

FSDR25SS COMBINATION FIRE SMOKE DAMPER

UL555 and UL555S Leakage Class 1 Classified
FOR USE IN DYNAMIC AND STATIC SYSTEMS

APPLICATION

The FSDR25SS is a "true round" 304 or 316 stainless steel Class 1 leakage rated combination fire and smoke damper designed for use in metal, wood or concrete fire and smoke rated partitions and concrete floors. The FSDR25SS is the ideal choice when round duct is used on a project. The damper is rated for maximum velocity of 3,000 fpm and 4" (102) static pressure. The integral frame and unique "cinch plate" design provide a low cost, easy to install, high performing damper.

STANDARD CONSTRUCTION

FRAME/SLEEVE

20 gage (.9) 304 stainless steel, standard 17" (432) long.

Frame/sleeves available up to 36" (914) in length. See minimum sleeve length chart on page 2 for assistance in choosing correct frame/sleeve length.

BLADES

Two-piece 14 gage (1.9) equivalent thickness 304 stainless steel.

BEARINGS

Stainless steel sleeve, pressed into frame.

BLADE SEALS

Silicone edge type sandwiched between two piece blade. Full circumference smoke seal to 450°F (232°C).

LINKAGE

Jackshaft to blade.

AXLE

1/2" (13) diameter 304 stainless steel.

CONTROLLED CLOSURE DEVICE (HEAT-ACTUATED)

EFL (Electric Fuse Link) – 165°F (74°C) standard. 212°F (100°C), 250°F (121°C), or 350°F (177°C) are options.

PFL (Pneumatic Fuse Link) – 165°F (74°C) standard. 212°F (100°C) or 285°F (141°C) are options.

DAMPER SIZES

MINIMUM SIZE

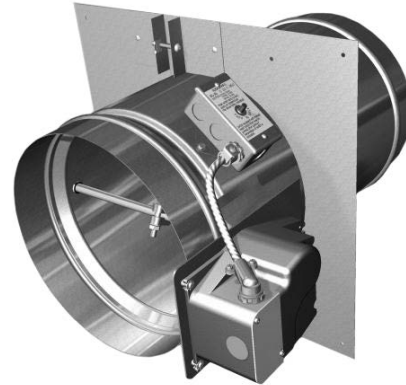
6" diameter (152).

MAXIMUM SIZE

Vertical / Horizontal Installation – 24" diameter (610).
See page 2 for dimensional information.

OPTIONS

- **316 Stainless Steel** Construction
- **DTS** (damper Test Switch) test switch for cycle testing.
- **TS150 FireStat** for reopenable operation in dynamic smoke management systems.
- **Sleeve/Frame** of various lengths to insure field compliance with UL installation requirements.
- **SP100 Switch Package** to remotely indicate damper blade position.
- **MCP** control panels for test purposes or smoke management systems.
- **DSDF** Flow Duct Smoke Detector - Consult Ruskin.



Model FSDR25SS meets the requirements for fire, smoke and combination fire/smoke dampers established by:

- **National Fire Protection Association** NFPA Standards 80, 90A, 92A, 92B, 101 and 105
- **ICC International Building Codes**
- **CSFM California State Fire Marshal** Fire Damper Listing #3235-245:0128

UL CLASSIFIED

UL555 Listing R5531, UL555S Listing R5531



SEE COMPLETE
MARKING
ON PRODUCT

FM Approvals
Specification Tested Product
(Option)

FEATURES

The FSDR25SS offers:

- EFL (Electric Fuse Link) or PFL (Pneumatic Fuse Link) heat-actuated release devices permit controlled (rather than instantaneous) closure through the damper actuator. The EFL and PFL allow the damper to automatically reopen after a test, smoke detection or power failure condition.
- EFL is standard on dampers with electric actuators.
- PFL is standard on dampers with pneumatic actuators.
- EFL's may be ordered on dampers with pneumatic actuators but require an additional EP switch.

NOTES

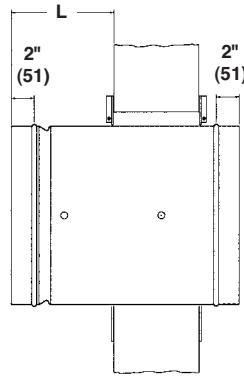
1. Units furnished approximately 1/8" (3) smaller than given size.
2. Dimensions shown in parentheses () indicate millimeters.

DIMENSIONAL INFORMATION

MINIMUM SLEEVE LENGTH

Wall/Floor Thickness	Min. Sleeve Length
4" (102)	17" (432)
5" (127)	17" (432)
6" (152)	20" (508)
7" (178)	20" (508)
8" (203)	20" (508)
9" (229)	22" (559)
10" (254)	22" (559)
11" (279)	23" (584)
12" (305)	24" (610)
Over 12" (305) Thru 24" (609)	Add 1" (25) for every inch of wall/floor depth

Note: 36" (914) maximum sleeve length.



The "L" dimension is the dimension the sleeve, on the actuator side of the damper, can extend beyond the wall or floor in a standard installation. The "L" dimension is designed to provide the installer with information to make installation easier. The table below provides a range for the "L" dimension.

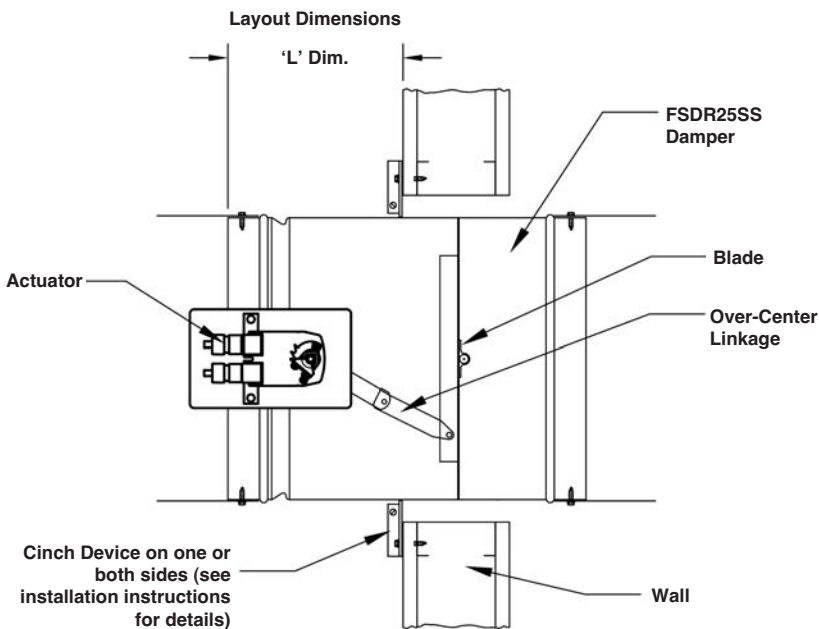
"L" DIMENSIONS

	WALL THICKNESS						
	4" (102)	5" (127)	6" (152)	7" (178)	8" (203)	9" (229)	10" (254)
Minimum	8 1/4"	8 1/4"	8 1/4"	8 1/4"	8 1/4"	8 1/4"	8 1/4"
Standard	9"	9"	9"	9"	9"	9"	9"
Maximum	10"	10"	10"	10"	10"	10"	10"

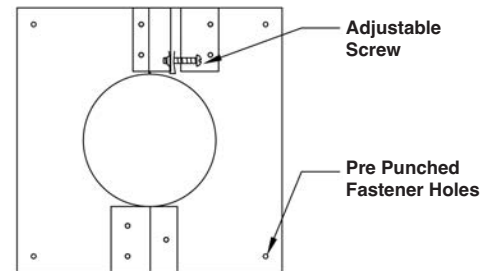
NOTE: The 2" (51) dimension is for duct connections. The "L" dimension includes the 2" (51) for duct connection.

GENERAL INSTALLATION INFORMATION

METAL/WOOD/MASONRY WALL OR CONCRETE FLOOR INSTALLATION

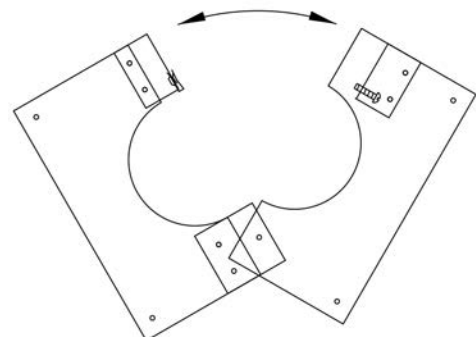


RETAINING "CINCH" PLATE



Note:

1. Plate Size = Diameter + 6" (152)
2. Cinch Plate must overlap the wall or concrete floor by minimum of 1/2" (13).



A **square** opening in wood or metal stud walls or masonry walls and floors shall be a minimum of 1" (25) and a maximum of 2 1/2" (64) larger than the damper diameter. See wood stud and metal stud framing for fire dampers installation instructions supplement for complete framing details. A **round** opening in masonry walls or floors shall be a minimum of 1" (25) and a maximum of 2 1/2" (64) larger than the damper diameter.

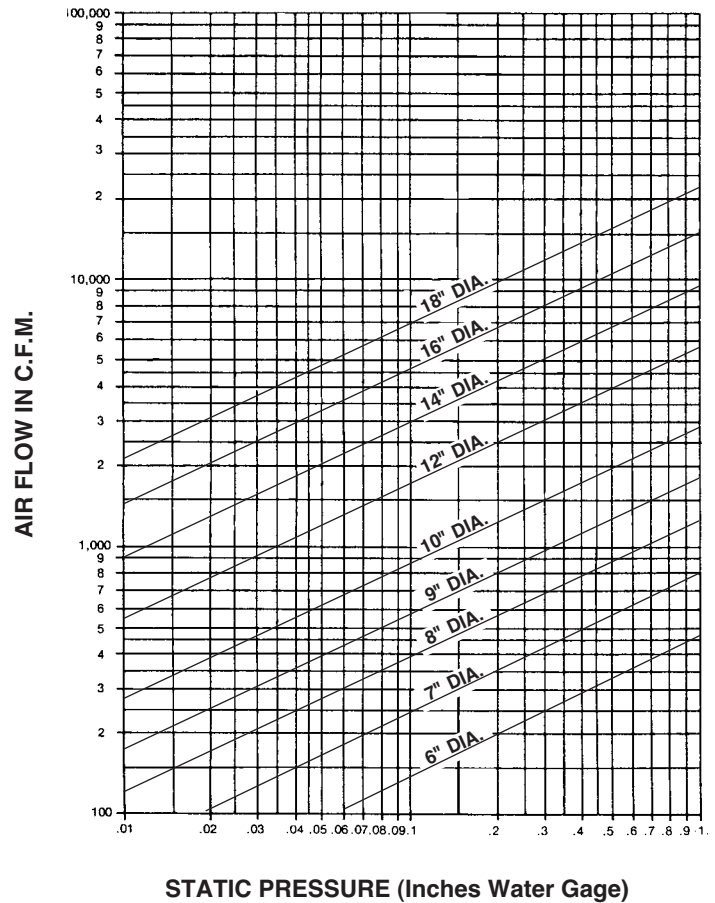
Factory supplied retaining "cinch" plates hold the damper within the wall opening. The plates must overlap the opening a minimum of 1/2" (13). The plate fits snugly around the integral sleeve. The plates are fastened directly to the wall or floor.

REFER TO THE FSDR25SS INSTALLATION INSTRUCTIONS FOR COMPLETE INSTALLATION DETAILS.

PERFORMANCE DATA

To determine the pressure drop:

1. Select the damper size.
2. Determine the airflow in CFM.
3. The pressure drop is the point at which the horizontal, airflow line intersects the diagonal, damper size line. For example, a 12" (305) damper with an airflow of 2000 CFM will have a pressure drop of .15 inches w.g.



SUGGESTED SPECIFICATION

Furnish and install at locations shown on plans, or as described in schedules, round combination fire/smoke dampers meeting or exceeding the following specifications. Frames shall be a minimum of 20 (1.0) gage 304 stainless steel and shall be strengthened with a roll formed groove at one end. Damper blade shall consist of two pieces of 20 gage (1.0) 304 stainless steel mechanically fastened together. Bearings shall be stainless steel sleeve turning in an extruded hole in the frame. Blade seals shall be full circumference silicone rubber designed to withstand 450°F (232° C) mechanically fastened and fully encompassing blade edge. Adhesive type seals are not acceptable. Factory furnished retaining plate(s) shall be "chinch" type for ease of installation. Square to round transitions are unacceptable.

Each combination fire/smoke damper used for the protection of openings in walls, partitions, or masonry floors with fire resistance rating of less than 3 hours and shall have a 1½ hour UL555S label. The leakage rating under UL555S shall be leakage Class 1 (8 cfm/sq. ft. at 4" w.g.).

In addition to the leakage ratings already specified herein, the dampers and their actuators shall be qualified under UL555S to an elevated temperature of 250°F (121°C) or 350°F (177°C) depending upon the actuator. Appropriate electric/pneumatic actuators (**specifier select one**) shall be installed by the damper manufacturer at time of damper fabrication. Electric actuators shall be rated for energized hold open position periods of 6 months or more. Damper and actuator shall be supplied as a single entity which meets all applicable UL555 and UL555S qualifications for both dampers and actuators.

Each combination fire/smoke damper shall be equipped with a "controlled closure" quick detect heat-actuated release device to prevent duct and HVAC component damage. Instantaneous damper closure is unacceptable.

Dampers shall be Ruskin model FSDR25SS.

(Consult Ruskin for detailed CSI *MasterFormat* Specification.)

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