

CD60SS
HIGH PERFORMANCE STAINLESS STEEL AIRFOIL BLADE DAMPER
AMCA Class IA Leakage Rated

APPLICATION

The CD60SS in 304 stainless steel construction offers corrosion resistance and Class IA leakage performance of 3cfm/ft @ 1" w.g., which meets the International Energy Conservation Code (IECC) requirements. The airfoil blades are designed for HVAC systems with velocity and pressures up to 4,000 fpm and 8" w.g.



PERFORMANCE RATINGS	
Leakage	AMCA Class IA (see page 2)
Velocity	Up to 4000 fpm (20.3 m/s)
Pressure	Up to 8" w.g. (2.0 kPa)
Temperature	-72°F to +275°F (-58°C to +135°C)
Airflow	Bi-directional

SPECIFICATIONS		
	Standard	Optional
Frame	5" x 1" x 16ga. (127x25x1.6) 304 SS hat-channel	T-Flange
Blades	304 SS airfoil type, typically 6" (152) wide, max. 7" (178)	
Blade Seals	Silicone rubber, mechanically fastened	
Blade Action	Opposed (OB)	Parallel (PB)
Jamb Seals	301 SS cambered compression type	
Bearings	Oil-impregnated, 7/16" (11) 304 SS hex	
Axles	7/16" (11) 303 SS hex	
Linkage	304 SS, concealed out of airstream	
Control Shaft	1/2" (13) dia. x 6" (152) long 304 SS for single section	
	1" (25) dia. 304 SS Jackshaft for multi-section assemblies	
	1/2" (13) dia. jackshaft for multi-section assemblies up to 12 1/2 ft ² (1.16m ²)	
	1" (25) dia. jackshaft for multi-section assemblies over 12 1/2 ft ² (1.16m ²)	

DIMENSIONS & WEIGHT	
Single Blade	6" x 6" (152 x 152)
Two Blades	8" x 11" (1219 x 1829)
Maximum Section	48" x 72" (1219 x 1829)
Maximum Assembly	Unlimited
Weight	9 lbs. (4.1kg) per ft ²

OPTIONS & ACCESSORIES	
Flanges	Front, rear or both sides with or without bolt holes
Control Shaft	Single-section jackshaft, 1" (25) dia.
Sleeve/ Transition	Factory installed, with or without transitions
Actuators	Factory provided and installed
Manual Operator	Locking hand quadrant
Switches	SP100 - blade (open/closed) position indicator

NOTE: Values shown in parenthesis () indicate millimeters.



Highlights

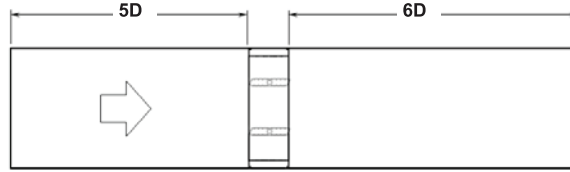
- ▶ AMCA Class IA Leakage Rated
- ▶ Airfoil blades, low pressure drop
- ▶ Mechanically fastened blade seals
- ▶ Corrosion resistant, low maintenance

CD60SS PERFORMANCE DATA

PRESSURE DROP DATA

CD60SS air performance testing is performed in accordance with AMCA Standard 500-D configuration 5.3 as illustrated below. All data are corrected to standard air density of .075 lb/ft³ (1.201 kg/m³).

$$D = \sqrt{\frac{4 (W) (H)}{3.14}}$$



AMCA figure 5.3 was established to represent a fully ducted damper with straight duct upstream and downstream. With entrance and exit losses minimized by this straight duct arrangement, this configuration has the lowest pressure drop of all three configurations.

12" x 12" (305 x 305)		24" x 24" (610 x 610)		36" x 36" (914 x 914)		12" x 48" (305 x 1219)		48" x 12" (1219 x 305)	
Velocity (fpm)	Pressure Drop (in.wg)	Velocity (fpm)	Pressure Drop (in.wg)	Velocity (fpm)	Pressure Drop (in.wg)	Velocity (fpm)	Pressure Drop (in.wg)	Velocity (fpm)	Pressure Drop (in.wg)
507	0.03	492	0.007	382	0.004	489	0.007	494	0.02
987	0.10	981	0.03	790	0.014	986	0.03	986	0.05
1481	0.24	1474	0.06	1179	0.03	1485	0.06	1484	0.12
1970	0.41	1968	0.10	1582	0.05	1981	0.10	1981	0.23
2521	0.70	2867	0.17	1979	0.08	2480	0.18	2479	0.33

LEAKAGE DATA

Air Leakage testing is performed in accordance with ANSI/AMCA Standard 500-D, figure 5.5.

Data are based on a torque of 7 in-lbs/ft² (.56 N.m./m²) applied to close and seat the damper during the test.

Air Leakage is based on operation between 32°F - 120°F (0°C - 49°C).

CD60SS	LEAKAGE CLASS*			
Maximum Damper Width	1" w.g. (0.25 kPa)	4" w.g. (1 kPa)	8" w.g. (2 kPa)	10" w.g. (2.5 kPa)
48" (1219)	1A	1	NA	NA

* Leakage Class Definitions

As defined by AMCA, the maximum allowable leakage is as follows:

Leakage Class 1A (is only defined @ 1" wg)
 - 3 cfm/ft² (.92 cmm/m²) @ 1" wg (0.25 kPa)

Leakage Class 1
 - 4 cfm/ft² (1.22 cmm/m²) @ 1" wg (0.25 kPa)
 - 8 cfm/ft² (2.44 cmm/m²) @ 4" wg (1 kPa)
 - 11.3 cfm/ft² (3.45 cmm/m²) @ 8" wg (2 kPa)
 - 12.6 cfm/ft² (3.85 cmm/m²) @ 10" wg (2.5 kPa)

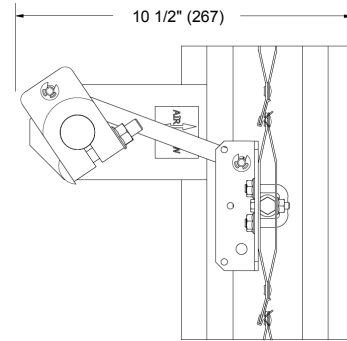
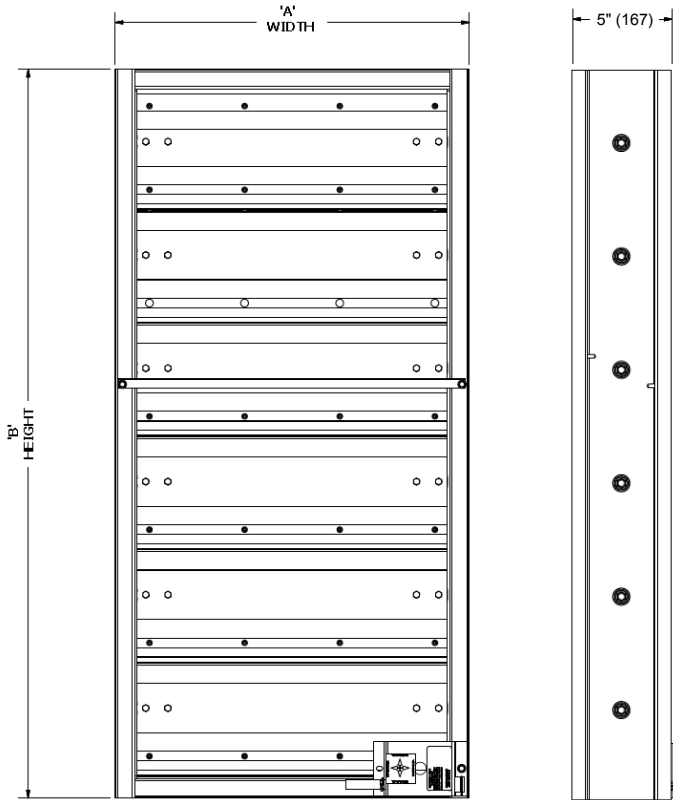
Ruskin Company certifies that model CD60SS shown herein is licensed to bear the AMCA seal. The AMCA Certified Ratings Seal applies to Air Leakage and Air Performance ratings. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program.



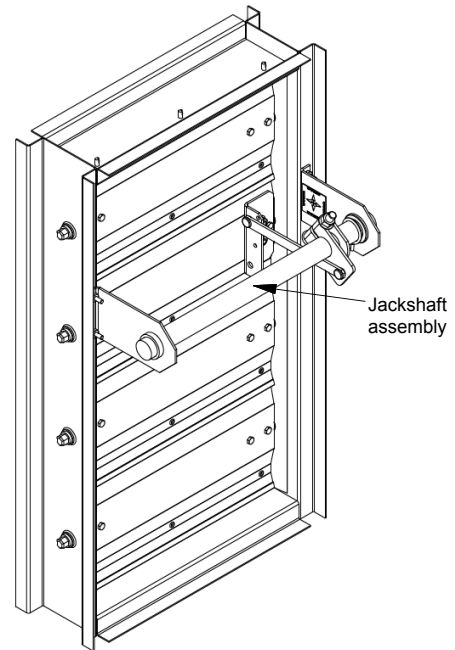
CD60SS DIMENSIONAL INFORMATION

W & H dimensions are supplied with 1/4" (6) deduct standard, unless ordered actual size.

A = width B = height



Side view of jackshaft assembly and damper frame



Single damper section shown with optional 1" (25) dia. jackshaft

CD60SS SUGGESTED SPECIFICATION

Furnish and install, at locations shown on plans, or in accordance with schedules AMCA certified, low leakage airfoil control dampers meeting the following minimum construction standards. Control dampers shall be produced in an ISO9001 certified factory. Frame shall be 16 ga. (1.6) 304 stainless steel hat channel construction. Blades shall be 18 ga. (1.3) double skin 304 stainless steel airfoil type for low pressure drop and low noise generation. Blade edge seals shall be silicone or equivalent mechanically locked into the blade edge. Jamb seals shall be stainless steel chambered compression type to prevent leakage between blade end and damper frame. Blade end overlapping frame is unacceptable. Multiple section dampers must have factory installed jackshafts unless clearly eliminated by engineer. Bearings shall be 304 stainless steel, oil impregnated, and self-lubricating sleeve type with a 450 pound (204 kg) minimum radial crush load. Bearings shall turn in extruded holes in the damper frame. Axles shall be hexagonal positively locked into the damper blade. Linkage shall be concealed out of airstream, within the damper frame to reduce pressure drop and noise. Temperature limits shall be -72°(-58°C) to +275°F (+135°C). Submittal must include leakage, maximum air flow and maximum pressure ratings based on AMCA Publication 500. Damper shall be tested and licensed in accordance with AMCA 511 for Air Performance and Air Leakage. Damper widths from 12" to 48" (305 to 1524) wide shall not leak any greater than 3 cfm/sq.ft. at 1" w.g. (15.2 l/s-m² at .25 kPa). Dampers shall be equivalent in all respects to Ruskin Model CD60SS.



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