

## Application

The FSD-125R combination fire smoke damper employs a single round blade for point-of-origin control of fire and smoke in static and dynamic smoke management systems. This unique damper comes standard with mounting plates for interface to round or square openings in masonry, metal stud, or wood stud assemblies and is ideal for all round duct applications. The FSD-125R, standard construction, is qualified to 2000 fpm (10.2 m/s) and 4 in. wg. (1.0 kPa) at 250° F (121°C). Optional construction is qualified to 3000 fpm (15.3 m/s) and 4 in.wg. (1.0 kPa) at 350° F (177°C) and may be installed in vertical walls or partitions, or horizontally in floors or assemblies with fire resistance ratings up to 2 hours.

## Standard Construction

**Sleeve/Frame:** Integral 16" x 20 gauge (406 x 1.0) galvanized steel with reinforcing beads.

**Retaining Plates:** Dual sided system suitable for round or square penetrations.

**Blade:** 14 gauge (2.0) equivalent galvanized steel — round.

**Axles:** ½" (13) diameter plated steel, D<8" (203), ¾" (19), D≥8" (203).

**Linkage:** In the air-stream.

**Bearings:** Bronze oilite, sleeve-type.

**Seal:** Silicone blade edge seal.

**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" Ø (152 Ø)

**Maximum Size:** 24" Ø (610 Ø)

## Options

- Alternate actuator:
  - 24 VAC
  - 230 VAC
  - Pneumatic
- DRS-30 — Two temperature fire closure device.  
(Includes actuator with auxiliary switches)
- Alternate sleeve/frame length:
  - 20" (508)
  - 24" (610)
- Single-sided mounting plate.
- Duct access door factory mounted to sleeve/frame.
- Alternate fire closure temperature:
  - 212°F (100°C)
  - 250°F (121°C)
  - 350°F (177°C)
- Remote control stations:
  - RCP-1 (single)
  - RCP-1K (single, key controlled)
  - RCP-1M (single, momentary switch)
- Type - 304 stainless steel construction.

## Ratings

**UL 555 Fire Resistance Rating:** 1½ hour (vertical and horizontal)

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

**Maximum Dynamic Closure Velocity:** 3,000 fpm (15.3 m/s)

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

**Maximum Temperature:** 350°F (177°C)

## Listings

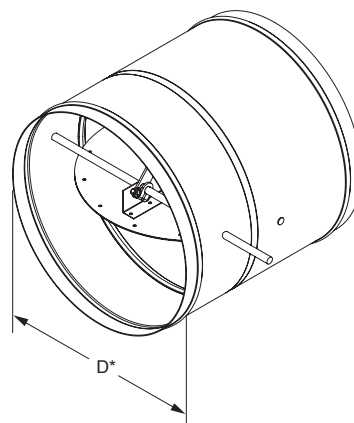
**UL 555 and 555S listing:** R11767

**CSFM listing:** 3225-0368:112 and 3230-0368:113

**New York City MEA listing:** 295-98-E

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

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



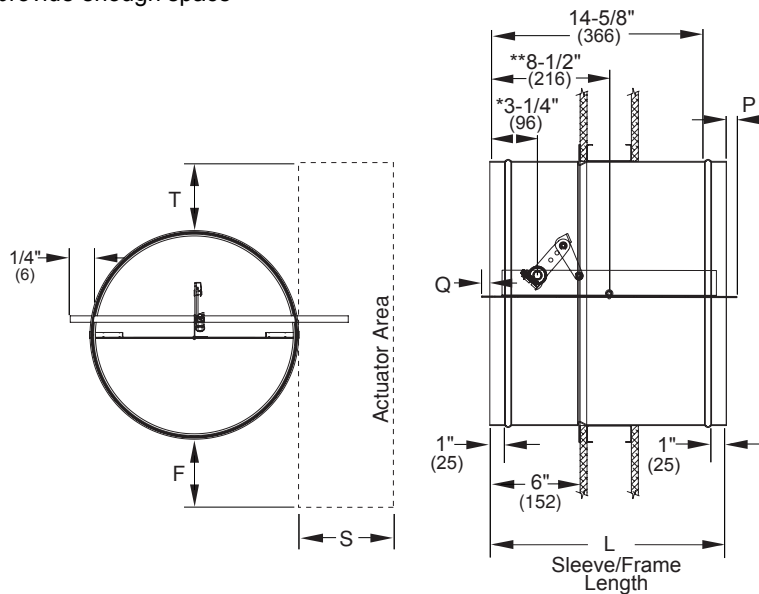
Model **FSD-125R**  
(standard)

\*Damper dimensions furnished approximately 1/8" (3) undersize. Outside diameter including reinforcing beads is approximately D + 1/8" (3), and at axle center line diameter including axle heads is approximately D + 3/8" (10).

# Actuator and Sleeve Dimensional Data

The drawings and corresponding table illustrate the position of the damper and the relative space required for a given actuator. The standard mounting locations provide enough space for installation of retaining plates and duct connections.

Damper Diameter	Actuator Model					
	FSLF120 FSLF24	FSNF120 FSNF24	GGD221 GGD121	ML4115 ML8115	331-4826	331-2998
F	6"	3-1/2"	5"	7"	3-1/2"	8"
	8"	2-1/2"	4"	6"	2-1/2"	6"
	10"	2-1/2"	3"	5"	2-1/2"	5"
	12"	2-1/2"	2-1/2"	4"	2-1/2"	4"
	14"	2-1/2"	2-1/2"	3"	2-1/2"	3"
	16"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"
	18"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"
	20"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"
	22"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"
	24"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"
T	All	0"	0"	0"	0"	0"
S	All	6"	6"	6"	6"	6-1/2"
P	6-14"	0"	0"	0"	0"	0"
	16"	1/2"	1/2"	1/2"	1/2"	1/2"
	18"	1-1/2"	1-1/2"	1-1/2"	1-1/2"	1-1/2"
	20"	2-1/2"	2-1/2"	2-1/2"	2-1/2"	2-1/2"
	22"	3-1/2"	3-1/2"	3-1/2"	3-1/2"	3-1/2"
	24"	4-1/2"	4-1/2"	4-1/2"	4-1/2"	4-1/2"
Q	6-16"	0"	0"	0"	0"	0"
	18"	1/4"	1/4"	1/4"	1/4"	1/4"
	20"	1-1/4"	1-1/4"	1-1/4"	1-1/4"	1-1/4"
	22"	2-1/4"	2-1/4"	2-1/4"	2-1/4"	2-1/4"
	24"	3-1/4"	3-1/4"	3-1/4"	3-1/4"	3-1/4"

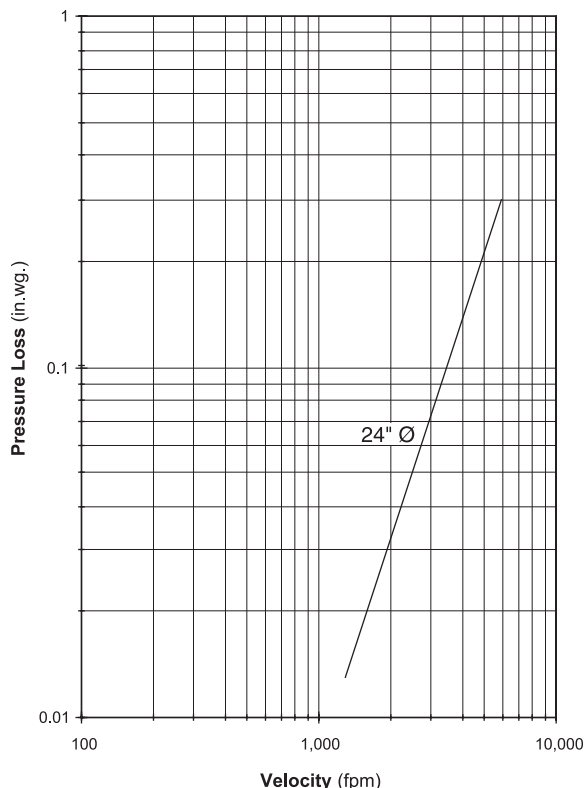


- NOTE:**
- Standard length "L" = wall/floor thickness + 10" (254). Standard sleeve length "L" = 16" (406).
  - The entire damper sleeve/frame is not required to be installed within the wall, partition or floor. However, the closed plane of the damper blade must be inside the wall, partition or floor.
  - Dimensions for ML4115/ML8115 apply to MS4209/MS8209.
  - See Installation Instructions for complete installation details.

\*3-3/4" (95) D<8"(203)  
\*\*8-5/8" (219) D<8"(203)

# Pressure Drop Performance Data

Pressure drop testing was performed in accordance with AMCA Standard 500-D. All data has been corrected to represent air density of 0.075 lb/ft. Actual pressure drop in any ducted HVAC system is a combination of many elements. This information, along with analysis of other system influences, should be used to estimate actual pressure losses for a damper installed in a given HVAC system.



### Ducted Inlet and Outlet

AMCA Figure 5.3 illustrates a fully ducted damper. This configuration represents the lowest pressure drop because entrance and exit losses are minimized by straight duct runs upstream and downstream of the damper.