

CFD(R)2, CFD(R)3 & CFD(R)3.5

Ceiling Fire Damper

UL Classified Radiation Dampers



APPLICATION

UL Fire Rated Floor/Ceiling Assemblies and Roof/Ceiling Assemblies require specially tested and classified Ceiling Dampers (also called Ceiling Fire Dampers or Radiation Dampers) to provide fire and heat protection where HVAC components penetrate the ceiling membrane.

Standard, 1 1/2 and 3 hr. primary fire dampers DO NOT provide the necessary protection.

Ruskin CFD(R)2 and CFD(R)3 are UL Classified to provide protection to HVAC penetrations of up to 324 sq. in. (2090) maximum opening size through UL fire rated assemblies with fire resistance ratings of 3 hours or less. Penetrations larger than 324 sq. in. (2090) and up to 576 sq. in. (3716) require model CFD4. The quantity and frequency of permissible HVAC ceiling penetrations are described in the UL Fire Resistance Directory.

WOOD TRUSS CEILING APPLICATION

The Ruskin CFD7, CFDR7T and CFD7T series ceiling fire dampers are designed for wood construction floor/ceiling or roof/ceiling assemblies. Standard CFD2, 3 and 3.5 does not have the same fire resistance rating for wood construction and should not be used.

STANDARD CONSTRUCTION

	Galvanized steel (in gauges required by UL listing R8039). See chart below for sizing details			
Frame	Damper Model	Frame Style	B Dimension or D Dimension	Frame Depth
	CFD2	Standard	All sizes	3" (76)
	CFD3		4" to 10" (102 to 254)	6 3/8" (162)
	CFD3.5	Extended	11" to 14" (279 to 356)	8 3/16" (208)
			15" to 24" (381 to 607)	11 3/16" (284)
	CFDR2	Standard	All sizes	3 5/8" (92)
CFDR3	Extended		5" to 10" (127 to 254)	6 3/4" (171)
CFD(R)3.5			11" to 14" (279 to 356)	6 3/4" (171)
			15" to 20" (381 to 508)	11 3/4" (298)
Blade	Galvanized steel (in gauges required by UL listing R8039).			
Fusible Link	165°F (74°C) is standard. 212°F (100°C) is available at no additional cost.			
Minimum Size (Damper Size)	CFD2/CFD3 – 5"w x 4"h (127 x 102). CFDR2 – 12" (305) diameter. CFDR3/3.5 – 5" (127) diameter.			
Maximum Size (Damper Size)	CFD3 – 70 sq. in. (452) maximum. CFD2 – 324 sq. in. (2090) with height or width dimensions not greater than 24" (607). CFDR2 – 20" (508) diameter. CFDR3/3.5 – 10" (254) diameter.			

OPTIONS

VA Volume Adjust to balance airflow.

Model CFD(R)2, CFD(R)3 and CFD(R)3.5 meets the requirements for fire/radiation dampers established by:

- ▶ National Fire Protection Association NFPA Standards 80, 90A, 92A, 92B, and 101.
- ▶ ICC International Building Codes.
- ▶ CSFM California State Fire Marshal Listing (3225-0245:0101)

UL CLASSIFIED & ULC LISTED
UL555C Classification R8039



CFD



CFDR



CONSTRUCTION DETAILS

UL Classification testing for ceiling fire dampers measures the heat transmitted through, and temperatures above, ceiling penetrations with ceiling dampers. Smaller dampers meet these criteria without thermal insulation, but larger dampers require insulation to provide acceptable performance.

CFD3 Rectangular dampers with area up to 70 square inches (452) meet UL criteria without blade insulation.

CFD2 Rectangular dampers with area above 70 square inches (452) to 324 square inches (2090) are provided with blade insulation.

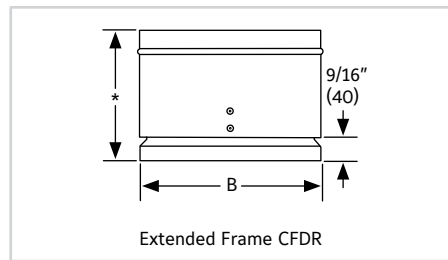
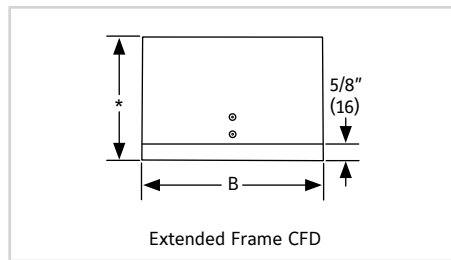
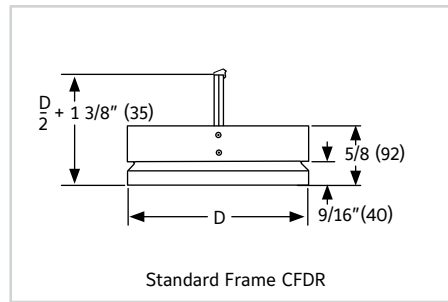
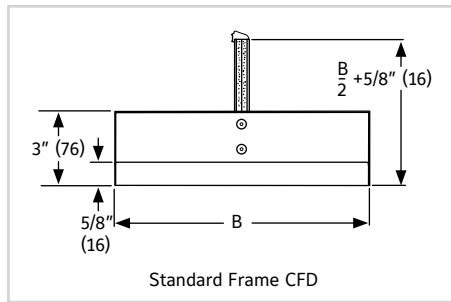
CFDR3 Round dampers 10" (254) diameter and under meet UL criteria without blade insulation.

CFDR2 Round dampers above 10" (254) diameter through 20" (508) diameter are provided with blade insulation.

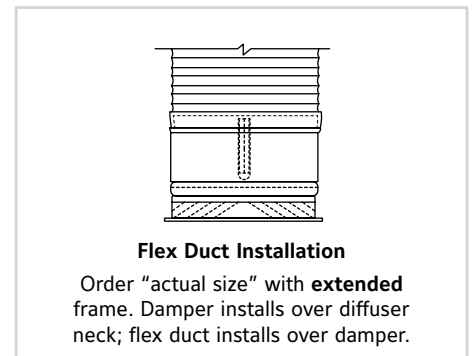
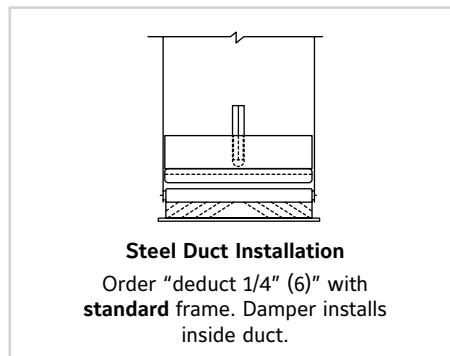
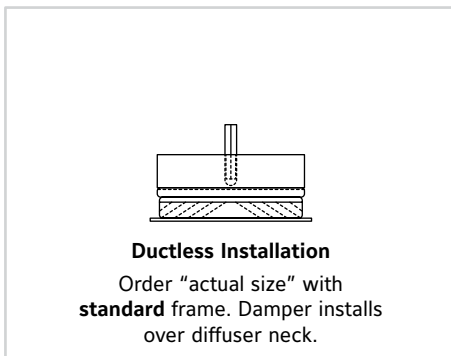
NOTE:

– Dimensions shown in parentheses () indicate millimeters.

FRAME DETAILS



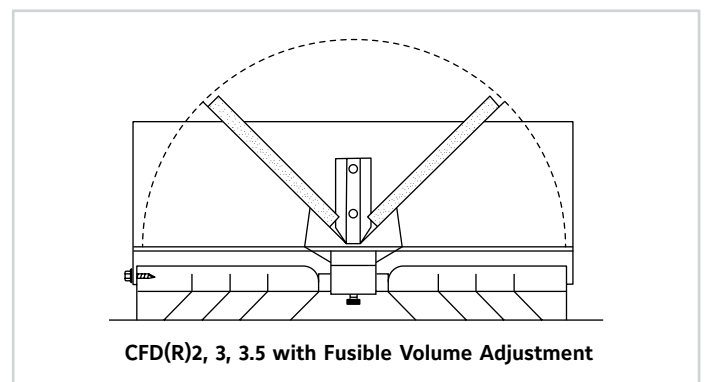
CFD(R)2, CFD(R)3 and CFD(R)3.5 CEILING FIRE DAMPERS



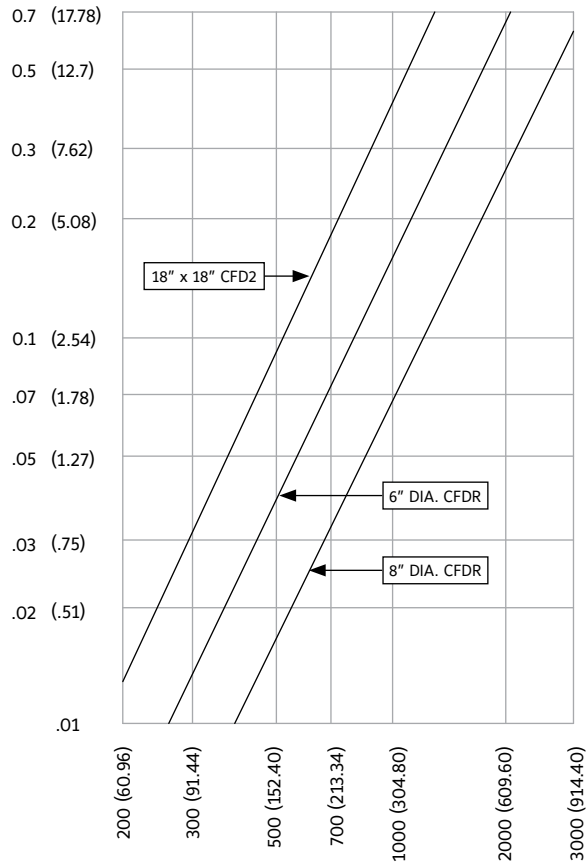
UL Listed Fusible Volume Adjustment Option

The standard, fusible link can be replaced with a simple mechanism that permits adjustment of damper blades to balance airflow. A standard 3/16" (5) hex (Allen) wrench is used for adjustment. In fire conditions, the damper closes regardless of volume setting. This feature must be added to the damper at fabrication. 165°F or 212°F (74°C or 100°C) (specify temperature) fusible volume adjustment options are available.

Caution: Volume Adjust hangs below a rectangular damper 1 1/8" (29). Volume Adjust hangs below a round damper 3/8" (10).



PRESSURE DROP – DAMPER OPEN (Size as noted)



Air Velocity in FEET and METERS per minute through FACE AREA.
Tested per AMCA Std. 500, Fig. 5.2, ductwork upstream.

LINKS TO IMPORTANT DOCUMENTS

Document Title
Installation instructions



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Website: www.ruskin.com
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