

FSD60FA-M COMBINATION FIRE AND SMOKE DAMPER 1½ HOUR UL555 RATED, UL555S LEAKAGE CLASS 1

APPLICATION

The FSD60FA-M is the FSD60FA front access combination fire/smoke damper equipped with a modulating actuator. The FSD60FA-M is a "true" airfoil blade fire/smoke damper that permits easy, through the grille access to the damper and heat release device. An integral cabinet on the side of the damper houses the actuator and other components. The modulating actuator used as part of the FSD60FA-M assembly is the FSAF24-SR. The FSAF24-SR is a 24VAC/VDC actuator that operates in response to a 2 to 10 VDC or 4 to 20 mA signal. The actuator also provides an output signal of 2 to 10 VDC for position indication.

STANDARD CONSTRUCTION

FRAME/SLEEVE

20 gage (.9) galvanized steel, standard integral sleeve with front flange for grille application and integral actuator cabinet. Sleeve is supplied with factory installed insulation on four sides. See page 2 for minimum sleeve requirements.

BLADES

Airfoil-shaped, double-skin, single piece construction with 14 gage equivalent thickness, maximum 6" (152) wide.

ACTUATOR CABINET

Cabinet is 6" (152) wide. Add 1" (25) to cabinet width for every additional 1" (25) of damper width over 38" (965).

LINKAGE

Concealed in frame.

BEARINGS

Stainless steel sleeve, pressed into frame.

JAMB SEALS

Stainless steel, flexible metal compression type.

BLADE SEALS

Silicone edge type for smoke seal to 450°F (232°C) and galvanized steel for flame seal to 1900°F (1038°C).

CONTROLLED CLOSURE DEVICE (HEAT-ACTUATED)

EFL 165°F (74°C) is standard. 212°F (100°C) or 250°F (121°C) are options.

DAMPER SIZES

Consult Ruskin for sizes smaller than shown.

MINIMUM SIZE

14"w x 16"h (356 x 406).

MAXIMUM SIZE

48"w x 48"h (1219 x 1219). Effective damper size is 32"w x 48"h (813 x 1219).

OPTIONS

- **FM Approvals** as a Specification Tested Product.
- **Longer sleeve** for duct connections
- **TS150 FireStat** for reopenable operation in dynamic smoke management systems.
- **SP100 Switch Package** to remotely indicate damper blade position.
- **MCP** control panels for test purposes or smoke management systems.
- **More Grille depth for OBD.**
- **120VAC/24VAC transformer** (Factory Mounted and Wired)

NOTES

1. Dampers furnished actual size.
2. Dimensions shown in parentheses () indicate millimeters.

Model FSD60FA-M meets the requirements for fire, smoke and combination fire/smoke dampers established by:

- **National Fire Protection Association NFPA Standards** 90A, 92A, 92B and 101
- **BOCA National Building Codes**
- **ICBO Uniform Building Codes**
- **SBCCI Standard Building Codes**
- **ICC International Building Codes**
- **CSFM California State Fire Marshal Fire Damper Listing** (#3225-245:117) and Smoke Damper Listing (#3230-245:116)
- **New York City** (BSA Listing #176-82-SM)

UL CLASSIFIED

UL555 Listing R5531, UL555S Listing R5531



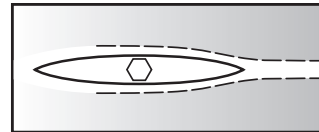
SEE COMPLETE
MARKING
ON PRODUCT

FM Approvals
Specification Tested Product
(Option)

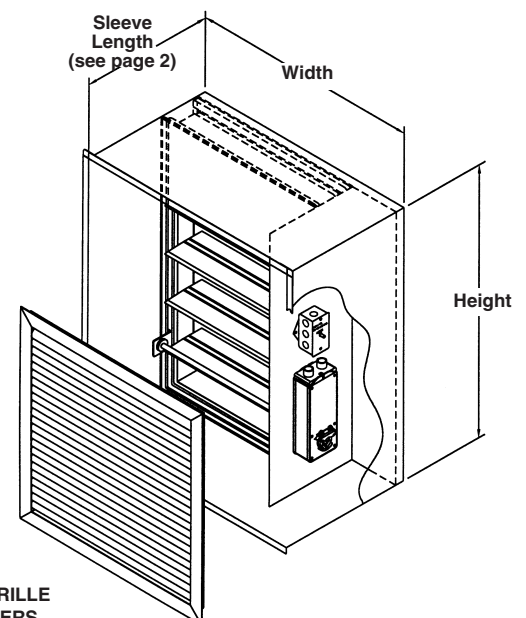
FEATURES

The FSD60FA-M offers:

- EFL (Electric Fuse Link) heat-actuated release devices permit controlled (rather than instantaneous) closure through the damper actuator. The EFL allows the damper to automatically reopen after a test, smoke detection or power failure conditions.
- EFL is standard on dampers with electric actuators.



"True" Airfoil Blade



DIMENSIONAL INFORMATION

MINIMUM SLEEVE LENGTHS No Duct Connections Non or "Flush" Grille Application

ACTUATOR	SLEEVE LENGTH (SEE NOTES)*	
	EFL	TS150 or SP100 (21" Minimum Height)
FSAF24-SR(S)	12" (305)	14" (356)

NOTES

1. Add 2" (51) to sleeve lengths shown above if grille application.
2. Add 4" (102) to sleeve lengths shown above if grille with OBD application.
3. Add 2" (51) to sleeve lengths shown above if duct connection is required.

SIZING CRITERIA

HOW TO SIZE FRONT ACCESS DAMPER AND ACCESS GRILLE

There are two separate ways to order these dampers (see examples below).

If damper size itself is critical:

1. First determine what size (damper) is required.
2. Add for the actuator cabinet.
3. Now combine the dimensions from step 1 & 2 to determine overall width of your steel framed grille, which will equal the "A" dimension or width to order.

Example: A 24" x 24" damper – in order to maintain the 24" x 24" (610 x 610) damper itself requirement order a 30" x 24" (762 x 610) (6" actuator cabinet) which then becomes the required grille size.

If damper size includes actuator cabinet size:

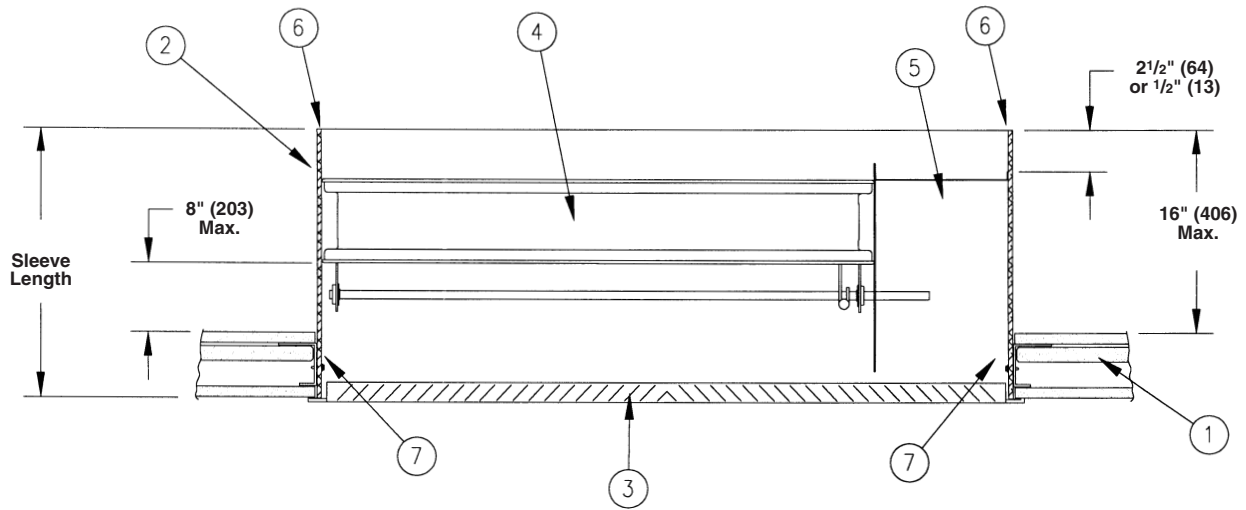
(Note: damper size is reduced by actuator cabinet width.)

1. Size steel framed grille using normal grille selection process.

Example: A 24" x 24" damper – the damper itself is 18" x 24" (457 x 610) and the actuator cabinet is 6" x 24" (152 x 610). Thus, the grille size remains 24" x 24".

TYPICAL INSTALLATION (OVERHEAD - PLAN VIEW)

FSD60FA-M Units 36" x 36" (914 x 914) and Under



IMPORTANT NOTE

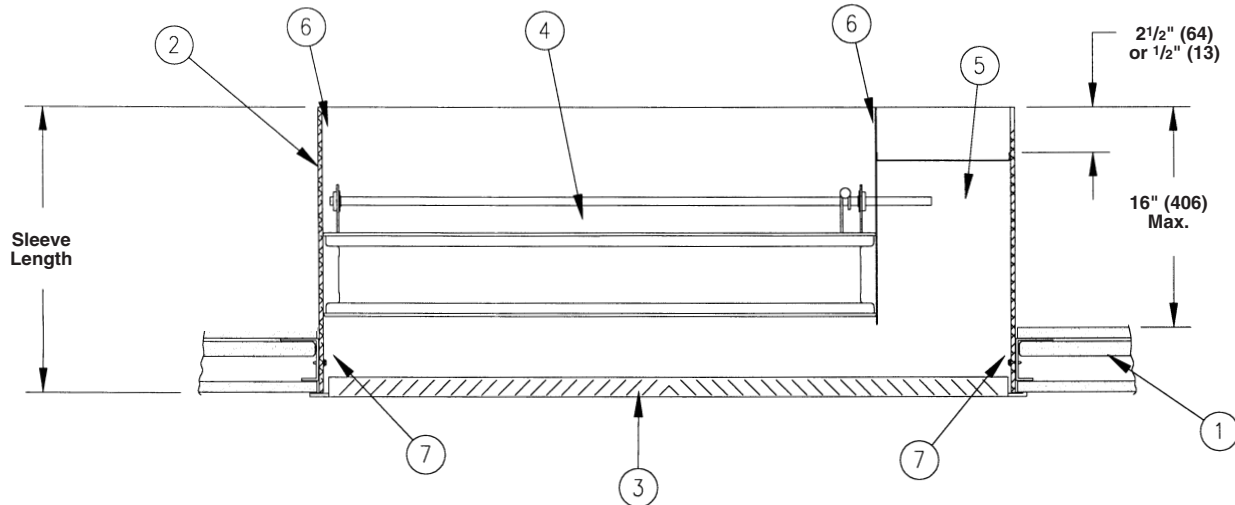
Actuator cabinet is 6" (152) wide on all dampers 14" to 38" (356 to 965) wide. For dampers over 38" (965) wide, add 1" (25) to cabinet depth for every additional inch of damper width. For example a 39" (991) wide damper will have a 7" (178) cabinet. A 48" (1219) wide damper will have a 16" (406) wide cabinet.

ITEM

DESCRIPTION

1. UL rated wall assembly (metal stud or masonry)
2. Fire/Smoke damper sleeve
3. Steel framed grille with aluminum or steel core (with or w/o OBD) by others
4. FA Damper
5. Actuator and accessories cabinet. Refer to important note.
6. Duct connection (if required)
7. Fasteners (see instruction #2)

FSD60FA-M Units Above 36" x 36" (914 x 914)



FSD60FA-M dampers larger than 36" x 36" (914 x 914) are installed with grille on opposite side of damper from jackshaft.

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. Dampers shall meet the requirements of NFPA90A, 92A and 92B. Dampers 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. Dampers shall be warranted to be free from defects in material and workmanship for a period of 5 years after date of shipment.

In addition the damper and actuator assemblies shall have a UL555S elevated temperature rating of 250°F (121°C). Appropriate electric actuators shall be installed by the damper manufacturer at time of damper fabrication. The actuator shall be a proportional damper actuator, spring return 24 VAC/VDC operation and shall operate in response to a 2 to 10 VDC, or with the addition of a 500SL resistor, a 4 to 20 mA control input. The actuator shall also provide a 2 to 10 VDC feedback signal for position indication.

Each 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 through the use of fusible links is unacceptable.

Dampers shall be constructed so that actuators and all accessories are accessible from the grille side. Actuators and accessories shall be housed within an integral cabinet on the side of the damper frame and shall not be installed in the air stream in front of the damper. Damper frame shall be a roll-formed structural hat channel, reinforced at the corners, formed from a single piece of minimum 16 gage (1.6) galvanized steel. Damper blades shall be airfoil shaped with 13 gage (2.3) equivalent thickness formed from a single piece of galvanized steel. Bearings shall be stainless steel turning in an extruded hole in the frame. Blade edge seals shall be silicone rubber and galvanized steel mechanically locked in to the blade edge (adhesive type seals are not acceptable). Each damper shall be supplied with a factory mounted sleeve of 12" (305) minimum length. The sleeve shall be flanged to accept a steel framed grille and (if specified) an OBD. The sleeve shall be covered with fire resistant material. Dampers shall be Ruskin model FSD60FA-M.

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

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