



HEAVY DUTY INDUSTRIAL CONTROL DAMPERS

STEEL • AIRFOIL BLADE

MODELS: 1970 & 1980 1975 & 1985

The Nailor Model Series 1970/1980 is an extra heavy duty/industrial control damper designed for use in high pressure industrial HVAC or process air systems. Features include a heavy-duty airfoil blade design that offers precise airflow control or shut-off in applications involving pressure differentials of up to 34" w.g. and velocities up to 6000 fpm, depending on damper width.

Models 1975/1985 feature an ultra heavy-duty 10 ga. frame and 2 x 12 ga. blades and are suitable for applications of up to 44" w.g. and velocities up to 6000 fpm, depending on damper width.

The heavy duty flanged frame, with optional bolt holes, connects easily to flanged duct for fast, secure installation. Model Series 1970/1980 may be used for two-position or modulating control utilizing a selection of electric or pneumatic actuators, or can be operated manually with the optional locking hand quadrant.

STANDARD CONSTRUCTION:

FRAME: Models 1970/1980: 8" x 2" x 12 ga. (203 x 51 x 2.8) coated steel channel.

Models 1975/1985: 8" x 2" x 10 ga. (203 x 51 x 3.5) coated steel channel.

BLADES: Approx. 6" (152) wide on 5 1/2" (140) centers, up to 8 5/8" (219) wide maximum depending on size. Parallel or opposed action.

Models 1970/1980: 2 x 16 ga. (1.6) galvanized steel (2 x 14 ga. (2) for blade lengths of 48" (1219) and up) formed and welded into an airfoil cross-section.

Models 1975/1985: 2 x 12 ga. (2.8) galvanized steel (2 x 10 ga. (3.5) for blade lengths of 48" (1219) and up) formed and welded into an airfoil cross-section.

LINKAGE: Heavy duty side linkage, concealed out of the airstream.

AXLES: Models 1970/1980: 3/4" (19) dia. plated steel.
Models 1975/1985: 3/4" (19) dia. plated steel (1" (25) dia. plated steel for blade lengths of 48" (1219) and up).

All axles are double bolted to blades.

BEARINGS: Stainless steel sleeve in housing, externally bolted to frame.

DRIVE SHAFT: 3/4" (19) or 1" (25) dia. (see AXLES above) plated steel. Extends 6" (152) beyond frame.

MINIMUM SIZE: Single blade: 6" x 6" (152 x 152).
Two blades (parallel or opposed): 6" x 12" (152 x 305).

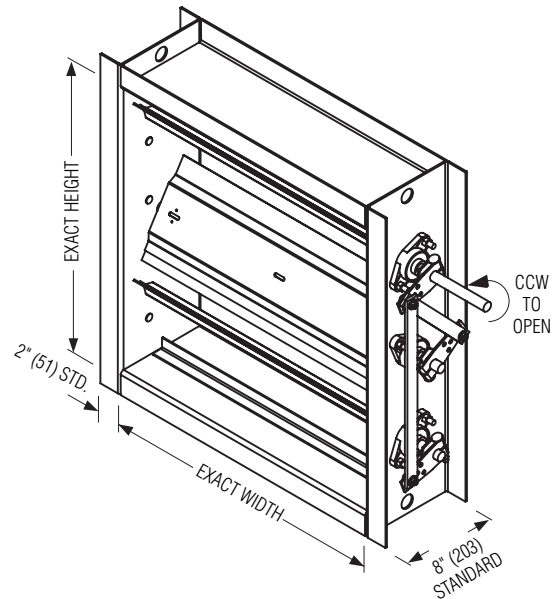
MAXIMUM SIZE: 60" x 96" (1524 x 2438). For larger sizes, contact factory.

MAXIMUM

TEMPERATURE: 250°F (121°C) standard. 400°F (204°C) with increased blade/frame clearance (Option code HT).

MAX. PRESSURE: Models 1970/1980: 14 to 34" w.g.
Models 1975/1985: 20 to 44" w.g. (see page 2).

MAX. VELOCITY: 5000 to 6000 fpm (see page 2).



PARALLEL BLADE
 MODEL 1970

MODEL 1975



OPPOSED BLADE
 MODEL 1980

MODEL 1985



OPTIONS:

- BH Bolt holes in flanges
- BSE EPDM blade seals (up to 250°F (121°C))
- BSS Silicone blade seals (up to 400°F (204°C))
- JSS Stainless steel jamb seals
- BEBS External bolt-on bearings with seal
- BOS Outboard bearings with seal
- 304 Stainless steel construction
- SSA 304 Stainless steel axles only
- HT High temp. (up to 400°F (204°C)) blade/frame clearance
- NSF Non-standard flange width (1 1/2" (38) to 4" (102)). Specify _____.
- HDLQ Locking hand quadrant
- FMA Factory mounted actuator. Specify _____.
- Special _____.

Note: For variations not shown, contact factory.

SCHEDULE TYPE:		Page 1 of 2			
PROJECT:		Dimensions are in inches (mm).			
ENGINEER:	DATE	B SERIES	SUPERSEDES	DRAWING NO.	
CONTRACTOR:	3 - 30 - 06	1900	7 - 29 - 04	1970	



HEAVY DUTY INDUSTRIAL CONTROL DAMPERS
STEEL • AIRFOIL BLADE
PERFORMANCE DATA
MODELS: 1970/1980 & 1975/1985

PERFORMANCE LIMITATIONS:

Damper Width	Models 1970/1980		Models 1975/1985	
	Max. System Pressure	Max. System Velocity	Max. System Pressure	Max. System Velocity
60" (1529)	14 in. w.g.	5000 fpm	20 in. w.g.	5000 fpm
48" (1219)	19 in. w.g.	5000 fpm	26 in. w.g.	5000 fpm
36" (914)	24 in. w.g.	5000 fpm	32 in. w.g.	5000 fpm
24" (610)	29 in. w.g.	6000 fpm	35 in. w.g.	6000 fpm
12" (305)	34 in. w.g.	6000 fpm	44 in. w.g.	6000 fpm

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

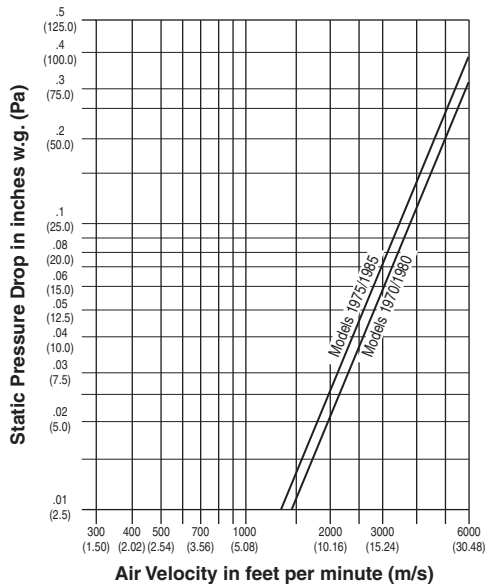
LEAKAGE:

Damper Width	Models 1970/1980				Models 1975/1985			
	Leakage w/o Seals		Leakage with Seals		Leakage w/o Seals		Leakage with Seals	
	CFM per Sq. Ft.	% of Max. Flow	CFM per Sq. Ft.	% of Max. Flow	CFM per Sq. Ft.	% of Max. Flow	CFM per Sq. Ft.	% of Max. Flow
60" (1529)	31.0	0.62	4.0	0.08	31.0	0.62	4.0	0.08
48" (1219)	31.0	0.62	4.0	0.08	31.0	0.62	4.0	0.08
36" (914)	31.0	0.62	4.0	0.08	31.0	0.62	4.0	0.08
24" (610)	39.0	0.65	8.0	0.13	39.0	0.65	8.0	0.13
12" (305)	58.0	0.98	13.0	0.22	58.0	0.98	13.0	0.22

Leakage data is based upon a pressure differential of 1 in. w.g., tested in accordance with AMCA Standard 500-D, Figure 5.5. For pressure differentials greater than 1 in. w.g. apply the appropriate leakage correction factor from the following chart:

Static Pressure (in. w.g.)	2	3	4	5	6	7	8	9	10	12	14	16	18	20	22	24
Correction Factor	x 1.4	x 1.7	x 2.0	x 2.2	x 2.4	x 2.6	x 2.8	x 3.0	x 3.2	x 3.5	x 3.7	x 4.0	x 4.2	x 4.5	x 4.7	x 5.0

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.

SCHEDULE TYPE:	Page 2 of 2			
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