

- COUNTERBALANCED BACKDRAFT DAMPER
- EXTRUDED ALUMINUM BLADES
- STEEL FRAME
- HIGH PERFORMANCE
- HEAVY DUTY

MODEL: 1390CB



Model 1390CB

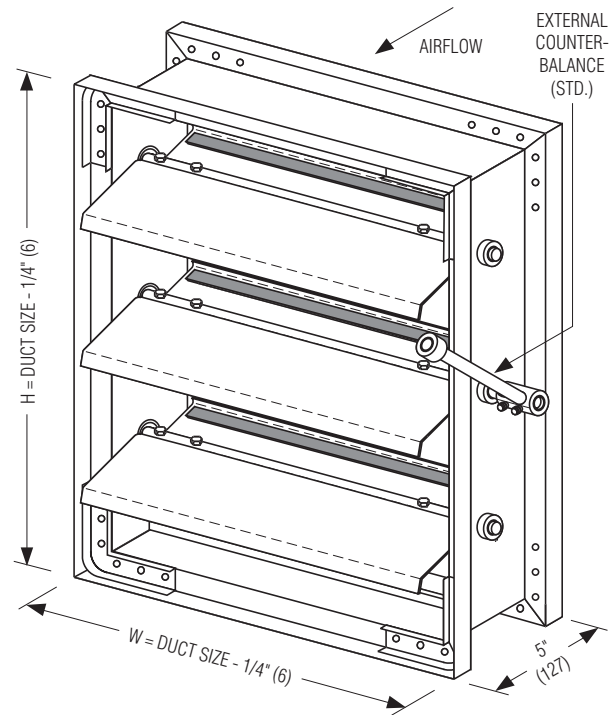
**B**

**BACKDRAFT DAMPERS**

Model 1390CB is a counterbalanced backdraft damper designed for pressure relief to automatically assist in maintaining and limiting desired pressures in medium to heavy duty commercial and light duty industrial HVAC or process air systems. The unique extruded aluminum blade design and fully adjustable counterbalance assembly offer pressure relief at extremely low pressure differentials. The rugged steel mitered corner frame is reinforced to resist racking, and ball bearings provide extreme sensitivity and ultra-smooth operation. Neoprene blade seals provide quiet closure as well as extra weather protection.

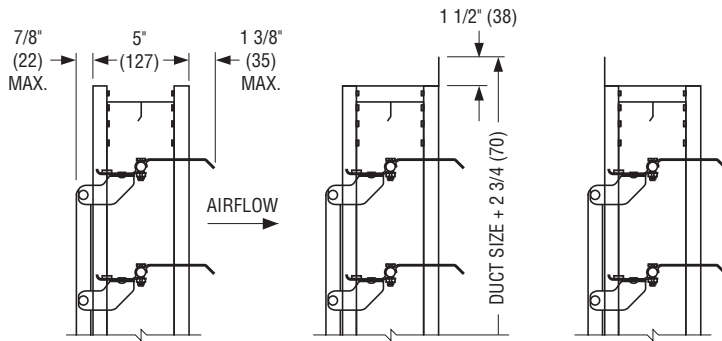
**STANDARD CONSTRUCTION:**

- FRAME:** 5" x 7/8" x 16 ga. (127 x 22 x 1.6) galvanized steel hat channel with die-formed corner gussets. Low profile (flat top and bottom) for 10" (254) high and under.
- BLADES:** .070" (1.8) nominal wall thickness Type 6063-T5 extruded aluminum on 5 1/2" (140) centers.
- LINKAGE:** Non-adjustable, face mounted on rear of blades. Plated steel.
- AXLES:** 1/2" (13) dia. plated steel.
- BEARINGS:** Ball bearing type, pressed into frame.
- BLADE SEALS:** Neoprene.
- FINISH:** Mill.
- COUNTER-BALANCE:** CBE Adjustable, externally mounted (standard). Counter-balance assembly may be rotated through 360° to assist opening or closure.
- MINIMUM SIZE:** 6" x 10" (152 x 254).
- MAXIMUM SIZE:** Single section: 48" x 60" (1219 x 1524). Multiple section: 96" (2413) wide x unlimited height.
- MAXIMUM TEMPERATURE:** 200°F (93°C).
- MAXIMUM BACK PRESSURE:** 4 to 16 in. w.g. (see page B75).
- MAX. SYSTEM VELOCITY:** 2500 fpm (3500 fpm max. spot velocity).



**MODEL 1390CB**  
(VM Vertical Mount standard)

## FRAME OPTIONS:

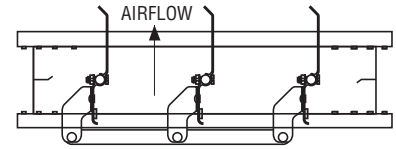


**Channel Frame  
(Duct Mount)  
(Standard CF)**

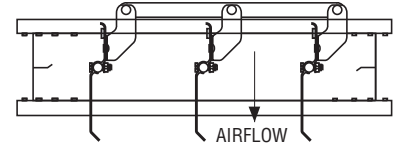
**Front Flange  
(on discharge side)  
(Option FF)**

**Rear Flange  
(on intake side)  
(Option FR)**

## MOUNTING OPTIONS:



**Horizontal Mount – Airflow up  
(Option HMU)**



**Horizontal Mount – Airflow down  
(Option HMD)**

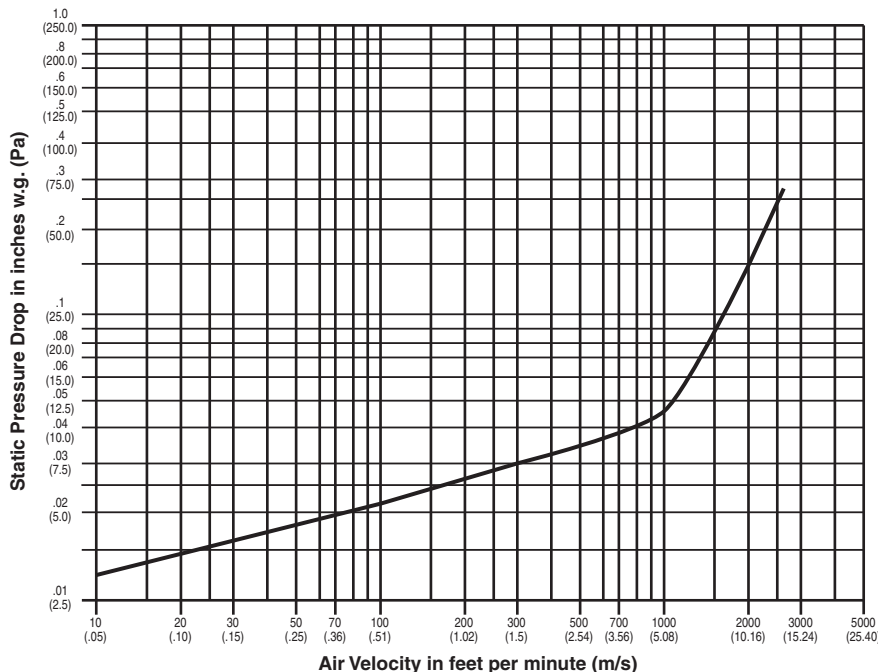
## PERFORMANCE LIMITATIONS AND LEAKAGE DATA:

Damper Width	Maximum Back Pressure	Maximum System Velocity	Operational Data		Leakage*	
			Blades Begin Opening	Blades Fully Open	% of Maximum Flow	CFM per Sq. Ft.
48" (1219)	4.0" w.g.	2500 fpm	.01" w.g. (2.5 Pa)	.06" w.g. (14.9 Pa)	0.76	19.0
36" (914)	8.0" w.g.	2500 fpm			0.88	22.0
24" (610)	12.0" w.g.	2500 fpm			1.04	26.0
12" (305)	16.0" w.g.	2500 fpm			1.72	43.0

Pressure and velocity limitations shown are guidelines for design purposes. Although ratings are on the conservative side, contact Nailor for requirements beyond limitations shown.

\*Leakage data is based upon a pressure differential of 1 in. w.g., tested in accordance with AMCA Standard 500-D.

## PRESSURE DROP: SIZE: 36" x 36" (914 x 914)



Tested per AMCA Standard 500-D using test set-up figure 5.3, ductwork upstream and downstream.

**MODEL: 1390CB**

**AVAILABLE OPTIONS:**

The following construction options are available on Model 1390CB.

	CODE	DESCRIPTION
<b>MOUNTING:</b>	VM	Vertical Mount (standard)
	HMU	Horizontal Mount – Airflow Up
	HMD	Horizontal Mount – Airflow Down
<b>FRAME:</b>	HC	Hat Channel (standard)
	FF/FFB	Front Flange/Front Flange with Bolt Holes
	FR/FRB	Rear Flange/Rear Flange with Bolt Holes
<b>COUNTERBALANCE:</b>	CBE	External Counterbalance (standard)
	CBI	Internal Counterbalance (in the airstream)

## HOW TO ORDER OR TO SPECIFY

**HOW TO ORDER:**

Standard construction is shown in highlighted box. Option codes are listed below. See above for description of options.

MODEL	SIZE (W X H)	MOUNTING	FRAME	COUNTERBALANCE
1390CB	i.e. 24 x 20	VM HMU HMD	HC FF FFB FR FRB	CBE CBI

BACKDRAFT DAMPERS

**MODEL 1390CB:**

**SUGGESTED SPECIFICATION:**

Provide and install, as shown on plans and/or schedules, heavy duty counterbalanced backdraft dampers meeting or exceeding the following criteria: Frame shall be constructed of 16 ga. (1.6) galvanized steel hat channel with mitered corners and die-formed corner gussets for rigidity. Blades shall be .070" (1.8) extruded aluminum on 5 1/2" (140) centers, with neoprene seals. Blade axles shall be 1/2" (13) dia. plated steel bolted to blades at each end. Bearings shall be ball bearing type, pressed into the frame. Blade linkage/tie bar shall be plated steel, non-adjustable, face mounted on rear of blades. Counterbalance shall be of plated steel, externally mounted (out of airstream) and shall be fully adjustable in the field to assist opening or closing. Standard of acceptance: Nailor Industries Model 1390CB.