

**MODELS 1810 & 1820  
MANUAL BALANCING DAMPERS  
STEEL**

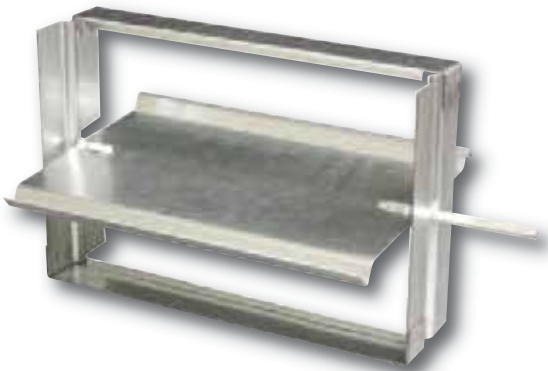
Models 1810 and 1820 have been engineering and designed for manual balancing applications in low to medium pressure and velocity commercial HVAC systems. Ruggedly built, they provide a cost effective and reliable damper for reduced volume control and offer an economical manufactured product alternative to custom 'shop built' dampers that exceed the volume damper designs recommended by SMACNA. Features include a sturdy galvanized steel hat channel frame with die-formed corner gussets for reinforcement and superior structural strength, a vee groove blade design that maximizes strength and optimizes airflow and no-maintenance concealed linkage located out of the airstream, totally enclosed within the damper frame for reduced air turbulence, noise and pressure drop.



Models 1810 & 1820

**MODEL 1870  
MANUAL BALANCING DAMPER STEEL  
SINGLE BLADE**

Model 1870 Manual Balancing Damper is a ruggedly built, economical branch duct balancing damper designed for manual balancing applications with rectangular ductwork. The 1870 installs quickly and easily, saving time and money on installation costs. The low profile 18 ga. (1.3) frame and sills allow maximum free area and the ribbed forms in the blade and frame provides extra strength. A locking manual hand quadrant is provided with each damper.



Model 1870

**MODEL 1890  
MANUAL BALANCING DAMPER  
ROUND DUCT**

Model 1890 Manual Balancing Damper is a steel butterfly damper designed for all types of round ductwork balancing applications and is suitable for use in low pressure and velocity commercial HVAC systems. The design features a sturdy beaded casing ideal for round spiral ductwork connections, and a corrosion resistant steel blade that can be locked in any position with the hand quadrant that is supplied as standard with the damper. The 1890 installs quickly and easily and becomes part of the ductwork, saving time and money on installation costs and is an economical alternative to a shop built damper.



Model 1890

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

Model 1370 is an extruded aluminum gravity operated backdraft damper for use in light to medium duty commercial HVAC applications to pass airflow in one direction and to prevent airflow in the opposite direction. 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).



Model 1370

**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.

- BACKDRAFT DAMPER
- EXTRUDED ALUMINUM
- GRAVITY OPERATED
- LIGHT/MEDIUM DUTY

**Model:**

**1370 Backdraft Damper**



Model 1370

Model 1370 is an extruded aluminum gravity operated backdraft damper for use in light to medium duty commercial HVAC applications to pass airflow in one direction and to prevent airflow in the opposite direction, suitable for use in fan discharge 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). A variety of frames and screens are available for specific application requirements.

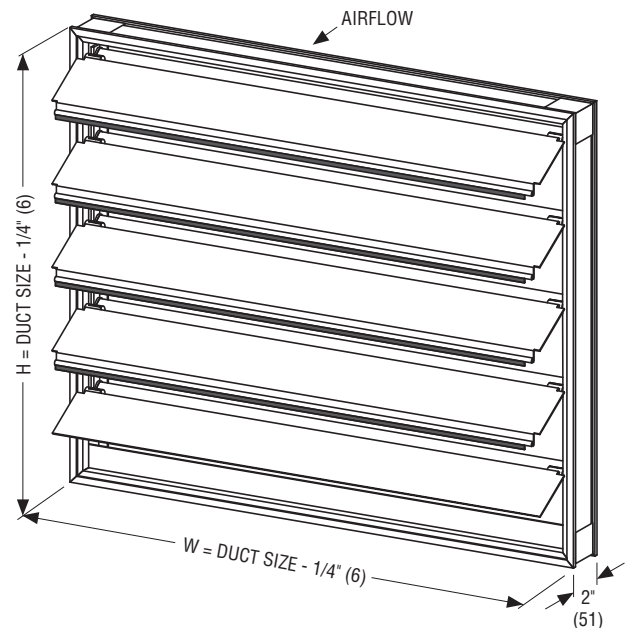
**STANDARD CONSTRUCTION:**

- 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.
- Finish:** Mill.

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

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

1370 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)

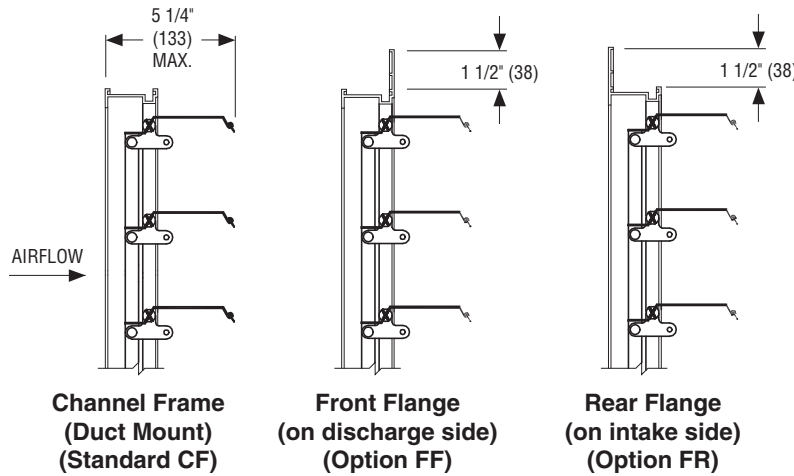


MODEL 1370

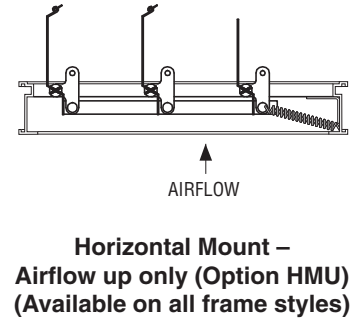
**COMMON OPTIONS:**

- Vertical or Horizontal mount.
- Front or rear flange frame (with or without bolt holes).
- Rear mounted bird and insect screens.

## FRAME OPTIONS:



## MOUNTING OPTION:



B BACKDRAFT DAMPERS

## PERFORMANCE DATA: MODEL: 1370

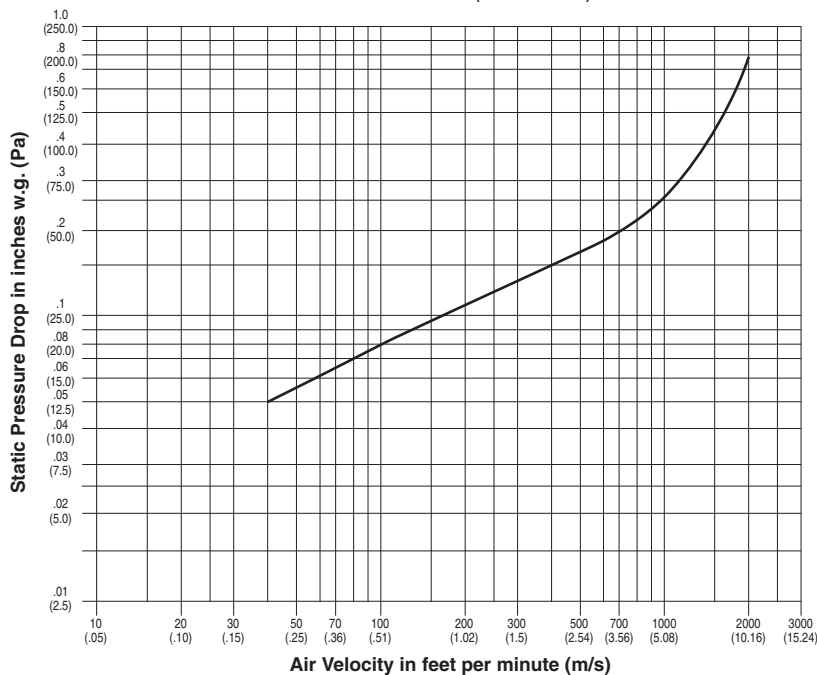
Damper Width	Maximum Back Pressure	Maximum System Velocity	Operational Data		Leakage*	
			Blades Begin Opening	Blades Fully Open	% of Maximum Flow	Cfm per Sq. Ft.
40" (1016)	3.0" w.g.	1500 fpm	.05" w.g. (12 Pa)	.20" w.g. (50 Pa)	1.00	15
36" (914)	4.0" w.g.	1500 fpm			1.00	15
24" (610)	5.0" w.g.	1500 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.

- BACKDRAFT DAMPER
- EXTRUDED ALUMINUM
- GRAVITY OPERATED
- HEAVY DUTY

**Model:**

**1380 Backdraft Damper**



Model 1380

Model 1380 is a high performance extruded aluminum gravity operated backdraft damper for use in medium to heavy duty commercial and light duty industrial HVAC applications to pass airflow in one direction and to prevent airflow in the opposite direction, suitable for use in fan discharge applications.

Standard features include a heavy duty corrosion resistant extruded aluminum reinforced mitered corner frame that resists racking, aerodynamic extruded aluminum blades that maximize airflow and 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 rear mounted blade linkage that provides smooth operation at system velocities of up to 2500 fpm (12.7 m/s).

**STANDARD CONSTRUCTION:**

- Frame:** 2 1/4" (57) duct mount 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 on 5 1/2" (140) centers.
- Linkage:** Center mounted on rear of blades.
- Bearings:** Synthetic type.
- Blade Seals:** Extruded PVC.
- Finish:** Mill.

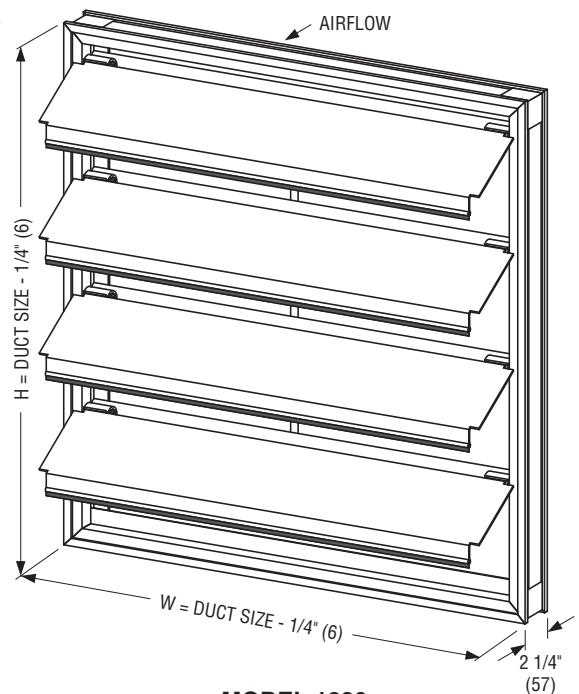
**Model 1380 Sizes (Duct W x H):**

Minimum	Maximum	
	Single Section	Multiple Section
6" x 6" (152 x 152)	40" x 52" (1016 x 1321)	Unlimited

1380 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)

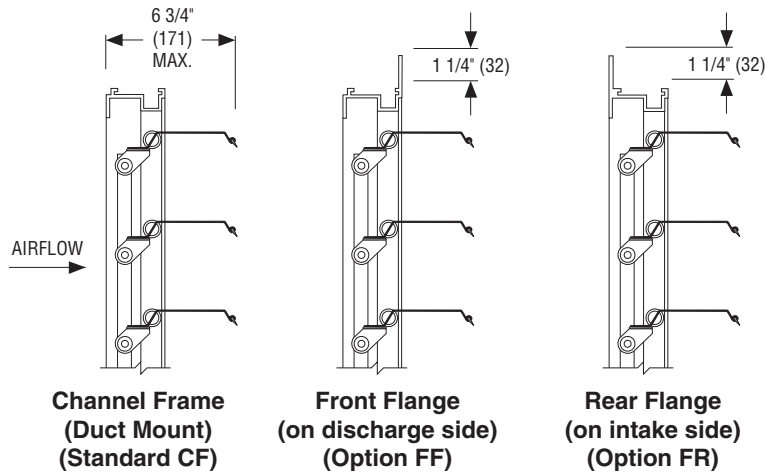
**COMMON OPTIONS:**

- Vertical or Horizontal mount.
- Front or rear flange frame (with or without bolt holes).
- Rear mounted bird and insect screens.

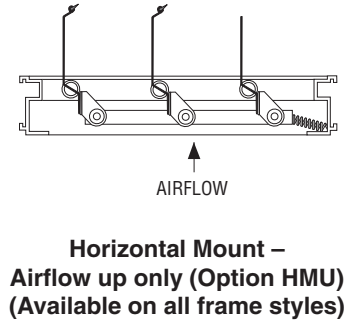


**MODEL 1380**  
**(VM Vertical Mount standard)**

## FRAME OPTIONS:



## MOUNTING OPTION:



## PERFORMANCE DATA:

MODEL: 1380

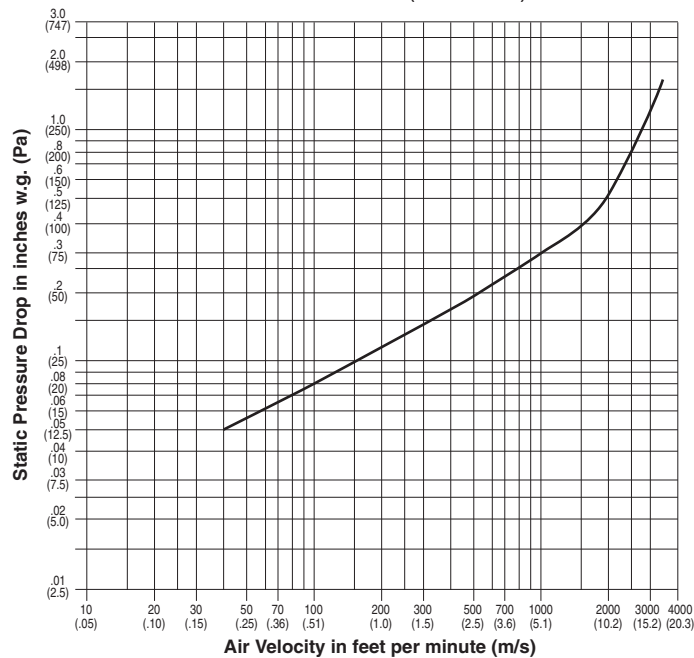
Damper Width	Maximum Back Pressure	Maximum System Velocity	Operational Data		Leakage*	
			Blades Begin Opening	Blades Fully Open	% of Maximum Flow	Cfm per Sq. Ft.
48" (1219)	4.0" w.g.	2500 fpm	.08" w.g. (20 Pa)	.30" w.g. (75 Pa)	0.60	15
36" (914)	8.0" w.g.	2500 fpm			0.60	15
24" (610)	12.0" w.g.	2500 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 5.5.

**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.