

Reference:

Client:

Project:

Consultant:

Location:

Contractor:

Date:

Submitted by: BM



### Model FD-MB-AF-FA(M)

Motorised, Multi-Blade Static Fire Damper  
Front Access & Out-of-Wall/Floor Application  
1-1/2 or 3 Hour, Airfoil Blade, UL-Classified

### Application:

The BAS/CSV model FD-MB-AF-FA(M) is a motorised multi-blade fire damper with Airfoil style blades, for decreased pressure drop, intended for installation outside the plane of a wall or floor with front (or grille) access to the actuator. The FD-MB-AF-FA(M) is used to prevent the spread of fire through a penetration in a fire rated barrier made by an HVAC duct or transfer. The FD-MB-AF-FA(M) can be installed vertically (with blades running horizontally) or horizontally. The FD-MB-AF-FA(M) can be installed in static systems only.

### Standard Construction:

	Standard	Optional
<b>Frame Material</b>	20 Gauge (1) Galv. Roll-Formed Steel hat section w/ staked corners for integral bracing	-----
<b>Blade Material and Type</b>	Airfoil-shaped, double skin galvanized steel mechanically fastened to form equivalent to 14 Gauge (2) Steel	16 Gauge (1.5) "3V" Galv. Roll-Formed Steel (see FD-MB-3V-FA(M))
<b>Blade Sizes</b>	Min. width of 5" (127) to max. width of 7" (178)	-----
<b>Frame Depth</b>	5" (127)	-----
<b>Dimensions</b>	Actual - 1/4" (6)	Actual
<b>Axle Bearings</b>	Bronze Oilite (press fit into frame)	-----
<b>Axle Material</b>	Plated Steel	-----
<b>Seals</b>	Pressure Sensitive 450°F (232°C) silicone blade edge & flexible stainless jamb seals	-----
<b>Linkage</b>	.125" (3.2) plated steel, Concealed in Frame	-----
<b>Sleeve</b>	16" x 20" gauge (406x1 galv. steel w/ 1" (25) flange (1 side)	Wide variety of gauges and lengths available
<b>Thermal Blanket</b>	0.25" (6) thick thermal blanket 3 sides for vertical and 4 sides for horizontal applications	-----
<b>Front Access Panel</b>	Max. 6 inch. (152.4 mm), installed inside damper sleeve to conceal actuator & TRD.	-----
<b>Heat Responsive Device</b>	Electric thermostat (165°F - 74°C)	212°F (100°C)
<b>Blade Operator</b>	Motorised	Manual quadrant (see Model FD-MB-AF-FA)
<b>UL Hour Rating</b>	1-1/2 Hours	3 Hours

### Minimum & Maximum Sizes:

Multi-Blade Model	Minimum Size		Max. Single Section		Max. Multi-Section	
	1.5 Hour	3 Hour	1.5 Hour	3 Hour	1.5 Hour	3 Hour
FD-MB-AF-FA(M) (Vertical)	12x12 (305x305)		36x48 (914x1219)		108x96 (2743x2438)	72x48 (1829x1219)
FD-MB-AF-FA(M) (Horizontal)					-----	72x48 (1829x1219)

Contact Factory for smaller sizes.

All dimensions shown in inches, parentheses ( ) indicate millimeters.

1 As part of our continuous improvement program, we reserve the right to make further improvements without notice.



### LISTINGS:

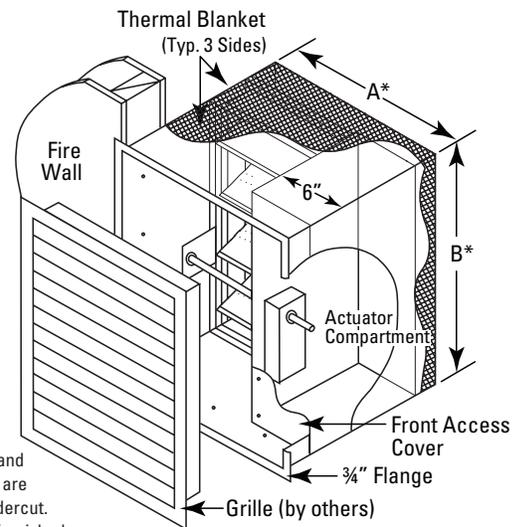
UL 555 Listing: R27700(UAE), R41135(KSA), R40068(Qatar), R41122(Egypt)

### STANDARDS MET:

NFPA Standards: 80, 90A, 92A, 92B and 101

Building Code Standard:

ICC International Building Code



\*Width [A dimension] and \*Height [B Dimension] are approximately 1/4" undercut. Sleeved dampers are furnished approximately same size as given duct dimension plus 0.25" (6) for insulation.

### Optional Construction:

#### Auxiliary Switch

Add to Actuator Blade Mounted Switch (BIS)

#### Momentary Test Switch

Dual Thermostat Box (DTB) w/ Dual Position Indicator Switches

Temp: 165°/250° 165°/350° 212°/350°

#### Factory Installed Sleeve:

Optional Length: \_\_\_\_\_ (Std. 16" [406])

Gauge: 20 (1.0) 18 (1.2) 16 (1.5) 14 (2.0) 10 (3.5)

Framed Retaining Angles 16ga. x 1-1/2" x 1-1/2" (1.5 x 38 x 38)

#### Remote Control Box

RCB-1 RCB-2 RCB-3

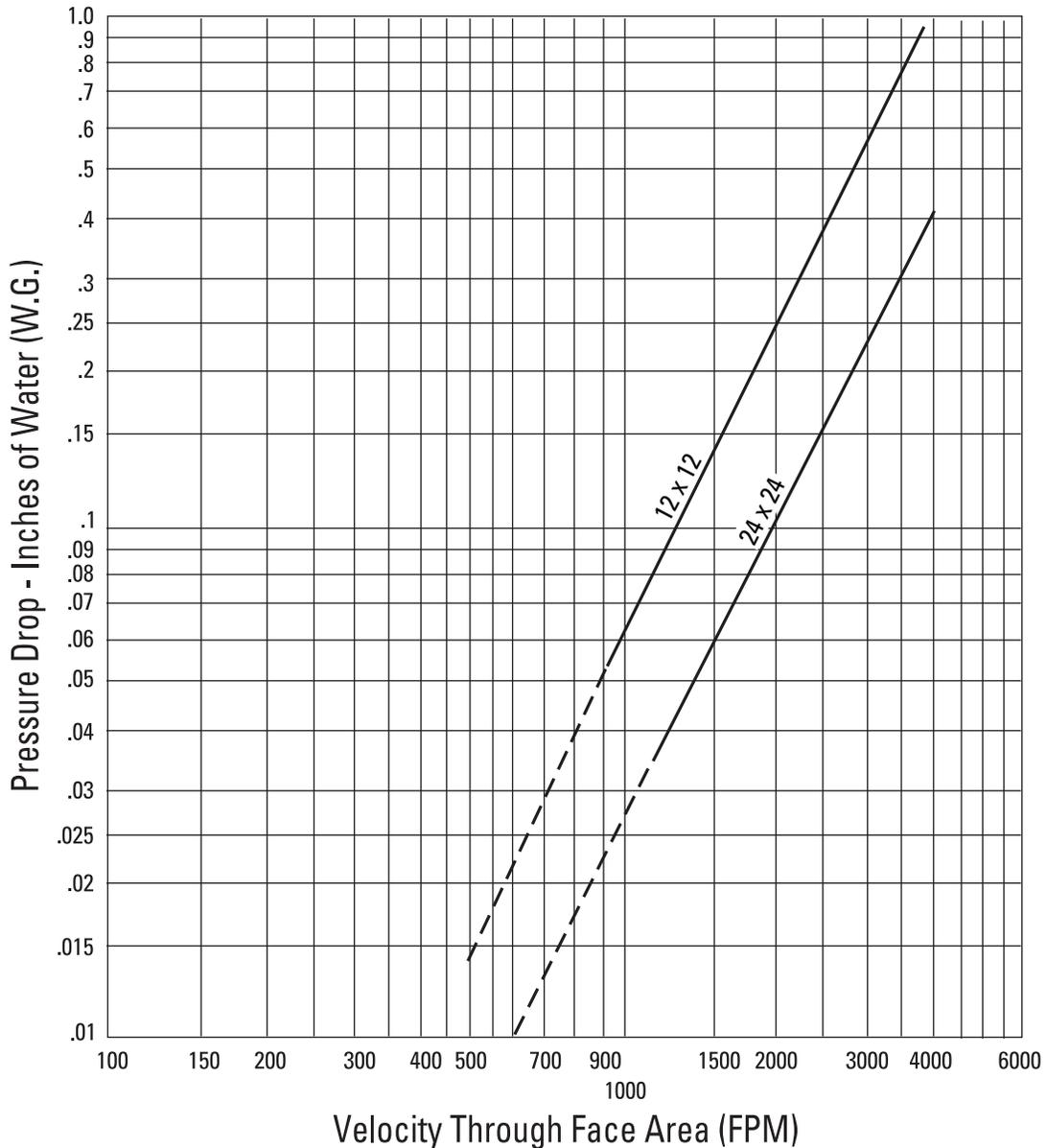
Actuators (Refer to UL Damper Actuator Reference Chart)

Type: Electric: Model # \_\_\_\_\_ Pneumatic: Model # \_\_\_\_\_

All dimensions shown in inches, parentheses ( ) indicate millimeters.

Submittal

**Pressure Drop**



**To determine pressure drop:**

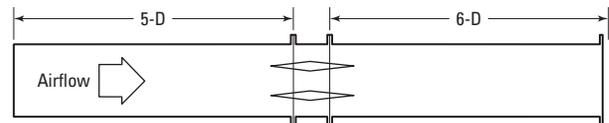
1. Locate the applicable face velocity on the bottom of the chart.
2. Move up the chart to the most appropriate size damper line.
3. From the intersection point, move left to determine the pressure drop.

**AMCA Figure 5.3 - Ducted Inlet and Outlet**

Pressure drop testing was performed by an independent laboratory to the AMCA Standard 500-D, Fig. 5.3 (ductwork upstream and downstream).

**Note:**

Pressure Drop for both sizes reflect damper face area only, and does not take into account the 6" deep actuator compartment.



### Actuator Requirements:

Factory mounted actuators vary by damper size and velocity, pressure and temperature ratings. Consult Motor/Actuator sheet for UL Products for current offering.

All electric actuators will be factory wired to a single heat-responsive device. *The default heat-responsive device is a resettable thermostat that interrupts power to the actuator allowing for controlled closure.*

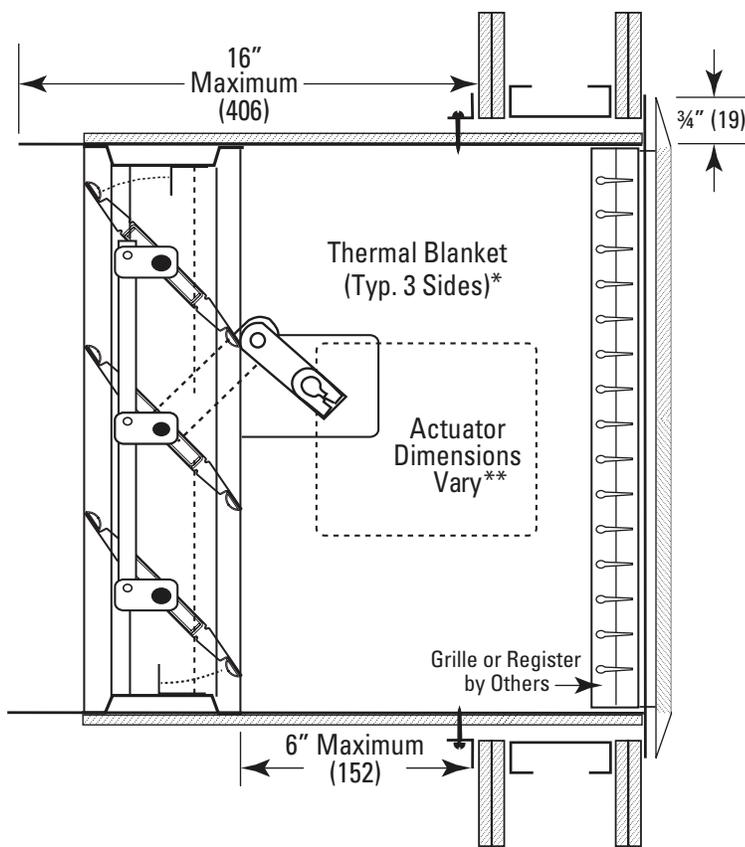
### Sleeve Requirements:

**Sleeve must be installed at the factory for out of wall/floor products.** As with all fire rated damper installations, the sleeve must fully penetrate the wall/floor being protected.

Sleeve length is dependent upon damper height, grille depth (including OBD) and actuator selection:

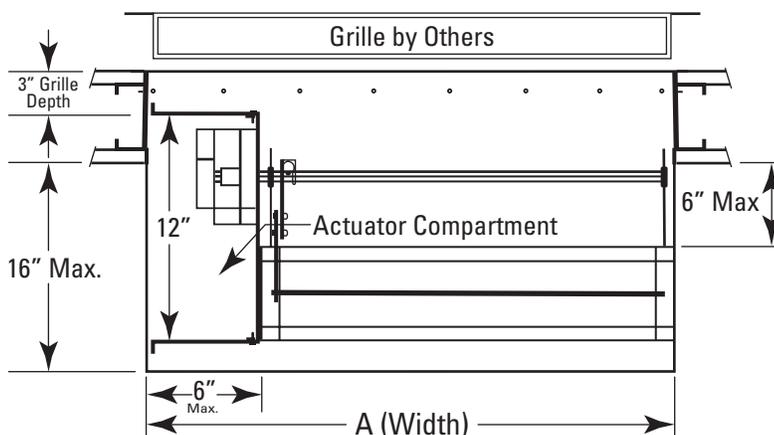
- Standard clearance allowance for grille inset is 3" (76).
- Maximum sleeve length is 16" (406) plus the total wall depth.

**Sleeve is provided with a 3/4" (19) flange on the actuator end of the sleeve by default.** Flange must be on top of barrier in horizontal installations.



\*Thermal Blanket provided 3 sides for Vertical and 4 sides for Horizontal. \*\*3" clearance supplied for grille standard.

### Top View



### Thermal Blanket:

A factory installed thermal blanket is provided on three sides (bottom excluded) for dampers ordered for vertical installation and on all four sides for dampers ordered for horizontal installation.

Due to the nature of the application for Out-of-Wall and Out-of-Floor Fire dampers, a 0.25" (6) thermal blanket is installed around the sleeve at the factory.

**This insulation is required as part of the UL Listing of the out of wall/out of floor assembly and must not be removed.**