

FSDR60 COMBINATION FIRE SMOKE DAMPER

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

APPLICATION

The FSDR60 is a "true round" 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 FSDR60 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) galvanized 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 galvanized 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.

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

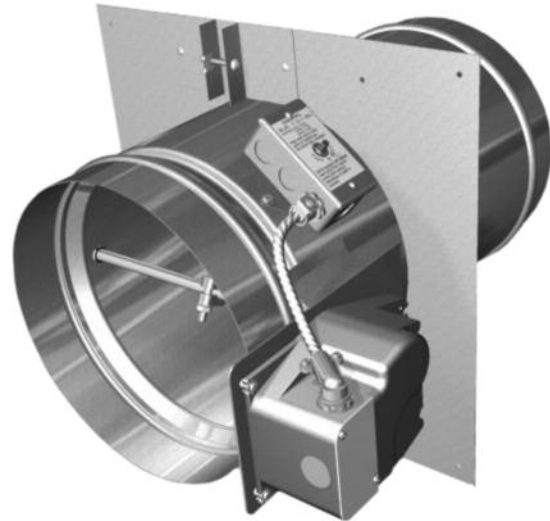
Vertical / Horizontal Installation – 24" diameter (610).
See page 2 for dimensional information.

OPTIONS

- **FM Approvals** as Specification Tested Product.
- **TS150 FireStat** for reopenable operation in dynamic smoke management systems.
- **DSDf** Flow Duct Smoke Detector – Consult Ruskin.
- **DSDN** No-Flow Duct Smoke Detector – Consult Ruskin.
- **SP100 Switch Package** to remotely indicate damper blade position.
- **Sleeve/Frame** of various lengths to insure field compliance with UL installation requirements.
- **MCP** control panels for test purposes or smoke management systems.

NOTES

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



FEATURES

The FSDR60 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.

Model FSDR60 meets the requirements for fire, smoke and combination fire/smoke dampers established by:

- **National Fire Protection Association** NFPA Standards 90A, 92A, 92B and 101
- **ICC International Building Codes**
- **CSFM California State Fire Marshal** Fire Damper Listing (#3225-245:107) and Smoke Damper Listing (#3230-245:108)
- **New York City** (BSA Listing #176-82-SM)

UL CLASSIFIED

UL555 Listing R5531, UL555S Listing R5531



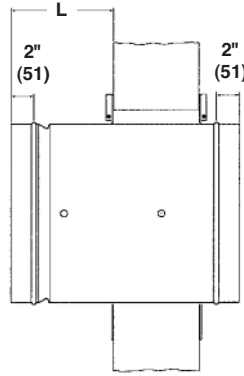
SEE COMPLETE
MARKING
ON PRODUCT

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.

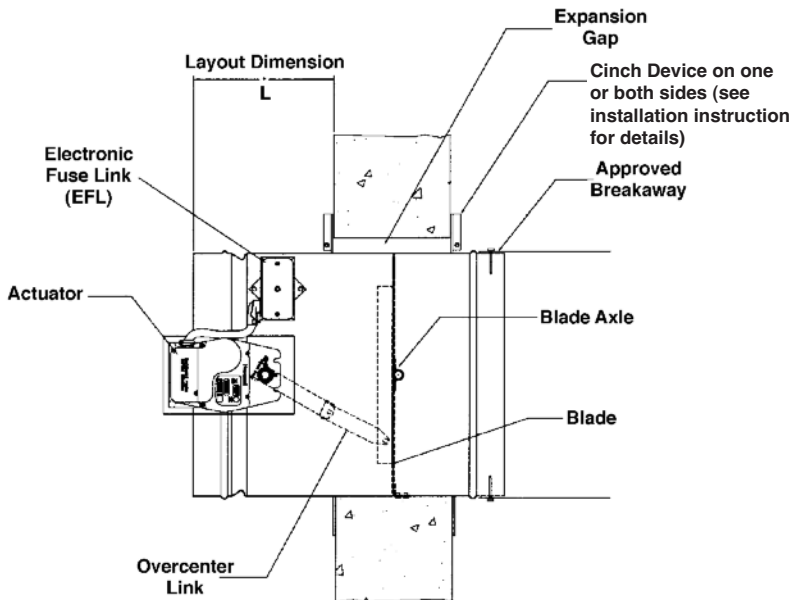
"L" DIMENSIONS

	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"

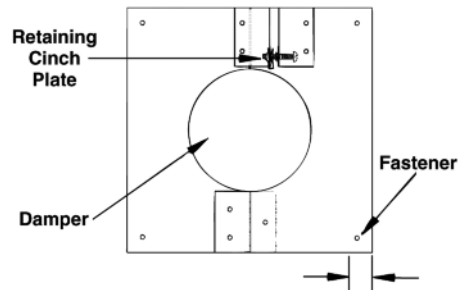
NOTE: The 2" (51) dimension is for duct connections. The "L" dimension includes the 2" (51) for duct connection.

GENERAL INSTALLATION INFORMATION

METAL/WOOD/MASONRY WALL OR CONCRETE FLOOR INSTALLATION

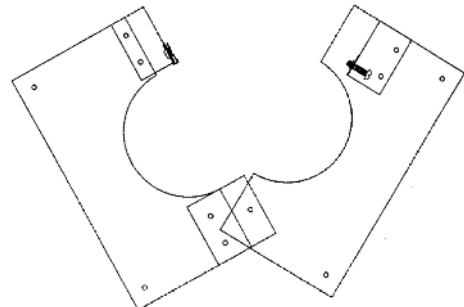


RETAINING "CINCH" PLATE



Note:
Diameter + 6"
(152) = plate size

1/2" (13)
Minimum Overlap
of Wall/Floor Opening



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.

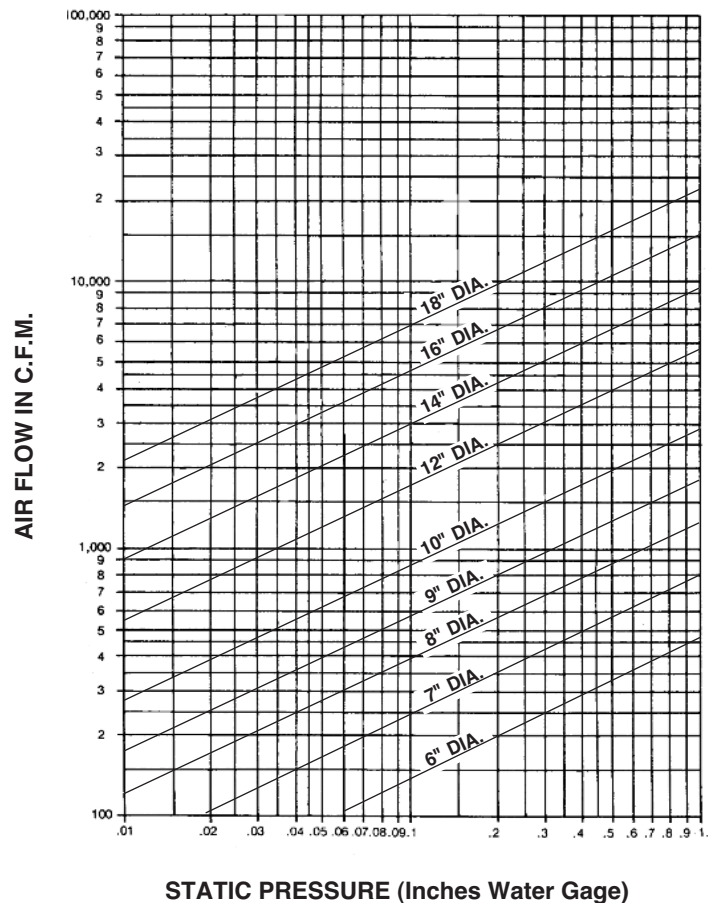
Factory supplied retaining "cinch" plates hold the damper within the wall opening. The plates must overlap the opening a minimum of 1/2" (13). The plate fits snugly around the integral sleeve. The plates are fastened directly to the wall or floor.

REFER TO THE FSDR60 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

Combination fire smoke dampers meeting or exceeding the following specifications shall be furnished and installed at locations shown on plans or as described in schedules. Combination fire smoke dampers shall be produced in an ISO 9001 certified factory and shall be warranted to be free from defects in material and workmanship for a period of 5 years after date of shipment. Dampers shall meet the requirements of NFPA80, 90A, 92A and 92B and shall have a fire rating of 1 1/2 hours in accordance with the latest edition of UL555 and shall be classified as Leakage Class I Smoke Dampers in accordance with the latest version of UL555S. The leakage rating under UL555S shall be leakage Class 1 (8 cfm/sq. ft. at 4" w.g.).

Damper frames shall be a minimum of 20 (.9) gauge steel and the blade shall be two piece, equivalent to 14 (1.9) gauge steel. Bearings shall be self-lubricating stainless steel sleeve turning in an extruded hole in the frame. (Bronze bearings shall not be acceptable). Blade seals shall be silicone edge designed to withstand 450°F (232°C) mechanically fastened and fully encompassing blade edge. Damper must have an integral 20 (.9) gauge sleeve and 20 (.9) gauge retaining plate for damper mounting. Square to round transitions are unacceptable.

Combination fire smoke dampers and their actuators shall be qualified in accordance with UL555S to an elevated temperature of 250°F (121°C) or 350°F (177°C) depending upon the actuator. Appropriate electric or pneumatic actuators (specifier select one) shall be installed by the damper manufacturer at time of damper fabrication. Electric actuators, factory installed on dampers, shall have been tested for prolonged periods of holding (minimum 1 year) with no evidence of reduced spring return performance. Each damper shall be rated for leakage and airflow in either direction through the damper.

Optional FM Approvals Specification

Each combination fire smoke damper shall be listed in Factory Mutual (FM) approvals Specification Tested Product and labeled accordingly.

Dampers shall be Ruskin model FSDR60.

(Consult www.ruskin.com for electronic version of this "Quick" spec as well as for complete 3-part CSI MasterFormat Specifications)

RUSKIN[®]

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