

**INDUSTRIAL  
 BACKDRAFT DAMPER**

**Application and Design**

The **ICB-800** Series is a heavy duty flanged frame style industrial backdraft damper. It is designed to control backflow and provide shut off in HVAC or industrial process control systems. A variety of optional features (see page 3), makes Model **ICB-800** extremely versatile, allowing its capabilities to be tailored to the application.

**Ratings:**

- Pressure:** 5 to 8-1/2 in. w.g. - differential pressure
- Velocity:** 4000 fpm
- Temperature:** 180° F

**Standard Construction:**

- Frame:** 2" x 8" 14 Ga. Galvanized Steel Channel
- Blade:** 6060T5 Extruded Aluminum .125 thickness
- Linkage:** Zinc plated concealed
- Axles:** 1/2" diameter cast zinc
- Blade Seals:** PVC (180°F)
- Bearings:** Stainless Steel sleeve type

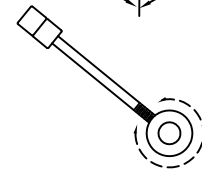
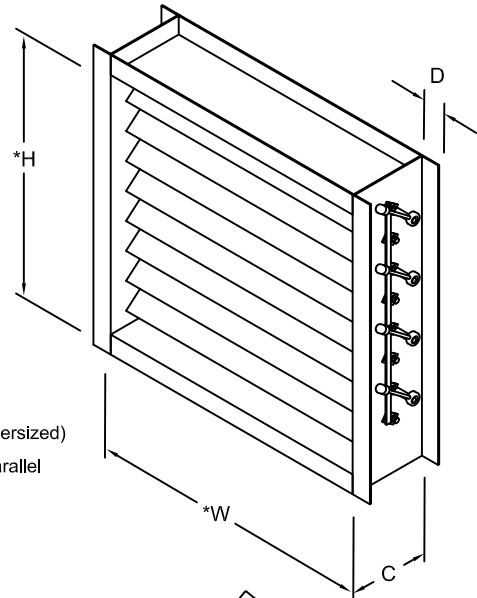
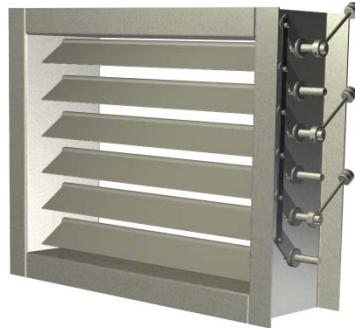
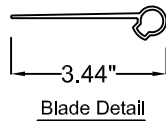
**Size Limitations:**

- Minimum Size:** Single blade- 6" w x 5" h  
 Multiple blades- 6" w x 9" h
- Maximum Single Section:** 48" w x 48" h
- Maximum Double Section:** 96" w x 96" h

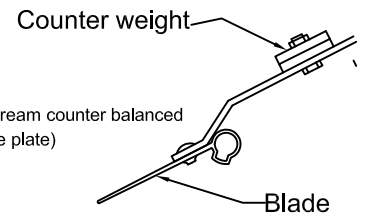
**Options and Accessories:**

- All Aluminum Construction (linkage epoxy coated)
- All #304 Stainless Steel Construction
- All #316 Stainless Steel Construction
- Pressed Ball Bearings
- Heavy Duty Ball Bearings (2 hole flange)
- 12 Ga. Galvanized Frame
- 10 Ga. Galvanized Frame
- Bolt Holes (both sides)
- 450°F Silicone Blade Seals

\*Actual Inside Dimensions (not undersized)  
 \*\* The W dimension is ALWAYS parallel with the damper blade length.



Precision Counter Balanced; both by rotation in hub or slide weight up or down the rod in addition to removal or adding weights.



Optional: In airstream counter balanced (no side plate)

Quantity	'W' Width	'H' Height	Frame Depth 'C' (8" std.)	Flange Width 'D' (2" std.)	Bolt Hole Information (see page 3)							
					J	F	L Spacing	M Diameter	U	V	Y	

Job Name:	<input type="checkbox"/> <b>MODEL ICB-800 (4000 FPM)</b>		
Location:			
Architect:	DRAWN BY:	DATE:	REV. DATE:
Engineer:	CLJ	12-03-99	1-18-11
Contractor:	REV. NO.	APPROVED BY:	DWG. NO.:
	18	BGT	<b>F-14</b>

# MODEL ICB-800 PERFORMANCE DATA

## Pressure Limitations:

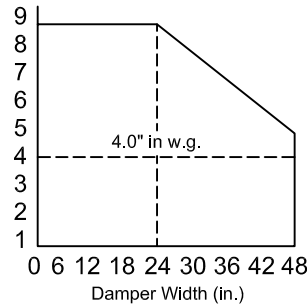
The chart at the right shows conservative pressure limitations based on a maximum blade deflection of  $w/360$ .

## Temperature Limitations:

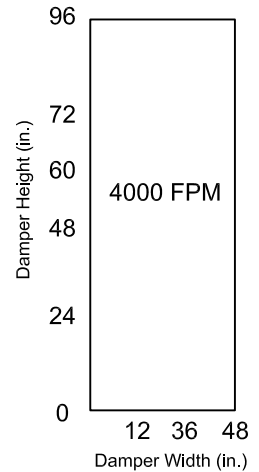
Blade seals: PVC  $-40^{\circ}$  to  $+180^{\circ}$ F  
(for higher temperatures, consult United Enertech)

## Velocity Limitations:

The chart at the far right shows conservative velocity limitations.



**Pressure Limitations**



**Velocity Limitations**

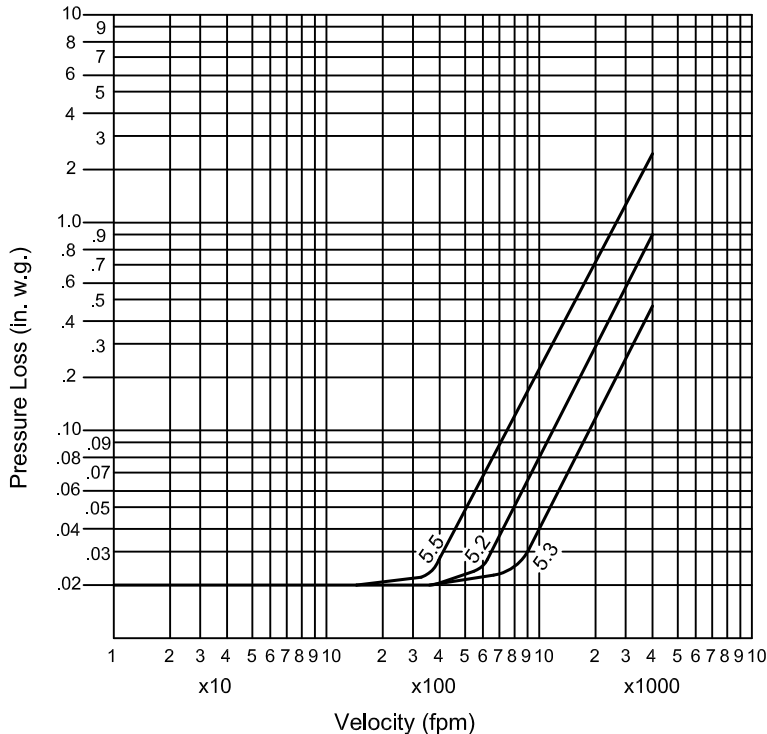
## Pressure Drop Data:

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. (bottom left)

## Leakage Data:

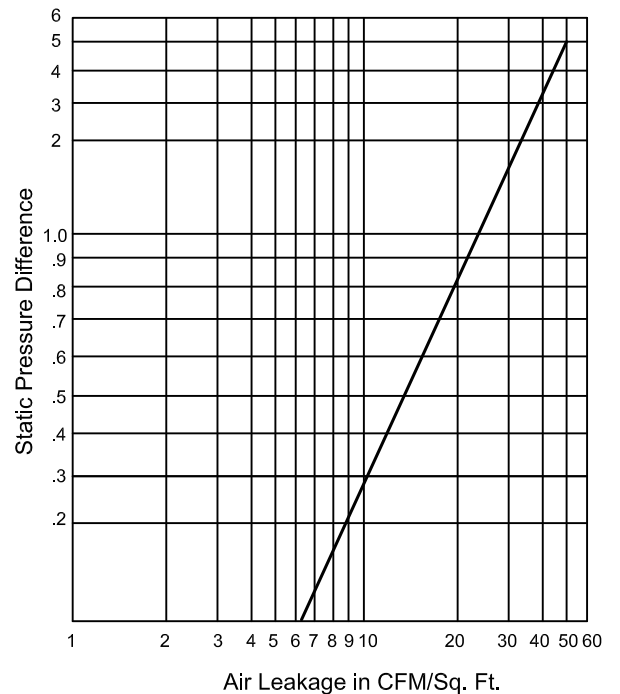
Damper leakage (with blades fully closed) varies based on the type of low leakage seals applied.

**Pressure Drop  
36" x 36" Damper**



5.5, 5.2, & 5.3 AMCA Set-ups

**Leakage  
36" x 36" Damper**

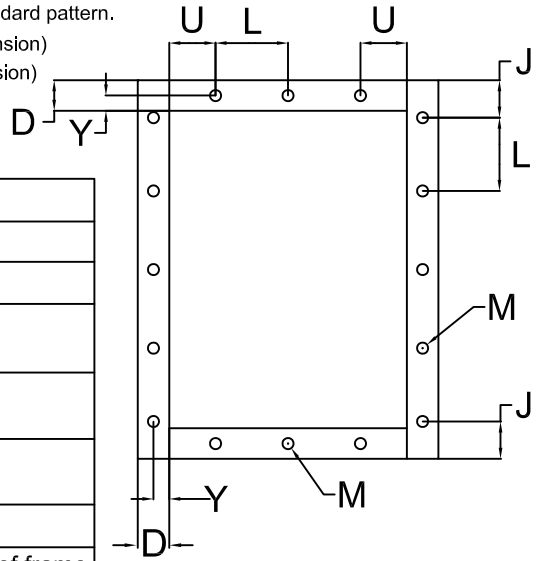


# FRAME CONSTRUCTION OPTIONS

Flange (D Dim): Standard- 2" [50.8mm] Bolt holes: (Standard does not include bolt holes)  
 Optional- 1-1/2"- 4" [38.1-101.6mm] Optional- United Energetech recommended standard pattern.  
 7/16" [11.11mm] dia. holes (M dimension)  
 Spaced 6" [152.4mm] C-C (L dimension)

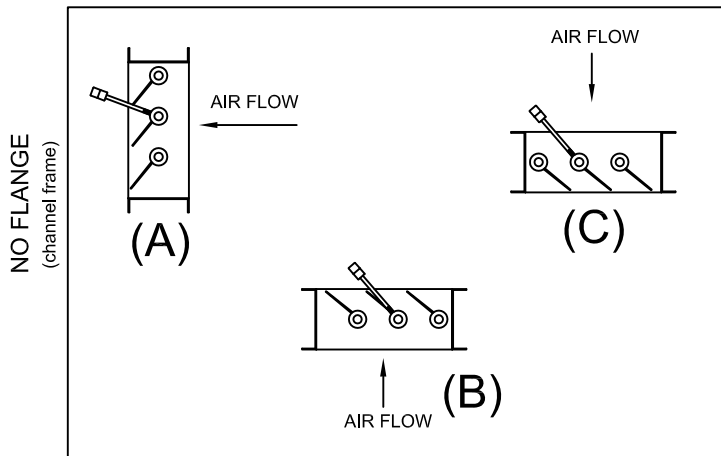
Web (C Dim): Standard- 10" [254mm] Optional- Customer may specify within limits shown in table below.

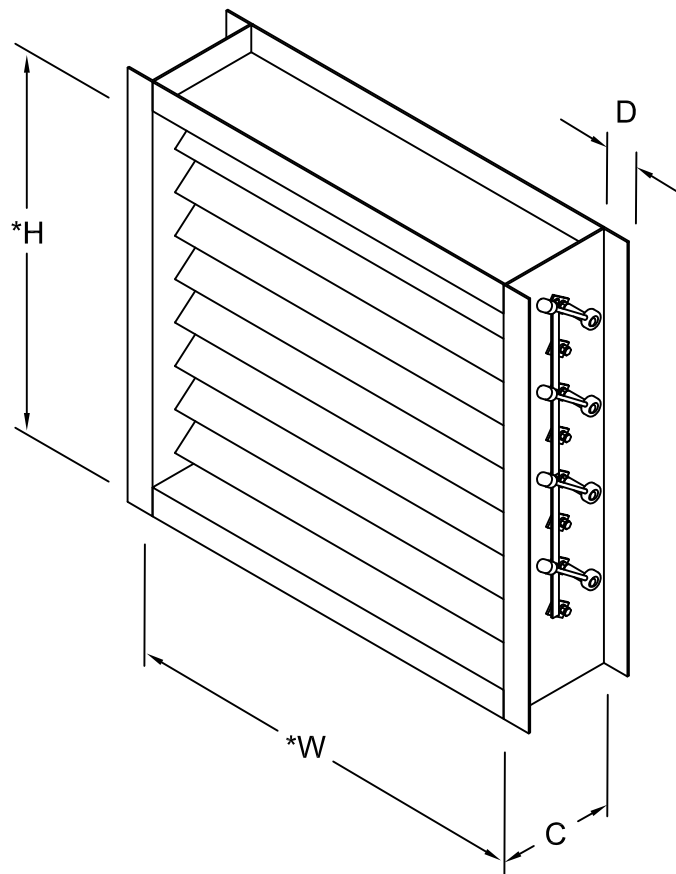
Dim.	Standard (Min./Max)	Description
J	(D/2 min.)	First/Last Space in Jamb
F	(1 min.)	No. of holes in Jamb
L	6" (2"/12") [152.4] [50.8/304.8]	Hole Spacing
M	7/16" (1/4"/11/16") [11.11] [6.35/279.4/406.4]	Mounting hole Diameter
U	(3/4" min.) [19.05]	First/Last Space in Head/Sill
V	(1 min.)	No. of holes in Head/Sill
Y	D/2M (3/4"/D-3/4") [19.05]	Centerline of bolt hole from inside edge of frame



## ICB-800 AIR FLOW ARRANGEMENTS

Standard counter weights at jamb  
 (assist to close)





**SPECIFICATIONS:**

Industrial grade control dampers meeting the following specifications shall be furnished and installed where shown on plans and/or as described in schedules. Dampers shall consist of: a 14 ga. galvanized steel channel frame with 8" minimum depth and 2" flanges; .125" thick extruded aluminum blades, 1/2" cast aluminum axles turning in stainless steel sleeve bearings; and external (out of the airstream). Damper manufacturer's printed application and performance data including pressures to 8-1/2" w.g. velocities to 5000 fpm and temperatures to 180°F. Basis of design is United Enertech Model ICB-800.

