

**MODEL 1380**  
**HIGH PERFORMANCE BACKDRAFT DAMPER**  
**EXTRUDED ALUMINUM • HEAVY DUTY**

Model 1380 is a high performance extruded aluminum gravity operated backdraft damper for use in medium to heavy duty commercial and light industrial HVAC applications to pass airflow in one direction and to prevent airflow in the opposite direction. Corrosion resistant extruded aluminum construction highlights the model's features which include a heavy duty frame with reinforced mitered corners that resist racking, aerodynamic blades that overlap the jambs for maximum weather protection, extruded PVC blade seals that provide quiet closure as well as extra weather protection, corrosion resistant long life synthetic bearings and a concealed blade linkage for low pressure drop that provides smooth operation at system velocities of up to 2500 fpm (12.7 m/s).



Model 1380



Model 1370CB

**MODEL 1370CB**  
**COUNTERBALANCED BACKDRAFT DAMPER**  
**EXTRUDED ALUMINUM • LIGHT/MEDIUM DUTY**

Model 1370CB Counterbalanced Backdraft Damper is designed to automatically prevent the backflow of air while allowing for automatic air intake or exhaust/pressure relief in medium duty HVAC applications. Standard features include a corrosion resistant extruded aluminum reinforced mitered corner frame that resists racking, aerodynamic extruded aluminum blades that overlap the jambs for maximum weather protection, extruded PVC blade seals that provide quiet closure as well as extra weather protection, corrosion resistant long life synthetic bearings and a concealed blade linkage for low pressure drop that provides smooth operation at system velocities of up to 1500 fpm (7.6 m/s). Blade mounted counterweights are easily adjusted to desired opening pressure.

**MODEL 1380CB**  
**HIGH PERFORMANCE COUNTERBALANCED BACKDRAFT**  
**DAMPER • EXTRUDED ALUMINUM • HEAVY DUTY**

Model 1380CB High Performance Counterbalanced Backdraft Damper is engineered and designed to automatically prevent the backflow of air while allowing for automatic air intake or exhaust/pressure relief in medium to heavy duty commercial and light duty industrial HVAC applications. Corrosion resistant extruded aluminum construction highlights the model's features which include a heavy duty frame with reinforced mitered corners that resist racking, aerodynamic blades that overlap the jambs for maximum weather protection, extruded PVC blade seals that provide quiet closure as well as extra weather protection, corrosion resistant long life synthetic bearings and an out of sight rear mounted blade linkage for that provides smooth operation at system velocities of up to 2500 fpm (12.7 m/s). Blade mounted counterweights are easily adjusted to desired opening pressure.



Model 1380CB



Model 1390CB

**MODEL 1390CB**  
**HIGH PERFORMANCE COUNTERBALANCED BACKDRAFT**  
**DAMPER • STEEL FRAME • HEAVY DUTY**

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.

- COUNTERBALANCED BACKDRAFT DAMPER
- EXTRUDED ALUMINUM
- STANDARD PERFORMANCE
- LIGHT/MEDIUM DUTY

B

BACKDRAFT DAMPERS

**Model:**  
**1370CB Counterbalanced Backdraft Damper**



Model 1370CB

Model 1370CB Counterbalanced Backdraft Damper is designed to automatically prevent the backflow of air while allowing for automatic air intake or exhaust/pressure relief in medium duty HVAC applications. Suitable for use in fan discharge applications and relief air applications in exterior walls where in excellent weather protection is required.

Standard features include a corrosion resistant extruded aluminum reinforced mitered corner frame that resists racking, aerodynamic extruded aluminum blades that overlap the jambs for maximum weather protection, extruded PVC blade seals that provide quiet closure as well as additional weather protection, corrosion resistant long life synthetic bearings and a concealed blade linkage located out of the airstream for low pressure drop that provides smooth operation at system velocities of up to 1500 fpm (7.6 m/s). Blade mounted steel counterweights are easily adjusted to desired opening pressure. A variety of frame types and mounting options are available to suit specific installations and applications.

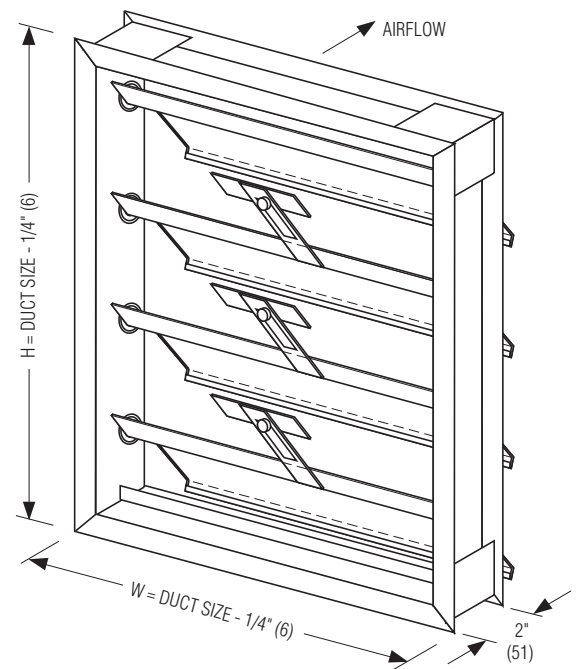
**STANDARD CONSTRUCTION:**

- Frame:** 2" (51) wide x .090" (2.3) nominal wall thickness type 6063-T5 extruded aluminum. Corners are mitered.
- Blades:** .050" (1.3) nominal wall thickness type 6063-T5 extruded aluminum on 3 5/8" (92) centers.
- Linkage:** Concealed in jamb.
- Bearings:** Synthetic type.
- Blade Seals:** Extruded PVC.
- Counterbalance:** Adjustable, plated steel weights mounted internally (in the airstream).
- Finish:** Mill.

**Model 1370CB Sizes (Duct W x H):**

Minimum	Maximum	
	Single Section	Multiple Section
6" x 7" (152 x 178)	40" x 48" (1016 x 1219)	Unlimited

1370CB Series - Maximum Performance Ratings	
Maximum System Velocity	1500 fpm (7.6 m/s)
Maximum Spot Velocity	2500 fpm (12.7 m/s)
Maximum Back Pressure	6 in. w.g. (1.5 kPa)
Maximum Temperature	200°F (93°C)

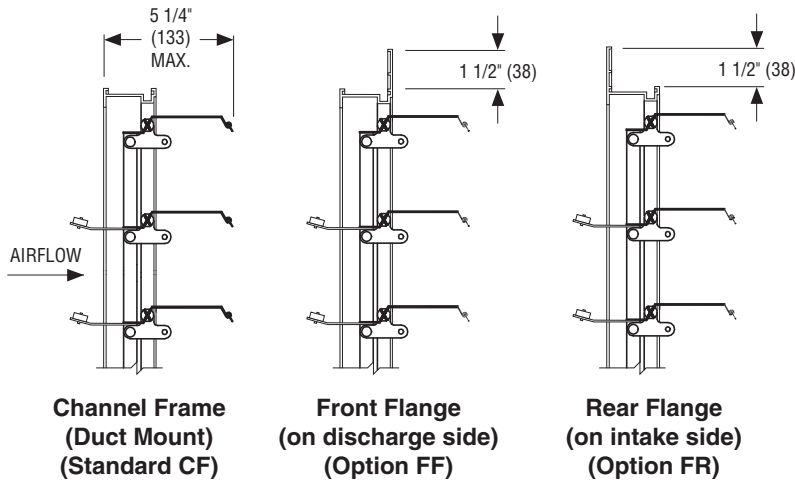


MODEL 1370CB

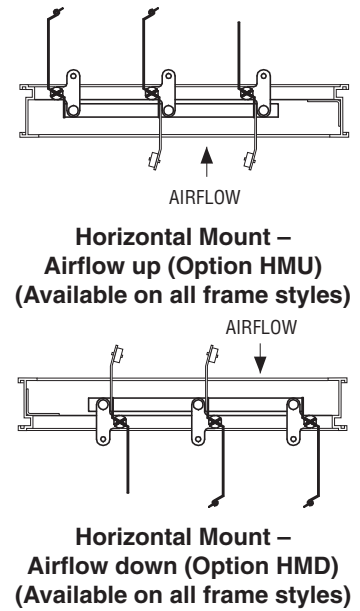
**COMMON OPTIONS:**

- Vertical or Horizontal mount.
- Front or rear flange frame (with or without bolt holes).

## FRAME OPTIONS:



## MOUNTING OPTIONS:



**B**  
**BACKDRAFT DAMPERS**

## PERFORMANCE DATA: MODEL: 1370CB

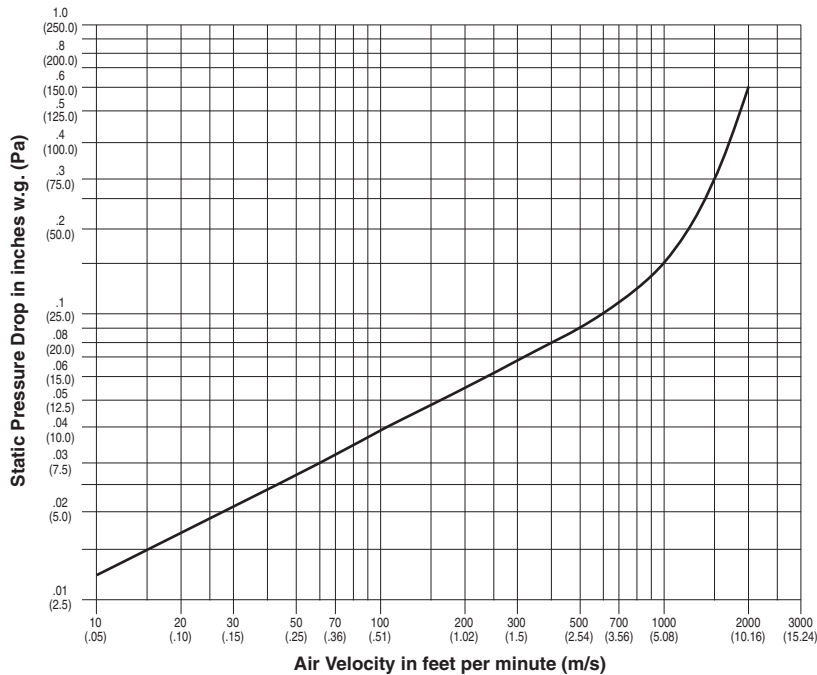
Damper Width	Maximum Back Pressure	Maximum System Velocity	Operational Data		Leakage*	
			Blades Begin Opening	Blades Fully Open	% of Maximum Flow	Cfm per Sq. Ft.
40" (1016)	3.0" w.g.	1500 fpm	.01" w.g. (2 Pa)	.10" w.g. (25 Pa)	1.00	15
36" (914)	4.0" w.g.	1500 fpm			1.00	15
24" (610)	5.0" w.g.	1500 fpm			1.20	18
12" (305)	6.0" w.g.	1500 fpm			2.67	40

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, Figure 5.5.

- COUNTERBALANCED BACKDRAFT DAMPER
- EXTRUDED ALUMINUM
- HIGH PERFORMANCE
- HEAVY DUTY

B

BACKDRAFT DAMPERS

**Model:**  
**1380CB Counterbalanced Backdraft Damper**



Model 1380CB

Model 1380CB High Performance Counterbalanced Backdraft Damper is engineered and designed to automatically prevent the backflow of air while allowing for automatic air intake or exhaust/pressure relief in medium to heavy duty commercial and light duty industrial HVAC applications. Suitable for use in fan discharge applications and relief air applications in exterior walls where in excellent weather protection is required.

Standard features include a corrosion resistant extruded aluminum reinforced mitered corner frame that resists racking, aerodynamic extruded aluminum blades that overlap the jambs for maximum weather protection, extruded PVC blade seals that provide quiet closure as well as additional weather protection, corrosion resistant long life synthetic bearings and an out of sight rear mounted blade linkage for that provides smooth operation at system velocities of up to 2500 fpm (12.7 m/s). Blade mounted steel counterweights are easily adjusted to desired opening pressure. A variety of frame types and mounting options are available to suit specific installations and applications.

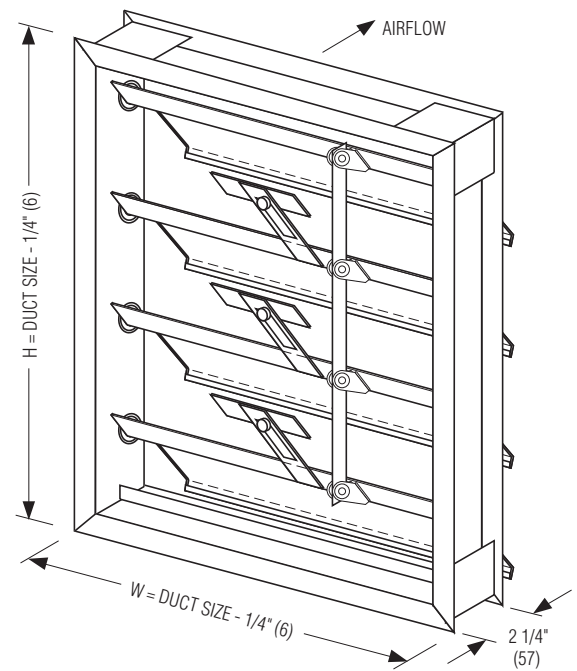
**STANDARD CONSTRUCTION:**

- Frame:** 2 1/4" (51) deep channel type, .125" (3.2) nominal wall thickness type 6063-T5 extruded aluminum. Corners are mitered.
- Blades:** .070" (1.8) nominal wall thickness type 6063-T5 extruded aluminum.
- Linkage:** Non-adjustable, face mounted on rear of blades.
- Bearings:** Synthetic, sleeve type.
- Blade Seals:** Extruded PVC.
- Counterbalance:** Adjustable, plated steel weights mounted internally (in the airstream).
- Finish:** Mill.

**Model 1380CB Sizes (Duct W x H):**

Minimum	Maximum	
	Single Section	Multiple Section
6" x 10" (152 x 254)	48" x 52" (1219 x 1321)	Unlimited

1380CB Series - Maximum Performance Ratings	
Maximum System Velocity	2500 fpm (12.7 m/s)
Maximum Spot Velocity	3500 fpm (17.8 m/s)
Maximum Back Pressure	16 in. w.g. (4 kPa)
Maximum Temperature	200°F (93°C)

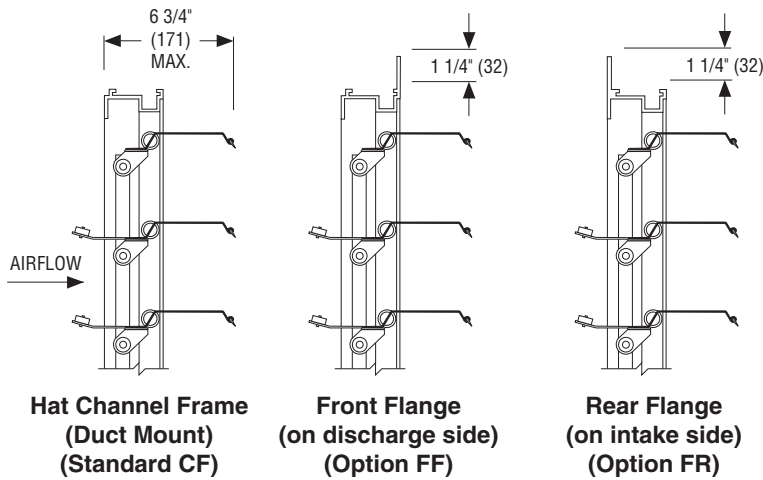


MODEL 1380CB

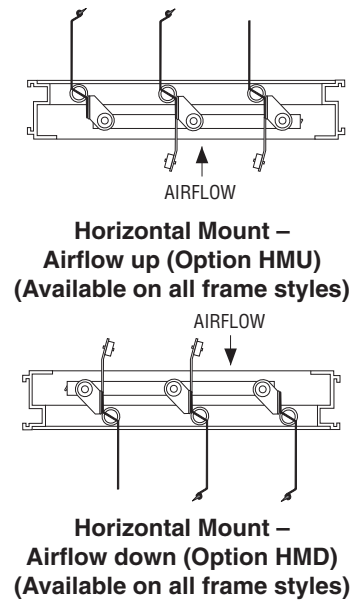
**COMMON OPTIONS:**

- Vertical or Horizontal mount.
- Front or rear flange frame (with or without bolt holes).

## FRAME OPTIONS:



## MOUNTING OPTIONS:



## PERFORMANCE DATA: MODEL: 1380CB

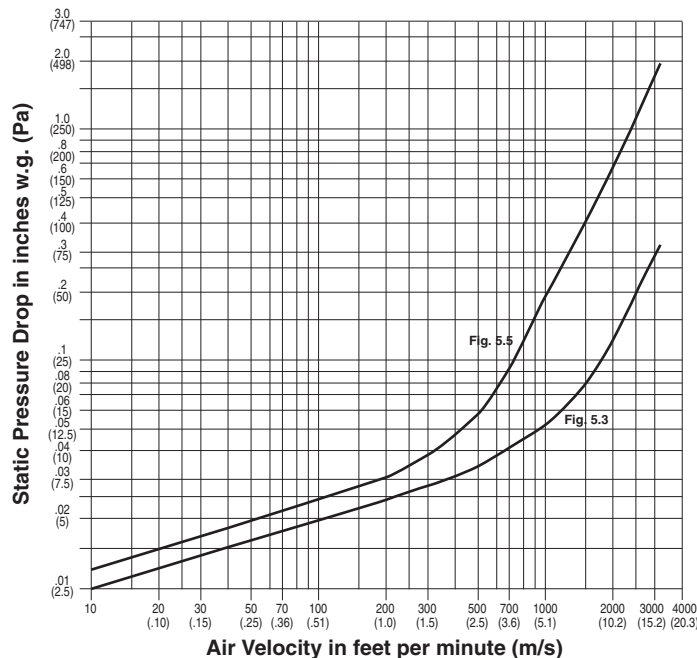
Damper Width	Maximum Back Pressure	Maximum System Velocity	Operational Data		Leakage*	
			Blades Begin Opening	Blades Fully Open	% of Maximum Flow	Cfm per Sq. Ft.
48" (1219)	4.0" w.g.	2500 fpm	.01" w.g. (2 Pa)	.05" w.g. (12 Pa)	0.60	15
36" (914)	8.0" w.g.	2500 fpm			0.60	15
24" (610)	12.0" w.g.	2500 fpm			0.72	18
12" (305)	16.0" w.g.	2500 fpm			1.00	25

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, Figure 5.3 and Figure 5.5.

**HOW TO SPECIFY****MODEL: 1370****BACKDRAFT DAMPERS****SUGGESTED SPECIFICATION:**

Provide and install, as shown on plans and/or schedules, backdraft dampers as manufactured by Nailor Industries, Inc. which meet or exceed the following criteria: Frame shall be constructed of .090" (2.3) type 6063-T5 extruded aluminum with welded mitered corners and concealed reinforcing brackets. Blades shall be .050" (1.3) type 6063-T5 extruded aluminum on maximum 3 5/8" (92) centers with extruded PVC blade seals mechanically fastened to blade edge. Adhesive type seals are not acceptable. Bearings shall be long life synthetic type. Blade linkage shall be concealed in frame for low pressure drop. Standard of acceptance shall be Nailor Industries Model 1370.

**MODEL: 1380****HIGH PERFORMANCE BACKDRAFT DAMPERS****SUGGESTED SPECIFICATION:**

Provide and install, as shown on plans and/or schedules, backdraft dampers as manufactured by Nailor Industries, Inc. which meet or exceed the following criteria: Frame shall be constructed of .125" (3.2) type 6063-T5 extruded aluminum with welded mitered corners and concealed reinforcing brackets. Blades shall be .070" (1.8) type 6063-T5 extruded aluminum on maximum 5 1/2" (140) centers with extruded PVC blade seals mechanically fastened to blade edge. Adhesive type seals are not acceptable. Bearings shall be long life synthetic type. Blade linkage shall be plated steel tie bar with stainless steel pivot pins. Standard of acceptance shall be Nailor Industries Model 1380.

**MODEL: 1370CB****COUNTERBALANCED BACKDRAFT DAMPERS****SUGGESTED SPECIFICATION:**

Provide and install, as shown on plans and/or schedules, counterbalanced backdraft dampers as manufactured by Nailor Industries, Inc. which meet or exceed the following criteria: Frame shall be constructed of .090" (2.3) type 6063-T5 extruded aluminum with welded mitered corners and concealed reinforcing brackets. Blades shall be .050" (1.3) type 6063-T5 extruded aluminum on maximum 3 5/8" (92) centers with extruded PVC blade seals mechanically fastened to blade edge. Adhesive type seals are not acceptable. Bearings shall be long life synthetic type. Blade linkage shall be concealed in frame. Counterbalances shall be of plated steel, mounted on rear of blades, internally in the airstream, and shall be field adjustable. Standard of acceptance shall be Nailor Industries Model 1370CB.

**MODEL: 1380CB****HIGH PERFORMANCE COUNTERBALANCED BACKDRAFT DAMPERS****SUGGESTED SPECIFICATION:**

Provide and install, as shown on plans and/or schedules, counterbalanced backdraft dampers as manufactured by Nailor Industries, Inc. which meet or exceed the following criteria: Frame shall be constructed of .125" (3.2) type 6063-T5 extruded aluminum with welded mitered corners and concealed reinforcing brackets. Blades shall be .070" (1.8) type 6063-T5 extruded aluminum on maximum 5 1/2" (140) centers with extruded PVC blade seals mechanically fastened to blade edge. Adhesive type seals are not acceptable. Bearings shall be long life synthetic type. Blade linkage shall be plated steel tie bar with stainless steel pivot pins. Counterbalances shall be of plated steel, mounted on rear of blades, internally in the airstream, and shall be field adjustable. Standard of acceptance shall be Nailor Industries Model 1380CB.



## HOW TO ORDER

### MODELS: 1370, 1380, 1370CB AND 1380CB

### BACKDRAFT DAMPERS AND COUNTERBALANCED BACKDRAFT DAMPERS

EXAMPLE: 1370 - 24 x 24 - HMU - FFB - MI - GBS

**1. Models**

- 1370 Extruded Aluminum,  
Light/Medium Duty
- 1380 Extruded Aluminum,  
Heavy Duty
- 1370CB Counterbalanced,  
Extruded Aluminum,  
Light/Medium Duty
- 1380CB Counterbalanced,  
Extruded Aluminum,  
Heavy Duty

**2. Duct Size**

Width x Height (inches [mm's])

**3. Mounting**

- VM Vertical Mount (default)
- HMD Horizontal Mount (Air Down)  
(Models 1370CB and 1380CB only)
- HMU Horizontal Mount (Air Up)

**4. Frame Type**

- CF Channel (default)
- FF Front Flange
- FFB Front Flange with Bolt Holes
- FR Rear Flange
- FRB Rear Flange with Bolt Holes

**5. Finish**

- MI Mill

**6. Bird Screen**

(not available on Models 1370CB & 1380CB)

- None (default)
- AIS Aluminum Insect Screen
- GBS Galvanized Steel Bird Screen

**Note:**

1. Not all variants and options are available on all models. Refer to individual model for selection availability.

- EXTRUDED ALUMINUM BLADES
- STEEL FRAME
- HIGH PERFORMANCE
- HEAVY DUTY
- EXTERNAL COUNTERWEIGHT



Model 1390CB

**Model:**  
**1390CB Counterbalanced Backdraft Damper**

Model 1390CB Counterbalanced Backdraft Damper is engineer and 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 offers pressure relief at extremely low pressure differentials.

Standard features include a ruggedly built, heavy duty 16 ga. (1.6) steel frame with mitered corners reinforced to resist racking, ball bearings pressed into the frame that provide extreme sensitivity and ultra-smooth operation and neoprene blade seals that provide quiet closure as well as extra weather protection. A variety of frame types, mounting and balancing options are available to suit specific installations and applications.

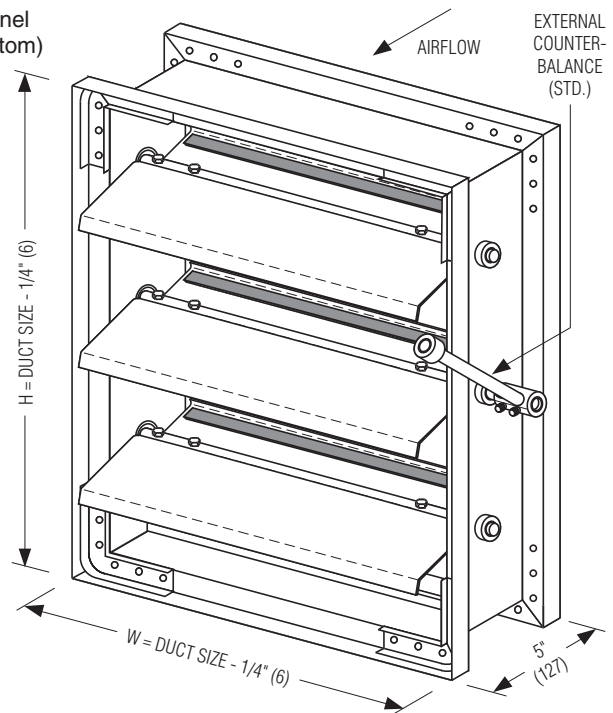
**STANDARD CONSTRUCTION:**

- 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 12" (305) 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.
- Counterbalance:** Adjustable, externally mounted (standard). Counter-balance assembly may be rotated through 360° to assist opening or closure.
- Finish:** Mill.

**Model 1390CB Sizes (Duct W x H):**

Minimum	Maximum	
Single Section	Single Section	Multiple Section
6" x 10" (152 x 254)	48" x 60" (1219 x 1524)	96" (2438) wide x unlimited height

1390CB Series - Maximum Performance Ratings	
Maximum System Velocity	2500 fpm (12.7 m/s)
Maximum Spot Velocity	3500 fpm (17.8 m/s)
Maximum Back Pressure	16 in. w.g. (4 kPa)
Maximum Temperature	200°F (93°C)



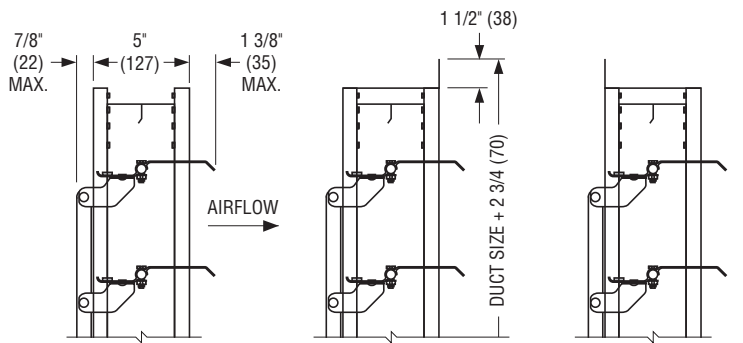
MODEL 1390CB

**COMMON OPTIONS:**

- Extruded Aluminum frame construction.
- Vertical or Horizontal mount.
- Front or rear flange frame (with or without bolt holes).



## FRAME OPTIONS:

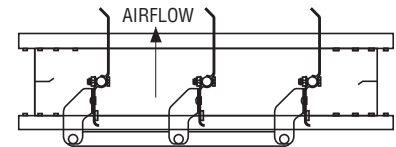


**Hat Channel Frame  
(Duct Mount)  
(Standard HC)**

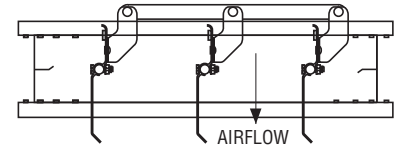
**Front Flange  
(on discharge side)  
(Option FF)**

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

## MOUNTING OPTIONS:



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



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

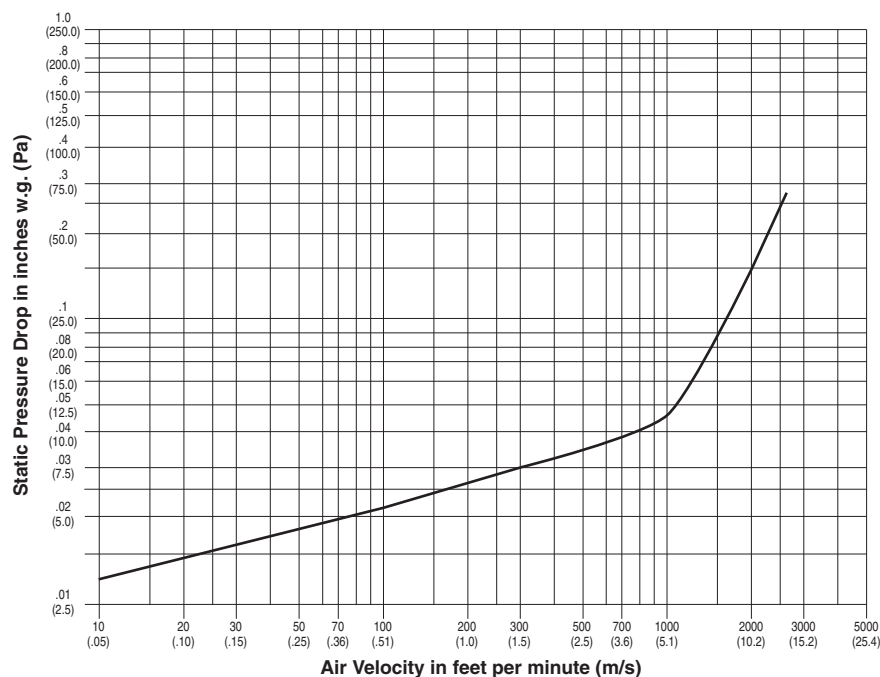
## PERFORMANCE DATA: MODEL: 1390CB

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 Pa)	.06" w.g. (15 Pa)	1.48	37.0
36" (914)	8.0" w.g.	2500 fpm			1.68	42.0
24" (610)	12.0" w.g.	2500 fpm			2.04	51.0
12" (305)	16.0" w.g.	2500 fpm			3.36	84.0

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, Figure 5.3.

## HOW TO ORDER OR TO SPECIFY

### MODEL: 1390CB

### HEAVY DUTY COUNTERBALANCED BACKDRAFT DAMPERS

EXAMPLE: 1390CB - 12x24 - HMD - FFB - MI - CBE

- |                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                            |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>1. <b>Model</b><br/>1390CB Heavy Duty, Counterbalanced, Steel Frame</p> <p>2. <b>Duct Size</b><br/>Width x Height (inches [mm's])</p> <p>3. <b>Mounting</b><br/>VM Vertical Mount (default)<br/>HMD Horizontal Mount (Air Down)<br/>HMU Horizontal Mount (Air Up)</p> <p>4. <b>Frame Type</b><br/>HC Hat Channel (default)<br/>FF Front Flange<br/>FFB Front Flange with Bolt Holes<br/>FR Rear Flange<br/>FRB Rear Flange with Bolt Holes</p> | <p>5. <b>Finish</b><br/>MI Mill</p> <p>6. <b>Counterbalancing</b><br/>CBE Adjustable, External Mount<br/>CBI Adjustable, Internal Mount</p> <p>7. <b>Extruded Aluminum Frame</b><br/>- Standard, Steel Frame (default)<br/>EAF Extruded Aluminum Frame</p> |
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#### OTHER ACCESSORIES:

##### Note:

1. Not all variants and options are available on all models. Refer to individual model for selection availability.

#### SUGGESTED SPECIFICATION:

Provide and install, as shown on plans and/or schedules, heavy duty counterbalanced backdraft dampers as manufactured by Nailor Industries, Inc. which meet or exceed 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 maximum 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 shall be Nailor Industries Model 1390CB.