



EM-40 Series

Horizontal Mount/Vertical Airflow Down Extruded Backdraft Damper Adjustable Counterbalance

Application and Design

The EM-40 series is a horizontally mounted backdraft damper that is designed to allow vertical airflow and prevent reverse airflow. The damper is opened by air pressure differential and closed by gravity. Standard models include adjustable counterbalance weights to assist closing.

Ratings

Pressure: Up to 10.0 in. wg (2.5 kPa) differential pressure. For pressures over 10 in. wg, (2.5 kPa), consult factory

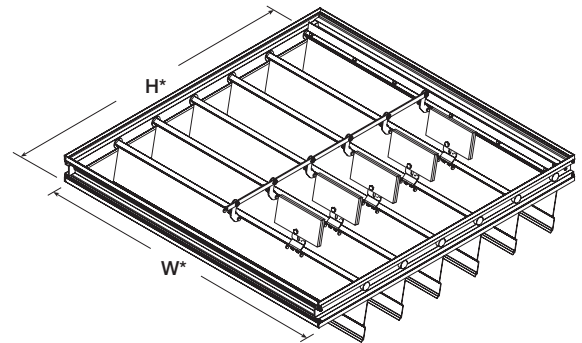
Velocity: 2,500 to 3,500 fpm (13 m/s - 18 m/s)

Temperature: 180°F (82°C)



*W & H dimensions furnished approximately 1/4 in. (6mm) under size.

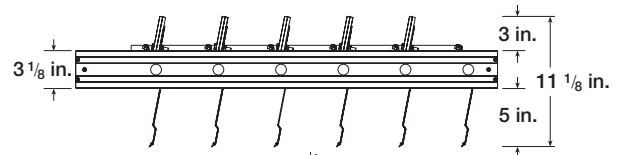
	Standard
Frame Material	6063T5 Extruded Aluminum
Frame Thickness	.125 in. (3.2mm)
Blade Material	6063T5 Extruded Aluminum
Blade Thickness	.070 in. (1.8mm)
Axle Linkage	1/8 in. (3mm) plated steel
Bearings	Synthetic (acetal) sleeve type
Blade Seals	Vinyl



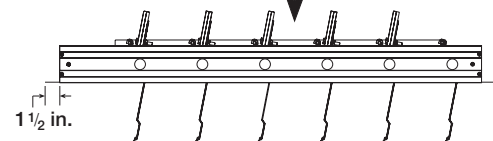
W x H	Minimum Size	Maximum Single Section Size	Maximum Multi Section Size
Inches	8 x 11	48 x 74	144 x 148
mm	203 x 279	1219 x 1880	3657 x 3759

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.

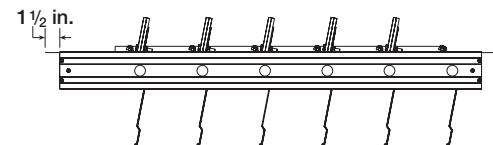
EM-40
No Flange



EM-41
Flange On Discharge



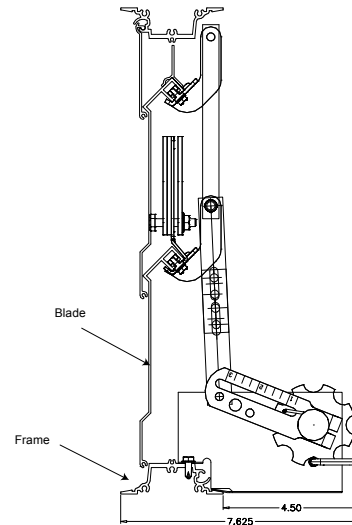
EM-42
Flange On Intake



Options and Accessories

- 1½ in. (38mm) flange on discharge: EM-41
- 1½ in. (38mm) flange on intake: EM-42
- Sleeves
- APC (Adjustable Pressure Controller)
 - Allows field setting of relief pressure on all EM dampers. Use one per panel. Maximum recommended pressure set limitations are as follows:

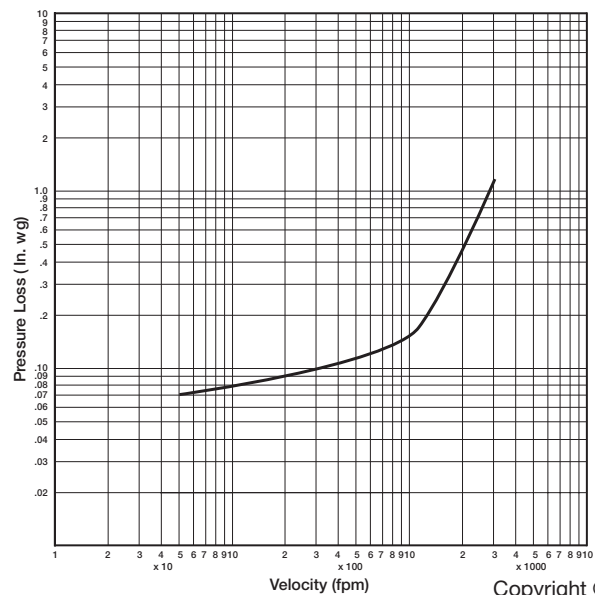
Area ft ² (m ²)	Maximum Set Pressure in. wg (Pa)
4 (.37)	.75 (187)
6 (.56)	.50 (125)
8 (100)	.40 (100)
10 (.93)	.30 (75)
15 (1.39)	.20 (50)
20 (1.86)	.15 (37)
24 (2.23)	.125 (31)



Performance data results from testing a 36 in. x 36 in. (914mm x 914mm) damper in accordance with AMCA Standard 500-D using Figure 5.7A (unducted). All data has been corrected to represent standard air at 0.075 lb/ft³ (1.201 kg/m³).

Operational Data		ΔEP in. wg (Pa)	Velocity fpm (m/s)
Damper with Standard Bearings	Blades Start to Open	0.07 (17)	50 (.254)
	Blades Fully Open	0.20 (50)	1200 (6.2)

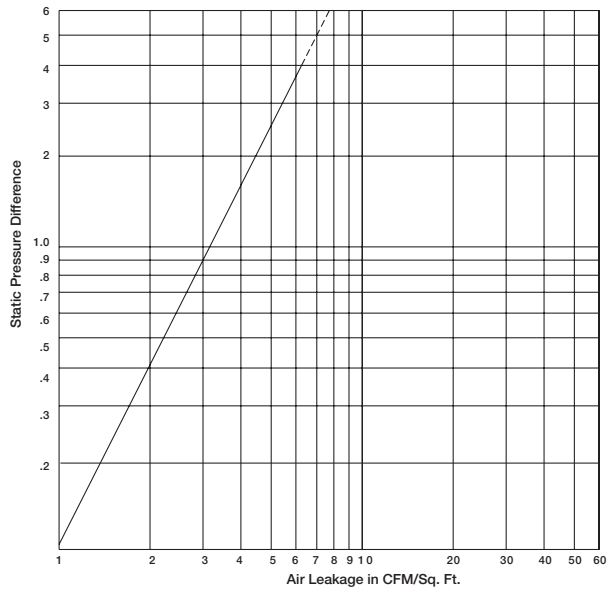
Pressure Drop



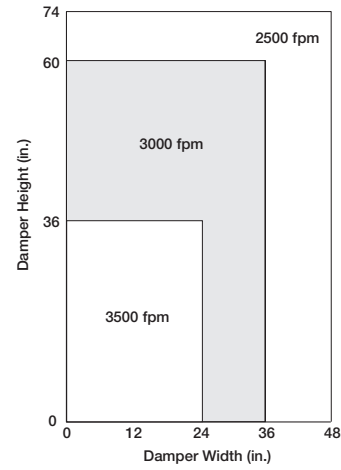
Leakage testing was conducted in accordance with AMCA Standard 500-D and is expressed as CFM per sq. ft. of damper face area. All data has been corrected to represent standard air at 0.075 lb/ft³ (1.201 kg/m³).

Leakage

36 in. x 36 in. Damper



Velocity Limitations



Specifications

Backdraft dampers meeting the following specifications shall be furnished and installed where shown on plans and/or as described in schedules.

Dampers shall consist of: heavy gauge 6063T5 extruded aluminum channel frame (0.125 in.[3.2mm] thick) with 3 1/8 in. (79mm) depth; blades from 0.070 in.(1.8mm) 6063T5 extruded aluminum; synthetic acetal axle bearings; damper shall be equipped with extruded vinyl blade seals; and internal 1/8 in. (3mm) plated steel

blade-to-blade linkage. Damper manufacturer's printed application and performance data including pressure, velocity and temperature limitations shall be submitted for approval showing damper suitable for pressures to 10 in. wg (2.5 kPa), velocities to 3500 fpm (18 m/s) and temperatures to 180°F (82°C). Testing and ratings to be in accordance with AMCA Standard 500-D.

Basis of design is model EM-40.