- VEE BLADE
- 13 GA. FRAME
- LOW LEAKAGE
- STANDARD PERFORMANCE
- GALVANIZED STEEL

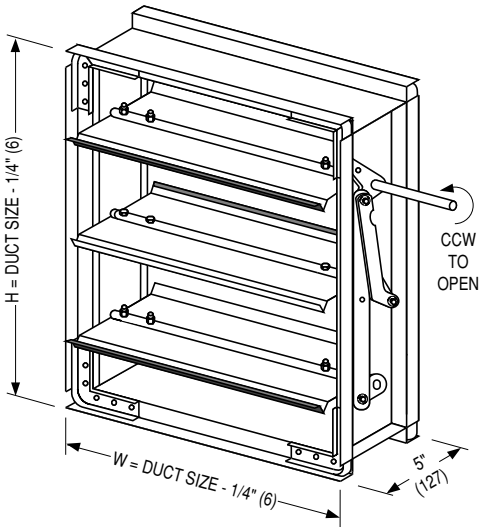
MODELS:
1010 WITH 13 GA. FRAME (PARALLEL BLADE)
1020 WITH 13 GA. FRAME (OPPOSED BLADE)

Model 1020 With 13 Ga. Frame

Nailor Models 1010/1020 with optional 13 Gauge Frame offer low leakage and high value provided in a traditional 13 ga. frame that is fully welded for maximum strength and rack-free installation. For use in most low to medium velocity and pressure commercial HVAC applications, the 1010/1020 with 13 Gauge Frame are low cost, high quality dampers that meet the frequently specified leakage criteria of less than 10 cfm per square foot at 4 in. w.g.. The design features also include a triple-vee blade design that maximizes strength and zero-maintenance concealed linkage (out of the airstream) for reduced pressure drop and air turbulence.

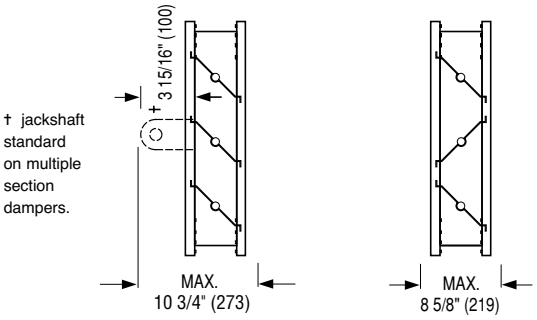
STANDARD CONSTRUCTION:

FRAME:	5" x 7/8" x 13 ga. (127 x 22 x 2.4) galvanized steel hat channel. Fully welded construction. Low profile (flat top and bottom) on dampers 10" (254) high and under.
BLADES:	6" (152) wide on 5 1/2" (140) centers. 16 ga. (1.6) galvanized steel triple-vee design. Parallel or opposed action.
LINKAGE:	Concealed type totally enclosed within the frame and out of the airstream. Plated steel.
BEARINGS:	1/2" (13) dia. Celcon®.
AXLES:	1/2" (13) dia. plated steel double bolted to blades.
DRIVE SHAFT:	6" (152) long x 1/2" (13) dia. rigid shaft; or optional lock-on shaft with outboard support bracket (standard in Canada), on all single section dampers. A 1/2" (13) or 1" (25) dia. factory installed jackshaft is standard on all multiple section dampers.
BLADE SEALS:	Dual durometer bulb type extruded PVC.
JAMB SEALS:	Compression type cambered metal.
MINIMUM SIZE:	Single blade (parallel): 6" x 4" (152 x 102). Two blades (parallel or opposed): 6" x 10" (152 x 254).
MAXIMUM SIZE:	Single section: 48" x 72" (1220 x 1829). Multiple section assembly - unlimited.



MODEL 1010 WITH 13 GA. FRAME
PARALLEL BLADE

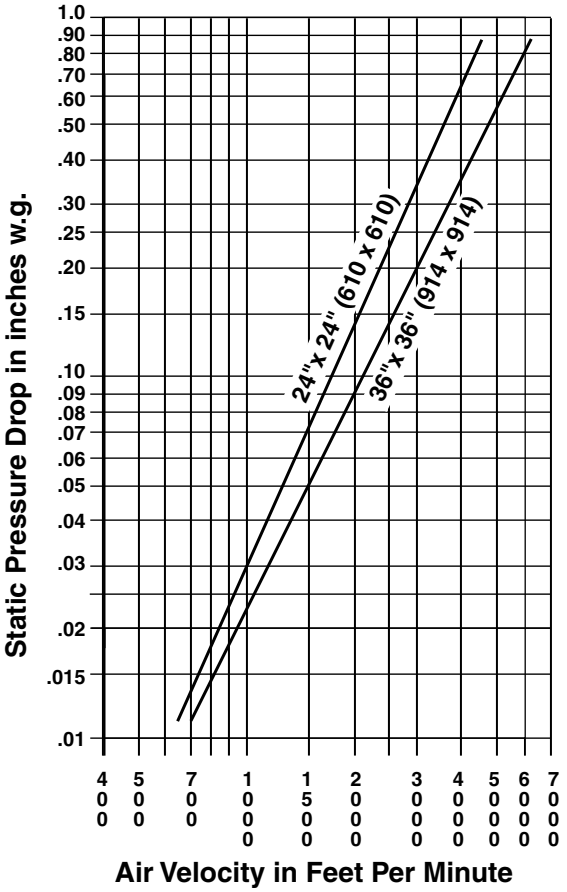
MODEL 1020 WITH 13 GA. FRAME
OPPOSED BLADE



MODELS: 1010 WITH OPTIONAL 13 GA. FRAME
1020 WITH OPTIONAL 13 GA. FRAME

PERFORMANCE DATA:

PRESSURE DROP (damper fully open)



Tested per AMCA standard 500-D, Fig. 5.3.

Imperial figures shown.
To convert to SI (metric) system:

Multiply:

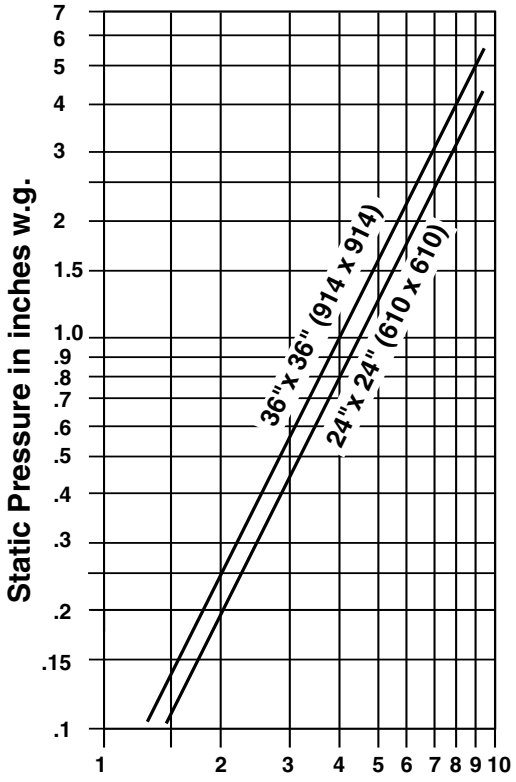
CFM x .4719 = liters per second

inches w.g. x .2486 = kilopascals

fpm x .00508 = meters per second

cfm per sq. ft. x 5.08 = liters/second per sq. meter.

LEAKAGE (damper fully closed)



Tested per AMCA standard 500-D, Fig. 5.5.

PRESSURE DROP (in. w.g.)

DAMPER SIZE	APPROACH VELOCITY (FPM)			
	750	1000	1500	2000
24" x 24" (610 x 610)	.016	.030	.07	.14
36" x 36" (914 x 914)	.013	.023	.05	.09
48" x 48" (1219 x 1219)	.010	.020	.03	.07

Tested per AMCA standard 500-D, Fig. 5.3.

DYNAMIC LIMITATIONS/LEAKAGE

DAMPER WIDTH	MAXIMUM SYSTEM PRESSURE	MAXIMUM SYSTEM VELOCITY	LEAKAGE *	
			% OF MAX. FLOW	CFM/ SQ. FT.
48" (1219)	2.5" w.g.	2000 FPM	0.18	3.5
36" (914)	3.0" w.g.	2000 FPM	0.20	4.0
24" (610)	4.0" w.g.	2000 FPM	0.23	4.5
12" (305)	5.0" w.g.	2000 FPM	0.33	6.6

* Leakage information is based upon a pressure differential of 1" w.g. tested per AMCA standard 500-D, Fig. 5.5.

Temperature Range: -50°F to 180°F (-45°C to 82°C)

MODELS: 1010/1020 WITH OPTIONAL 13 GA. FRAME

AVAILABLE OPTIONS / ACCESSORIES:

The following construction options and accessories are implemented or available on Models 1010/ 1020 WITH OPTIONAL 13 GA. FRAME.
See page B55 for further description of options/accessories.

	CODE	DESCRIPTION
MATERIAL:	GLV	Galvanized Steel Construction
FRAME:	FF FR FD	Front Flange Rear Flange Double Flange
FRAME GAUGE:	13G	13 Gauge frame
BLADE LINKAGE STYLE:	LF	Face linkage (In Airstream)
BEARINGS:	BO BS BT	Oilite® Bronze Bearings Stainless Steel Bearings Thrust Bearings
JAMB SEAL:	JSS	Stainless Steel Jamb Seals
ROUND/OVAL TRANSITION:	CR CO	Transition Casing for Round Duct Transition Casing for Oval Duct
OPERATOR ACCESSORIES:	HLQ PCE PCI FMO FMI JK5 JK1 VCK	Hand Locking Quadrant External Chain Operator Internal Chain Operator Factory Mounted Actuator-Outside w/side plate Factory Mounted Actuator-Internal w/jackshaft 1/2" (13) Dia. Jackshafting for Single Section 1" (25) Dia. Jackshafting for Single Section Vertical Interconnection Kit

At Nailor Industries, we take pride in our flexibility to meet the needs of your specific applications. The options listed above provide a variety of commonly used modifications to satisfy the majority of today's diverse requirements. Should your application require a more unique configuration, please consult your authorized Nailor Representative or the Nailor Industries office nearest you for assistance.

HOW TO SPECIFY OR TO ORDER

MODELS: 1010/1020 WITH OPTIONAL 13 GA. FRAME

HOW TO ORDER:

Standard construction for models 1010/1020 WITH OPTIONAL 13 GA. FRAME is shown in highlighted box. Option codes are listed below. See previous page for description of options.

MODEL	SIZE (W X H)	MATERIAL	FRAME TYPE	FRAME GAUGE	BLADE LINKAGE STYLE	DRIVE LOCATION	BEARINGS	BLADE SEAL	JAMB SEAL	ROUND/OVAL TRANSITION	OPERATOR ACCESSORIES
1010 1020	ie: 48 x 24	**GLV**	**HC**	**13G**	**LC**	**DR/DL**	**BC**	**BPV**	**JSM**	**–**	**–**
			FF FR FD	⬆	LF		BO BS BT		JSS	CR CO	HLQ FMO FMI PCE PCI JK5 JK1 VCK

Notes: 1. ⬆ Arrow indicates 'must select' option.
2. Right hand driveshaft is standard. For left hand driveshaft simply rotate the damper so that the driveshaft is on left hand side, as blade and jamb seals are designed to work with airflow in either direction. 1/2" (13) or 1" (25) dia. jackshafting is standard on all multiple section wide units.
3. If Pull Chain Operator option is selected, please specify length of chain required.
4. If Option CR Round Transition casing (or CO) is selected please order by duct size diameter ie: 36"ø.

SUGGESTED SPECIFICATION:
Provide and install, as shown on plans and/or schedules, low-leakage dampers meeting or exceeding the following criteria: Frame shall be constructed of 13 ga. (2.4) galvanized steel hat channel with die-formed corner gussets, fully welded for rigidity. Blades shall be of triple-vee design, 16 ga. (1.6) galvanized steel, on maximum 6" (152) centers, in parallel or opposed (please select) configuration. Blade axles shall be 1/2" (13) dia. plated steel, double thru-bolted to blade at each end. Hex or square friction-fit, or press-fit axles are not acceptable. Bearings shall be Celcon® molded synthetic type. Blade linkage shall be zero-maintenance, out of airstream and totally concealed within the frame. Jackshafts shall be supplied on all multiple section wide assemblies in order to evenly distribute torque. Blade seals shall be dual durometer bulb type extruded PVC, and jamb seals shall be compression type cambered metal, providing positive shut-off. All submitted performance data to be based on tests in accordance with AMCA Standard 500-D. Standard of acceptance: Nailor Industries Model 1010 WITH 13G FRAME (parallel blade) or Model 1020 WITH 13G FRAME (opposed blade).