

Application

The CFS-171 combination ceiling radiation-smoke and fire-smoke damper employs triple-V blades for point-of-origin control of radiant heat, fire, and smoke in static and dynamic smoke management systems. The CFS-171 is installed horizontally in the ceiling membrane of floor-ceiling or roof-ceiling assemblies with fire resistance ratings up to and including 3 hours and is also qualified for smoke membranes to 2,000 ft/min (10.2 m/s) and 4 in. wg. (1.0 kPa) and may be installed horizontally in floors or assemblies with fire resistance ratings up to 2 hours.

Standard Construction

Frame: 5" × 1" (127 × 25) galvanized steel hat channel with interlocking corner gusset. Equivalent to 13 gauge (2.4) channel frame. Low profile head and sill are used on sizes less than 13" (330) high.

Blades: 6" × 16 gauge (152 × 1.6) galvanized steel — triple-V.

Sleeve: 14⁵/₁₆" × 20 gauge (364 × 1.0) galvanized steel.

Axles: ½" (13) diameter plated steel hex.

Linkage: Concealed in frame.

Bearings: Stainless steel oilite, sleeve-type.

Seals: Silicone blade edge seals and flexible metal jamb seals.

Actuator: 120 VAC, power-open, spring-close, external mount.

Fire Closure Device: HS-10 (electric actuators)
 PFV (pneumatic actuators)

Fire Closure Temperature: 165°F (75°C).

Minimum Size: 6" × 6" (152 × 152)

Maximum Size: Square: 12" × 12" (305 × 305)
 Rectangular: 24" (610) W or 12" (305) H
 with a maximum area of 144 in.² (929 cm²)

Options

- Alternate actuator:
 - 24 VAC 230 VAC Pneumatic
- DRS-30 — Two temperature fire closure device.
 (Includes PI-50 switch package)
- PI-50 — Dual position indicator switch package.
- Transitions: Round Oval Square/Rectangular
 Top Bottom Side: W P S & Drive
- Blank-off (top only)
- Plaster Ground: 5.8" (16) deep × 5/8" (16) wide std.
 1¼" (32) deep × 1¼" (32) wide
 2" (51) deep × 5/8" (16) wide
- Flange: ¾" (19) std 1" (25)
- CRB-24 Thermal blanket for steel backed diffuser.
- Duct smoke detector factory mounted and wired:
 - D4120 (100-4,000 fpm [0.5-20.3 m/s])
 - 2151 (0-3,000 fpm [0-15.2 m/s])
- Alternate fire closure temperature:
 - 212°F (100°C) 250°F (121°C)
 - 286°F (141°C) 350°F (177°C).

Ratings

UL 555C Fire Resistance Rating: 3 hour (horizontal, for use in 1, 2 or 3 hour rated assemblies)

UL 555 Fire Resistance Rating: 1½ hour (horizontal)
 1 hour (tunnel-type corridor ceiling)

UL 555S Leakage Class: 1 [8 cfm/sq. ft. @ 4 in. wg.]
 [(0.04 m³/s/m² @ 1.0 kPa)]

Maximum Dynamic Closure Velocity: 2,000 fpm (10.2 m/s)

Maximum UL555S Rated Pressure: 4 in. wg. (1.0 kPa)

Maximum Temperature: 350°F (177°C)

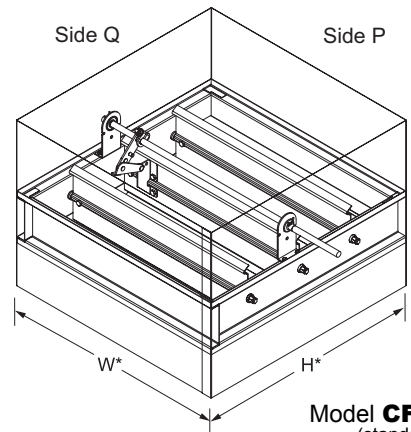
Listings

UL 555C, 555 and 555S: R14603 and R11767

CSFM Listing: 3225-0368:0110, 3226-0368:0104
 and 3230-0368: 0111

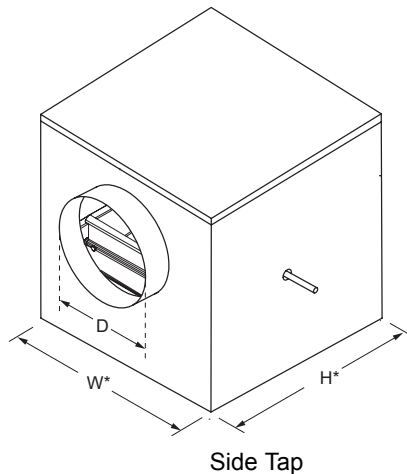
Meets NFPA Standards: 90A, 92A, 92B and 101

Meets Building Code Standards: IBC, NBC, NFPA, SBC and UBC

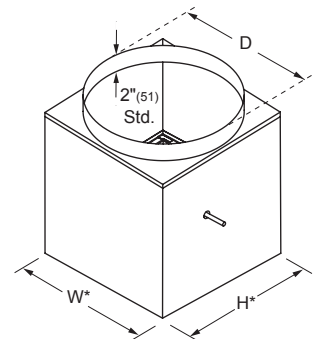


Model CFS-171
 (standard)

*Damper dimensions furnished approximately ¼" (6) undersize. (sleeve thickness not included)



Side Tap

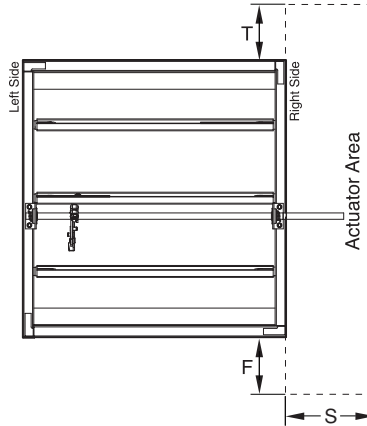


Type R, Top, (optional)
 Round duct transitions are standard with D=W=H. (available with D<W and H)(shown with top transition only)

Actuator and Sleeve Dimensional Data

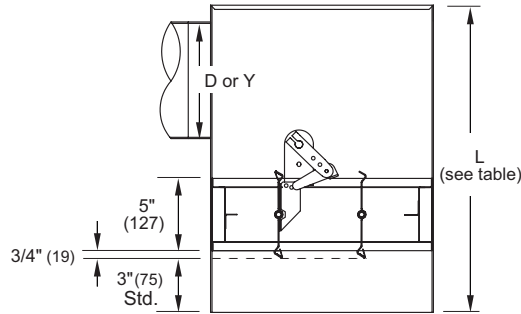
The drawings and corresponding table illustrate the position of the damper when mounted in a factory sleeve and the relative space required for a given actuator. The standard mounting locations provide enough space for installation of retaining angles and duct connections.

	Damper Height	Actuator Model					
		FSLF120 FSLF24	FSNF120 FSNF24	GGD221 GGD121	ML4115 ML8115	331-4826	331-2998
F	6"-7"	5"	7"	9"	5"	9"	13"
	8"-9"	4"	7"	8"	4"	8"	12"
	10"-11"	1"	4"	6"	1"	5"	9"
	12"	0"	3"	5"	0"	4"	8"
T	6" and 10"	3"	3"	3"	3"	3"	3"
	7" and 11"-12"	2"	2"	2"	2"	2"	2"
	8"	1"	1"	1"	1"	1"	1"
	9"	0"	0"	0"	0"	0"	0"
S	All	4-1/2"	4-1/2"	4-1/2"	4-1/2"	5"	7-1/4"
X	<8"	4"	4"	4"	4"	4"	4"
	≥8"	2-5/8"	2-5/8"	2-5/8"	2-5/8"	2-5/8"	2-5/8"
J	<8"	2"	2"	2"	2"	2"	2"
	≥8"	3-3/8"	3-3/8"	3-3/8"	3-3/8"	3-3/8"	3-3/8"

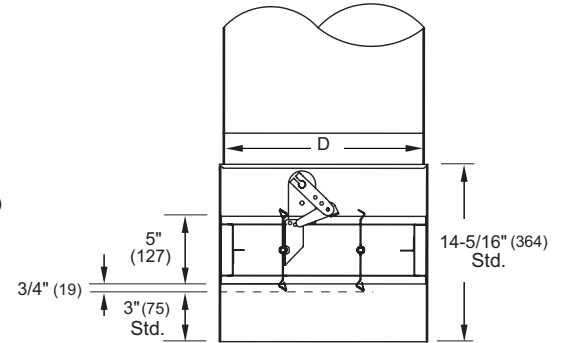


NOTE: For dimensions on actuators not shown above, contact factory.

"D" or "Y" Dimension	Sleeve Length "L" (Side Tap)
D or Y ≤ 6" (152)	16" (406)
D or Y > 6" (152)	D or Y + 10" (254)

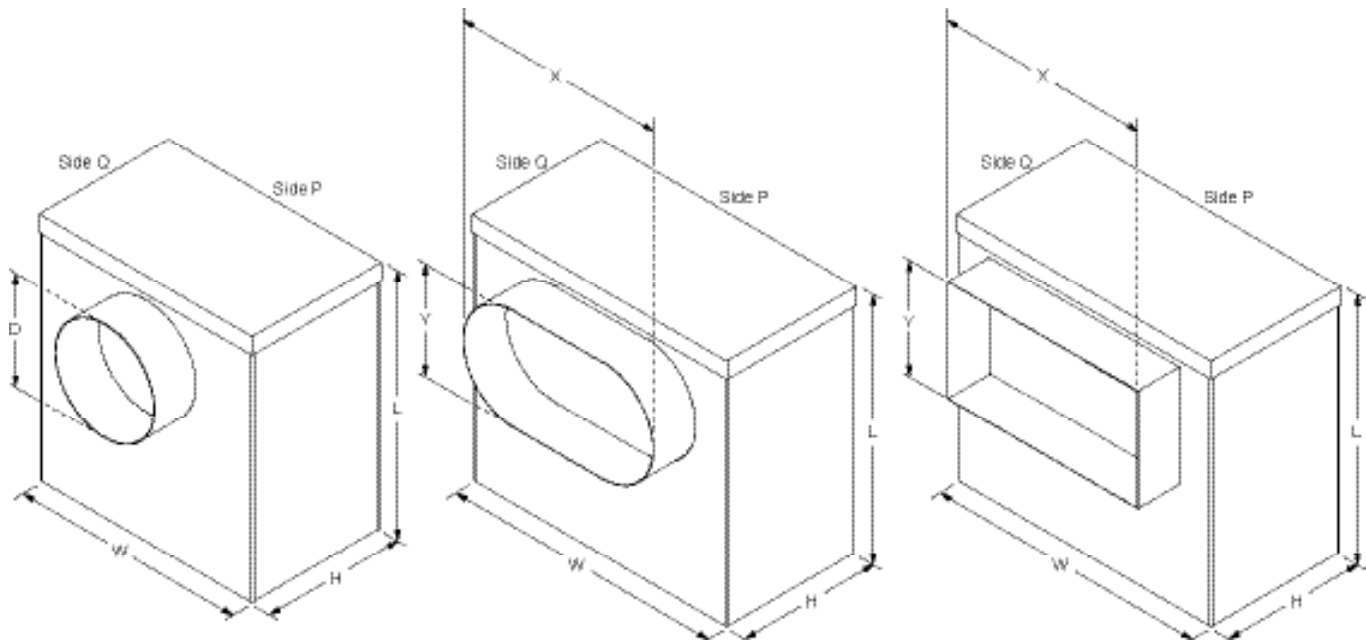


Side Tap



Top Tap

Typical Duct Transitions



Information is subject to change without notice or obligation.

NOTE: Dimensions in parentheses () are millimeters.