HBS-330
Heavy Blast Suppressor Damper

Application
Model HBS-330 is a heavy duty double flanged channel frame style damper with double thickness fabricated airfoil blades. The blast damper is design to protect against rapid pressure changes due to an explosion. Qualified to pressures as high as 5.77 psi covers many applications in Unified Facilities Criteria (UFC) and General Services Administration (GSA) codes and standards, including Charge Weight II at 82 feet.

Ratings
Incident Pressure*

1 - 5.77 psi (28-160 in. wg)
(7 - 40 kPa) blast load
Consult factory for lower pressures.
* Reflective pressure rating is approximately 2x incident pressure

Velocity

Up to 4000 fpm (20.3 m/s)

Temperature

-40°F to 250°F (-40° to 121°C)

Code	Blast Loading
GSA- Level C	4 psi @ 28 psi-msec
UFC 4-010-01 (charge weight I at 148 ft)	4.76 psi @ 41.1 psi-msec
UFC 4-010-01 (charge weight II at 82 ft)	5.77 psi @ 29.69 psi-msec

1. Charge weight I = large mass explosion as would be found in a vehicle bomb - specific explosive weights are for US Government "For official use only" clearance personnel.
2. Charge weight II = medium size mass explosions as would be found in a briefcase or backpack bomb - specifice weights are for US Government "For offical use only" clearance personnel.

Size Limitations

W x H	Minimum Size	Maximum Size	
		Single Section	Two Sections*
Inches	6 x 6	36 x 96	77 x 96
mm	152 x 152	914 x 2438	1956 x 2438
* Includes 5 in. (127mm) vertical mullion with removable cover plate			

* Actual inside dimension.

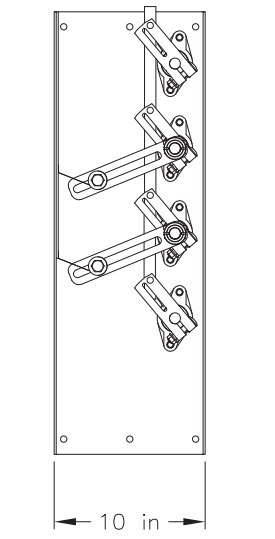
** The Width dimension is ALWAYS parallel with the damper blade length.

Options Available:
- Bolt holes in flanges

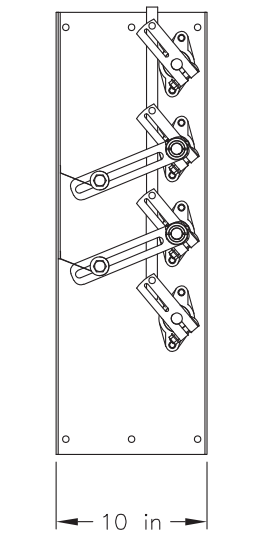
Construction

Construction	Standard	Optional
Frame Material	Galvanized steel	304SS, 316SS
Frame Material Thickness	10 ga. (3.5mm)	-
Frame Type	Flanged Channel	-
Frame Depth	10 in. (254mm)	
Blade Material	Galvanized steel	304SS, 316SS
Blade Type	Airfoil	-
Blade Thickness	16 ga. (1.6mm)	-
Axle Diameter	3/4 in. (19mm)	-
Axle Material	Plated steel	303SS, 316SS
Axle Bearings	External ball	-
Blade Seal	None	EPDM, Silicone
Linkage Material	Plated steel	304SS, 316SS
Flange Width	2 in. (51mm)	-
Springs	301SS	-
Spring Location	Right	Left, Both Sides
Finish	None	Hi Pro Polyester, Industrial Epoxy
Air Flow	Horizontal	Vertical Up, Vertical Down
Blast Direction	With Air Flow	Opposite Air Flow
Mounting Holes	None	Standard, Standard w/Corner Holes

Blast Direction



With Airflow



Opposite Airflow

Note: Spring Location is determined from the perspective of viewing the damper with the blast coming towards you/facing the blast.

Performance

Pressure Drop Data

This pressure drop data was conducted in accordance with AMCA Standard 500 using the three configurations shown. All data has been corrected to represent standard air at a density of 0.075 lb/ft^3 (1.2 kg/m^3) .

Actual pressure drop found in any HVAC system is a combination of many factors. This pressure drop information along with an analysis of other system influences should be used to estimate actual pressure losses for a damper installed in a given HVAC system.

AMCA Test Figures

Figure 5.3 Illustrates a fully ducted damper. This configuration has the lowest pressure drop of the three test configurations because entrance and exit losses are minimized by straight duct runs upstream and downstream of the damper.

Figure 5.2 Illustrates a ducted damper exhausting air into an open area. This configuration has a lower pressure drop than Figure 5.5 because the entrance losses are minimized by a straight duct run upstream of the damper.

Figure 5.5 Illustrates a plenum mounted damper. This configuration has the highest pressure drop because of the high entrance and exit losses due to the sudden changes of area in the system.

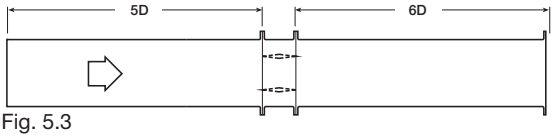


Fig. 5.3

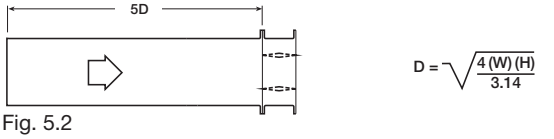


Fig. 5.2

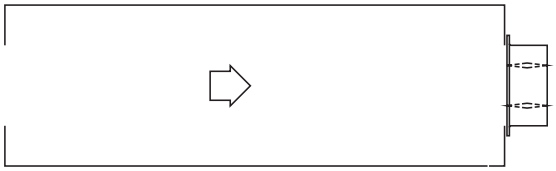
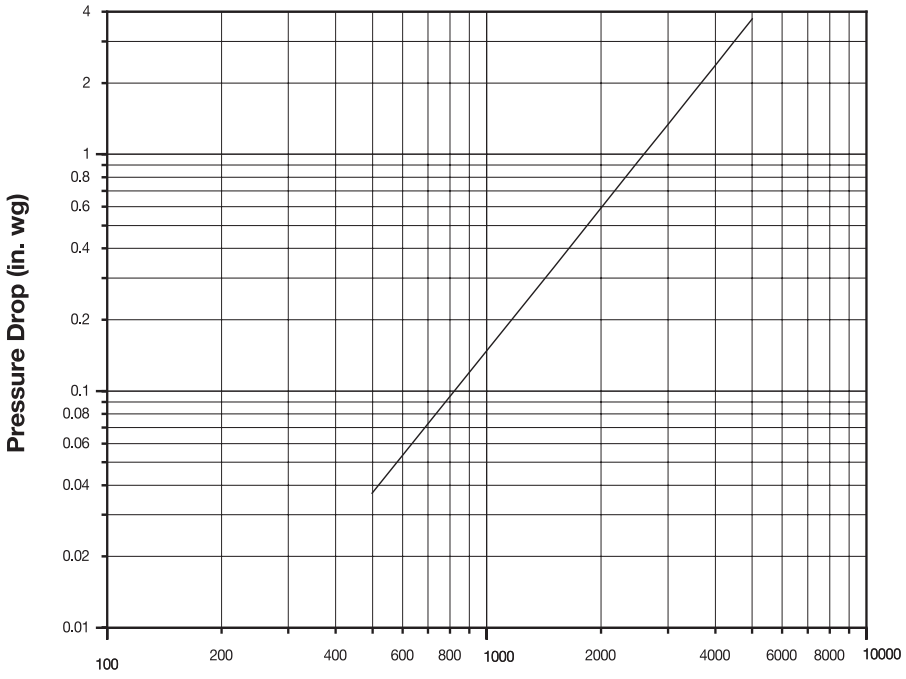


Fig. 5.5 AMCA Test Figures

Pressure Drop

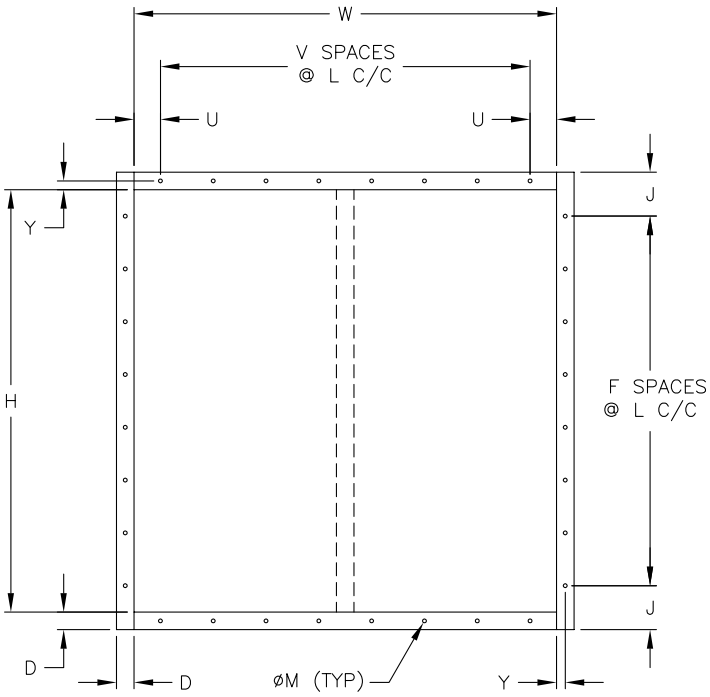
36 in. x 36 in. Damper (914mm x 914mm)



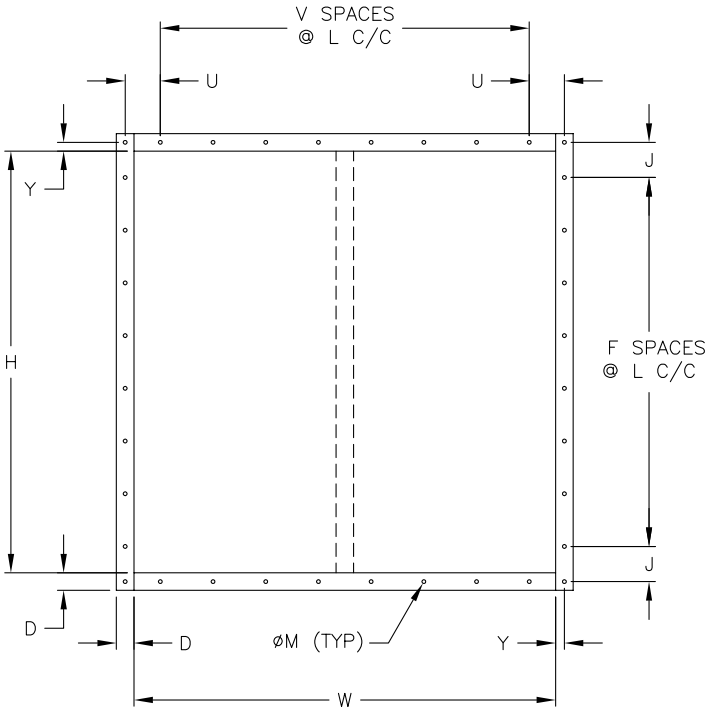
AMCA Fig. 5.5

Mounting Holes

Mounting holes are available as an option. The standard pattern is 7⁄16 in. (11mm) diameter holes (M dimension) spaced 6 in. (152mm) on center (L dimension). Custom bolt hole patterns are available. Contact factory for the limitations.



Standard Mounting Hole Pattern
Typical for single or double wide panel



Standard Mounting Hole Pattern with Corner Holes
Typical for single or double wide panel

Document Links

INSTALLATION

CATALOG

SELECTION GUIDE

DAMPER SELECTION GUIDE

SPECIFICATIONS

WARRANTY

GREENHECK
P.O. Box 410 • Schofield, WI 54476-0410 • 715.359.6171 • greenheck.com

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