

## FSD60GA, FSD60-2GA, FSD60-VGA, FSD36GA, FSD35GA GRILLE ACCESS "GA" COMBINATION FIRE AND SMOKE DAMPERS 1½ HOUR UL555 RATED, UL555S LEAKAGE RATED

### APPLICATION

The FSDxxGA series dampers are "out of wall" Grille Access combination fire and smoke dampers. These dampers allow through the grille access to the damper, actuator and heat actuated device and are ideally suited for shaft wall applications. The FSDxxGA series dampers may be installed vertically in walls with fire resistance rating of less than 3 hours and are rated for airflow and leakage in either direction.

### STANDARD CONSTRUCTION

#### FRAME

16 (1.6) gauge, galvanized, single piece, hat-shaped channel.

#### BLADES

Airfoil or triple vee groove shaped (refer to specific model) approximately 6" (152) on center.

#### SLEEVE

20 gauge (1.0) galvanized steel with ¾" (19) flange on one end and factory installed thermal insulation on four sides.

#### SEALS

Blade – edge type silicone material for smoke seals to 450°F (232°C) and galvanized steel for flame seal to 1900°F (1038°C) mechanically fastened to the blade.

Jamb – stainless steel flexible metal compression type.

The FSD35GA is not equipped with blade seals

#### LINKAGE

Concealed in frame.

### DAMPER SIZES

Sizes indicated below are for ratings of 2000 FPM (10.2 m/s) and in 4 in. w.g. (1 kPa).

#### MINIMUM SIZES

12"w x 8"h (305 x 203) See page 2 & 3 for sizing details.

#### MAXIMUM UL CLASSIFIED SIZES

FSD60GA – 32"w x 36"h (813 x 914) Leakage Class I  
FSD60-2GA – 32"w x 36"h (813 x 914) Leakage Class II  
FSD60-VGA – 36"w x 32"h (914 x 813) Leakage Class II  
FSD36GA – 36"w x 36"h (914 x 914) Leakage Class II  
FSD35GA – 36"w x 36"h (914 x 914) Leakage Class III

### OPTIONS

- See FSDxxFA for other Grille Access damper selections
- DTS (Damper Test Switch) test switch for cycle testing.
- 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

### NOTES

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



Model FSD60GA and FSD36GA series meet the requirements for combination fire and 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 Listing (#3235-0245:0126) FSD60GA Listing (#3235-0245:0124) FSD36GA Listing (#3235-0245:0125) FSD35GA
- New York City (MEA 252-05-E)

### UL CLASSIFIED

UL555 Listing R5531, UL555S Listing R5531



### FEATURES

Grille Access "GA" Fire/Smoke dampers offer:

- 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 allows the damper to automatically reopen after a test, smoke detection or power failure conditions.

## FSDxxGA Sleeve Length Units with EFL

FSD35(SS)GA, FSD36(SS)GA, FSD37SSGA, FSD60GA and FSD60-2GA						
Actuator Model	Minimum Size	Grille Depth	w/o Duct Connection		with 2" duct connection	
			Sleeve Length	Min. Wall thk.	Sleeve Length	Min. Wall thk.
FSLF series FSTF series	10" x 8" (254 x 203)	Flush	16" (406)	2 1/2" (64)	18" (457)	3" (76)
		1 5/8" (41)	18" (457)	4 1/2" (114)	20" (508)	5" (127)
		3 5/8" (76)	20" (508)	6 1/2" (165)	22" (559)	7" (178)
FSTF series	10" x 12" (254 x 305)	Flush	14" (355)	2 1/2" (64)	16" (406)	2 1/2" (64)
		1 5/8" (41)	16" (406)	2 1/2" (64)	18" (457)	3" (76)
		3 5/8" (76)	18" (457)	4 1/2" (114)	20" (508)	5" (127)
FSLF series	12" x 13" (305 x 330)	Flush	14" (355)	2 1/2" (64)	16" (406)	2 1/2" (64)
		1 5/8" (41)	16" (406)	2 1/2" (64)	18" (457)	3" (76)
		3 5/8" (76)	18" (457)	4 1/2" (114)	20" (508)	5" (127)
MS4104 MS4109	10" x 16" (254 x 406)	Flush	15" (381)	2 1/2" (64)	17" (432)	2 1/2" (64)
		1 5/8" (41)	17" (432)	3 1/2" (89)	19" (483)	4" (102)
		3 5/8" (76)	19" (483)	5 1/2" (140)	21" (533)	6" (152)
MS4104 MS4109	10" x 18" (254 x 457)	Flush	14" (355)	2 1/2" (64)	16" (406)	2 1/2" (64)
		1 5/8" (41)	16" (406)	2 1/2" (64)	18" (457)	3" (76)
		3 5/8" (76)	18" (457)	4 1/2" (114)	20" (508)	5" (127)
MS4120 FSAF FSNF	10" x 19" (254 x 483)	Flush	14" (355)	2 1/2" (64)	16" (406)	2 1/2" (64)
		1 5/8" (41)	16" (406)	2 1/2" (64)	18" (457)	3" (76)
		3 5/8" (76)	18" (457)	4 1/2" (114)	20" (508)	5" (127)

Minimum wall thickness given based on steel stud or masonry wall. For wood stud wall application add 2" to min. wall thickness shown in chart.

FSD60-VGA						
Actuator Model	Minimum Size	Grille Depth	w/o Duct Connection		with 2" duct connection	
			Sleeve Length	Min. Wall thk.	Sleeve Length	Min. Wall thk.
FSLF series FSTF series	8" x 10" (203 x 254)	Flush	16" (406)	2 1/2" (64)	18" (457)	3" (76)
		1 5/8" (41)	18" (457)	4 1/2" (114)	20" (508)	5" (127)
		3 5/8" (76)	20" (508)	6 1/2" (165)	22" (559)	7" (178)
FSTF series	12" x 10" (305 x 254)	Flush	14" (355)	2 1/2" (64)	16" (406)	2 1/2" (64)
		1 5/8" (41)	16" (406)	2 1/2" (64)	18" (457)	3" (76)
		3 5/8" (76)	18" (457)	4 1/2" (114)	20" (508)	5" (127)
FSLF series	13" x 12" (330 x 305)	Flush	14" (355)	2 1/2" (64)	16" (406)	2 1/2" (64)
		1 5/8" (41)	16" (406)	2 1/2" (64)	18" (457)	3" (76)
		3 5/8" (76)	18" (457)	4 1/2" (114)	20" (508)	5" (127)
MS4104 MS4109	16" x 10" (406 x 254)	Flush	15" (381)	2 1/2" (64)	17" (432)	2 1/2" (64)
		1 5/8" (41)	17" (432)	3 1/2" (89)	19" (483)	4" (102)
		3 5/8" (76)	19" (483)	5 1/2" (140)	21" (533)	6" (152)
MS4104 MS4109	18" x 10" (457 x 254)	Flush	14" (355)	2 1/2" (64)	16" (406)	2 1/2" (64)
		1 5/8" (41)	16" (406)	2 1/2" (64)	18" (457)	3" (76)
		3 5/8" (76)	18" (457)	4 1/2" (114)	20" (508)	5" (127)
MS4120 FSAF FSNF	19" x 10" (483 x 254)	Flush	14" (355)	2 1/2" (64)	16" (406)	2 1/2" (64)
		1 5/8" (41)	16" (406)	2 1/2" (64)	18" (457)	3" (76)
		3 5/8" (76)	18" (457)	4 1/2" (114)	20" (508)	5" (127)

Minimum wall thickness given based on steel stud or masonry wall. For wood stud wall application add 2" to min. wall thickness shown in chart.

## FSDxxGA Sleeve Length Units with SP-100, TS-150, DTS, DTS/SP100

FSD35(SS)GA, FSD36(SS)GA, FSD37SSGA, FSD60GA and FSD60-2GA						
Actuator Model	Minimum Size	Grille Depth	w/o Duct Connection		with 2" duct connection	
			Sleeve Length	Min. Wall thk.	Sleeve Length	Min. Wall thk.
FSLF series FSTF series	*16" x 12" (406 x 305)	Flush	14" (355)	2 1/2" (64)	16" (406)	2 1/2" (64)
		1 5/8" (41)	16" (406)	2 1/2" (64)	18" (457)	3" (76)
		3 5/8" (76)	18" (457)	4 1/2" (114)	20" (508)	5" (127)
FSLF series MS4104 & MS4109 FSNF	*14" x 16" (356 x 406)	Flush	15" (381)	2 1/2" (64)	17" (432)	2 1/2" (64)
		1 5/8" (41)	17" (432)	3 1/2" (89)	19" (483)	4" (102)
		3 5/8" (76)	19" (483)	5 1/2" (140)	21" (533)	6" (152)
MS4104 MS4109	10" x 21" (254 x 533)	Flush	14" (355)	2 1/2" (64)	16" (406)	2 1/2" (64)
		1 5/8" (41)	16" (406)	2 1/2" (64)	18" (457)	3" (76)
		3 5/8" (76)	18" (457)	4 1/2" (114)	20" (508)	5" (127)
MS4120 FSAF FSNF	10" x 21" (254 x 533)	Flush	14" (355)	2 1/2" (64)	16" (406)	2 1/2" (64)
		1 5/8" (41)	16" (406)	2 1/2" (64)	18" (457)	3" (76)
		3 5/8" (76)	18" (457)	4 1/2" (114)	20" (508)	5" (127)

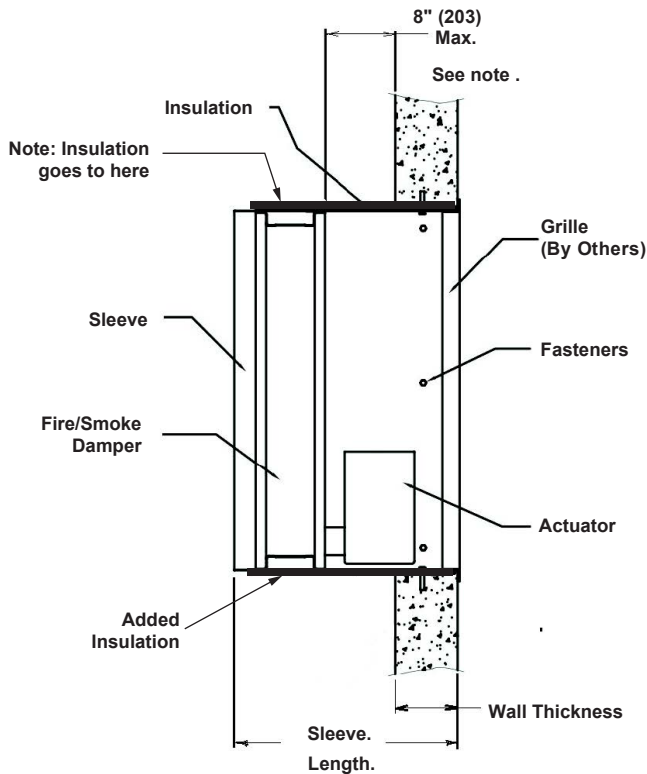
Minimum wall thickness given based on steel stud or masonry wall. For wood stud wall application add 2" to min. wall thickness shown in chart.

FSD60-VGA						
Actuator Model	Minimum Size	Grille Depth	w/o Duct Connection		with 2" duct connection	
			Sleeve Length	Min. Wall thk.	Sleeve Length	Min. Wall thk.
FSLF series FSTF series	*12" x 16" (305 x 406)	Flush	14" (355)	2 1/2" (64)	16" (406)	2 1/2" (64)
		1 5/8" (41)	16" (406)	2 1/2" (64)	18" (457)	3" (76)
		3 5/8" (76)	18" (457)	4 1/2" (114)	20" (508)	5" (127)
FSLF series MS4104 & MS4109 FSNF	*16" x 14" (406 x 356)	Flush	15" (381)	2 1/2" (64)	17" (432)	2 1/2" (64)
		1 5/8" (41)	17" (432)	3 1/2" (89)	19" (483)	4" (102)
		3 5/8" (76)	19" (483)	5 1/2" (140)	21" (533)	6" (152)
MS4104 MS4109	21" x 10" (533 x 254)	Flush	14" (355)	2 1/2" (64)	16" (406)	2 1/2" (64)
		1 5/8" (41)	16" (406)	2 1/2" (64)	18" (457)	3" (76)
		3 5/8" (76)	18" (457)	4 1/2" (114)	20" (508)	5" (127)
MS4120 FSAF FSNF	21" x 10" (533 x 254)	Flush	14" (355)	2 1/2" (64)	16" (406)	2 1/2" (64)
		1 5/8" (41)	16" (406)	2 1/2" (64)	18" (457)	3" (76)
		3 5/8" (76)	18" (457)	4 1/2" (114)	20" (508)	5" (127)

Minimum wall thickness given based on steel stud or masonry wall. For wood stud wall application add 2" to min. wall thickness shown in chart.

- \* Dampers ordered with SP-100 will be supplied with switches internal to actuator.  
Dampers ordered with TS-150 will be supplied with switches internal to actuator and an EFL-250.

## TYPICAL INSTALLATION



### Wall Opening

The opening in the wall shall be sized to accommodate the overall size of the damper, sleeve and insulation assembly. No expansion gap is required.

For proper installation, frame and finish the opening so it is 1/2" (13) larger in width and 1/2" (13) larger in height than the duct size.

For example a 24"w x 20"h (610 x 508) damper requires a wall opening of 24 1/2"w x 20 1/2"h (622 x 521). The damper/sleeve to duct connection remains 24"w x 20"h (610 x 508) and is the dimension used for grille considerations.

#### Note:

8" maximum dimension applies to steel stud and masonry walls. Maximum dimension to be 6" for wood stud applications.

## SPECIFICATION

Grille access combination fire/smoke dampers installed vertically in walls meeting or exceeding the following specifications shall be furnished and installed at shaft and grille 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, 92B, 101 and 105 and shall have a fire resistance rating of less than 3 hours in accordance with the latest edition of UL555 and shall be classified as Leakage Class I [or Class II] Smoke Dampers in accordance with the latest version of UL555S.

Insulated damper frame/sleeve shall have front flange for grille and (if specified) an OBD and shall include an integral actuator cabinet to minimize sleeve length. All actuators and accessories shall be accessible from the front/grille side of damper. Damper blades shall single piece roll-formed airfoil shape or single skin galvanized steel [or stainless steel] 16 gauge (1.0). Blade seals shall be 450°F (232°C) silicone smoke seal and galvanized steel for flame seal to 1900°F (1038°C) and mechanically locked into blade edge. Adhesive type blade edge seals shall not be acceptable.

Jamb seals shall be stainless steel compression type. Bearings shall be stainless steel, permanently lubricated sleeve type turning in an extruded hole in the frame for maximum life. Each damper shall be supplied within an Insulated factory sleeve.

Combination fire smoke dampers and their factory mounted electric [or pneumatic] 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 and application. Actuators shall be mounted internal to airstream and shall be cycle tested prior to shipment to ensure reliability. Electric actuators shall have been tested for prolonged periods of holding (minimum 1 year) with no evidence of reduced spring return performance.

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. FSD shall be rated for leakage and airflow in either direction. Combination Fire/Smoke dampers shall be in all respects equivalent to **Ruskin Model FSD60GA [or FSD60-2GA, FSD60-VGA], FSD36GA [or FSD36SSGA, FSD35GA or FSD35SSGA]**.

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