SMD-301M
Modulating Smoke Damper

Application

The SMD-301M is a leakage rated modulating smoke damper with airfoil blades for operational closure in emergency smoke control situations. This model serves the function of both a control damper and smoke damper. The SMD-301M may be installed vertically (with blades running horizontal) or horizontally and is rated for airflow and leakage in either direction.

Ratings

UL 555S Leakage Rating

Leakage Class: I
Operational Rating: Actual ratings are size dependent
Velocity: Up to 2000 fpm (15.2 m/s)
Pressure: Up to 4 in. wg (1 kPa)
Temperature: Up to 250°F (121°C)

Construction

	Standard	Optional
Frame Material	Galvanized steel	-
Frame Material Thickness	16 ga. (1.5mm)	-
Frame Type	5 in. x 1 in. (127mm x 25mm) hat channel	-
Blade Material	Galvanized steel	-
Blade Material Thickness	14 ga. (2mm) equivalent	-
Blade Type	Double Skin Airfoil	-
Blade Action	Opposed	
Linkage	Plated steel out of airstream, concealed in jamb	316SS
Axle Bearings	316SS	-
Axle Material	Plated steel	316SS
Blade Seals	Silicone	-
Jamb Seals	Stainless Steel	-

W and 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 555S Classification R13317

Model SMD-301M meets the requirements for fire dampers, smoke dampers and combination fire smoke dampers established by:

National Fire Protection Association

NFPA Standards 90A, 92, 101, & 105

IBC International Building Codes

CSFM California State Fire Marshal

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

Features

- Frames are constructed with reinforced corners. Low profile head and sill are used on sizes less than 17 in. (432mm) high
- Actuators: 24VAC/24VDC

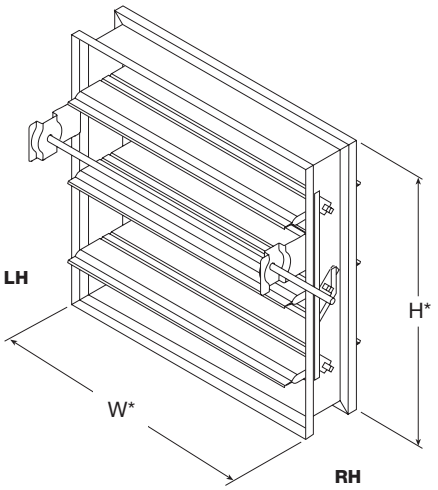
Size Limitations

W x H	Minimum Size	Maximum Size*	
		Single Section	Multiple Section
Inches	6 x 6	32 x 50	128 x 100
mm	152 x 152	813 x1270	3251 x 2540

***Note:** Maximum sizes are dependent on velocities and pressures.

Options and Accessories

- Breakaway connections
- Clean wrap
- Greenheck Test Switches (GTS-3 and GTS-4)
- Momentary test switch
- POC retaining angles
- OCI (Open Closed Indication Switches)
- Sealed transitions and sleeves
- Security bars
- Smoke detectors
- Transitions: C, O, R



Document Links

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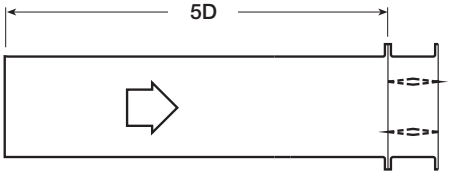
SPECIFICATIONS

WARRANTY

Pressure Drop Data

AMCA Figure 5.2



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

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.11
1500	0.24
2000	0.42
2500	0.66
3000	0.95
3500	1.30
4000	1.70

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

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.06
1500	0.12
2000	0.22
2500	0.34
3000	0.49
3500	0.67
4000	0.87

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

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.05
1500	0.12
2000	0.21
2500	0.32
3000	0.47
3500	0.63
4000	0.83

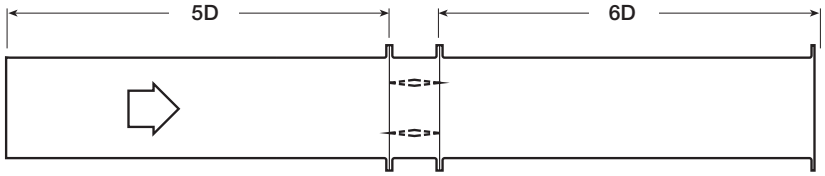
12in. X 48 in. (305mm x 1219mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.05
1500	0.12
2000	0.21
2500	0.33
3000	0.48
3500	0.65
4000	0.85

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

Velocity (fpm)	Pressure Drop (in. wg)
500	0.02
1000	0.08
1500	0.18
2000	0.33
2500	0.51
3000	0.74
3500	1.00
4000	1.31

AMCA Figure 5.3



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

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.06
1500	0.13
2000	0.23
2500	0.37
3000	0.53
3500	0.73
4000	0.95

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

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.02
1500	0.06
2000	0.10
2500	0.16
3000	0.23
3500	0.32
4000	0.42

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

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.02
1500	0.05
2000	0.09
2500	0.14
3000	0.21
3500	0.29
4000	0.38

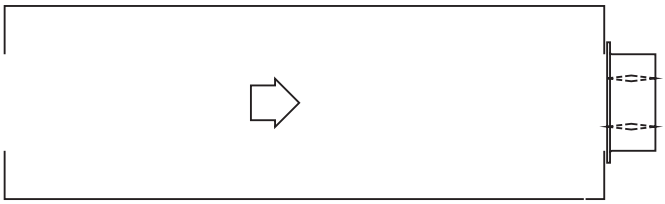
12in. X 48 in. (305mm x 1219mm)

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.03
1500	0.06
2000	0.11
2500	0.18
3000	0.25
3500	0.34
4000	0.45

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

Velocity (fpm)	Pressure Drop (in. wg)
500	0.01
1000	0.04
1500	0.10
2000	0.18
2500	0.29
3000	0.42
3500	0.57
4000	0.74

AMCA Figure 5.5



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

Velocity (fpm)	Pressure Drop (in. wg)
500	0.04
1000	0.18
1500	0.42
2000	0.75
2500	1.17
3000	1.68
3500	2.29
4000	2.09

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

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.13
1500	0.29
2000	0.52
2500	0.81
3000	1.17
3500	1.60
4000	2.14

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

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.12
1500	0.27
2000	0.48
2500	0.75
3000	1.08
3500	1.48
4000	1.93

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

Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.12
1500	0.27
2000	0.49
2500	0.77
3000	1.11
3500	1.51
4000	1.97

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

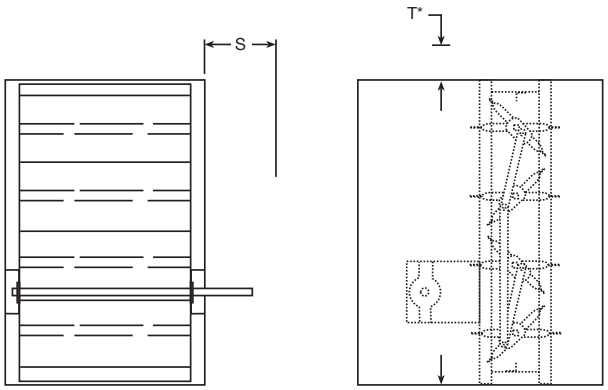
Velocity (fpm)	Pressure Drop (in. wg)
500	0.03
1000	0.14
1500	0.32
2000	0.57
2500	0.89
3000	1.28
3500	1.75
4000	2.29

Greenheck Fan Corporation certifies that the model SMD-301M 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 specifice damper configuration. Consult factory for specific space envelope if necessary.

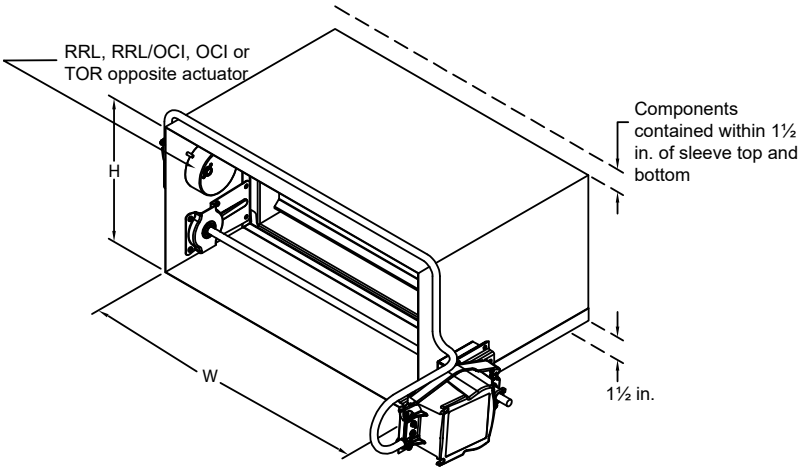


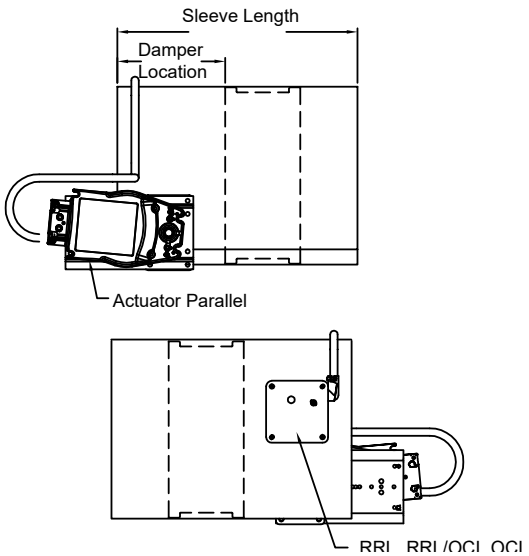
Actuator Type/Model	B*	T*	S	
	With OCI	With OCI	Piggyback	
			No	Yes
24 Volt AC				
MS7520A2015/B Honeywell **MS7520A2213/B Honeywell**	½ in. (13mm)	9 13⁄16 in. (249mm)	6 in. (152mm)	NA

* 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.



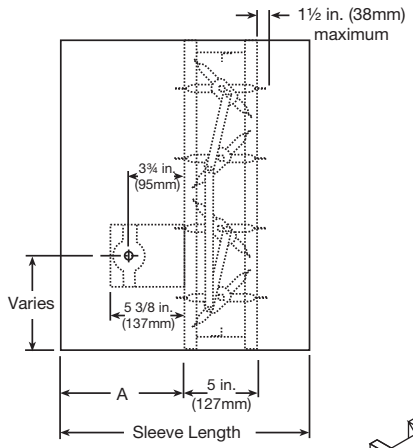


Sideplate and Sleeve Dimensions

The drawings below and corresponding table show the position of the SMD-301M 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.

Sleeve

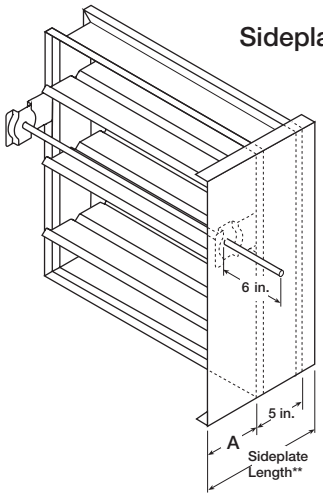


in. (mm)	With Sleeve		Sideplate
	Minimum Damper Location “A”	Maximum Damper Location “A”	Damper Location “A”
Compact configuration*	7 3/16 in. (183)	16 (406)	-
Standard (non-compact) Height < 12 in. (305) RRL, RRL/OCI, or TOR	12 (305)	16 (406)	12 (305)
Standard (non-compact) Height ≥ 12 in. (305) RRL,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

* Contact factory for more information.

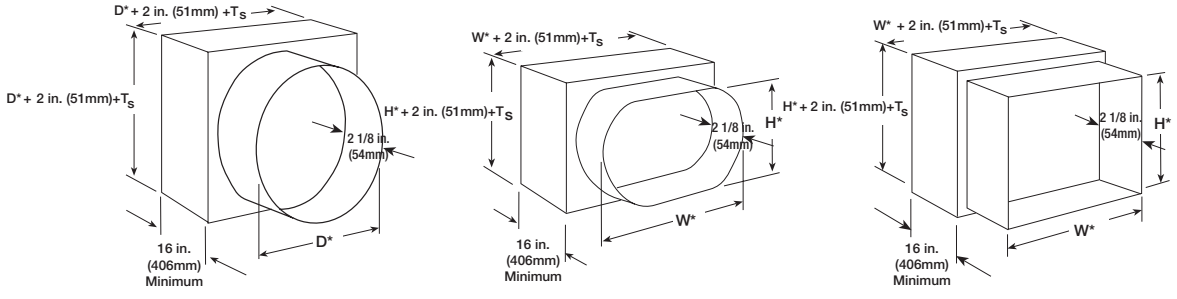
NOTE: Entire damper frame is not required to be installed within the wall. The damper blades, when closed should be contained within the wall.

Sideplate



Transitioned Damper Dimensions

When a smoke damper is being used in conjunction with round or oval ductwork, the SMD-301M 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. Drawings below show overall damper size.



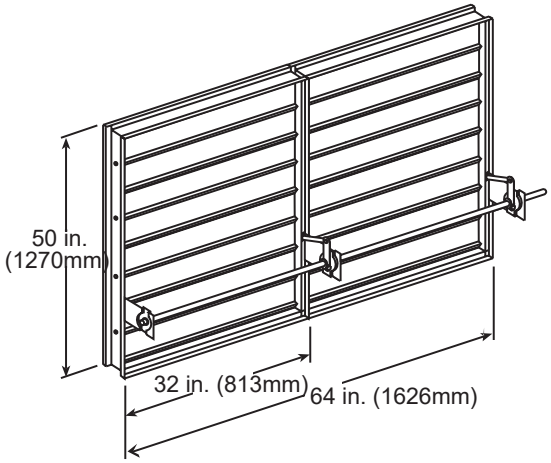
TYPE R TYPE O TYPE C

* These dimensions are furnished approximately ¼ in. (6mm) undersize, except round and oval dimensions which are approximately ⅛ in. (3mm) undersize.

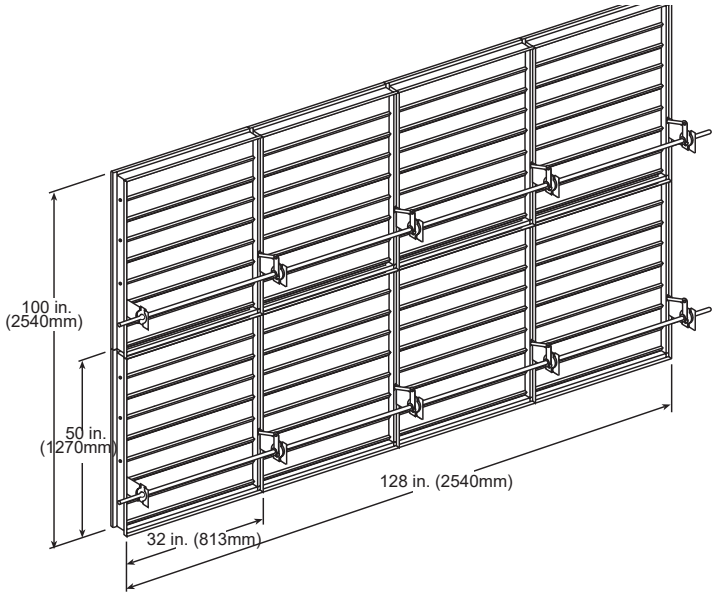
Ts = (2)(Sleeve Thickness)

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 damper sections and assemblies that have been qualified for operation with a single actuator. Larger size can be accommodated using multiples of these assemblies.



Two Section



4 sections wide
2 sections high