

MODELS 1201-MDG & 1201-MDS MULTI-BLADE MARINE FIRE DAMPERS AIRFOIL BLADE • LOW LEAKAGE

Model Series 1201-MDG and 1201-MDS are Multi-Blade Low Leakage Fire Dampers for use in marine applications which require USCG approval for installation on Class A-60 divisions. Unique airfoil blade design provides low pressure drop, particularly suited for high velocity applications. Standard features include a rugged hat channel frame, 12" (305) factory fitted sleeve, concealed in-frame linkage and stainless steel jamb seals for low leakage performance. Models 1201-MDG and 1201-MDS may be installed vertically, with blades running horizontal, or horizontally.



Model 1201-MDG



Model 1290F

MODEL 1290F-SS (1 1/2 HR.) DYNAMIC FIRE DAMPER TRUE ROUND • STAINLESS STEEL

Model 1290FSS is an economical true round fire damper designed and qualified for point-of-origin fire containment in high humidity or corrosive environments where round ductwork passes through metal stud drywall partitions or masonry walls that have a fire resistance rating of up to 2 hours and building codes require a fire damper. Features include the industry proven over-center/knee lock design with high torque spring/fusible link closure which provides fail-safe security during fire conditions under airflow. Each damper is supplied as standard with retaining plates for fast secure installation and a hand locking quadrant which holds the damper in the fully open position, but may also be used for system balancing if required. The 1290F-SS is available in either Type 304 or 316 Stainless Steel.

MODEL 1290F (1 1/2 HR.) DYNAMIC FIRE DAMPER TRUE ROUND

Model 1290F is an economical true round fire damper designed and qualified for point-of-origin fire containment where round ductwork passes through metal stud drywall partitions or masonry walls that have a fire resistance rating of up to 2 hours and building codes require a fire damper. Features include the industry proven over-center/knee lock design with high torque spring/fusible link closure which provides fail-safe security during fire conditions under airflow. Each damper is supplied as standard with retaining plates for fast secure installation and a hand locking quadrant which holds the damper in the fully open position, but may also be used for system balancing if required.



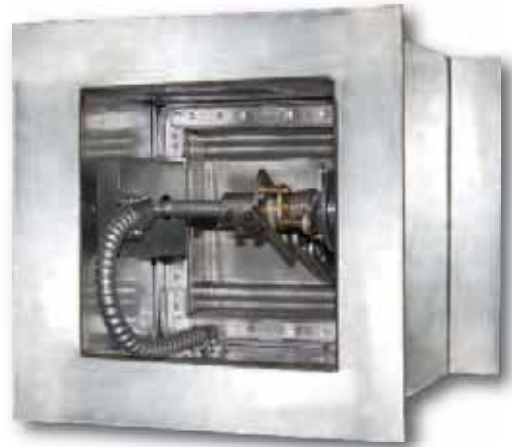
Model 1290F-SS

- MARINE APPLICATIONS
- AIRFOIL BLADE
- HIGH PERFORMANCE
- LOW LEAKAGE
- USCG TYPE APPROVED FOR CLASS A-60 DIVISIONS

Models:

1201-MDG Galvanized Construction

1201-MDS Type 304 Stainless Steel Construction



Model 1201-MDG

Models 1201-MDG and 1201-MDS are Multi-Blade Low Leakage Fire Dampers for use in marine applications which require USCG approval for installation on Class A-60 divisions. Unique airfoil blade design provides low pressure drop, particularly suited for high velocity applications. Standard features include a rugged hat channel frame, 12" (305) factory fitted sleeve, concealed in-frame linkage and stainless steel jamb seals for low leakage performance. Models 1201-MDG and 1201-MDS may be installed vertically, with blades running horizontal, or horizontally.

QUALIFICATIONS:

- International Maritime Organization Fire Test Procedures Code USCG Type Approval A-60. Approval Number 164.139/8/0.

- European Wheel Mark  1408/05.

- Southwest Research Institute Test report No. 01.10933.01.701.

- Leakage: Less than 4 cfm/sq. ft. @ 1" w.g. (6.8 L/s/cm² @ 1250 Pa).

STANDARD CONSTRUCTION:

Frame: 5" x 7/8" x 16 ga. (127 x 22 x 1.6) galvanized or stainless steel hat channel.

Blades: 14 ga. (2.0) equivalent galvanized or stainless steel formed airfoil on 5 1/2" (140) centers. Opposed action.

Sleeve: 12" x 16 ga. (305 x 1.6 ga.) with 2" (51) flange on both ends. 10" through 24" (254 through 610) long and 16 ga. through 10 ga. (1.6 through 3.51) available. 12" (305) min. with MLS-300. Flange widths from 1" to 3" (25 to 76) available.

Linkage: Concealed in frame. 12 ga. (2.7) plated or stainless steel.

Bearings: 1/2" (13) dia. self-lubricating oilite bronze or sintered stainless steel.

Axles: 1/2" (13) dia. plated steel or stainless steel double bolted to blades.

Jackshaft: 1/2" (13) dia. plated or stainless steel. CCW rotation to open.

Jamb Seals: Stainless steel.

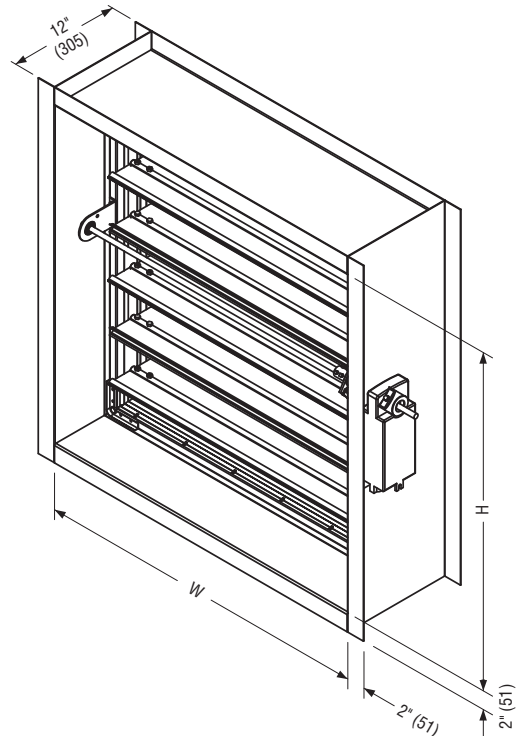
Fusible Link: 165°F (74°C) standard. 212°F (100°C) available.

Models 1201-MDG and 1201-MDS Sizes (Duct W x H):

Minimum Single Section	Maximum Single Section		Maximum Multiple Section	
	Vertical	Horizontal	Vertical	Horizontal
8" x 8" (203 x 203)	36" x 36" (914 x 914)	32" x 48" (813 x 1219)	72" x 36" (1830 x 914)	72" x 36" (1830 x 914)

COMMON OPTIONS:

- Type 316 Stainless Steel Construction (Model 1201-MDS only)
- Explosion-Proof Motor.
- MLS-300 Position Indicator Switch Pack.
- Factory fitted sleeves.
- 1" (25), 1 1/2" (38), 2" (51), 2 1/2" (64), 3" (76) Sleeve Flange.

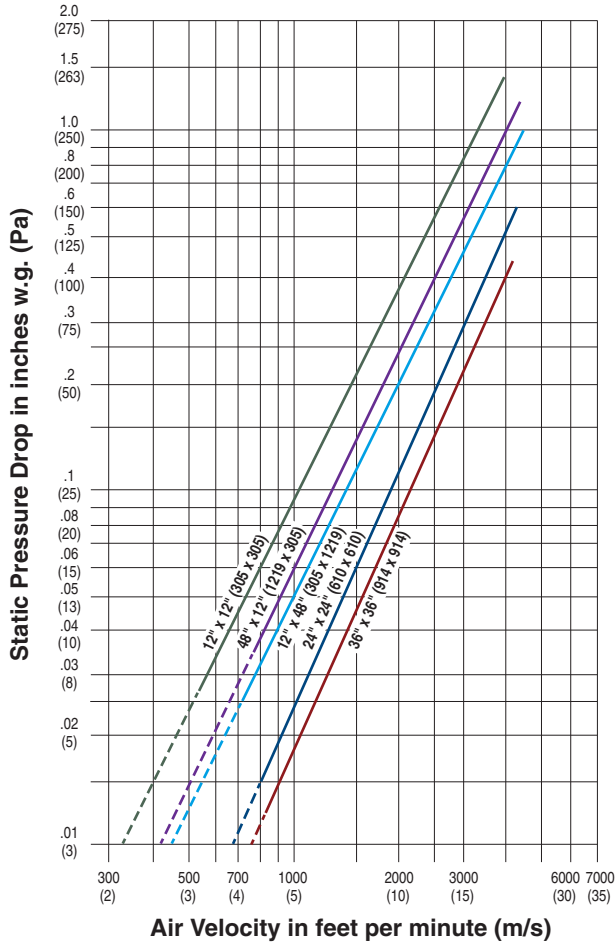


MODEL 1201-MDG/1201-MDS

PERFORMANCE DATA:

MODELS: 1201-MDG AND 1201-MDS

PRESSURE DROP:



Pressure drop tested per AMCA Standard 500-D, Figure 5.3.
Data corrected to standard air density of 0.075 lbs/ft.³.

HOW TO SPECIFY

SUGGESTED SPECIFICATION:

Provide and install, as shown on plans and/or schedules, Multi-Blade Marine Fire Dampers as manufactured by Nailor Industries, Inc. which meet or exceed the following criteria: Dampers shall be tested and rated in accordance with the latest edition of International Maritime Organization Fire Test Procedures Code Coast Guard Approval Type A-60 and also bear the European Wheel Mark in accordance with Marine Equipment Directive 96/98/EC.

Frame shall be constructed of 16 ga. (1.6) (specifier to select) galvanized steel (Model 1201-MDG) or Type 304 Stainless Steel (Model 1201-MDS) or Type 316 Stainless Steel (Model 1201-MDS) hat channel with mitered corners reinforced with die-formed corner gussets for strength. Blades shall be 14 ga. (2.0) equivalent (specifier to select) galvanized steel (Model 1201-MDG) or Type 304 Stainless Steel (Model 1201-MDS) or Type 316 Stainless Steel (Model 1201-MDS) formed double skin, airfoil design, on 5 1/2" (140) centers. Dampers shall be of opposed blade configuration with an interlocking blade design. Blade seals are not acceptable. Damper shall be equipped with stainless steel jamb seals for low leakage performance. Bearings shall be (specifier to select) self-lubricating oilite bronze type (Model 1201-MDG) or Stainless Steel (Model 1201-MDS). Blade linkage shall be zero-maintenance, concealed in frame, out of airstream.

The heat responsive device shall have a temperature rating of (specifier select temperature) 165°F (74°C) or 212°F (100°C). Appropriate externally mounted electric actuators shall be installed by the damper manufacturer in the factory. Actuators shall incorporate an OEM internal spring return mechanism, external after-market spring mechanisms are not acceptable. Damper and actuator assembly shall be factory cycled a minimum of 3 times to ensure correct operation.

Standard of acceptance shall be Nailor Model (specifier to select) 1201-MDG (Galvanized Steel) or 1201-MDS (Stainless Steel).

HOW TO ORDER

MULTI-BLADE MARINE FIRE DAMPERS

MODELS: 1201-MDG, 1201MDS

EXAMPLE: 1201-MDG - 24 x 24 - V - FL - 165 - BO - SL = 12 - 16G - FD20 - AUTO - 120 - EXT - RH - CL - 412

- | | | |
|--|---|---|
| <p>1. Models
 1201-MDG Galvanized Steel, Airfoil Blade
 1201-MDS Stainless Steel, Airfoil Blade</p> <p>2. Duct Size
 Width x Height or Diameter (inches [mm's])</p> <p>3. Mounting
 V Vertical (default)
 H Horizontal</p> <p>4. Stainless Steel Construction
 (Model 1201-MDS only)
 304 Type 304 Stainless Steel (default)
 316 Type 316 Stainless Steel</p> <p>5. Closure Device
 FL Fusible Link (default)</p> <p>6. Elevated Temperature
 165 165°F (74°C) (default)
 212 212°F (100°C)</p> <p>7. Bearings
 BO Oilite Bronze (default on Model 1201-MDG)
 BS Stainless Steel (default on Model 1201-MDS)</p> <p>8. Sleeve Length
 SL = Specify
 12 12" (305) standard (default)
 10 10" (254)
 14 14" (356)
 16 16" (406)
 18 18" (457)
 20 20" (508)
 24 24" (610)</p> <p>9. Sleeve Gauge
 16G 16 ga. standard (default)
 14G 14 ga.
 10G 10 ga.</p> <p>10. Sleeve Flange
 FD20 2" (51) standard (default)
 FD10 1" (25)
 FD15 1 1/2" (38)
 FD25 2 1/2" (64)
 FD30 3" (76)</p> <p>11. Bolt Holes
 — None (default)
 BH1 In One Flange
 BH2 In Both Flanges</p> | <p>12. Actuator Selected by
 AUTO Least Cost (Auto-Select) (default)
 MAN Manually Select</p> <p>13. Power Requirement
 120 120 VAC (default)
 230 230 VAC
 24 24 VAC
 25 25 psi Pneumatic
 MAN Manual</p> <p>14. Actuator Mounting
 EXT External (default)</p> <p>15. Actuator Location
 RH Right-Hand (default)
 LH Left-Hand</p> <p>16. Fail Position
 CL Close (default)
 OP Open</p> <p>17. Actuator Models
 Electric:
 MS4 MS4X09F 120 VAC
 MS8 MS8X09F 24 VAC
 4Y0 MS4Y09F 230 VAC
 412 MS4120F 120 VAC
 812 MS8120F 24 VAC
 462 MS4620F 230 VAC
 Pneumatic:
 296 331-2961 #4
 306 331-3060 #3</p> | <p>OPTIONS & ACCESSORIES:</p> <p>18. Position Indicator
 — None (default)
 300 MLS-300 - 4 wire</p> <p>19. E. P. Switch
 EP1 2651008 120 V
 EP2 2651007 24 V</p> <p>20. Explosion-Proof Motor
 — None (default)
 EPH Explosion-Proof Motor</p> <p>21. Outdoor Motor Housing
 — None (default)
 OMH4 Type 304 Stainless Steel (NEMA 4X)
 OMH6 Type 316 Stainless Steel (NEMA 4X)</p> <p>22. Continuous Weld Sleeve
 — None (default)
 CWS Continuous Weld Sleeve</p> <p>Notes:</p> <p>1. Standard sleeve is 12" (305 long x 16 ga. (1.6) with a 2" (51) flange at both ends.</p> <p>2. Refer to actuator price sheet for selection availability. Contact factory for availability of other actuators.</p> <p>3. One MLS-300 required per damper assembly.</p> <p>4. EP (electric-pneumatic) switch optional accessory is applicable only to pneumatic actuators and is shipped loose.</p> |
|--|---|---|



MULTI-BLADE FIRE DAMPERS

Options and Accessories

Nailor multi-blade fire dampers are tested by and listed with Underwriters Laboratories Inc. and are manufactured within UL procedural requirements. Approved variables including a variety of options and accessories are available to suit specific applications.

MATERIAL OPTIONS:

OPTION CODE 304
STAINLESS STEEL CONSTRUCTION

All parts of damper (except blade seals) will be constructed of 304 stainless steel. Provides higher corrosion resistance against harsh atmospheric and process elements. Consult your Nailor representative for specific application suitability.

OPTION CODE 316
STAINLESS STEEL CONSTRUCTION

All parts of damper (except blade seals) will be constructed of 316 stainless steel. Provides higher corrosion resistance against harsh atmospheric and process elements. Consult your Nailor representative for specific application suitability.

BEARING OPTIONS:

OPTION CODE BO
OILITE® BRONZE BEARINGS



Bronze sintered (oil impregnated) self-lubricating oilite bearings provide long time lubrication making them ideal for use in applications where proper maintenance is uncertain or difficult.

OPTION CODE BS
STAINLESS STEEL BEARINGS



304 grade stainless steel bearings provide corrosion resistance in a wide variety of corrosive media. In higher heat applications, provides good oxidation resistance. Standard for stainless steel models.

CLOSURE TEMPERATURES:

OPTION CODES
165 212
FUSIBLE LINK TEMPERATURE

Fusible links for Model Series (D)1200, D1250 and 1290F fire dampers are available with a choice of several melting temperature ratings. Nailor fire dampers are provided as standard with 165°F (74°C) fusible link. Optional 212°F (100°C) link can be installed on damper at time of manufacturing, or can be ordered separately as a replacement part for field installation as part of a regular maintenance program or after a fire emergency (providing damper is still functional).

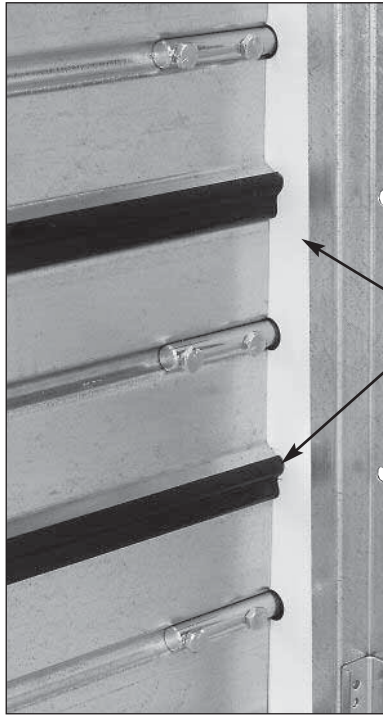
The National Fire Protection Association Standard 90A states that "fusible links shall have a temperature rating approximately 50°F (28°C) above the maximum temperature that normally is encountered when the system is in operation or shut down, but not less than 160°F (71°C)." Adhering to this guideline helps prevent 'nuisance trips' resulting in unnecessary replacement costs and labor time. Note that local building codes may also stipulate a maximum closure temperature rating.

OPTIONAL SEALS:

OPTION CODE **JSM**
FLEXIBLE METAL JAMB SEALS

OPTION CODE **JSS**
STAINLESS STEEL JAMB SEALS

OPTION CODE **BSS**
SILICONE SEALS



Option Code JSM (Option Code JSS on stainless steel models) provides damper with flexible metal jamb seals to minimize air leakage between blade ends and frame. Suitable for use in applications that may require damper to be used as a shut-off damper for example, as well as a fire damper.

JSM JSS

BSS

Option Code BSS provides damper with Silicone blade edge seals. Blade seals minimize air leakage between blades, and are a suitable option for use in applications that may require damper to be used as a shut-off damper for example, as well as a fire damper.

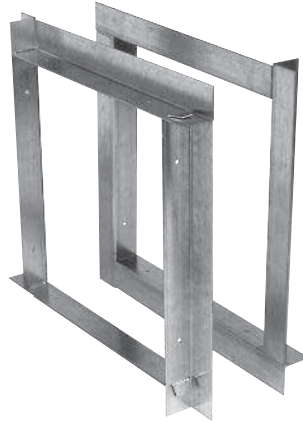
RETAINING ANGLES:

OPTION CODES
QS2 TWO SIDES (PAIR)
QS1 ONE SIDE
 'QUICK-SET' RETAINING ANGLES

FOR USE WITH ALL MULTI-BLADE FIRE DAMPERS EXCEPT MODELS 1290FS AND 1290FS-SS

- Maximum Size: 90" x 48" (2286 x 1219) or 48" x 90" (1219 x 2286)

Note: Reference IOM-FDQSRA for more details.



BENEFITS:

- Factory fabricated by the manufacturer to suit the individual fire damper.
- Dampers can ship directly to the job site complete with all necessary installation sheet metal hardware (saves on double handling at contractor's shop).
- Reduced cost when compared to conventional retaining angles.
- Only two sets of angles to handle per damper (rather than eight).
- Angles ship with individual damper - no sorting or matching.
- Pre-drilled holes on 8" (203) centers to ensure correct angle/sleeve attachment.
- Help ensure a correct installation as per U.L. approved installation instructions.

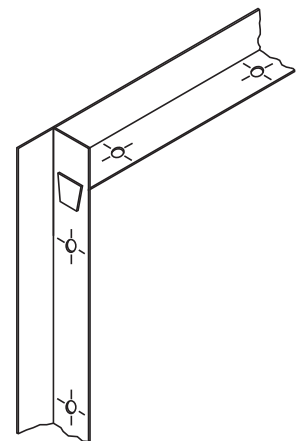
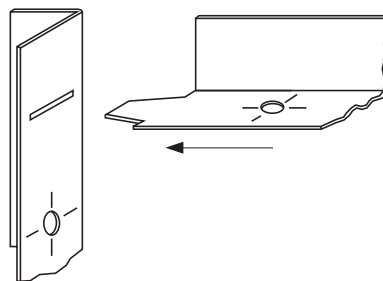
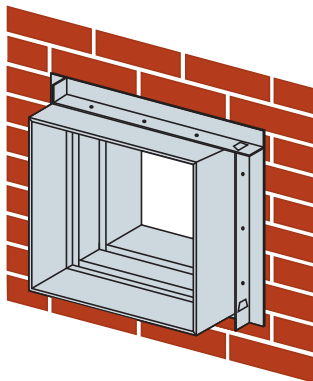
The majority of installing contractors view fire damper installation as a costly time consuming and troublesome procedure. Eight conventional angles must be custom fabricated for each damper either in a sheet metal shop or at the job site and sized to suit each individual damper. Invariably, they are mislaid or lost and must be matched to each factory supplied damper. The Nailor "Quick-Set" solution solves the majority of problems. They are pre-formed to fit each damper and shipped with the individual damper units for ultimate convenience.

Nailor "Quick-Set" retaining angles are an accessory option for all dampers ordered with factory sleeves.

QS2: Two sides (pair). For standard installations where angles are installed on both sides of the fire partition.

QS1: One side (single set). For use in a single side retaining angle installations and with grille mount and "out of wall" damper models. "Quick-Set" angles are supplied with correctly spaced pre-drilled screw-holes to ensure a quick, easy and accurate installation for all Nailor fire dampers - no measuring required.

"Quick-Set" retaining angles when specified and supplied with Nailor integral sleeve fire dampers provide the "complete" installation package. Simple, fast, convenient.



Style 1: 1 1/2" x 1 1/2" x 20 ga. (38 x 38 x 1.0) Four sides are connected together with rivets in three corners. Standard for the majority of applications with the following limitations:

- 1 1/2 hour label fire dampers.
- Maximum Size: 36" x 36" (914 x 914).
- Two sided installation only.

Style 2: 1 1/2" x 1 1/2" x 16 ga. (38 x 38 x 1.6) Slot and tab design. The retaining angle assembly for each side has four angles, each with a tab end and a slot end (Detail A). The tabs are to be inserted into the slots and knocked down either before or after fastening to the sleeve (Detail B).

- 1 1/2 or 3 hour label fire dampers.
- Maximum Size: 90" x 48" (2286 x 1219) or 48" x 90" (1219 x 2286).
- Single side (1 1/2 hour only. Refer to Single Side Retaining Angles Supplementary Installation Instructions for size limitations) or two sided installation.

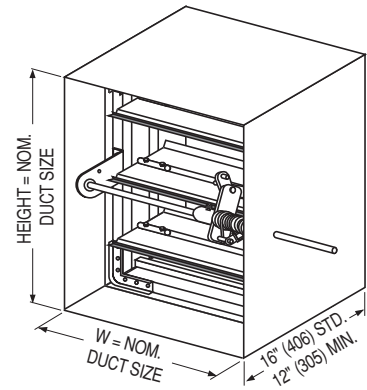
SLEEVES OR SIDE MOUNTING PLATE:

TYPE A SLEEVES
 MODELS (D)1201 and D1251

All fire dampers require a steel sleeve of correct length and gauge in order to be installed in accordance with the product's UL approved installation instructions. Nailor recommends that all multi-blade fire dampers, including Type A models, are specified and ordered complete with a factory installed full sleeve (Type B and C models are manufactured as standard with a transition casing that acts as a sleeve). Nailor can provide a factory furnished sleeve that allows the units to ship directly to job site ready for installation, saving time, money and costly shop or field fabrication, as well as helping to ensure proper installation to UL requirements. A factory furnished sleeve also permits factory mounting of Nailor's MLS-300 Position Indicator Switch Pack. Standard sleeve is 16" (406) long. For further damper/sleeve details, see Models (D)1201 and D1251.

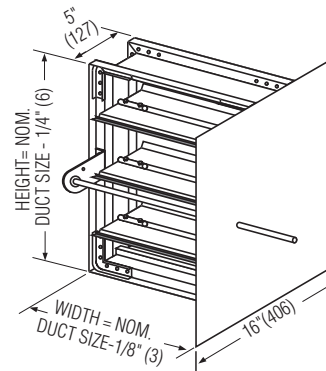
The following indicates model numbers to order for multi-blade fire dampers with factory fitted Type A sleeves:

Standard Model #	With Type A Sleeve
(D)1200	Model (D)1201
D1250	Model D1251



OPTION CODE SMP
 SIDE MOUNTING PLATE

Nailor's **SMP**, Side Mounting Plate is required for factory mounting of the MLS-300 Position Indicator Switch Pack when a full factory sleeve is not requested. As with all fire dampers, an appropriate steel sleeve is required for installation of damper in wall or floor.



SIDE MOUNTING PLATE FOR MULTI-BLADE FIRE DAMPERS

FLANGED SLEEVE:

OPTION CODES
 TDF FLANGE
TDF2 BOTH ENDS
TDF1 ONE END



TDF (by Engle) and **TDC** (by Lockformer) proprietary flange systems are approved as breakaway connections for connecting a combination fire/smoke damper Type A sleeve (22 or 20 gauge) to ductwork. They may be used in place of the approved slip joints shown in standard installation instructions. For Option **TDF1** the sleeve is factory flanged on one end only. For Option **TDF2** the sleeve is factory flanged on both ends.

Note that the maximum wall/floor opening size permitted by UL, relative to the damper size, may not physically allow the flange to fit through the opening. Consultation and co-ordination with the wall/floor contractor is recommended. **TDF1**, flange on one end only, will permit the non-flanged end of the sleeve to fit through the opening. Specify which end to be flanged in relation to the jackshaft.

Maximum TDF1/TDF2 Sleeve Size Allowed:
For Curtain Type Fire Damper: 60" wide x 60" high (1524 x 1524).
For Multi-Blade Type Fire Damper: 36" wide x 48" high (914 x 1219).

Note: Reference IOM-FDTDCFINST for more details.