

ECONOMIZER CD60 (ECD60) LOW LEAKAGE CONTROL DAMPER

High Performance Airfoil
Class 1A Leakage Rated

APPLICATION

The ECD60 is a low leak, galvanized steel damper designed with airfoil blades for higher velocity and pressure HVAC systems. It meets the leakage requirements of the International Energy Conservation Code by leaking less than 3 cfm/sq. ft. at 1" of static pressure and is AMCA licensed as a Class 1A damper.

STANDARD CONSTRUCTION

FRAME

14 to 20 gauge galvanized steel channel or hat frame.

BLADES

Galvanized steel airfoil shaped, double skin construction of 14 gauge (2.0) equivalent thickness, 6" (152) wide. Parallel or opposed action.

SEALS

Ruskiprene blade edge seals and flexible metal compressible jamb seals.

BEARINGS

Stainless steel or nylon bushing.

LINKAGE

Outside of airstream.

AXLES

½" (13) plated steel or zinc casted hex.

MAXIMUM SIZE

Single section — 60"w x 89"h (1524 x 2260).
Multiple section assembly — Unlimited size.

MINIMUM SIZE

Single blade — 8"w x 6"h (203 x 152).
Two blades, parallel action: 8"w x 10"h (203 x 254).

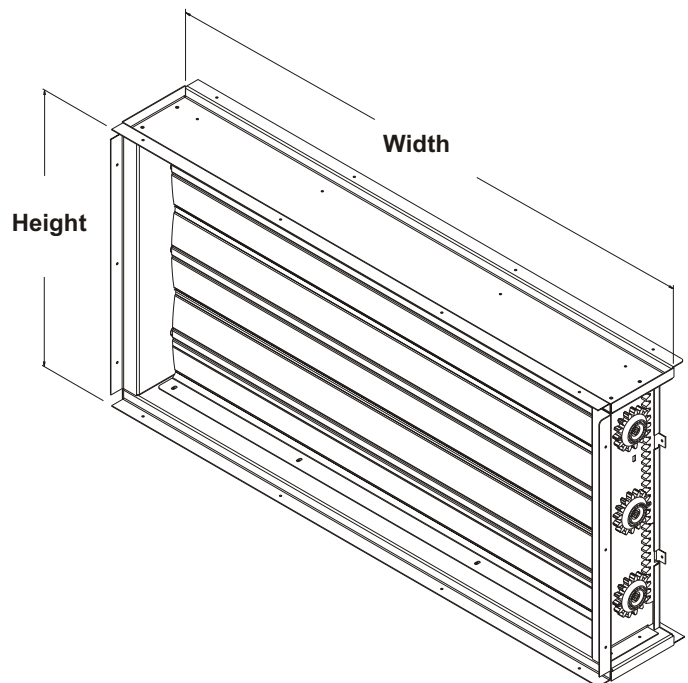
TEMPERATURE LIMITS

-72°F (-60°C) minimum and +275°F (+135°C) maximum.

FEATURES

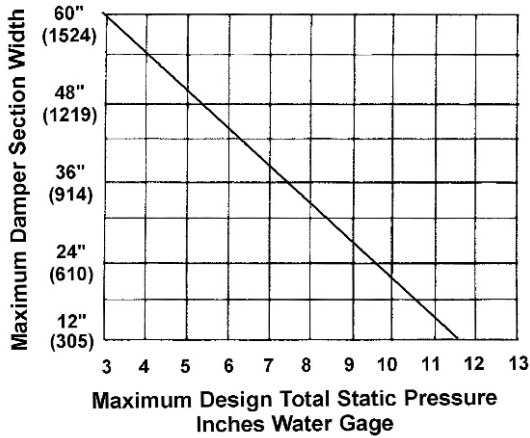
- Airfoil blade design for low pressure drop and less noise generation.
- Galvanized steel channel frame design to reduce racking.
- Positive lock axles, non-corrosive bearings and shake proof linkage for low maintenance operation.
- Blade edge seals mechanically lock into the blade for superior sealing.

NOTE: Dimensions shown in parenthesis () indicate millimeters.



ECD60 AMCA LICENSED PERFORMANCE DATA

ECD60 PRESSURE LIMITATIONS



The ECD60 may be used in systems with total pressures exceeding 3.5" by reducing damper section width as indicated. Example: Maximum design total pressure of 8.5" w.g. would require ECD60 damper with maximum section width of 36" (914). Pressure limitations shown above allow maximum blade deflection of 1/180 of span on 60" (1524) damper widths. Deflections in other damper widths (less than 48" [1219]) at higher pressures shown will result in blade deflection substantially less than 1/180 of span.



Ruskin Company certifies that the ECD60 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 International Certified Ratings Seal applies to Air Performance and Air Leakage.

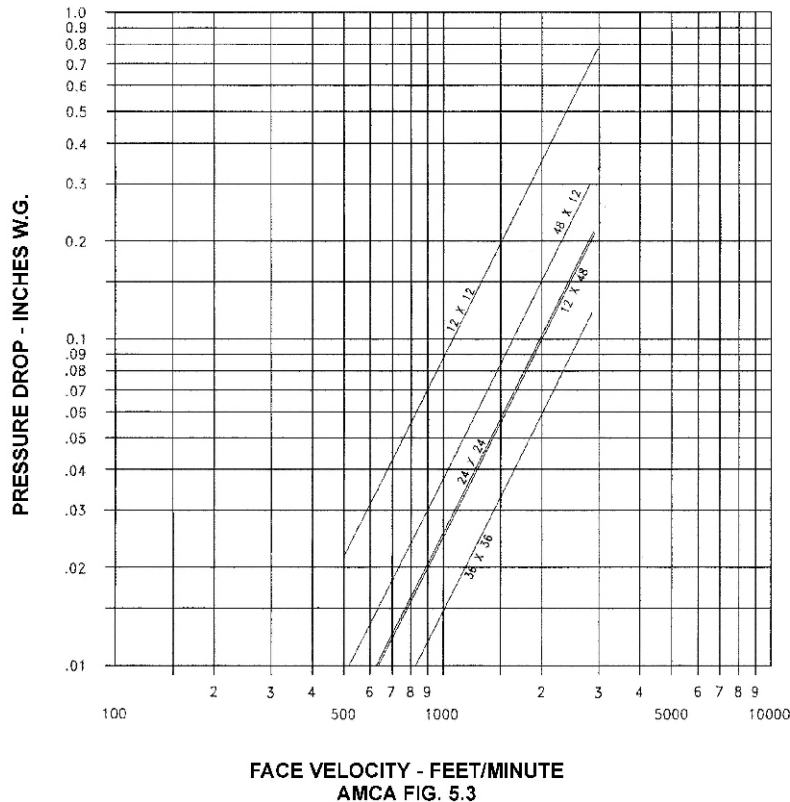
Pressure/Class	Leakage, L/s/m ² (ft ³ /min/ft ²)			
	Required Rating		Extended Ranges (Opt.)	
	1" (0.25 kPa)	4" (1.0 kPa)	8" (2.0 kPa)	12" (3.0 kPa)
1A	3 (15)	N/A	N/A	N/A
1	4 (20)	8 (41)	11 (57)	14 (69)
2	10 (51)	20 (103)	28 (144)	35 (177)
3	40 (203)	80 (406)	113 (574)	139 (703)

Damper Width Inches (mm)	1 IN. W.G.	4 IN. W.G.	8 IN. W.G.
12" (305)	IA	I	II
36" (914)	IA	I	NA
60" (1524)	IA	I	NA

Leakage testing conducted in accordance with AMCA Standard 500-D-98. Data are based on a torque of [#] N*m/m² (in-lb/ft²) applied to close and seat the damper during testing. Tested to Figure 5.5-6.5 (Torque applied holding damper closed, 5 in. lbs./sq. ft. on opposed blade

dampers and 7 in. lbs./sq. ft. on parallel blade dampers). Air leakage is based on operation between 32°F to 120°F. All data corrected to represent standard air density 0.075 lbs/ft³.

VELOCITY VS. PRESSURE DROP



CD60 sizes 12 x 12, 24 x 24, 48 x 12, 12 x 48, 36 x 36 (305 x 305, 610 x 610, 1219 x 305, 305 x 1219, 914 x 914)

All data corrected to represent standard air at a density of 0.075 lbs/ft³.

ECD60 SUGGESTED SPECIFICATION

Furnish and install, at locations shown on plans, or in accordance with schedules, economizer dampers that meet the following minimum construction standards. Frame shall be 14 to 20 gauge galvanized steel channel. Blades shall be 14 gauge (2.0) equivalent thickness galvanized steel, roll-formed airfoil type for low pressure drop and low noise generation. Blade edge seals shall be Ruskiprene type or equivalent suitable for -72°F (-60°C) to +275°F (+135°C) mechanically locked into the blade edge. Adhesive or clip-on type seals are unacceptable. Jamb seals shall be flexible metal, compression type to prevent leakage between blade end and damper frame. Blade end overlapping frame is unacceptable.

Bearings shall be stainless steel or nylon bushing. 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. Submittal must include leakage, maximum air flow and maximum pressure ratings based on AMCA Publication 500-D. Damper shall meet the leakage requirements of the International Energy Conservation Code by leaking less than 3 cfm/sq. ft. at 1" of static pressure and shall be AMCA licensed as a class 1A damper. Dampers shall be Ruskin ECD60 model.

Factory Mounted Damper Actuators: If control damper actuators are required, they shall be furnished and mounted by the damper manufacturer in their factory. Each damper shall be cycle tested at the factory prior to shipment.
