RUSKIN®

3900 Dr. Greaves Rd. • Kansas City, MO 64030 • (816) 761-7476 • FAX (816) 765-8955

CD40x2 LOW LEAKAGE INSULATING CONTROL DAMPER

EXTRUDED ALUMINUM

STANDARD CONSTRUCTION

FRAME
8 1/8" x 1" (206 x 25) x 6063T5 extruded aluminum channel with .081" (2.1) minimum wall thickness. Mounting flanges on both sides of frame. Thermal gasket between frame sections.

BLADES
4" (102) wide, 6063T5 heavy gage extruded aluminum, airfoil shaped blades.

LINKAGE
Concealed.

AXLES
1/2" (13) plated steel hex.

BEARINGS
Molded synthetic.

SEALS
Blade Edge – Extruded Ruskiprene (TPR) for -72°F to +275°F (-58°C to +135°F).
Jamb – Flexible metal compression type.

CONTROL SHAFT
6" x 1/2" (152 x 13) diameter. Outboard support bearing supplied with all single section dampers for field mounted actuators. Factory-installed jackshaft supplied with all multiple section dampers.

FINISH
Mill.

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

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

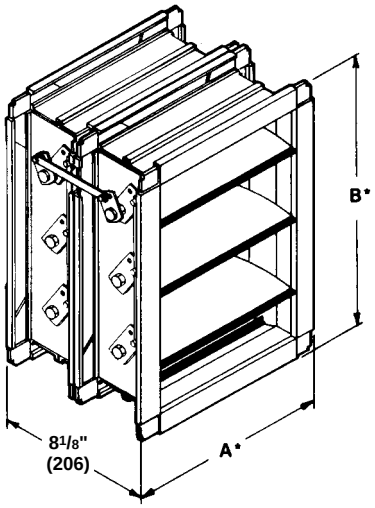
NOTE:

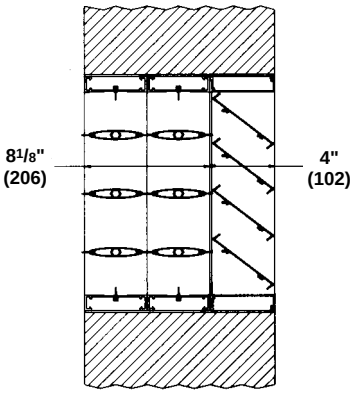
1) CD40x2 is not recommended for installation with blades running vertically.
2) If damper is to be used in a fan discharge application, consult Ruskin.

Dimensions in parenthesis ( ) indicate millimeters.

*Units furnished approximately 1/4" (6) smaller than given opening dimensions.

**Jackshaft used only on multiple section dampers.





DAMPER LOUVER COMBINATION

FEATURES

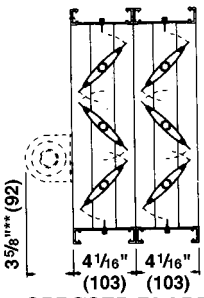
The CD40x2 offers leakage of 6 cfm/sq. ft. at 4" w.g. – the lowest leakage attainable with a commercially built damper. It features the most effective method of energy-saving insulation. When closed, it traps a minimum 4" (102) dead air space between the double blade assembly. A thermal break between frame sections prevents heat transmission through the frame. Comprehensive testing has revealed that the CD40x2 insulates more efficiently than conventionally insulated blades. This damper may be used in conjunction with a Ruskin stationary louver to achieve desired insulation performance.

Linkage is concealed in frame and out of airstream for low maintenance and reduced air turbulence. Hexagonal axles positively lock axles to blades. Blade edge seals feature unique double edge, inflatable pocket design that enables higher pressure on either side of damper to assist in tight blade-to-blade seal off. Seals are mechanically locked in extruded blade slots, yet are easily replaced in the field.

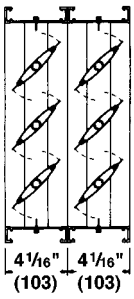
VARIATIONS

Variations to standard design are available at additional cost and include:

- Anodize finishes.
- Factory-installed, pneumatic and electric actuators Consult Ruskin for actuator sizing.
- Frame mounting bracket for simple, field installation of most actuators.
- SP100 Switch Package to remotely indicate damper blade position.
- Front or rear flange frame.



OPPOSED BLADE



PARALLEL BLADE

QTY.	OPENING DIM.		BLADE ACTION		FRAME STYLE			VARIATIONS
	A*	B*	PB	OB	STD.	Front Flange FF	Rear Flange RF	

JOB **LOCATION**

CONTRACTOR

SUGGESTED SPECIFICATION

Furnish and install, at locations shown on plans, or in accordance with schedules, low leakage insulating dampers, that meet the following minimum construction standards: Frames shall be $8^{1}/_{8}$" x 1" (206 x 25) x .081" (2.1) (minimum wall thickness) 6063T5 extruded aluminum channel with mounting flanges on both sides of the frame. Each corner shall be reinforced with two die-formed internal braces and machine staked for maximum rigidity. Front and rear frame sections shall be separated by a thermal gasket break to prevent heat transmission through the frame. Damper shall trap a minimum of 4" (102) dead air space between the double blade assembly. Blades shall be airfoil type extruded aluminum (maximum 4" [102] 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 square or hexagonal (round not acceptable) to provide positive locking connection to blades and linkage. Linkage shall be concealed in frame. Dampers shall be in all respects equivalent to Ruskin Model CD40x2.

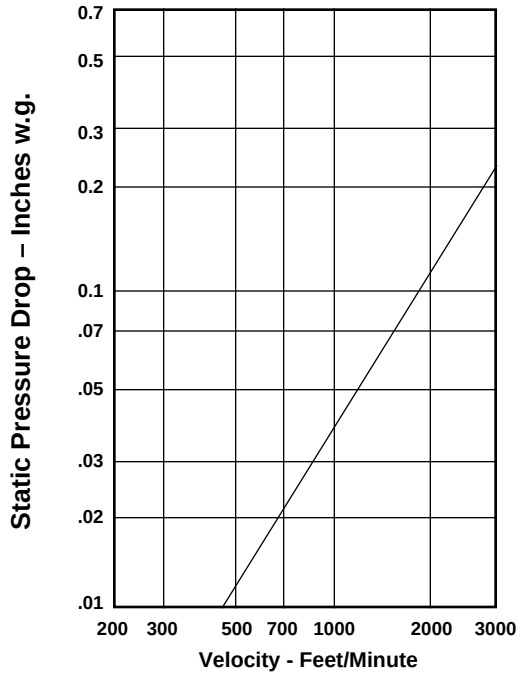
PERFORMANCE DATA

Damper Width	Maximum System Pressure	Maximum System Velocity	Leakage*	
			% of max. flow	CFM/ sq. ft.
60" (1524)	3.0" w.g.	3000 fpm	.08%	2.5
48" (1219)	6.0" w.g.	4000 fpm	.07%	2.7
36" (914)	9.0" w.g.	4000 fpm	.08%	3.2
24" (610)	11.0" w.g.	5000 fpm	.07%	3.5
12" (305)	13.0" w.g.	6000 fpm	.08%	5.0

*Leakage information based on pressure differential of 1" w.g. tested per AMCA Standard 500.

The CD40x2 may be used in systems with total pressure exceeding 3.0" w.g. by reducing the damper section width as indicated above. For example maximum design total pressure of 6" w.g. would require a damper with maximum section width of 48" (1219).

DAMPER PRESSURE DROP



TYPICAL CD40x2 PERFORMANCE

Pressure drop information shown based on testing of size 24" x 24" (610 x 610) per AMCA Standard 500 using Test Setup Apparatus figure 5.3, ductwork upstream and downstream.

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