

MODEL 850

Backdraft Damper • 4" Deep • "Tear Drop" Blade • Horizontal or Vertical • Extruded Aluminum • 190°F Max Temp.

Standard Materials and Construction

- FRAME:** .080 thick (nominal) extruded aluminum, 6063-T52/T6 alloy, with reinforced bosses and groove inserts for seals. Standard frame sizes are 1" x 4" x 1" or 2" x 4" x 2".
- BLADES:** .080" thick (nominal) extruded aluminum, 6063-T52/T6 alloy, teardrop shape. Groove inserts at blade edges for extruded silicone rubber seals. Blades are approximately 6" on centers.
- AXLES:** 1/2" dia. extruded aluminum pin-lock design, positively locked to blade, placed off-center.
- SEALS:** Extruded silicone rubber off-set leg at blade edges. None at jambs.
- LINKAGE:** Standard is face linkage on the blades, plated steel.
- BEARINGS:** Celcon bearing material, so that there will be no metal-to-metal friction.
- FINISH:** Mill.
- TEMP. LIMITS:** -40°F to 190°F.
- COUNTERWEIGHTS:** Adjustable for a full range of opening pressures.

Options

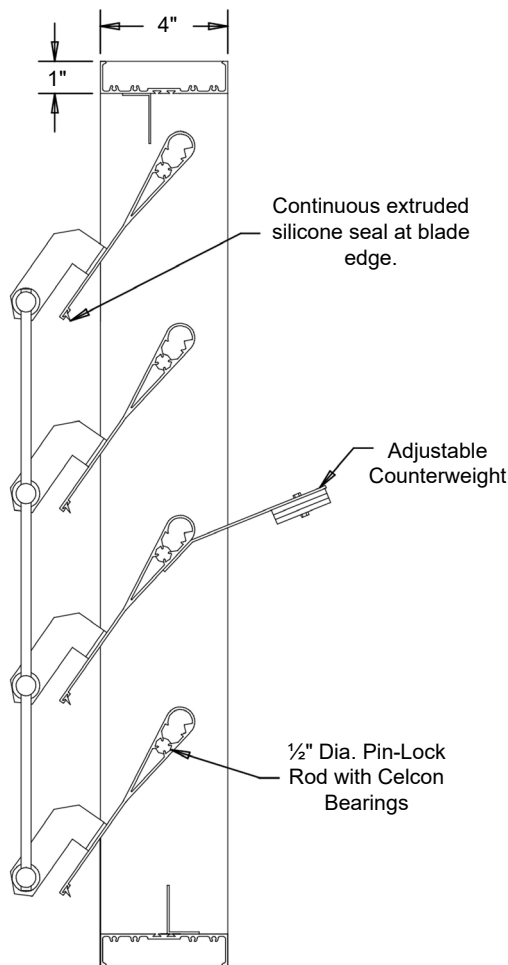
- Finishes: Enamels, epoxies, etc.
- Frames: Aluminum - (Channel) 1 5/8" x 6 1/2" x 1 5/8"
(Flanged) 2" x 4" x 2"
Steel - Channel or Flanged
- Bearings: Oilite bronze or ball bearings
- Jamb Seals: Polyurethane, neoprene, extruded silicone

Notes

1. 1/4" nominal deduction will be made to the opening size given.
2. For counterweights, please specify airflow direction (horizontal, vertical up, or vertical down) and whether to the counterweight should assist or resist the damper opening.
3. Approximate shipping weight is 6.0 lbs./sq.ft.

Damper Sizes

Min Panel	Max Single Panel
10"W x 10"H	48"W x 96"H



Item #	Qty	Width	Height	Width	Height	Mullion	Counter Balance		Air Flow (Direction)		Union Made
		Opening Size		Damper Size							
Arch. / Eng.:						EDR:	ECN:	Job:			
Contractor:											
Project:						Date:	DWN:	DWG:			



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Pressure Drop Data

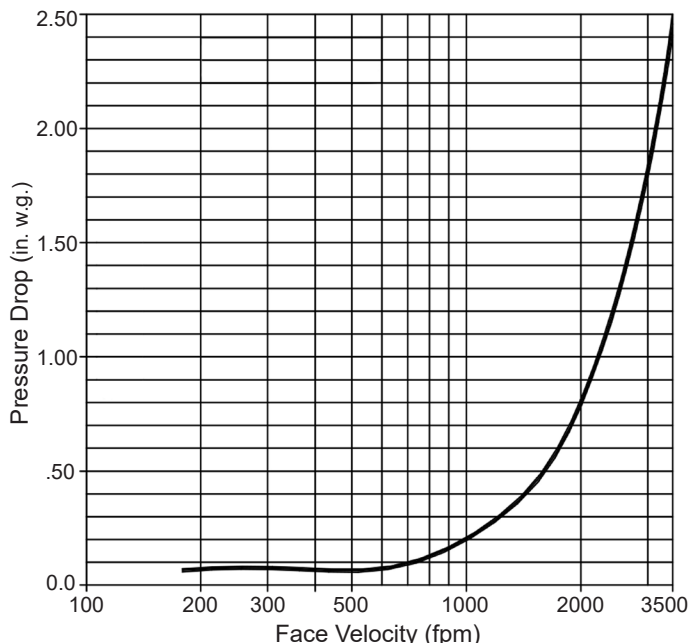
Velocity vs. Pressure Drop

Without Ductwork

Damper installed per AMCA Standard 500, Figure 5.4.
(Face mounted to a plenum)

Pressure is correct to .075 lb./cu.ft. air density.

Operational Pressures
Start to Open .03 in. w.g.
Fully Open .39 in. w.g.

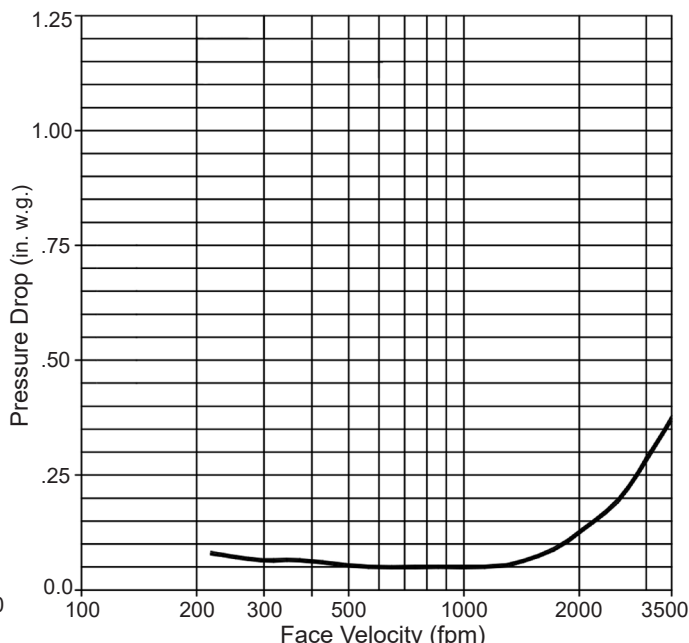


With Ductwork

Damper installed per AMCA Standard 500, Figure 5.3.
(Ductwork installed upstream and downstream of damper.)

Pressure is correct to .075 lb./cu.ft. air density.

Operational Pressures
Start to Open .05 in. w.g.
Fully Open .12 in. w.g.



Typical performance for Model 850 backdraft damper size tested 42"W x 42"H, furnished with counterweight to assist opening.

Air Leakage Data

Air leakage quantities shown in the chart are results of tests per AMCA Standard 500 and are shown at 1 in. w.g. differential pressure and corrected to .075 lb./cu.ft. air density. For determining leakage values greater than 1 in. w.g. to a maximum 8 in. w.g. use the multiplier correction chart.

Total CFM Air Leakage at 1 in.w.g. Differential Through Closed Damper

		Width (in.)						
		12"	18"	24"	30"	36"	42"	48"
Height (in.)	12"	8	12	16	20	24	28	32
	24"	16	24	32	40	48	56	64
	36"	24	36	48	60	72	84	96
	48"	32	48	64	80	96	112	128
	60"	40	60	80	100	120	140	160
	72"	48	72	96	120	144	168	192
	84"	56	84	112	140	168	196	224
	96"	64	96	128	160	192	224	256

Use the multiplier correction chart below for determining leakage values greater than 1 in. w.g. to a maximum 8 in. w.g.

Static Pressure	2	3	4	5	6*	7	8
Multiplier Correction Factor	1.5	2.0	1.7	2.9	3.2	3.5	3.8

* Maximum panel size limit is 48" x 96". For static pressure limits greater than 6 in. w.g. to 8 in. w.g. differential, maximum panel size limit is 36" x 96".

Air leakage ratings are based on AMCA Standard 500 using test set up Figure 5.4 with damper in the closed position without the aid of a counterweight or other mechanical means to provide closing torque, for a size 42"W x 42"H damper with blade and jamb seals.

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