CD50IF
AMCA CLASS 1A LEAKAGE RATED, HIGH PERFORMANCE CONTROL DAMPER

APPLICATION
The CD50IF is a low leak, extruded aluminum damper with integral flange 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
4" x 1" x 6063T6 extruded aluminum U channel (102 x 25) and 1 1/2" (38) integral flange. Low profile, 4" x 1/2" (102 x 13) top and bottom frames on dampers 12" (305) high and less.

BLADES
6" (152) wide, 6063T6 heavy gauge extruded aluminum, airfoil shape.

SEALS
Santoprene blade edge seals and flexible metal compressible jamb seals.

BEARINGS
Molded synthetic.

LINKAGE
Concealed in frame.

AXLES
1/4" (11) plated steel hex.

MAXIMUM SIZE
Single section – 60"w x 72"h (1524 x 1829).
Multiple section assembly – Unlimited size.

MINIMUM SIZE
Single blade – 6"w x 5"h (152 x 127).
Two blades, parallel or opposed action: 6"w x 9"h (152 x 229).

TEMPERATURE LIMITS
-72°F (-58°C) and +275°F (+135°C)

FEATURES

• Airfoil blade design for low pressure drop and less noise generation.
• Positive lock axles, noncorrosive bearings and shake proof linkage for low maintenance operation.
• Blade edge seals mechanically lock into the blade for superior sealing.

OPTIONS

• Factory-installed, pneumatic and electric actuators.
• Anodized finish.
• SP100 Switch Package to remotely indicate damper blade position.
• Face and bypass configurations.
• Stainless Steel linkage and jack shaft.
• Vertical Blades.

W & H dimensions are supplied with 1/4" (6) deduct standard
Model shown with front flange.
Values shown in parenthesis ( ) are in millimeters unless otherwise indicated.
The CD50IF 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 CD50IF 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 CD50IF 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.

Leakage testing conducted in accordance with AMCA Standard 500-D-98. 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 50°F to 104°F. All data corrected to represent standard air density 0.075 lbs/ft³.

CD50IF sizes 12 x 24, 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.
# Sound Ratings

## CD50IF Sound Ratings

<table>
<thead>
<tr>
<th>Damper Size</th>
<th>Damper Full Open</th>
<th>Damper 75% Open</th>
<th>Damper 50% Open</th>
<th>Damper 25% Open</th>
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<tbody>
<tr>
<td></td>
<td>CFM</td>
<td>NC</td>
<td>CFM</td>
<td>NC</td>
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<tr>
<td>12 x 12 (305 x 305)</td>
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<td>12 x 12 (305 x 305)</td>
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<td>18 x 18 (457 x 457)</td>
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<tr>
<td>24 x 24 (610 x 610)</td>
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NC = Noise Criteria in Decibels is based on 10 db room effect and 10 db of room attenuation.

* = Less than 10 NC

See ASHRAE Handbook (1977 Fundamentals, Chapter 7) for explanation of NC Ratings.

## Dimensional Information

**Shown with Front Flange and Jackshaft**

**Shown with Rear Flange and Jackshaft**

**Low Profile**

Standard construction for dampers 12” (305) high and less.

## CD50IF Suggested Specification

Furnish and install, at locations shown on plans, or in accordance with schedules, Low leakage dampers shall meet the following minimum construction standards: Frames shall be 2.5” x 4” x 1” (63.5 x 101.6 x 25.4) 6063T6 extruded aluminum channel with 1.5” flanges on one side of the frame. Each corner shall be joined with two 1/4-20 self-tapping screws. Blades shall be airfoil type extruded aluminum (maximum 6” [152] depth) with integral structural reinforcing tube running full length of each blade.

Blade edge seals shall be extruded double edge design with inflatable pocket which enables air pressure from either direction to assist in blade to blade seal off. Blades seals shall be mechanically locked in extruded blade slots, yet shall be easily replaceable in field. Adhesive or clip-on type blade seals are not acceptable. Bearings shall be non-corrosive molded synthetic. Axles shall be hexagonal (round not acceptable) to provide positive locking connection to blades and linkage. Linkage shall be concealed in frame. 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 60” (305 to 1524) wide shall not leak any greater than 8 cfm sq. ft. @ 4” w.g. and a maximum of 3 CFM sq. ft. @ 1” w.g. Dampers shall be in all respects equivalent to Ruskin Model CD50IF.