RUSKIN®

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

CD355 and CD356 STANDARD CONTROL DAMPERS

GALVANIZED STEEL

STANDARD CONSTRUCTION

FRAME
5" x 1" x 16 gage (127 x 25 x 1.6) galvanized steel hat channel reinforced with corner braces for structural strength equal to 13 gage (2.28) channel frames. Low profile 3 1/2" x 3/8" x 16 gage (89 x 10 x 1.6) galvanized steel channel top and bottom frame on dampers under 13" (330) high.

BLADES
Maximum 8" (203) wide, 16 (1.6) gage galvanized steel blades. Parallel or opposed action.

SEALS (CD356 Only)
Blade edge is PVC coated polyester fabric mechanically locked into blade edge. Jamb is flexible metal, compression type.

BEARINGS
Synthetic.

LINKAGE
Concealed in frame. Exposed linkage optional.

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

CONTROL SHAFT
6" (152) x 1/2" (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.

MAXIMUM SIZE
Single section – 48"w x 72"h (1219 x 1829).
Multiple section assembly – Unlimited size.

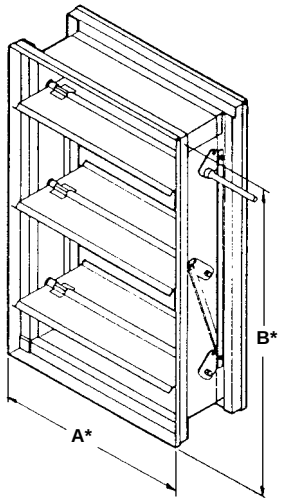
MINIMUM SIZE
Single blade – 5"w x 5"h (127 x 127).
Two blades, parallel or opposed action, concealed linkage – 5"w x 8"h (127 x 203).
Two blades, parallel or opposed action, exposed linkage – 8"w x 14"h (203 x 356).

TEMPERATURE LIMITS
-25°F (-32°C) minimum and +180°F (+83°C) maximum.

NOTE: Dimensions shown in parenthesis ( ) indicate millimeters.

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

†Jackshaft used only on multiple section dampers.

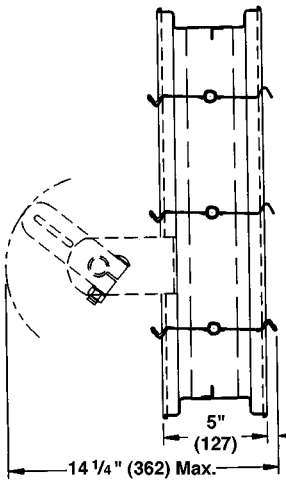


FEATURES

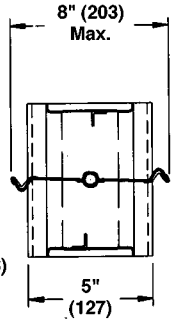
Sturdy, steel construction features interlocking frame design. Damper locks together without bolts, screws, or rivets that could shake loose. Internally braced frame corners reduce racking. Plated steel axles, noncorrosive synthetic bearing, and concealed shakeproof linkage provide low maintenance, long life, and ease of operation.

VARIATIONS

Variations to the CD355 and CD356 basic designs are available at additional cost. They include:
- Enamel and epoxy finishes.
- Factory-installed, pneumatic and electric actuators (specific information required with order).
- Ruskin frame-mounted actuator bracket to simplify field installation of most actuators (specify actuator and action, i.e., N.O. or N.C., with order).
- SP100 Switch Package to remotely indicate damper blade position.
- Heavier frame construction with U-channel frame.
- Front, rear, or double flange frame with or without bolt holes.
- Face and Bypass mixing damper configuration.



CD355/CD356
OPPOSED
BLADE



CD355/CD356
Low profile top and bottom frame

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

JOB **LOCATION**
CONTRACTOR

CD355 and CD356 SUGGESTED SPECIFICATION

CD355: Furnish and install, at locations shown on plans, or in accordance with schedules, control dampers that meet the following minimum construction standards. Frame shall be 16 gage (1.6) galvanized steel formed into a structural hat channel with tabbed corners for reinforcement. The blades shall be 16 gage (1.6) galvanized steel triple vee type. Bearings shall be corrosion resistant, synthetic turning in an extruded hole in the damper frame. Axles shall be square or hexagonal positively locked into the damper blade. Linkage shall be concealed in the damper frame to improve airflow performance. Submittal must include leakage, maximum flow, and maximum pressure rating based on AMCA Publication 500. Dampers shall be in all respects equivalent to Ruskin Model CD355.

CD356: Furnish and install, at locations shown on plans, or in accordance with schedules, control dampers that meet the following minimum construction standards. Frame shall be 16 gage (1.6) galvanized steel formed into a structural hat channel with tabbed corners for reinforcement. The blades shall be 16 gage (1.6) galvanized steel triple vee type. Blade edges shall be PVC coated polyester fabric suitable for -25°F to +180°F mechanically locked into blade edge. Adhesive or clip-on type seals are unacceptable. Bearings shall be corrosion resistant, synthetic turning in an extruded hole in the damper frame. Axles shall be square or hexagonal positively locked into the damper blade. Linkage shall be concealed in the damper frame to improve airflow performance. Submittal must include leakage, maximum flow, and maximum pressure rating based on AMCA Publication 500. Dampers shall be in all respects equivalent to Ruskin Model CD356.

Specifier Select Option - SP-100 Damper Position Package for CD355/CD356: Dampers shall be equipped with factory installed damper position indication switch package. The switch package shall include two position indication switches linked directly to the damper blade to provide full open and full closed damper blade position. The switch package shall provide the capability to interface with the HVAC control system and provide remote damper blade position status. Switch packages shall be equivalent to Ruskin Model SP-100.

CD355 SERIES PERFORMANCE DATA

Damper Width	Maximum System Pressure	Maximum System Velocity	CD356*		CD355*	
			% of max. flow	CFM/ sq. ft.	% of max. flow	CFM/ sq. ft.
48"	2.5" w.g.	1500 fpm	0.36	3.7	2.67	40
36"	3.0" w.g.	1500 fpm	0.36	3.7	2.67	40
24"	4.0" w.g.	1500 fpm	0.39	4.8	3.33	50
12"	5.0" w.g.	1500 fpm	0.47	7.0	4.33	65

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

The CD355 is structurally designed for velocities to 2000 fpm and above. Turbulence may produce objectionable noise in some conditions with velocities above 1500 fpm.

Dampers may tolerate higher pressures and velocities than those listed here. Conservative ratings are presented intentionally in an effort to avoid misapplication. Consult Ruskin or your Ruskin representative when a damper is to be applied in conditions exceeding recommended maximums.

INSTALLATION

CD355 SERIES DAMPER IS NOT RECOMMENDED FOR INSTALLATION WITH BLADES RUNNING VERTICALLY. For proper installation, damper must be installed square and free from racking. Actuator must be installed on linkage side. Opposed blade dampers must be operated from a power blade or shaft. See "Induct Mount Control Dampers Installation Instructions" for details.

BRACING OF MULTIPLE SECTION DAMPER ASSEMBLIES

The CD355 is intended to be self supporting only in its largest single section size. Multiple section damper assemblies may require bracing to support the weight of the assembly and to hold against system pressure. Ruskin recommends appropriate bracing to support the damper horizontally at least once for every 8' of damper width. Vertical assemblies and higher system pressures may require more bracing.

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