

Application

The CD-95R is a bubble-tight industrial control damper designed for isolation and decontamination applications. Bubble-tight dampers are designed to have the lowest leakage ratings possible. Typical applications include industrial processing plants, laboratories, clean rooms, pharmaceutical facilities, nuclear facilities, DOE facilities, and other applications that require extremely low leakage. The CD-95R is tested and certified for bubble-tight leakage ratings in accordance with AMCA 500-D up to 30 in. wg (7.5kPa). The damper frame is flanged for easy mounting and the blade seal is mechanically fastened to the blade.

Standard Construction

Frame: Galvanized steel or Mild steel, see table for details.

Flange type: Round, see table for details.

Blade Material: Galvanized steel or Mild steel, see table for details.

Blade Stop: Full open and closed position pin stop.

Blade Style: Single round steel blade; reinforced where required.

Blade Seals: Silicone rubber, mechanically fastened to blade.

Axes: Plated steel, see table for details.

Axle Seals: Double gland.

Axle Bearings: Relubricable ball bearing, outboard mounting.

Damper Operator: Manual Locking Quadrant for dampers ≤16" Ø(406) Ø, Manual Hand Wheel for dampers >16" Ø(406) Ø.

Lifting Lugs: Four 1" (25) lifting lugs provided on dampers > 16" Ø (406Ø).

Finish: Hi-Pro poly powder coat, gray, *MCOT of 250°F (121°C).

Mounting Holes: None.

Minimum Size: 6" Ø (152 Ø)

Maximum Size: 48" Ø (1219 Ø)

* Maximum Continuous Operating Temperature

Options

- ☐ Factory installed external mount actuator:
 - ☐ 24 VAC ☐ 120 VAC ☐ 230 VAC ☐ Pneumatic
 - ☐ Modulating ☐ Locking Quadrant up to 16" Ø (406 Ø)"
 - ☐ Hand Wheel ☐ None (Extended axle)
- ☐ Blade seal material:
 - ☐ EPDM ☐ BUNA-N
- ☐ Stainless steel construction:
 - ☐ 304SS ☐ 316SS
- ☐ Square flange
- ☐ Frame mounting holes: ☐ One side ☐ Both sides

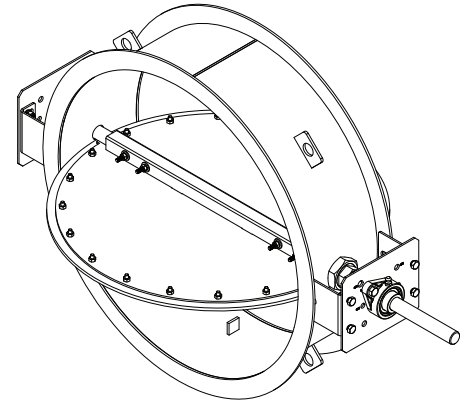
Ratings

Leakage: Certified bubble-tight in accordance with AMCA-500D

Velocity: Up to 6,500 fpm (33 m/s)

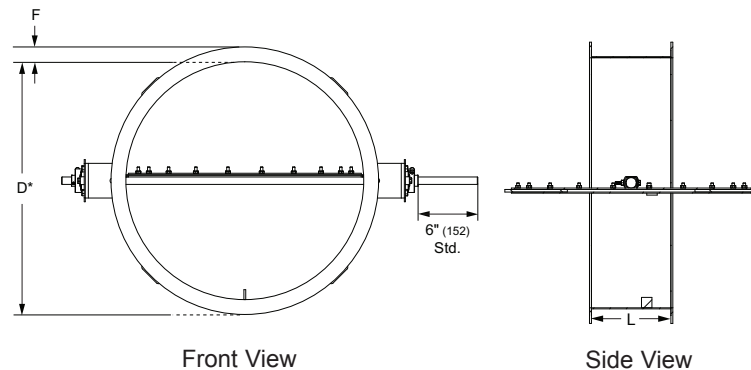
Temperature: -40°F (-40°C) to 250°F (121°C)

Pressure: Up to 30 in. wg. (7.5kPa) - differential pressure



Model CD-95R
(standard)

*Damper dimensions furnished approximately net I.D.



Test Information:

Air leakage is based on operation between 32 °F and 120 °F.

Performance Data:

Dampers are bubble-tight up to 30 in.wg. differential Pressure.

Certified Ratings:

Pottorff certifies that the CD-95R Bubble-tight damper shown herein is licensed to bear the AMCA seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings seal applies to Air Leakage Ratings.

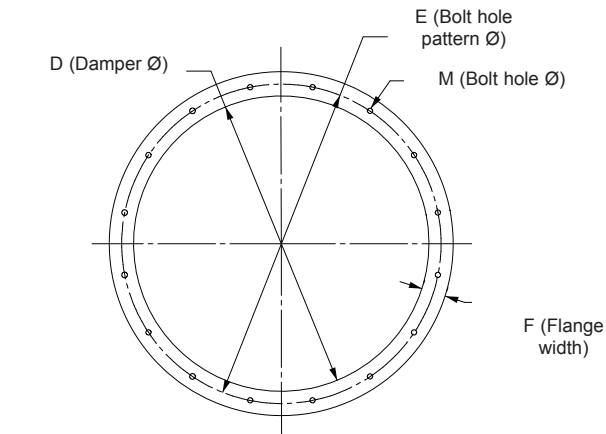
Torque Table:

Damper Size (in.)	Required Torque	
	in.- lb.	in.- lb./ft. ²
6" Round	155	775
48" Round	2,226	177

Standard Construction Table

Damper Diameter (D)	Frame			Blade Thickness	Axle Diameter
	Depth (L)	Frame & Flange Thickness	Flange Width (F)		
6" (152) < D ≤ 12" (305)	6" (152)	12 ga.(2.5)	1-1/2"(38)	12 ga.(2.5)	3/4" (19)
12" (305) < D ≤ 18" (457)	8" (203)	8" (203)	1-1/2"(38)	10 ga.(3.2)	3/4" (19)
18" (457) < D ≤ 24" (610)	8" (203)	10 ga.(3.2)	1-1/2"(38)	10 ga.(3.2)	1" (25)
24" (610) < D ≤ 35" (889)	8" (203)	3/16"(4.8)	2" (51)	10 ga.(3.2)	1" (25)
35" (889) < D ≤ 39" (991)	8" (203)	3/16"(4.8)	2" (51)	10 ga.(3.2)	1-1/4" (32)
39" (991) < D ≤ 42" (1067)	8" (203)	3/16"(4.8)	2" (51)	10 ga.(3.2)	1-1/2" (38)
42" (1067) < D ≤ 48" (1219)	8" (203)	3/16"(4.8)	2" (51)	3/16" (4.8)	1-1/2" (38)

CD-95R Bolt Hole Dimensions

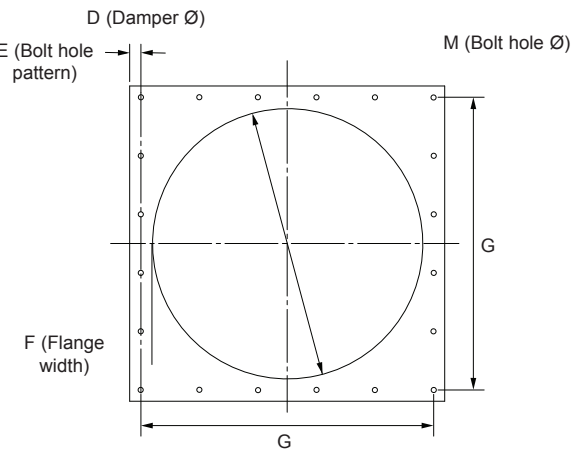


Round Flange Bolt Hole Pattern

The recommended bolt hole pattern for both standard round and optional square flanges are shown in the tables below. Standard round bolt hole pattern will straddle the axle centerline. Customer must specify bolt holes that are parallel to the axle centerline. The factory can also provide bolt hole sizes and patterns other than those shown.

Recommended Bolt Hole Pattern - Round Flange			
Damper Diameter (D)	Number of Holes (K)	Bolt Hole Diameter (M)	Degrees Between Holes
6"(152) ≤ D ≤ 8"(203)	4	3/8"(10)	90
8"(203) < D ≤ 18"(457)	8	7/16"(11)	45
18"(457) < D ≤ 24"(610)	12	7/16"(11)	30
24"(610) < D ≤ 36"(914)	16	7/16"(11)	22.5
36"(914) < D ≤ 48"(1219)	24	7/16"(11)	15

$E \text{ (Bolt hole pattern } \varnothing) = D + F + 1/4" \text{ (6)}$

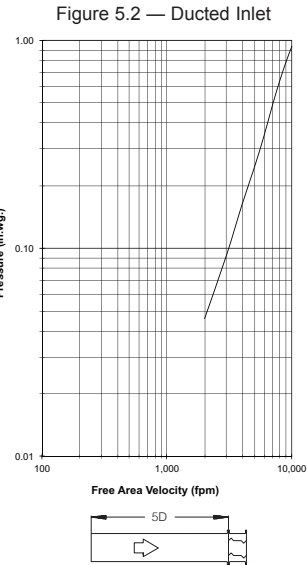


Square Flange Bolt Hole Pattern

Recommended Bolt Hole Pattern - Square Flange			
Damper Diameter (D)	Number of Holes (G)	Bolt Hole Diameter (M)	Bolt Hole Pattern (E)
6"(152) ≤ D ≤ 8"(203)	2	3/8"(10)	5/8"(16)
8"(203) < D ≤ 18"(457)	4	7/16"(11)	3/4"(19)
18"(457) < D ≤ 24"(610)	4	7/16"(11)	3/4"(19)
24"(610) < D ≤ 36"(914)	6	7/16"(11)	1"(25)
36"(914) < D ≤ 48"(1219)	8	7/16"(11)	1"(25)

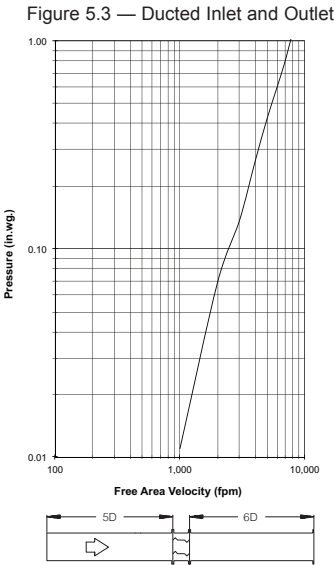
Performance Data

Pressure Loss vs. Velocity



Ducted Inlet and Outlet

AMCA Figure 5.2 Illustrates a ducted damper exhausting air into an open area. This configuration has a lower pressure drop than a plenum mounted damper because entrance losses are minimized by a straight duct run upstream of the damper.



Ducted Inlet and Outlet

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

Note:
The AMCA Certification is for Leakage Performance only. The Pressure drop data is not certified.