

## Application

Model SSFSD-211 is a 304SS combination fire smoke damper with 3V style blades. This damper may be installed vertically (with blades running horizontal) or horizontally and is rated for airflow in either direction.

## Ratings

### UL 555 Fire Resistance Rating

Fire Rating: 1½ hours

Dynamic Closure Rating: Actual ratings are size dependent

Velocity: Up to 2000 fpm (10.2 m/s)

Pressure: Up to 6 in. wg (1.5 kPa)

### UL 555S Leakage Rating

Leakage Class: I

Operational Rating: Actual ratings are size dependent

Velocity: Up to 2000 fpm (10.2 m/s)

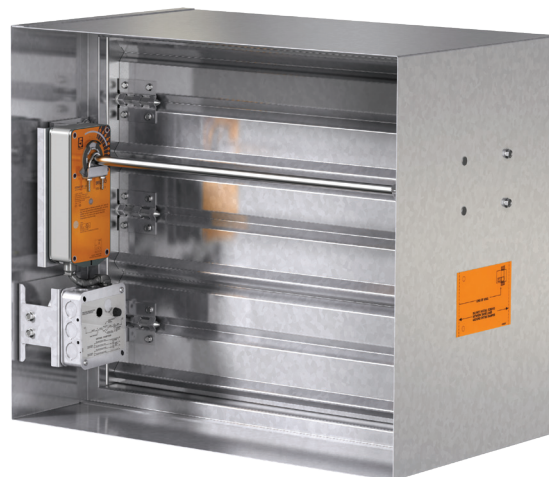
Pressure: Up to 6 in. wg (1.5 kPa)

Temperature: Up to 350°F (177°C) - depending upon the actuator

## Construction

	Standard	Optional
<b>Frame Material</b>	304SS	-
<b>Frame Material Thickness</b>	16 ga. (1.5mm)	-
<b>Frame Type</b>	5 in. x 1 in. (127mm x 25mm) hat channel	-
<b>Blade Material</b>	304SS	-
<b>Blade Material Thickness</b>	16 ga. (1.5mm)	-
<b>Blade Type</b>	3V	-
<b>Blade Action</b>	Opposed	-
<b>Linkage</b>	316SS out of airstream, concealed in jamb	-
<b>Axle Bearings</b>	316SS	-
<b>Axle Material</b>	316SS	-
<b>Blade Seals</b>	Silicone	-
<b>Jamb Seals</b>	Stainless steel	-
<b>Closure Device</b>	RRL	RRL/OCI, TOR, Fusible Link
<b>Closure Temperature</b>	165°F (74°C)	212°F (100°C), 250°F (121°C), 286°F (141°C)*, 350°F (177°C)

\* only available with fusible link



W & H dimensions furnished approximately ¼ in. (6mm) undersize. Add sleeve thickness for overall sleeved damper dimension.

Right hand is shown. Left hand drive is available.



See complete marking on product.

UL 555 & 555S Classification  
R13317

Model SSFSD-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

#### CSFM California State Fire Marshal

Fire Damper Listing (#3225-0981:0103)

Leakage (Smoke) Damper Listing (#3230-0981:0104)

W x H	Minimum Size	Maximum Size		
		Single Section	Multiple Section	
			Horizontal	Vertical
<b>4 in. wg (1 kPa) pressure</b>				
<b>Inches</b>	8 x 6	24 x 30 or 22 x 36	48 x 30	88 x 72
<b>mm</b>	203 x 152	610 x 762 or 559 x 914	1219 x 762	2235 x 1829
<b>6 in. wg (1.5 kPa) pressure</b>				
<b>Inches</b>	8 x 6	24 x 30	48 x 30	88 x 48
<b>mm</b>	203 x 152	610 x 762	1219 x 762	2235 x 1219

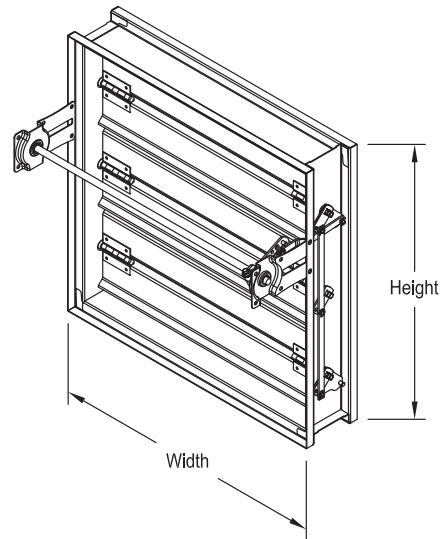
#### Note:

The frames are constructed with reinforced corners. Low profile head and sill are used on sizes less than 17 in. (432mm) high for lower pressure drop and improved damper performance.

## Options

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- [OCI \(Open Closed Indication switches\)](#)
- Electric actuators
- [Retaining angles](#)
- [Momentary test switch](#)
- Sealed transitions and sleeves
- Smoke detectors
- Transitions (C, O, R)



## Document Links

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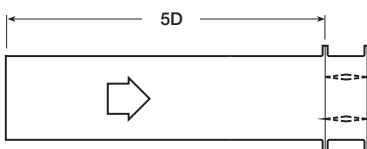
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[SPECIFICATIONS](#)

# 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

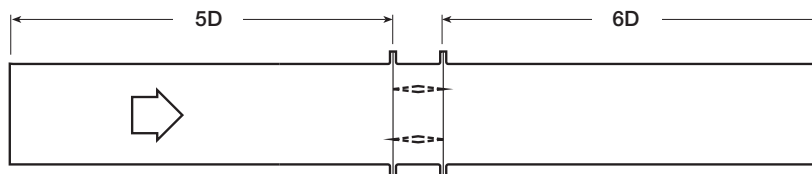
12 in. x 48 in. (305mm x 1219mm)

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

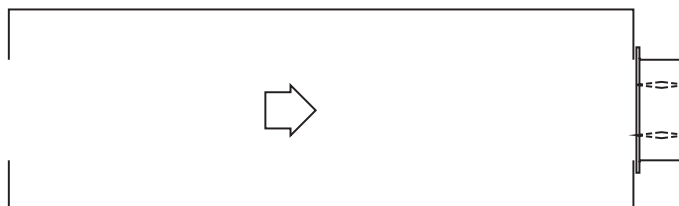
12 in. x 48 in. (305mm x 1219mm)

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

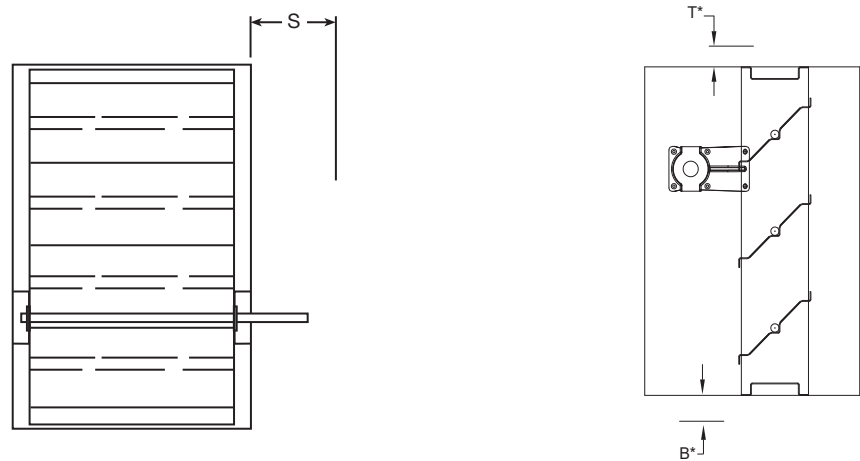


Greenheck Fan Corporation certifies that the model SSFSD-211 shown herein is licensed to bear the AMCA Seal. The ratings shown are based on tests and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Programs. The AMCA Certified Ratings Seal applies to air performance ratings only.

# Space Envelopes

Externally mounted actuators always require space outside of the damper sleeve. The “S” dimension illustrates the clearance required for various available actuators.

Worst case space envelopes shown below. Exact dimensions may vary based on specific damper configuration. Consult factory for specific space envelope if necessary.

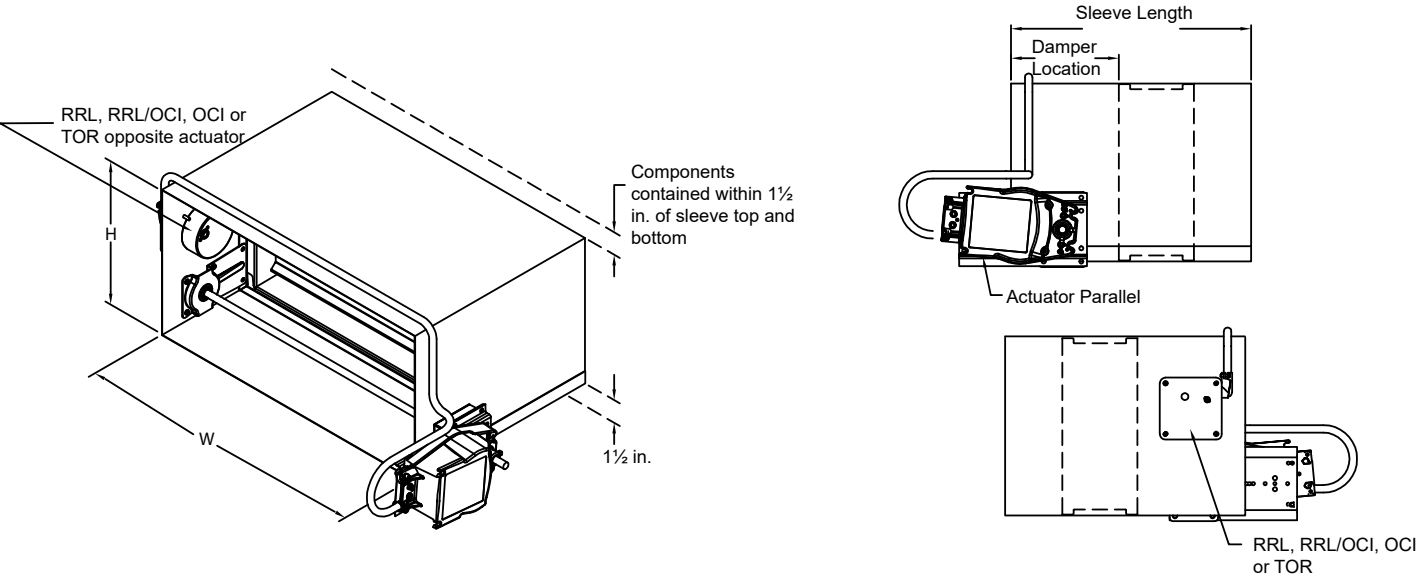


Actuator Type/Model	B*	T*	S	
	With RRL, RRL/OCI, or TOR	With RRL, RRL/OCI, or TOR	Piggyback	
			No	Yes
Belimo				
FSAFB24-SR (-S)	1½ in (38mm)	9¼ in. (235mm)	6 in. (152mm)	9 in. (229mm)
FSLF series	8 in. (203mm)	1½ in (38mm)	6½ in. (165mm)	NA
FSNF series	1½ in (38mm)	9¼ in. (235mm)	6 in. (152mm)	9 in. (229mm)
FSTF Series	8 in. (203mm)	1½ in (38mm)	6½ in. (165mm)	NA
Siemens				
GJD Series	7 in. (178mm)	1½ in (38mm)	6½ in. (165mm)	NA
GRD Series	1½ in (38mm)	7½ in (191mm)	6½ in. (165mm)	NA
GXVD Series	1½ in (38mm)	9¼ in. (235mm)	6 in. (152mm)	9 in. (229mm)
Honeywell				
MS4103, MS8103 Series	8¾ in. (222mm)	1½ in (38mm)	6½ in. (165mm)	NA
MS4104, MS4604, MS8104 Series	1½ in (38mm)	8½ in (216mm)	6½ in. (165mm)	NA
MS4109, MS4609, MS8109 Series	1½ in (38mm)	8½ in (216mm)	6½ in. (165mm)	NA
MS4120, MS4620, MS8120 Series	1½ in (38mm)	9½ in. (241mm)	6 in. (152mm)	9 in. (229mm)

\* For dampers 18 in. (457mm) or more in height these dimensions are 0 in.

# Contained Actuator Option

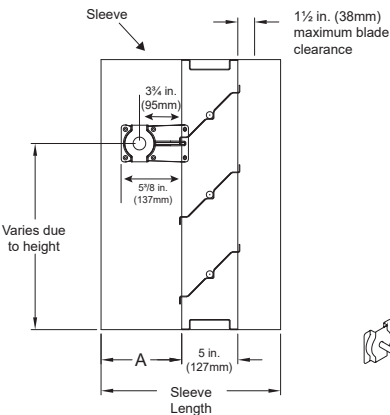
Dampers can be ordered with a “contained actuator option”. This option will result in the actuator being oriented such that it extends no more than 1½ inches above or below the sleeve. Note that some damper configurations that are 11 inches high or less will have the RRL, RRL/OCI, or TOR mounted on the side opposite the actuator when the contained actuator option is selected.



## Sleeve and Sideplate Dimensions

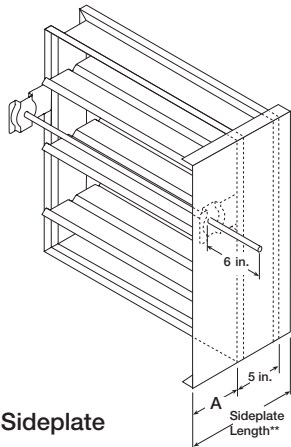
The drawings below and corresponding table show the position of the SSFSD-211 damper when mounted in a factory sleeve (“A” dimension). The standard mounting locations provide enough space for the mounting of actuators, controls and allow space for installation of retaining angles and duct connections. The following options may affect the range of available mounting locations: smoke detector, NEMA 7 enclosure, transitions, security bars, grille tabs.

The standard location of a damper mounted in a factory sleeve (“A” dimension) is shown below. The damper can be positioned at other locations within a range of 6 in. (152mm) to 16 in. (406mm) for the “A” dimension.

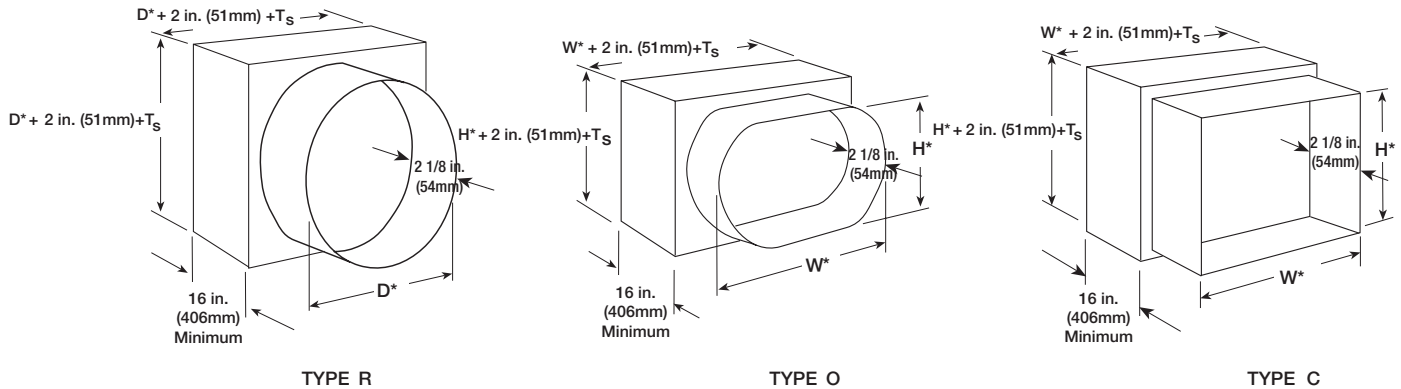


in. (mm)	With Sleeve		Sideplate Damper Location “A”
	Minimum Damper Location “A”	Maximum Damper Location “A”	
Height < 12 in. (305) RRL, RRL/OCI, or TOR	12 (305)	16 (406)	12 (305)
Height ≥ 12 in. (305) RRL, RRL/OCI, or TOR	7 3/16 in. (183)	16 (406)	12 (305)

**NOTE:** Entire damper frame is not required to be installed within the wall. The damper blades, when closed should be contained within the wall.



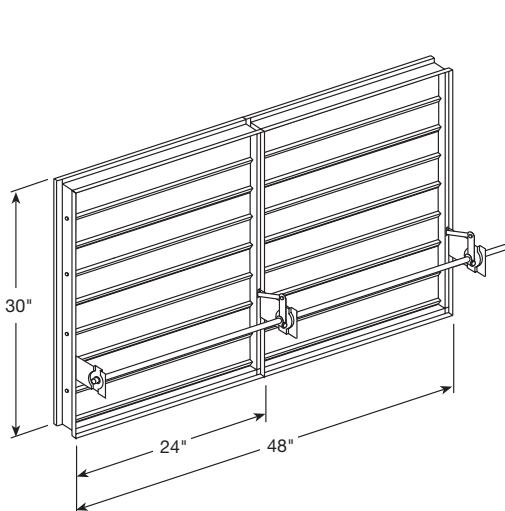
When a combination fire smoke damper is being used in conjunction with round and oval ductwork, the SSFSD-211 can be supplied in a factory sleeve with round or oval transitions on both ends of the sleeve. Dampers should be ordered to the duct dimensions.



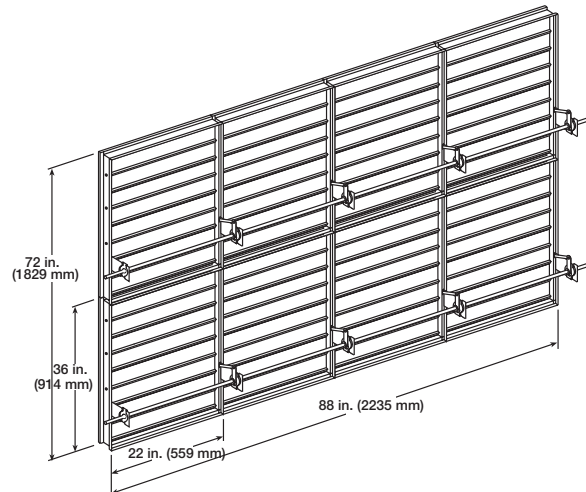
\* These dimensions are furnished approximately 1/4 in. (6mm) undersize, except round and oval dimensions which are approximately 1/8 in. (3mm) undersize.

## Multiple Section Dampers

Dampers larger than maximum single section size are supplied as a factory assembly of two or more sections of equal size. The following figures show maximum damper section size and assembly configurations for multi-section dampers.



**Two Section**



**4 Sections wide  
2 sections high**