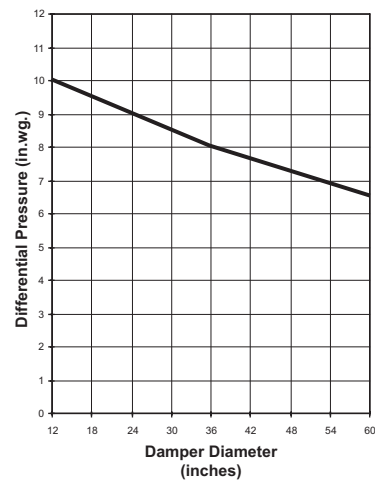
Pressure drop testing was performed in accordance with AMCA Standard 500-D using Figure 5.3 — Ducted Inlet and Outlet. All data has been corrected to represent air density of 0.075 lb/ft. Actual pressure drop in any ducted HVAC system is a combination of many elements. This information, along with analysis of other system influences, should be used to estimate actual pressure losses for a damper installed in a given HVAC system.



Ducted Inlet and Outlet

AMCA Figure 5.3 illustrates a fully ducted damper. This configuration represents the lowest pressure drop of the three test configurations because entrance and exit losses are minimized by straight duct runs upstream and downstream of the damper.

Pressure Limitations



Velocity Limitations

