

**MODEL D1201-DOW (1 1/2 HR.)  
OUT OF WALL DYNAMIC FIRE DAMPER  
AIRFOIL BLADE • DUCTED BOTH SIDES**

Model D1201-DOW is an "out of wall" (vertical mount) or "out of floor" (horizontal mount) high performance dynamic fire damper for through penetration applications (ductwork is connected to both sides) where the damper cannot be installed within the plane of the wall or floor. Innovative design features include inter-locking double skin blades that eliminate combustible seals and provide flame protection under fire conditions at temperatures up to 2000°F (1366°C) and premium performance and a low pressure drop well suited to the majority of commercial applications. The D1201-DOW is ideal for applications where building codes require a fire damper for the protection of ductwork penetrations in walls or floors that have a fire resistance rating of up to 2 hours.



Model D1201-DOW

**MODEL D1201-OW (1 1/2 HR.)  
OUT OF WALL DYNAMIC FIRE DAMPER  
AIRFOIL BLADE • GRILLE MOUNT**

Model D1201-OW is an "out of wall" high performance dynamic fire damper specifically designed for supply or return ducts that terminate at a grille and provides through the grille access to the damper. Standard sleeve length accommodates most commercial supply and return grilles/registers. It offers premium performance and a low pressure drop well suited to the majority of commercial applications. Unique, inter-locking double skin blade design eliminates combustible seals and provides flame protection under fire conditions at temperatures up to 2000°F (1366°C). The D1201-OW is supplied as standard with an internal locking quadrant which holds the damper in the fully open position, but may also be used for system balancing if required.



Model D1201-OW

**MODEL SERIES D1200SS (1 1/2 HR.) & D1200SS-3 (3 HR.)  
DYNAMIC FIRE DAMPER  
AIRFOIL BLADE • STAINLESS STEEL**

Model Series D1200SS and D1200SS-3 Stainless Steel Airfoil Multi-blade Fire Dampers provide the ultimate in fire containment for both static and dynamic HVAC systems, ideal for use high humidity or corrosive environments where building codes require a fire damper for the protection of ductwork penetrations in walls or floors. Available in either Type 304 or 316 Stainless Steel, premium performance, rugged construction and assured closure under airflow make the D1200SS and D1200SS-3 series dampers an excellent choice for the majority of today's commercial and light industrial applications.



Model D1200SS

**MODEL SERIES 1200SS (1 1/2 HR.) & 1200SS-3 (3 HR.)  
STATIC FIRE DAMPER  
AIRFOIL BLADE • STAINLESS STEEL**

Model Series 1200SS and 1200SS-3 Stainless Steel Airfoil Multi-blade Fire Dampers are classified for use only in static "fans off" systems where the HVAC system is automatically shut down in the event of a fire alarm. The 1200SS and 1200SS-3 series dampers have been designed and tested to provide premium performance, available in either Type 304 or 316 Stainless Steel, ideal for use in high humidity and mildly corrosive environments where building codes require a fire damper for the protection of ductwork penetrations in walls or floors. The airfoil blade design and elimination of blade sills, top and bottom, provide a low pressure drop design.



Model 1200SS

- "OUT OF WALL" GRILLE MOUNT WITH DAMPER ACCESS
- HIGH PERFORMANCE
- AIRFOIL BLADE
- UL 555 CLASSIFIED DYNAMIC FIRE DAMPER



Model D1201-OW

**Model:**

**D1201-OW 1 1/2 Hour Label (for fire separations of up to 2 hours)**

Model D1201-OW is an "out of wall" (vertical mount) or "out of floor" (horizontal mount) Multi-Blade Dynamic Fire Damper intended for use in supply or return ducts that terminate at a grille where access through the grille to the damper actuator and other components is required. Standard integral sleeve length accommodates most commercial supply and return grilles and registers. Ideal for use where building codes require a fire damper for the protection of ductwork penetrations in walls or floors that have a fire resistance of up to 2 hours.

The design utilizes an innovative inter-locking double skin airfoil blade that maintains a complete barrier throughout the fire test with absolutely no visible through-gaps and also features the industry proven over-center knee-lock design with high torque spring/fusible link closure. Intumescent thermal insulation covers all four sides to reduce thermal transfer. Supplied as standard with an internal locking quadrant which holds the damper in the fully open position, but may also be used for system balancing if required.

Rugged 16 ga. (1.6) hat channel frames, 14 ga. (2.0) equivalent blades, long lasting self-lubricating bearings, double bolted blade axles and reinforced mitered corners with die formed corner gussets result in one the industry's most durable out of wall fire dampers. Premium performance, versatility and assured closure under airflow make the D1201-OW damper an excellent choice for the majority of today's commercial applications that terminate at a grille.

**QUALIFICATIONS:**

- **UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER 1 1/2 Hour Label (File # R9492).**
- **Meets NFPA 80, 90A and 101 as well as IBC and NBC (Canada) requirements.**
- **California State Fire Marshal: Fire Damper Listing No. 3225-0935:0101.**
- **Maximum velocity 4000 fpm @ 4" w.g. (20 m/s @ 1 kPa).**
- **For use in vertical or horizontal concrete partitions and vertical steel stud partitions only.**

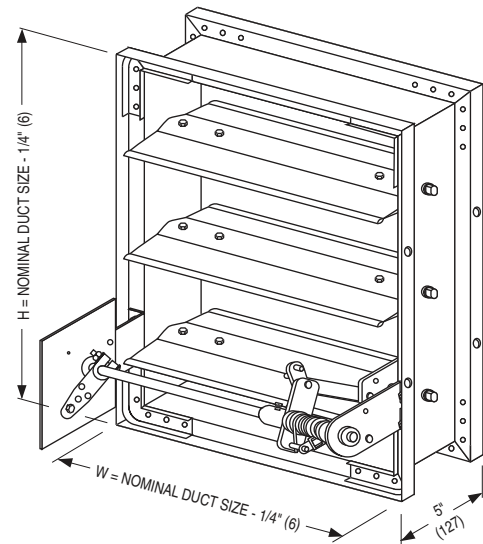
**STANDARD CONSTRUCTION:**

- Frame:** 5" x 7/8" x 16 ga. (127 x 22 x 1.6) galvanized steel hat channel.
- Blades:** 14 ga. (2.0) equivalent galvanized steel formed airfoil on 5 1/2" (140) centers. Opposed action.
- Sleeve:** 16" x 20 ga. (406 x 1.0) galvanized steel with 3/4" (19) flange on one end standard.
- Insulation:** Intumescent thermal insulation on four sides.
- Linkage:** Concealed in frame. 12 ga. (2.7) plated steel.
- Bearings:** 1/2" (13) dia. self-lubricating oilite bronze.
- Axles:** 1/2" (13) dia. plated steel double bolted to blades.
- Jackshaft:** 1/2" (13) dia. cadmium plated steel. Internal locking quadrant is factory installed.
- Fusible Link:** 165°F (74°C) standard. 212°F (100°C) available.

**Model D1201-OW Sizes (Duct W x H):**

Velocity/ Pressure Rating	Minimum		Maximum	
	Single Section		Single Section	
	Vertical/Horizontal	Vertical	Horizontal	Horizontal
24, 34, 44	8" x 8" (203 x 203)	36" x 48" (914 x 1219)	32" x 48" (813 x 1219)	

**Note:** Multiple section assemblies are not permitted.



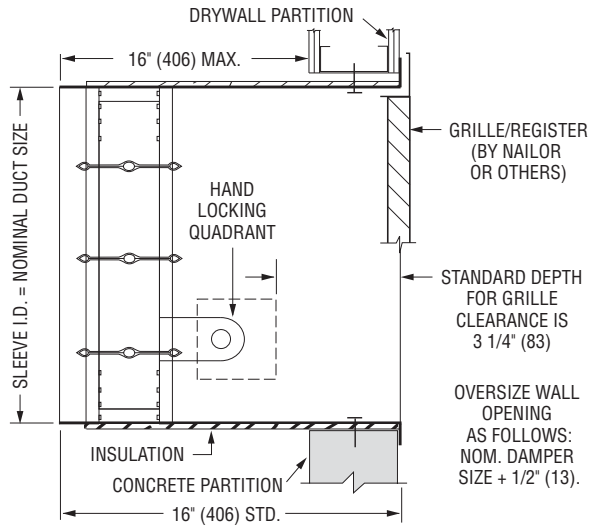
**MODEL D1201-OW**  
(Integral Sleeve not shown)

**COMMON OPTIONS:**

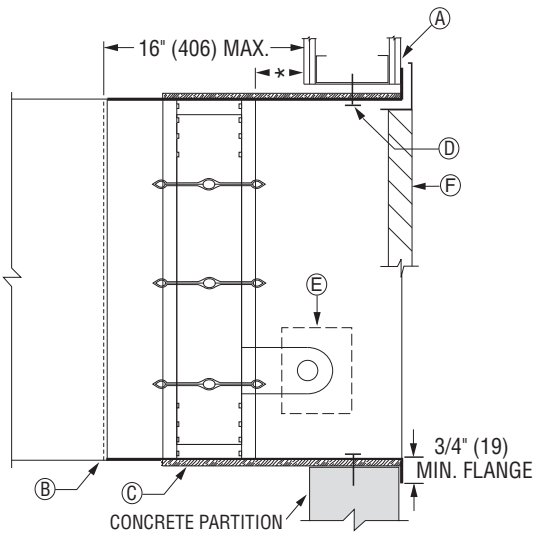
- **MLS-300 Position Indicator Switch Pack.**
- **QS1 "Quick-Set" Retaining Angles.**
- **Factory fitted sleeves in custom lengths, gauges and transition styles.**

## DIMENSIONAL DATA:

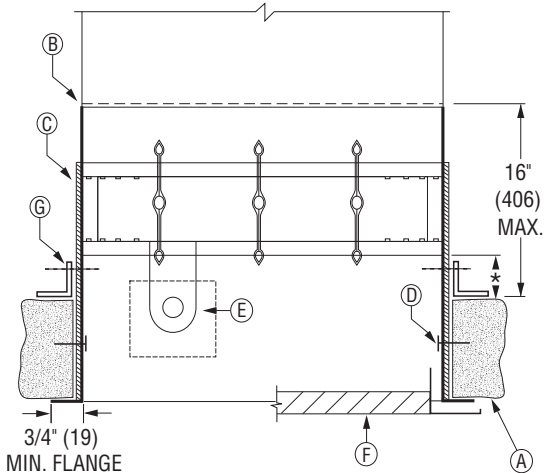
### MODEL: D1201-OW - 1 1/2 HOUR LABEL



**'OUT OF WALL' MOUNTING**



**VERTICAL MOUNT**



**HORIZONTAL MOUNT**

#### NOTES:

1. Important: Dampers are furnished full ordered size to facilitate grille installation. Opening size in partition should be sized 1/2" (13) larger in all directions to allow for sleeve thickness.

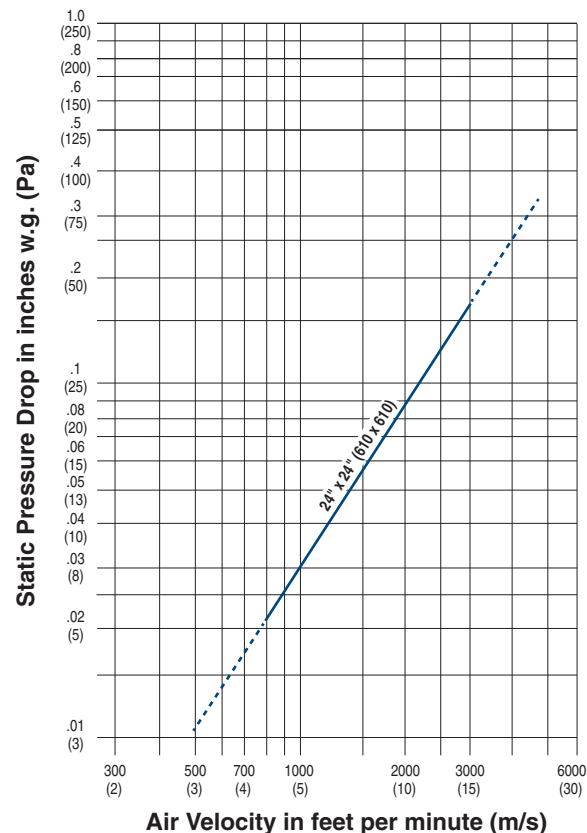
- A Typical 2 hour rated vertical concrete or steel stud construction and horizontal concrete fire partition.
- B Duct connection.
- C Intumescent material (insulation).
- D #10 sheet metal screws or concrete anchors.
- E Manual Locking Quadrant
- F Steel Grille/Diffuser
- G Rear retaining angle (required for horizontal mounting).

\* **Note:** Damper to be located maximum 8" (203) out of wall/floor.

## PERFORMANCE DATA:

MODEL: D1201-OW - 1 1/2 HOUR LABEL

### PRESSURE DROP:



Pressure drop tested per AMCA Standard 500-D, Figure 5.2.  
Data corrected to standard air density of 0.075 lbs/ft.<sup>3</sup>.

D1201-OW Series Maximum Performance Ratings	
UL 555 Fire Rating	1 1/2 Hour
Maximum Velocity	4000 fpm (20 m/s)
Maximum Pressure	4 in. w.g. (1 kPa)

## HOW TO SPECIFY

### SUGGESTED SPECIFICATION:

Provide and install, as shown on plans and/or schedules, Out of Wall Multi-Blade Dynamic Fire Dampers as manufactured by Nailor Industries, Inc. which meet or exceed the following criteria: Fire dampers shall meet the requirements of NFPA 80, 90A and 101 and shall be manufactured, tested and labeled in accordance with UL 555. Each damper shall bear a UL fire resistance rating label of 1 1/2 hours and in addition, a label verifying the airflow and closure pressure ratings of **(specifier select rating)** 2000 fpm (10 m/s) or 3000 fpm (15 m/s) or 4000 fpm (20 m/s), at 4" w.g. (1 kPa) static pressure differential, as established by the Dynamic Closure Test. Each fire damper shall also be marked with the words "For use in dynamic systems". Dampers marked "For use in static systems only" are not acceptable.

Damper shall be provided from the factory in an integral 16 ga. (1.6) galvanized steel sleeve of appropriate length with intumescent thermal insulation on four sides. Frame shall be constructed of 16 ga. (1.6) galvanized steel hat channel with mitered corners reinforced with die-formed corner gussets for strength. Blades shall be 14 ga. (2.0) equivalent galvanized steel formed double skin, airfoil design, on 5 1/2" (140) centers. Dampers shall be of opposed blade configuration with an inter-locking blade design. Blade seals are not acceptable. Blade axles shall be plated steel, double bolted at each end of blade to provide positive locking connection. Hex, square friction-fit or press-fit axles are not acceptable. Bearings shall be self-lubricating oilite bronze type. Blade linkage shall be zero-maintenance, concealed in frame, out of airstream.

Each fire damper shall be complete with a **(specifier select temperature)** 165°F (74°C) or 212°F (100°C) UL Listed fusible link that will cause the damper to close and lock in closed position by means of an over center/knee lock linkage for assured closure. Each damper shall be supplied with an internal manual quadrant(s) for setting and locking of blades in desired position. Contractor shall provide and install an access door at each fire damper, of appropriate size to allow for inspection, testing and fusible link replacement. Data submitted for approval shall include confirmation of UL qualifications in addition to manufacturer's installation instructions. Each shipment of fire dampers shall include same installation instructions. Standard of acceptance shall be Nailor Model D1201-OW.

## HOW TO ORDER

### MULTI-BLADE & TRUE ROUND FIRE DAMPERS

**MODEL SERIES: D1200, D1200-3, D1200SS, D1200SS-3, D1201-OW, D1201-DOW, D1250, 1290F, 1290F-SS, 1200, 1200-3, 1200SS, 1200SS-3**

**EXAMPLE: D1251 - 24 x 24 - V - 24 - FL - 165 - BO - SL = 16 - 20G - L8**

#### 1a. Models

##### Dynamic or Static Applications

D1200	Airfoil Blade, 1 1/2 Hour Label
D1200-3	Airfoil Blade, 3 Hour Label
D1200SS	Stainless Steel, Airfoil Blade, 1 1/2 Hour Label
D1200SS-3	Stainless Steel, Airfoil Blade, 3 Hour Label
D1201-OW	Out-Of-Wall Airfoil Blade, 1 1/2 Hour Label, Grille Mount
D1201-DOW	Out-Of-Wall Airfoil Blade, 1 1/2 Hour Label, Through Penetrations
D1250	Vee Blade, 1 1/2 Hour Label
1290F	True Round, 1 1/2 Hour Label
1290F-SS	Stainless Steel, True Round, 1 1/2 Hour Label

##### Static Only Applications

1200	Airfoil Blade, 1 1/2 Hour Label
1200-3	Airfoil Blade, 3 Hour Label
1200SS	Stainless Steel, Airfoil Blade, 1 1/2 Hour Label
1200SS-3	Stainless Steel, Airfoil Blade, 3 Hour Label

#### 1b. Sleeve/Enclosure Style

(4th digit not applicable to all models)

- 0 = No Sleeve
- 1 = Type A Sleeve
- 2 = Type B Sleeve Enclosure
- 3 = Type C Sleeve Enclosure

#### 2. Duct Size

Width x Height or Diameter (inches [mm's])

#### 3. Construction

(Stainless Steel models only)

- 304 Type 304 Stainless Steel (default)
- 316 Type 316 Stainless Steel

#### 4. Mounting

- V Vertical (wall)
- H Horizontal (floor)

#### 5. Max. Velocity/Pressure Rating

(Dynamic models only)

- 24 2000 fpm @ 4" w.g. (default)
- 34 3000 fpm @ 4" w.g.
- 44 4000 fpm @ 4" w.g.

#### 6. Closure Device

- FL Fusible Link (default)

#### 7. Closure Temperature

- 165 165°F (default)
- 212 212°F

#### 8. Bearings

- BO Oilite Bronze (default)
- BS Stainless Steel (default on  
Stainless Steel models)

#### 9. Jamb Seals

- (Not applicable to all models)
- None
- JSM Flexible metal
- JSS Stainless steel

#### 10. Blade Seals

- (Not applicable to all models)
- None
- BSS Silicone (D1250 Series only)

#### 11a. Side Mounting Plate

- (No sleeve models only)
- SMP Side Mounting Plate

#### 11b. Sleeve Length

- SL = Specify**
- 16" (406) standard (default)
- 16" – 36" (406 – 914)

#### 12. Sleeve Gauge

- 20G 20 ga. standard (default)
- 18G 18 ga.
- 16G 16 ga.
- 14G 14 ga.
- 10G 10 ga.

#### 13. Transition

- (Sleeve Type C models only)
- CR Round
- CO Oval
- CSR Square/Rectangular

#### 14. Damper Location

- L8 8" (203) from sleeve end
- LX Other (specify)  
8" – 16" (203 – 406)

#### ACCESSORIES:

##### 15. Retaining Angles

- None (default)
- QS1 Single set (Not available on  
Model D1201-DOW)
- QS2 Pair (Not available on  
Model D1201-OW)

##### 16. Position Indicator

- None (default)
- 300 MLS-300 (4-wire)

##### 17. TDF Flange

- (Type A sleeved models only)
- None (default)
- TDF1 One end
- TDF2 Both ends

#### Notes:

1. Not all variants and options are available on all models. Refer to individual model for selection availability.
2. One MLS-300 required per damper assembly.
3. All multi-blade fire dampers are supplied with a locking quadrant.

## 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.

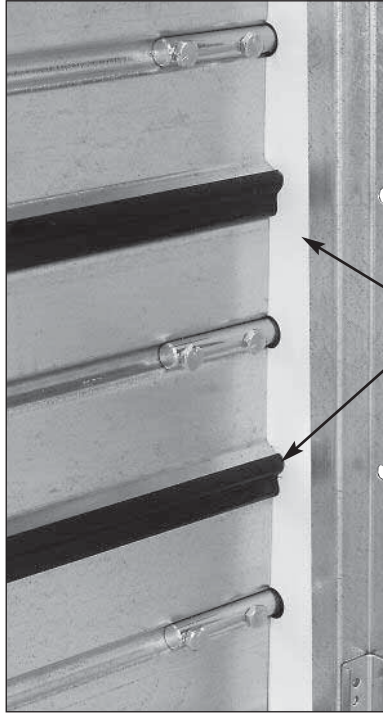


## OPTIONAL SEALS:

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.

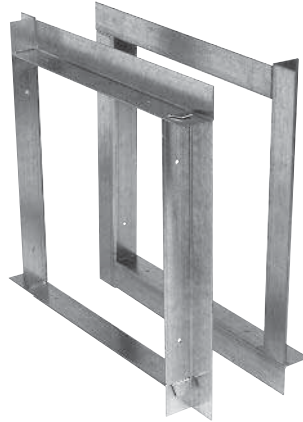
## RETAINING ANGLES:

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.

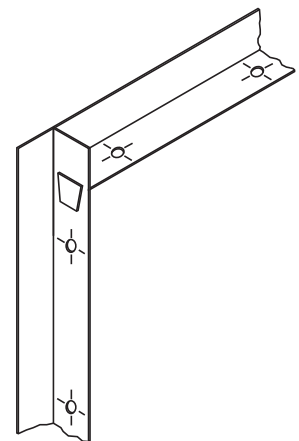
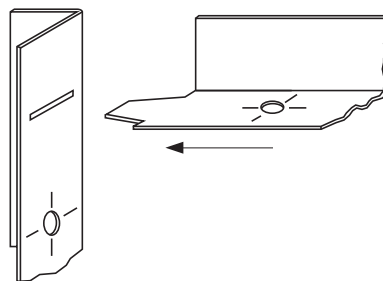
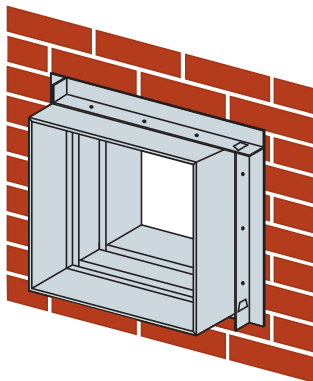
The majority of installing contractors view fire damper installation as a costly time consuming and troublesome procedure. Eight conventional angles must be custom fabricated for each damper either in a sheet metal shop or at the job site and sized to suit each individual damper. Invariably, they are 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.



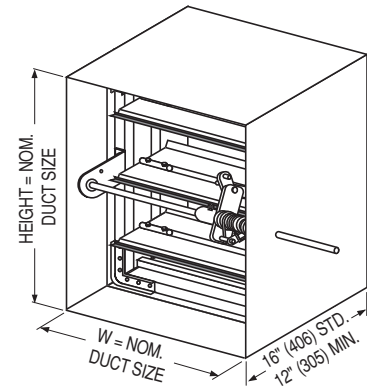
## SLEEVES OR SIDE MOUNTING PLATE:

**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.

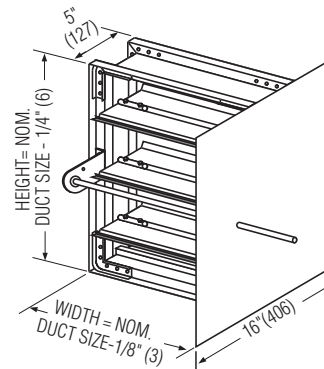
The following indicates model numbers to order for multi-blade fire dampers with factory fitted Type A sleeves:

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.

<b>Maximum TDF1/TDF2 Sleeve Size Allowed:</b>
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.