

COUNTERBALANCED BACKDRAFT DAMPER STANDARD PERFORMANCE • MEDIUM DUTY **EXTRUDED ALUMINUM BLADES & FRAME MODEL: 1370CB**

DUCT SIZE - 1/4" (6)

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Model 1370CB is a standard performance counterbalanced backdraft damper designed to automatically prevent the backflow of air while allowing for automatic air intake or exhaust/pressure relief in medium duty HVAC applications. Corrosion-resistant extruded aluminum construction highlights the model's features which include a reinforced mitered corner frame that resists racking, and aerodynamic blades that overlap the jambs for maximum weather protection. Extruded PVC blade seals provide quiet closure as well as extra weather protection. Blade linkage is concealed in jamb for low pressure drop and provides smooth operation at system velocities of up to 1500 fpm. Blade mounted counterweights are easily adjusted to desired opening pressure.

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FRAME: 2° (51) wide x.090° (2.3) nominal wall thickness type 6063-T5 extruded aluminum. Corners are mittered. BLADES: 0.50° (1.3) nominal wall thickness type 6063-T5 extruded aluminum on 3 58° (20) centres. LINKAGE: Concealed in jamb. BEARINGS Synthetic type. BLADE SEALS: Extruded PVC. COUNTER- Adjustable, plated steel weights mounted internally (in the airstream). MINIMUM SIZE: 6° x 7° (152 x178). MAXIMUM SIZE: Sige Section: 40° x 48° (1016 x 1219). Multiple section: Unlimited. MAXIMUM BACK Rear Flange (1016 x 1219). Channel Frame (Duct Mount) Front Flange (on discharge side) (Option FR) Rear Flange (on intake side) (Option FR) MOUNTING: VELOCITY: 1500 fpm (2500 fpm maximum spot velocity). Channel Frame (Duct Mount) (Standard CF) Front Flange (on discharge side) (Option FR) Alteriow MINU Horizontal mount (airflow udwn) Alteriow up (Option HMU) Alteriow up (Option HMU) Alteriow up (Option HMU) Schedule TYPE: Page 1 of 2 Promesions are in inches (mm). Page 1 of 2 Promesions are in inches (mm). ENGINEER: DATE B SERES Superstore (Data Harme Styles) DATE B SERES DATE B SERES	STANDARD CO	DNSTRUCTION:			-A		
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Image: FRB Rear flange with bolt holes Airflow up (Option HMU) Airflow down (Option HMD) Image: Special features:	MOUNTING: VM Vertical HMU Horizor HMD Horizor OPTIONS: FF Front fla	velocity). mount (standard) ntal mount (airflow up) ntal mount (airflow down) ange	(Standard CF)	(Option		(Option	e side) n FR)
Special features: (Available on all frame styles) (Available on all frame styles) SCHEDULE TYPE: Page 1 of 2 PROJECT: Dimensions are in inches (mm). ENGINEER: DATE B SERIES	MOUNTING: VM Vertical HMU Horizor HMD Horizor OPTIONS: FF Front fla FFB Front fla	velocity). mount (standard) ttal mount (airflow up) ttal mount (airflow down) ange ange with bolt holes	(Standard CF)	(Option		(Option	e side) n FR)
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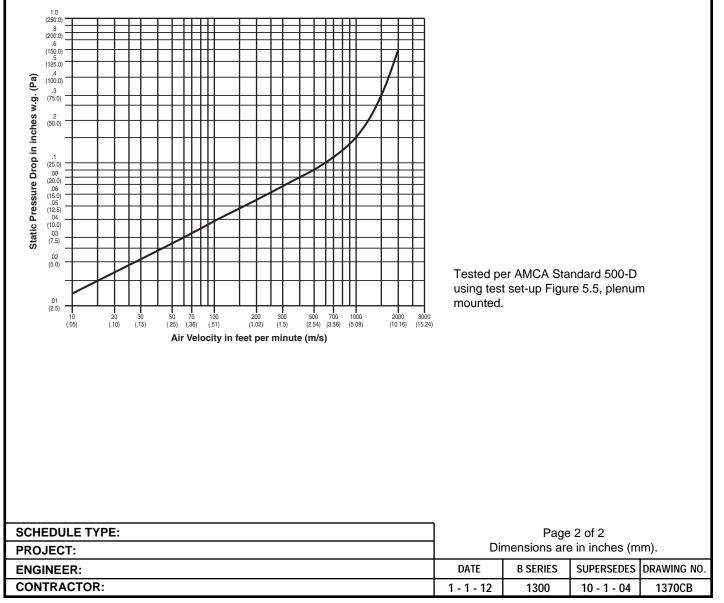
COUNTERBALANCED BACKDRAFT DAMPER STANDARD PERFORMANCE • MEDIUM DUTY EXTRUDED ALUMINUM BLADES & FRAME PERFORMANCE DATA MODEL: 1370CB

PERFORMANCE LIMITATIONS AND LEAKAGE DATA:

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



COUNTERBALANCED BACKDRAFT DAMPER HIGH PERFORMANCE • HEAVY DUTY EXTRUDED ALUMINUM BLADES & FRAME MODEL: 1380CB

Model 1380CB is a high performance counterbalanced backdraft damper 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 reinforced mitered corner frame that resists racking, and aerodynamic blades that overlap the jambs for maximum weather protection. Extruded PVC blade seals provide quiet closure as well as extra weather protection. Blade linkage is mounted out of view on the rear of the blades and provides smooth operation at system velocities of up to 2500 fpm. Blade mounted counterweights are easily adjusted to desired opening pressure.

opening pressure				124		
STANDARD CO	DNSTRUCTION:				\neg	
FRAME:	2 1/4" (57) deep channel type,					
	.125" (3.2) nominal wall thickness					
	type 6063-T5 extruded aluminum.		W = DUCT CIT			
	Corners are mitered.		W = DUCT SIZE - 1/4	"(6) _	21/4	1"
BLADES:	.070" (1.8) nominal wall thickness				(57)	
	type 6063-T5 extruded aluminum.			-	(01)	
LINKAGE:	Non-adjustable, face mounted on	6 3/4"		I		1
	rear of blades.	(171) -	4			V
BEARINGS:	Synthetic, sleeve type.	MAX.		1 1/4" (32)	1 1/4" (32)
BLADE SEALS:			r			n R 🔺
COUNTER-			' J		J	
BALANCE:	Adjustable, plated steel weights		۹ ا		_	Ø <
DALANCE.	mounted internally (in the airstream).	er l	e	1	P	Í
FINISH:	Mill.					
MINIMUM SIZE:	6" x 10" (152 x 254).		• -		~	Ø v
		AIRFLOW	6		6	ſ
MAXIMUM SIZE:	Single Section: 48" x 52"					
	(1219 x 1321).				4	0 4
	Multiple section: Unlimited.	67	6	7	6	7
MAXIMUM						
TEMPERATURE						
MAXIMUM BACK		Channel Frame	Fron	t Flange	Rear	Flange
PRESSURE:	4 to 16 in. w.g. (see page 2).	(Duct Mount)		harge side)		ake side)
MAX. SYSTEM		(Standard CF)		tion FF)		on FR)
VELOCITY:	2500 fpm (3500 fpm maximum spot	(otalidara or)	(•••	,	(0)	
	velocity).	y y				014/
MOUNTING:					AIRFL	JW
VM Vertical	mount (standard)				$\nu \nu \checkmark$	
🖵 HMU Horizor	ital mount (airflow up)		G	1 40	()	T I
HMD Horizor	ital mount (airflow down)				<u>6 </u>	<u> </u>
OPTIONS:		d 🔺	. d			
FF Front flag	ange	AIRFL	OW.			
FFB Front flag	ange with bolt holes					A
FR Rear fla		Horizontal Mo			orizontal Mou	
	ange with bolt holes	Airflow up (Option			/ down (Opti	
	es:	(Available on all fra	ame styles)	(Availab	ole on all frar	ne styles)
•			•			
SCHEDULE TYPE	:]		e 1 of 2	
PROJECT:			Dii	mensions are	e in inches (m	nm).
ENGINEER:			DATE	B SERIES	SUPERSEDES	DRAWING NO.
CONTRACTOR:			1 - 1 - 12	1300	11 - 8 - 06	1380CB
			-			

H = DUCT SIZE - 1/4" (6)



COUNTERBALANCED BACKDRAFT DAMPER HIGH PERFORMANCE • HEAVY DUTY EXTRUDED ALUMINUM BLADES & FRAME PERFORMANCE DATA MODEL: 1380CB

PERFORMANCE LIMITATIONS AND LEAKAGE DATA:

	Maximum	Maximum	Operational Data		Leakage*	
Damper Width	Back Pressure	System Velocity	Blades Begin Opening	Blades Fully Open	% of Maximum Flow	CFM per Sq. Ft.
48" (1219)	4.0" w.g.	2500 fpm			0.60	15
36" (914)	8.0" w.g.	2500 fpm	.01" w.g.	.05" w.g.	0.60	15
24" (610)	12.0" w.g.	2500 fpm	(2.5 Pa)	(12.4 Pa)	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.

3.0 (747) 2.0 (498) 1.0 (250.0) .8 (200.0) (Pa) .6 (150.0) .5 (125.0) Static Pressure Drop in inches w.g. .4 (100.0) (75.0) .2 (50.0) Fig. (25.0) .08 (20.0) (20.0) .06 (15.0) .05 (12.5) .04 (10.0) Fig. 5.3 .03 (7.5) .02 (5.0) Tested per AMCA Standard 500-D using test set-up Figure 5.3, fully ducted and Figure 5.5, plenum mounted. .01 (2.5) 30 (.15) 500 700 (2.54) (3.56) 1000 (5.08) 2000 (10.16) 3000 4000 (15.24)(20.32) 20 (.10) 100 (.51) 300 (1.5) 200 (1.02) 50 (.25) 70 (.36) Air Velocity in feet per minute (m/s) SCHEDULE TYPE: Page 2 of 2 Dimensions are in inches (mm). **PROJECT:** SUPERSEDES DRAWING NO. **ENGINEER:** DATE **B SERIES** CONTRACTOR: 1 - 1 - 12 1300 11 - 8 - 06 1380CB

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



COUNTERBALANCED BACKDRAFT DAMPER **HIGH PERFORMANCE • HEAVY DUTY** STEEL FRAME • EXTRUDED ALUMINUM BLADES **MODEL: 1390CB**

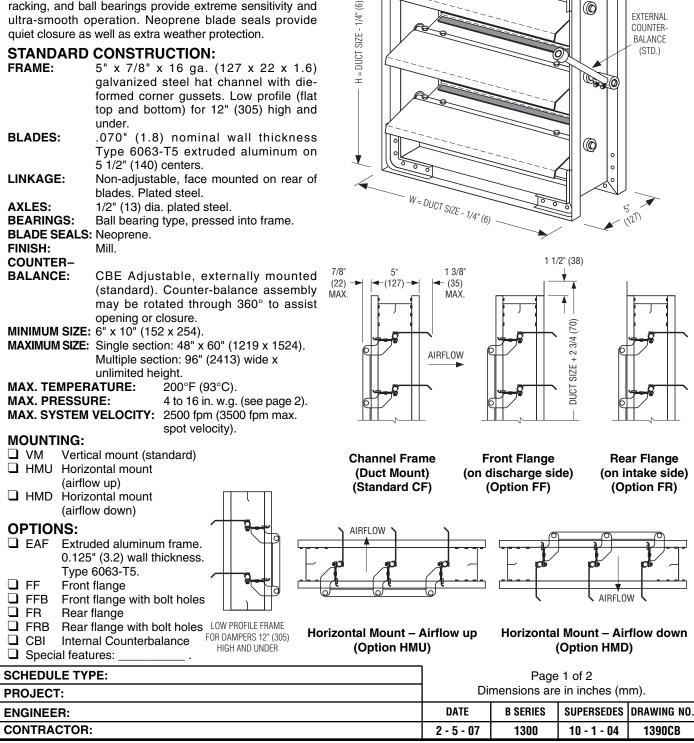
AIRFLOW

(

EXTERNAL

COUNTER-

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.





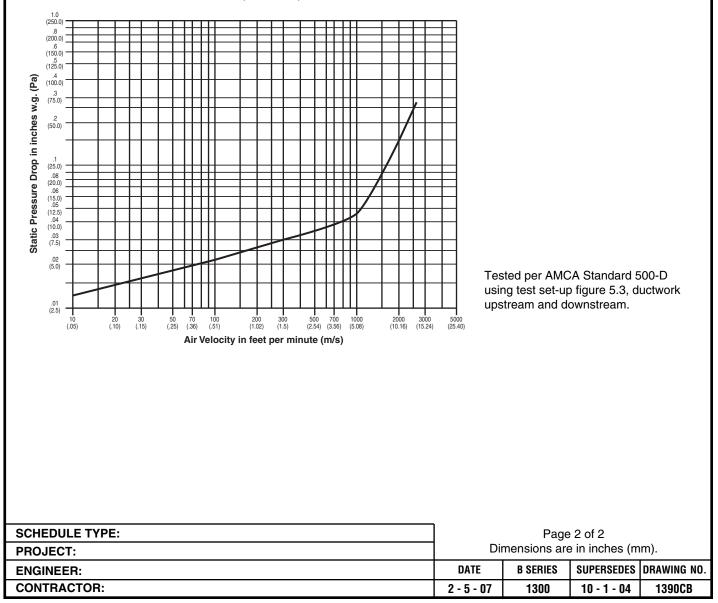
COUNTERBALANCED BACKDRAFT DAMPER HIGH PERFORMANCE • HEAVY DUTY PERFORMANCE DATA MODEL: 1390CB

PERFORMANCE LIMITATIONS AND LEAKAGE DATA:

	Maximum	Maximum	Operational Data		Leakage*	
Damper Width	Back Pressure	System Velocity	Blades Begin Opening	Blades Fully Open	% of Maximum Flow	CFM per Sq. Ft.
48" (1219)	4.0" w.g.	2500 fpm			1.48	37.0
36" (914)	8.0" w.g.	2500 fpm	.01" w.g.	.06" w.g.	1.68	42.0
24" (610)	12.0" w.g.	2500 fpm	(2.5 Pa)	(14.9 Pa)	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)



INSTALLATION, OPERATION & MAINTENANCE INSTRUCTIONS **BACKDRAFT & COUNTERBALANCED DAMPERS** MODELS: 1370(CB) & 1380(CB)

RECEIVING/INSPECTION

Upon delivery, inspect shipping containers and dampers carefully. Note any damage on trucker's delivery receipt. Contact the freight company within 24 hours for inspection. Do not install dampers, It is easier to repair on the floor than in the duct.

STORAGE

Store in an orderly manner. Do not pile dampers on each other. Cover with plastic sheeting to protect from excessive moisture, dirt and debris, Avoid unnecessary handling of dampers.

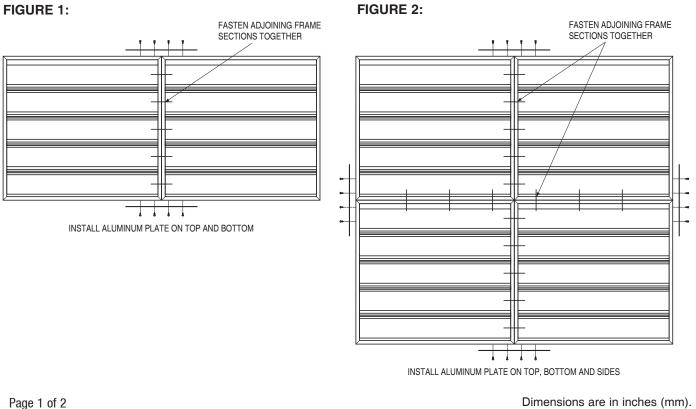
GENERAL INSTALLATION

Handle and lift dampers by frame only. Do not lift by blades or linkage. Use sufficient people and appropriate rigging (if required) to evenly lift multiple section assemblies. Do not drop, drag or twist dampers. Inspect ductwork or opening where damper will be installed for any obstructions and to ensure it is straight and level. Ductwork should be supported to prevent sagging due to damper weight. Ensure dampers are installed completely square and plumb, and that blades are free to operate without binding. Use shims as appropriate between damper frame and duct opening to prevent distortion of the frame by fasteners. Care must be taken to ensure that any fasteners used do not interfere with linkage or blade operation. If applicable, counterbalance assembly must be adjusted for damper to open at desired pressure.

MULTIPLE SECTION ASSEMBLIES

Backdraft dampers larger than single section maximum sizes will be manufactured in equal size sections and must be assembled together in the field. Assemble sections together as shown in Figures 1 and 2 using 1/4" (6) - 20 bolts and locknuts or #10 Tek screws (fasteners by others) spaced on approximately 6" (152) centers. In addition, for single section high dampers install 10" (254) long x 1/16" (1.6) thick aluminum plates on top and bottom, as shown in Figures 1 and 3, using #8 Tek screws or AAP-64 rivets, or similar. For multiple section high dampers install aluminum plates on top, bottom and sides as shown in Figure 2. For larger size dampers not shown follow the same methods. Additional bracing (by others) may be required to support the weight of the assembly and to resist system pressure.

IMPORTANT: BE SURE ALL FASTENERS (BY OTHERS) DO NOT INTERFERE WITH DAMPER LINKAGE AND BLADE OPERATION!



Dimensions are in inches (mm).

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Page 6.016

IMPORTANT: BE SURE ALL FASTENERS (BY OTHERS) DO NOT INTERFERE WITH DAMPER LINKAGE AND BLADE OPERATION!

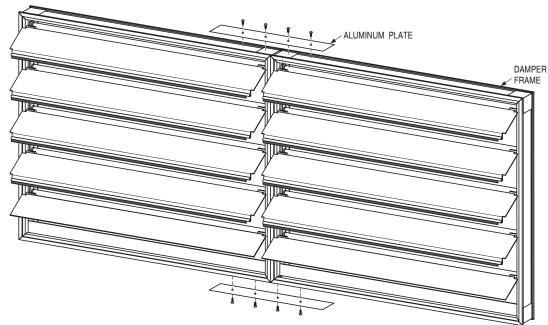


FIGURE 3:

COUNTERBALANCE ADJUSTMENT

Nailor counterbalanced backdraft dampers can be adjusted to open at a specific pressure. Before making adjustments, be sure that the damper is installed square and plumb and that the blades move freely. Damper should be fully closed under conditions of no airflow. Opening pressure can be adjusted by sliding counterbalance weights (further from blade to further assist opening). If full adjustment has been made and blades still don't open fully then more weight should be added. Repeat process if necessary to achieve final positioning.

MAINTENANCE

Dampers should be inspected at least once every two years, depending upon operating conditions, as part of a regular maintenance program. Wipe any dirt, dust etc. from blades and linkage. Lightly lubricate linkage and other moving parts with a dry type lube such as Moli-Spray Oil #3. Cycle damper by hand to ensure all blades and linkages move freely.

Dimensions are in inches (mm).



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