

**Application and Design**

The **ICB-900** 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-900** extremely versatile, allowing its capabilities to be tailored to the application.

**Ratings:**

- Pressure:** 4 to 8-1/2 in. w.g. - differential pressure
- Velocity:** 5000 fpm
- Temperature:** 180° F [82.2° C]

**Standard Construction:**

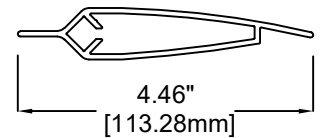
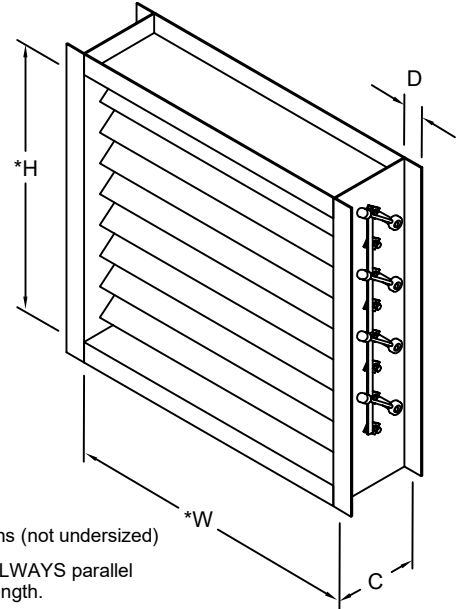
- Frame:** 2" x 8" [50.8 x 203.2mm] 14 Ga. Galvanized Steel Channel
- Blade:** 6060T5 Extruded Aluminum hollow airfoil blade with .375" [9.525mm] thick end nose
- Linkage:** Zinc plated concealed
- Axles:** 1/2" [12.7mm] diameter cast zinc
- Blade Seals:** EPDM (250°F)
- Bearings:** Stainless Steel sleeve type
- Finish:** Mill Galvanized with high temp. paint touch up

**Size Limitations:**

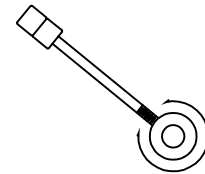
- Minimum Size:** Single blade- 6" w x 5" h [152.4 x 127]  
Multiple blades- 6" w x 9" h [152.4 x 228.6]
- Maximum Single Section:** 48" w x 48" h [1219.2 x 1219.2]
- Maximum Double Section:** 96" w x 96" h [2438.4 x 2438.4]

**Options and Accessories:**

- All Aluminum Construction (linkage epoxy coated steel)
- 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



Blade Detail



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

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-900 (5000 FPM)</b>		
Location:			
Architect:	DRAWN BY:	DATE:	REV. DATE:
Engineer:	CLJ	12-03-99	6-24-2020
Contractor:	REV. NO.	APPROVED BY:	DWG. NO.:
	19	BGT	<b>F-18</b>

# MODEL ICB-900 PERFORMANCE DATA

## Pressure Limitations:

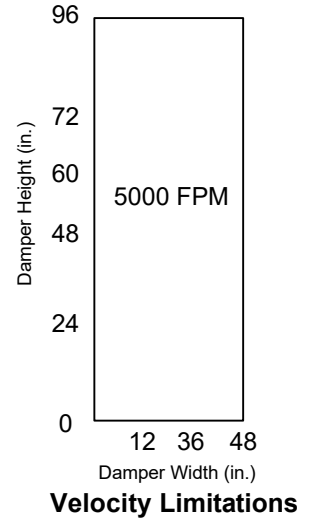
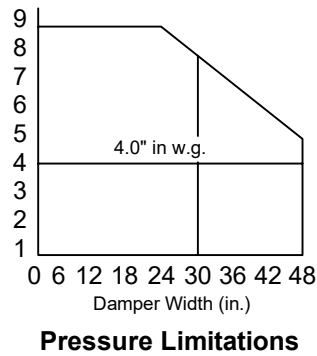
The chart at the right shows conservative pressure limitations based on a maximum blade deflection of  $w/360$ .

## 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.



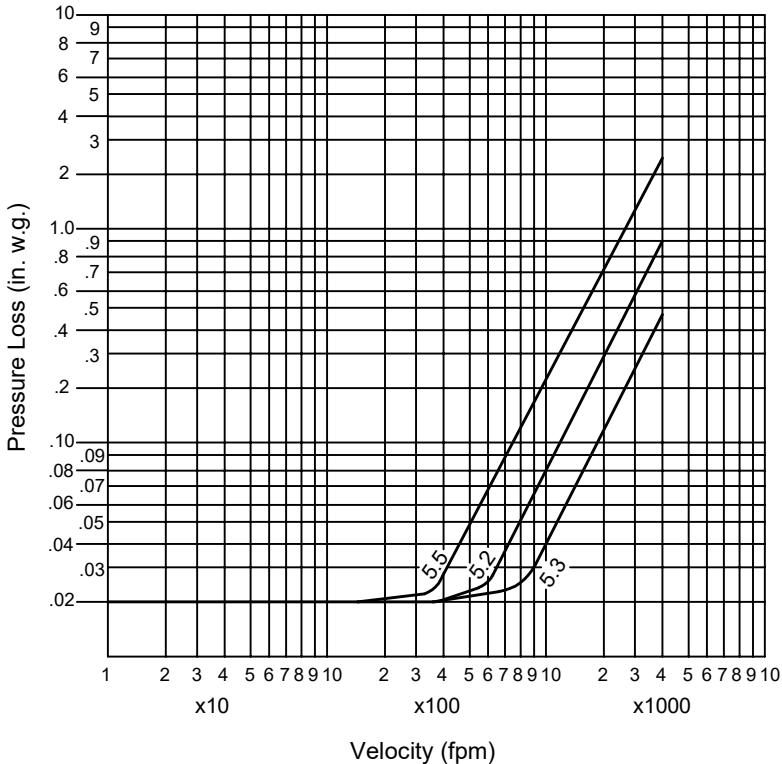
## Pressure Drop Data:

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:

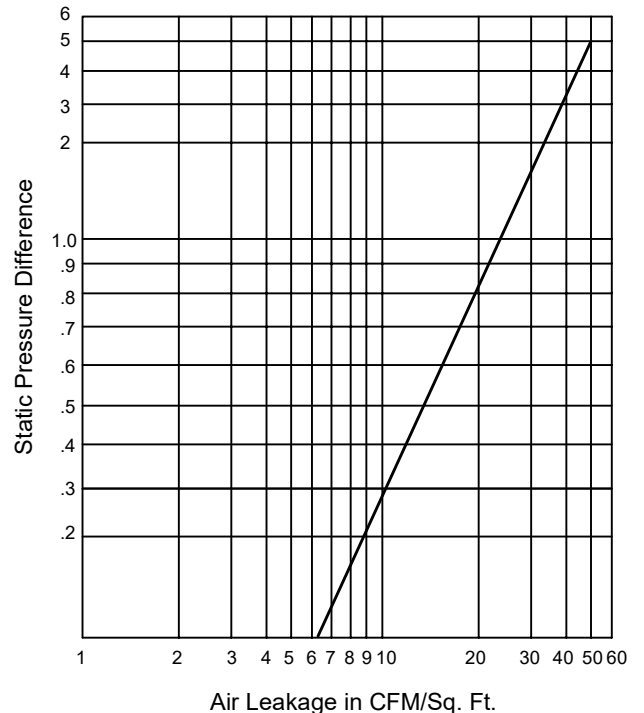
Damper leakage (with blades fully closed) varies based on the type of low leakage seals applied.

**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]

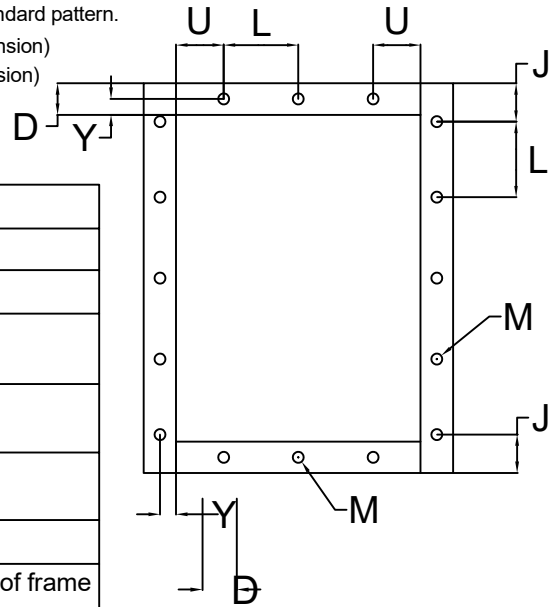
Optional- United Enertech recommended standard pattern.

7/16" [11.11mm] dia. holes (M dimension)  
Spaced 6" [152.4mm] C-C (L dimension)

Web (C Dim): Standard- 10" [254mm]

Optional- 8" - 12"  
[203.2-304.8mm]

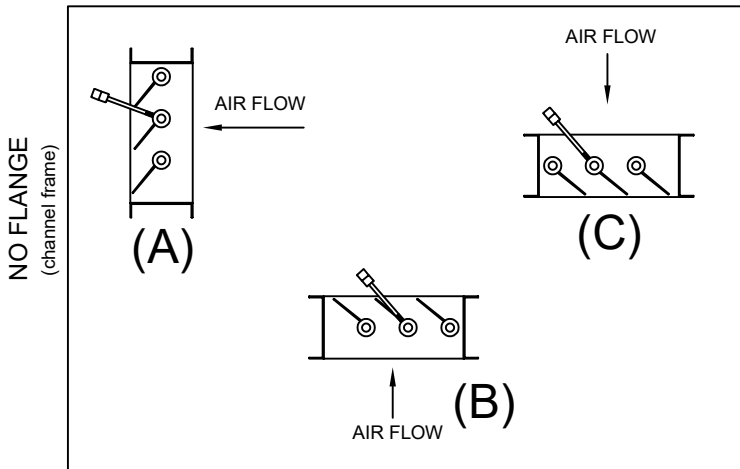
Optional- Customer may specify within  
limits shown in table below.



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-900 AIR FLOW ARRANGEMENTS

Standard counter weights at jamb  
(assist to close)



### DISCLAIMER:

When used in fan discharge applications, the damper should be installed at LEAST  $\frac{1}{2}$  the fan diameter away from the fan to mitigate premature product wear. Consult the factory for custom options to accommodate for damper installation within the suggested fan proximity.