



# Model OFSD-211

Out of Wall Combination Fire Smoke Damper  
UL555S Leakage Class I  
UL555 1 1/2 Hour Fire Resistance Rating

## Application

Model OFSD-211 is approved for use in walls, partitions, and floors with fire resistance ratings less than 3 hours. OFSD-211 is an 'out of the wall' combination fire smoke damper with 3V style blades. Removal of wall grille allows access to actuator and other components. This model's operational ratings of 2000 fpm (10.2 m/s) and pressures to 6 in. wg (1.5 kPa). Model OFSD-211 shall be installed vertically (with blades running horizontal) or horizontally and is rated for airflow and leakage in either direction.

## UL555 Fire Resistance Ratings

<b>Fire Rating</b>
1 1/2 hours in walls
<b>Dynamic Closure</b>
Actual limits are size dependent
<b>Maximum Velocity</b>
2000 fpm (10.2 m/s)
<b>Maximum Pressure</b>
6 in. wg. (1.5 kPa) - differential pressure

## UL555S Leakage Ratings

<b>Leakage Class</b>
I
<b>Operational Rating</b>
Actual limits are size dependent
<b>Maximum Velocity</b>
2000 fpm (10.2 m/s)
<b>Maximum Pressure</b>
6 in. wg (1.5 kPa)
<b>Maximum Temperature</b>
350°F (177°C) - depending upon the actuator

## Size Limitations

WxH	Minimum Size	Maximum Size
		Single Section
Inches	8 x 8	36 x 36
mm	203 x 203	914 x 914

## Features:

- Frames are constructed with reinforced corners. Low profile head and sill are used on sizes less than 17 in. high (432mm).
- Blades are reinforced with 3 longitudinal structurally designed vee's.



W & H dimensions furnished approximately 1/4 in. (6mm) undersize. Add blanket thickness (1/8 in. 3mm) and sleeve thickness for overall sleeved damper dimension.  
Oversize wall opening as follows: Nominal damper size plus 3/8 in.(9.5mm).

**Model OFSD-211 meets the requirements for fire dampers, smoke dampers and combination fire smoke dampers established by:**  
**National Fire Protection Association**  
NFPA Standards 80, 90A, 92, 101 & 105  
**IBC International Building Codes**



See complete marking on product.  
UL 555 and UL 555S  
Classification R13317

## Construction

	Standard	Optional
Frame Material	Galvanized Steel	-
Frame Thickness	16 ga. (1.5mm)	-
Frame Type	5 in. x 1 in. (127mm x 25mm) hat channel	-
Blade Material	Galvanized Steel	-
Blade Thickness	16 ga. (1.5mm)	-
Blade Type	3V	-
Linkage	Plated steel out of air-stream, concealed in jamb	-
Axle Bearings	316SS	-
Axle Material	Plated Steel	-
Blade Seals	Silicone	-
Jamb Seals	Stainless Steel	-
Closure Device	RRL	RRL/OCI, TOR, Fusible Link
Closure Temperature	165°F (74°C)	212°F (100°C), 250°F (121°C), 286°F (141°C), 350°F (177°C)

## Options

- Electric actuators
- Test Switches
  - Greenheck test switches (GTS-1,-2, -3, -4)
  - Momentary test switches
  - Toggle switches
- POC retaining angles
- Sealed transitions and sleeves
- Smoke detectors
- Transitions: R, C, O

## Document Links



[INSTALLATION](#)



[CATALOG](#)



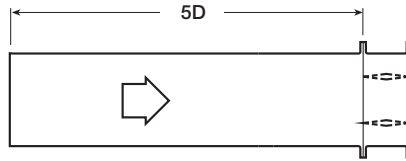
[SELECTION GUIDE](#)



[WARRANTY](#)

# Pressure Drop

## AMCA Figure 5.2



12 in. x 12 in. (305mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.04
1000	0.14
1500	0.31
2000	0.55
2500	0.86
3000	1.24
3500	1.69
4000	2.20

24 in. x 24 in. (610mm x 610mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.02
1000	0.07
1500	0.16
2000	0.29
2500	0.45
3000	0.65
3500	0.89
4000	1.16

36 in. x 36 in. (914mm x 914mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.04
1500	0.09
2000	0.16
2500	0.25
3000	0.36
3500	0.49
4000	0.64

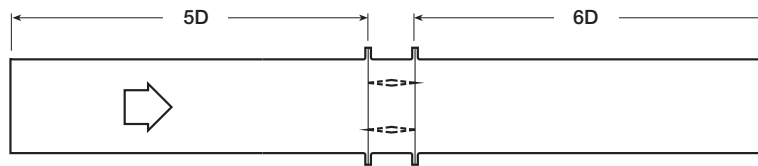
12 in. x 48 in. (305mm x 1219mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.06
1500	0.13
2000	0.23
2500	0.36
3000	0.52
3500	0.70
4000	0.92

48 in. x 12 in. (1219mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.10
1500	0.23
2000	0.41
2500	0.63
3000	0.91
3500	1.24
4000	1.62

## AMCA Figure 5.3



12 in. x 12 in. (305mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.02
1000	0.09
1500	0.20
2000	0.36
2500	0.56
3000	0.81
3500	1.10
4000	1.44

24 in. x 24 in. (610mm x 610mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.04
1500	0.09
2000	0.16
2500	0.25
3000	0.35
3500	0.48
4000	0.63

36 in. x 36 in. (914mm x 914mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.03
1500	0.06
2000	0.11
2500	0.17
3000	0.24
3500	0.33
4000	0.42

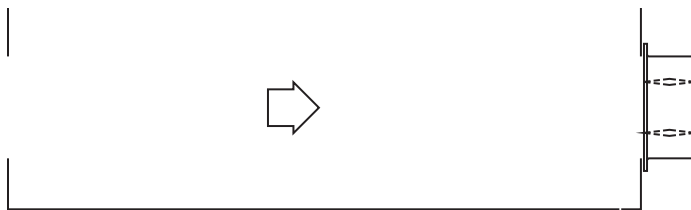
12 in. x 48 in. (305mm x 1219mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.04
1500	0.10
2000	0.17
2500	0.27
3000	0.39
3500	0.53
4000	0.70

48 in. x 12 in. (1219mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.02
1000	0.07
1500	0.16
2000	0.29
2500	0.45
3000	0.64
3500	0.88
4000	1.14

## AMCA Figure 5.5



12 in. x 12 in. (305mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.06
1000	0.22
1500	0.50
2000	0.89
2500	1.39
3000	2.00
3500	2.72
4000	3.55

24 in. x 24 in. (610mm x 610mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.14
1500	0.31
2000	0.54
2500	0.85
3000	1.22
3500	1.66
4000	2.17

36 in. x 36 in. (914mm x 914mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.12
1500	0.26
2000	0.46
2500	0.73
3000	1.05
3500	1.42
4000	1.86

12 in. x 48 in. (305mm x 1219mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.13
1500	0.30
2000	0.53
2500	0.83
3000	1.19
3500	1.62
4000	2.11

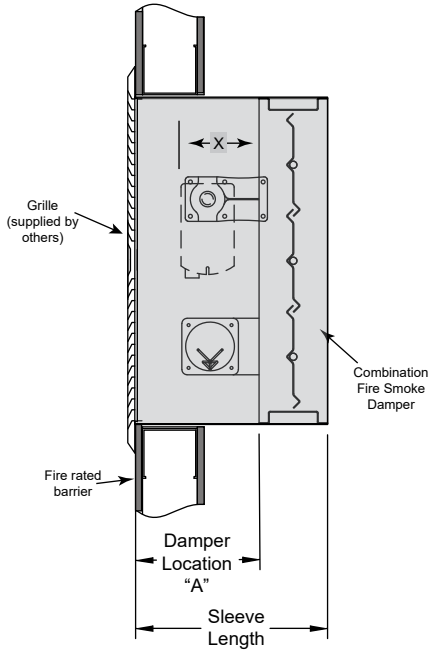
48 in. x 12 in. (1219mm x 305mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.04
1000	0.17
1500	0.38
2000	0.67
2500	1.04
3000	1.50
3500	2.05
4000	2.67

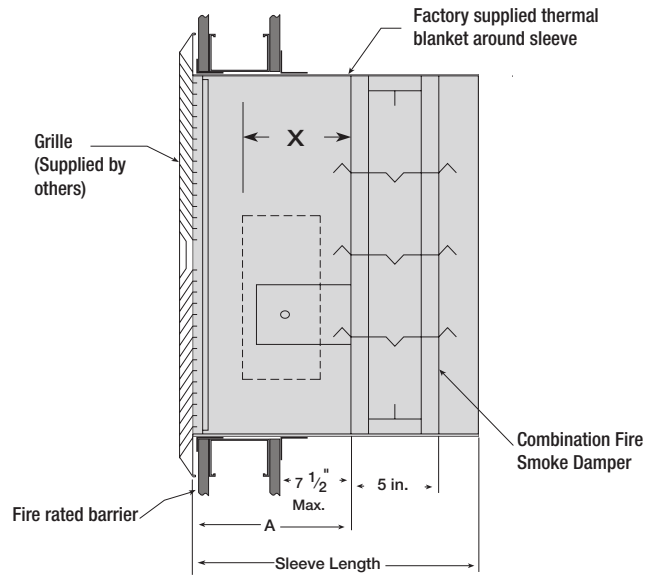
# Application Data

## Actuator Space Envelopes

The drawing below and corresponding table show the minimum dimensions required for internal actuator mounting on OFSD-211. The standard mounting locations provide enough space for the mounting of actuators and controls plus allowing space for a grille.



OFSD's that don't require a breakaway connection



OFSD's that require a breakaway connection

Actuator Type/Model	'X' Dimension
FSLF24-S, 120, 230-S Belimo	7½ in. (191mm)
FSNF24, 120, 230-S Belimo	7¾ in. (187mm)
FSTF24, 120, 230-S Belimo	7⅝ in. (181mm)
MSXX09 Series Honeywell	7½ in. (191mm)
MSXX04 Series Honeywell	7½ in. (191mm)
MSXX20 Series Honeywell	7½ in. (191mm)

## Sleeve Information

Sleeve length is dependent on actuator, grille depth, OBD depth, and damper height and whether or not a breakaway connection is required on the side opposite the actuator.

'Sleeve Gauge' = 16 ga. or 20 ga. (1.5mm or 1mm)

## Wall Opening Sizing

To accommodate for sleeve and thermal blanket thickness, the wall opening must be oversized by 3/8 in. (9.5mm) as shown. For example, if the nominal damper size required is 18 in. x 14 in. (457mm x 356mm), the wall opening size needs to be 18 3/8 in. x 14 3/8 in. (467mm x 365mm). The damper itself is undersized 1/4 in. (6mm) on each dimension for an actual damper size of 17 3/4 in. x 13 3/4 in. (451mm x 349mm). This is also the inside dimensions of the sleeve (for grille considerations).

