

## Application

The EM-10 series is a horizontally mounted backdraft damper that is designed to allow vertical airflow up and prevent reverse airflow. The damper is opened by air pressure differential and closed by gravity. Standard models include adjustable counterbalance to assist opening.

## Ratings

### Pressure

Up to 10 in. wg (2.5 kPa) differential pressure. For pressures over 10 in. wg, consult factory

### Velocity

2500 to 3500 fpm (13 -18 m/s)

### Temperature

180°F (82°C)

## Construction

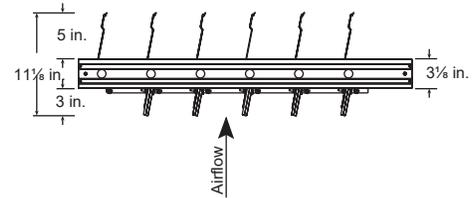
Construction	Standard	Optional
<b>Frame Material</b>	6063T5 Extruded Aluminum	
<b>Frame Thickness</b>	.125 in. (3.2mm)	
<b>Blade Material</b>	6063T5 Extruded Aluminum	
<b>Blade Thickness</b>	.070 in. (1.8mm)	
<b>Axle Linkage</b>	½ in. (3mm) plated steel	304SS
<b>Bearings</b>	Synthetic (acetal) sleeve type	
<b>Blade Seals</b>	Vinyl	
<b>Operation</b>	Counterbalanced	

W x H	Minimum Size	Maximum Single Section Size	Maximum Multi Section Size
<b>Inches</b>	8 x 11	48 x 74	144 x 148
<b>mm</b>	203 x 279	1219 x 1880	3658 x 3759

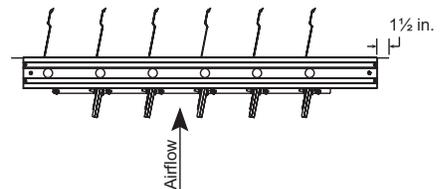
Sizes larger than maximum shown will be supplied as two or more equal size smaller dampers required to make up the size specified. These larger multiple damper assemblies require field assembly and may require additional reinforcement (not supplied by factory) to support the assembly.



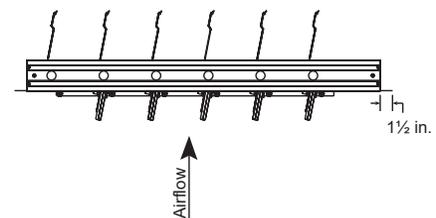
**EM-10**  
No Flange



**EM-11**  
Flange on Discharge



**EM-12**  
Flange On Intake



\*W & H dimensions furnished approximately ¼ in.(6mm) under size.

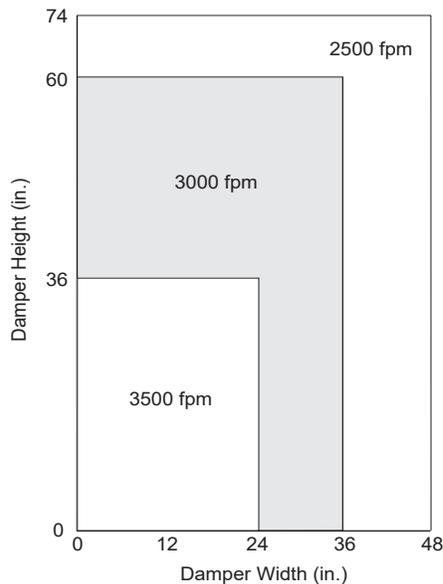
## Adjustable Pressure Controller (APC)

The APC allows field setting of relief pressure on all EM dampers. If more than a single section, a APC will be required for each section. Maximum pressure set limitations are as follows:

Area ft <sup>2</sup> (m <sup>2</sup> )	Maximum Set Pressure in. wg (Pa)
4 (.37)	.75 (187)
6 (.56)	.50 (125)
8 (100)	.40 (100)
10 (.93)	.30 (75)
15 (1.39)	.20 (50)
20 (1.86)	.15 (37)
24 (2.23)	.125 (31)



## Velocity Limitations



## Operational Data

Operational Data (AMCA Figure 5.7B unducted)		ΔEP in. wg (Pa)	Velocity fpm (m/s)
Dampers with standard bearings	Blades start to open	0.03 (7)	9 (.05)
	Blades fully open	0.12 (15)	750 (3.8)

## Performance Data



Greenheck Fan Corporation certifies that the models EM-10, EM-11 and EM-12 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 Program. The AMCA Certified Ratings Seal applies to Air Leakage and Air Performance Ratings.

## Test Information

- Air leakage is based on operation between 32°F and 120°F (0°C and 48°C)
- Tests for air leakage were conducted in accordance with ANSI/AMCA Standard 500-D Figure 5.5, in the backdraft direction
- Air performance testing conducted in accordance with ANSI/AMCA Standard 500-D, Figure 5.7B

## Air Leakage

Model EM-10 series dampers with a width and height 24 in. (610mm) or greater leak a maximum of:

- 12.3 cfm/ft<sup>2</sup> or less at 1.0 inches w.g.

Model EM-30 series dampers with a width or height less than 24 in. (610mm) leak a maximum of:

- 27.5 cfm/ft<sup>2</sup> or less at 1.0 inches w.g.

\*Note: This model complies with the International Energy Conservation Code (IECC) and ASHRAE 90.1 leakage requirements for non-motorized dampers.

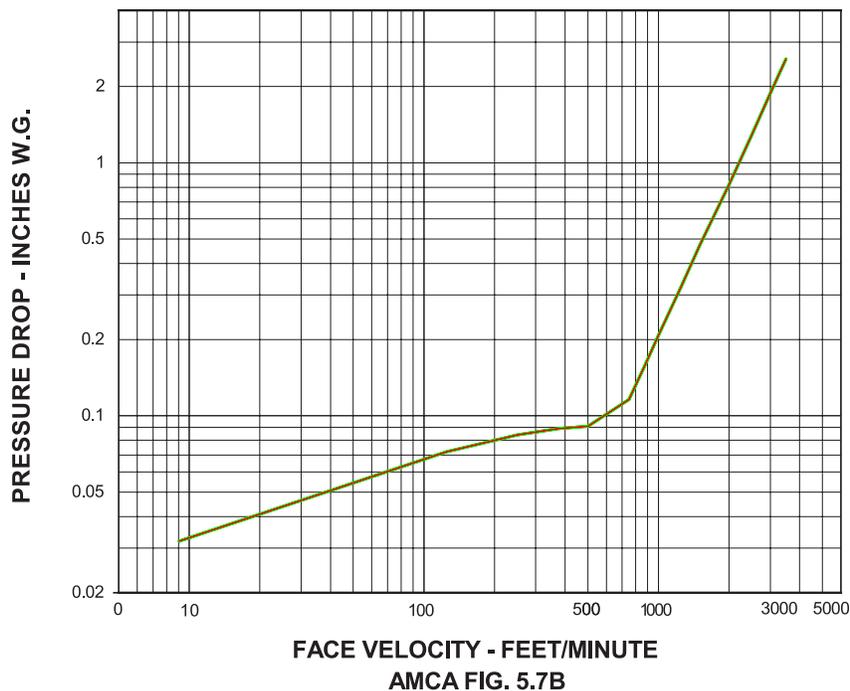
## Air Performance

Performance data results from testing a 24 in. x 24 in. damper in accordance with AMCA Standard 500-D using Figure 5.7B. All data has been corrected to represent standard air at 0.075 lb/ft<sup>3</sup> (1.201 kg/m<sup>3</sup>).

### Pressure Drop

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

#### VELOCITY VS. PRESSURE DROP





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