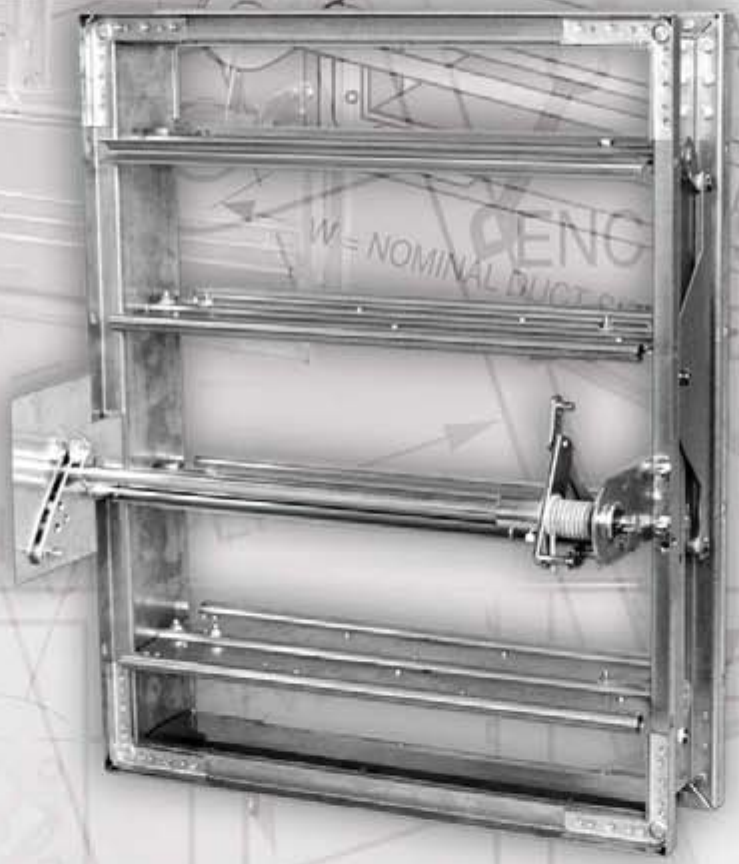
MULTI-BLADE FIRE DAMPERS



Nailor Industries Inc.

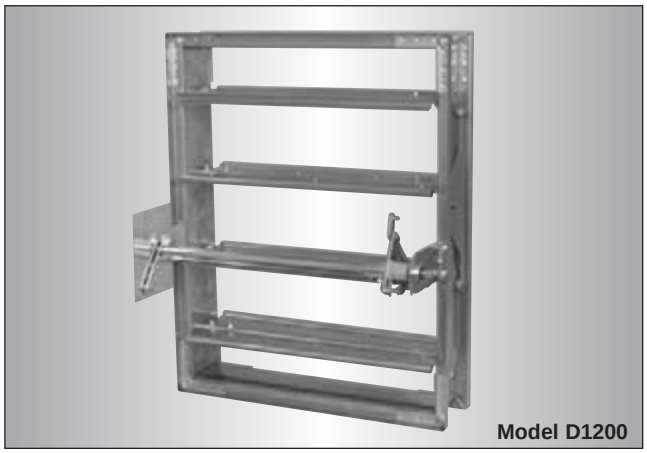
Contents

GENERAL PRODUCT OVERVIEW

As today's modern commercial and industrial building construction becomes increasingly life safety oriented, fire containment and active smoke management systems are being utilized to a higher degree as more sophisticated technology is developed and implemented into building codes. The development process begins with the understanding of fire and smoke behavior through the research and study of real life emergency situations, and culminates in the design, testing of, and ultimate use of new products to better control and manage the ravages of fire and smoke. Thus, resulting property damage is minimized and occupant safety is maximized. Nailor Industries commitment to the development of new and existing fire and smoke control technology has resulted in a comprehensive line of premium quality smoke, fire and combination fire/smoke dampers and accessories, available at a reasonable cost and in a timely fashion. Nailor's 'multi-blade' type fire dampers are available in several blade and frame styles including 'true round', to suit most applications.

MODEL SERIES D1200 AND D1200-3
DYNAMIC FIRE DAMPER • AIRFOIL BLADE
PREMIUM PERFORMANCE

Provides the ultimate in fire containment for both static and dynamic HVAC systems. The D1200 Series utilizes an innovative inter-locking double skin airfoil blade design that maintains a complete barrier throughout the fire test with absolutely no visible through-gaps. Amazingly, the D1200 Series fire damper gets tighter as it gets hotter! Ideal for use where building codes require a fire damper for the protection of ductwork penetrations in walls or floors. Premium performance, versatility and assured closure make the D1200 Series an excellent choice for the majority of today's applications.


Model D1200

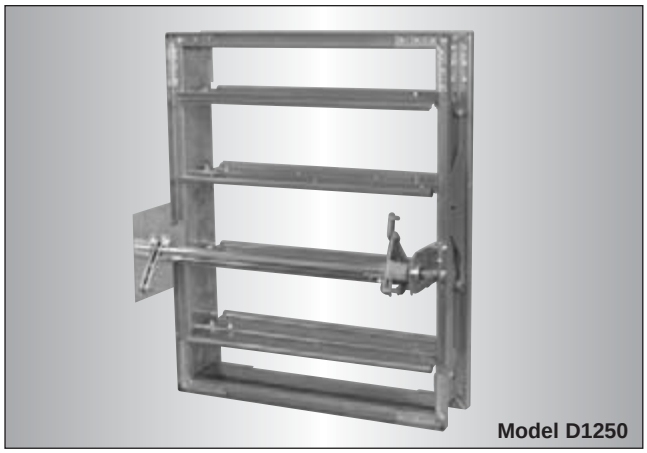

Model D1201-OW

MODEL D1201-OW
DYNAMIC FIRE DAMPER • AIRFOIL BLADE
OUT OF WALL MOUNTING

Model D1201-OW is an "out of wall" high performance fire damper. It is 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. 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 SERIES D1250
DYNAMIC FIRE DAMPER • VEE-GROOVE BLADE

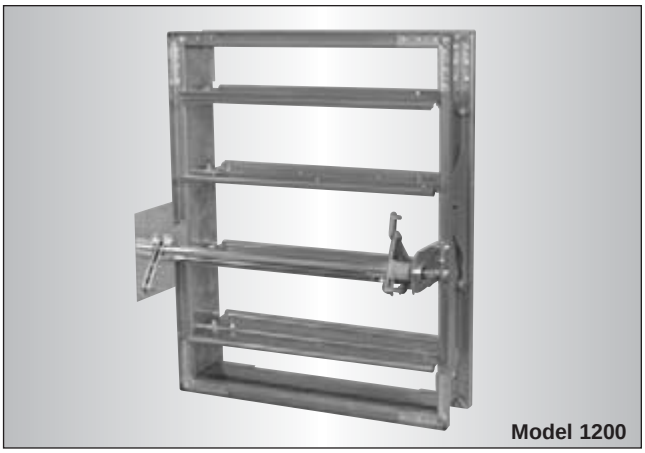
Model Series D1250, with sturdy vee-groove style blades and rugged mitered corner hat channel frame design that virtually eliminates racking, provides 1 1/2 hour UL labeled fire protection suitable for use where ductwork penetrates a wall or floor with a fire resistance rating of up to 2 hours. The over-center/knee lock with high torque spring fusible link assures fail-safe closure during fire conditions. The D1250 series is also approved for use in both static or dynamic HVAC system designs. Available with factory fitted sleeve Model D1251, and choice of transition styles, the series is supplied as standard with a manual locking quadrant, and is a versatile and economical performer suitable for use in the majority of today's applications.

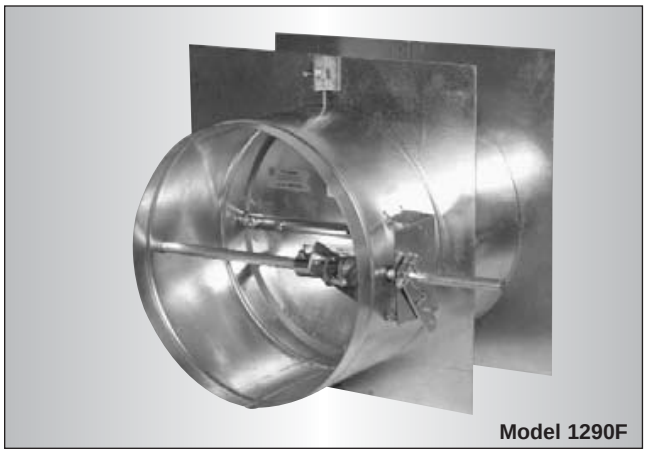

Model D1250

GENERAL PRODUCT OVERVIEW

MODEL SERIES 1200
AIRFOIL BLADE FIRE DAMPER
FOR STATIC SYSTEMS

Nailor's 1200 Series multi-blade fire damper is 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 1200 Series utilizes an innovative inter-locking double skin airfoil blade design that maintains a complete barrier throughout the fire test with absolutely no visible through-gaps. Amazingly, the 1200 Series fire damper gets tighter as it gets hotter! Ideal for use where building codes require a fire damper for the protection of ductwork penetrations in walls or floors, Model Series 1200 has a 1 1/2 hour UL label suitable for use in separations with fire resistance ratings of less than 3 hours.


Model 1200


Model 1290F

MODEL 1290F
TRUE ROUND FIRE DAMPER
FOR STATIC OR DYNAMIC SYSTEMS

Model 1290F is suitable for use where building codes require a fire damper for protecting ductwork penetrations in walls or floors that have a fire resistance rating of up to 2 hours. It 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. Features of the 1290F include the industry proven over-center/knee lock design with high torque spring/fusible link closure which provides fail-safe security under fire conditions. 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.

- PREMIUM PERFORMANCE
- AIRFOIL BLADE
- UL 555 CLASSIFIED DYNAMIC FIRE DAMPER

MODELS:

D1200 1 1/2 HR LABEL

D1200-3 3 HOUR LABEL


Model D1200

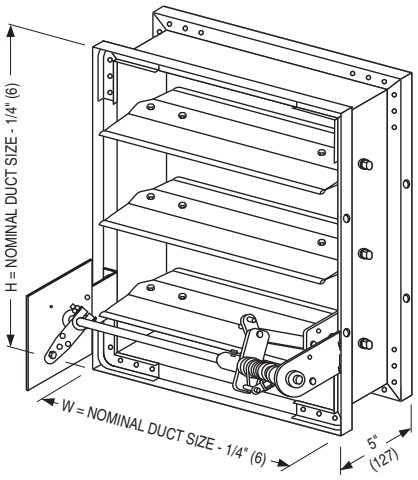
Nailor's D1200 Series multi-blade fire damper provides the ultimate in fire containment for both static and dynamic HVAC systems. The D1200 Series utilizes an innovative inter-locking double skin airfoil blade design that maintains a complete barrier throughout the fire test with absolutely no visible through-gaps. Amazingly, the D1200 Series fire damper gets tighter as it gets hotter! Ideal for use where building codes require a fire damper for the protection of ductwork penetrations in walls or floors, Model Series D1200 has a 1 1/2 hour UL label suitable for use in separations with fire resistance ratings of less than 3 hours. Model Series D1200-3 has a 3 hour UL label suitable for use in separations with a fire resistance rating of 3 hours or more. Features include a unique airfoil blade design and maintenance-free concealed blade linkage for extremely low pressure drop and minimal turbulence and noise. Rugged hat-channel frame is reinforced with die-formed corner gussets for superior rigidity. Industry proven high torque spring/fusible link with over-center knee lock design provides the security of assured closure under fire condition. Supplied as standard with an internal hand locking quadrant to hold blades in open position or balance the system, the D1200 Series is available with factory fitted sleeve ready for installation and choice of transition styles to suit duct size and type. Premium performance, versatility and assured closure make the D1200 Series an excellent choice for the majority of today's applications.

QUALIFICATIONS:

- UL 555 CLASSIFIED DYNAMIC FIRE DAMPER • 1 1/2 hr. or 3 hr. Label. (File # R9492).
- CAN/ULC-S112 CLASSIFIED FIRE DAMPER • 1 1/2 hr. or 3 hr. Label. (File # R19569).
- Meets NFPA 80, 90A and 101 as well as IBC and NBC (Canada) and associated local building code requirements.
- California State Fire Marshal Listing No. 03225-0935:101.
- City of New York. MEA # 366-03-M.
- Max. velocity 2000 fpm @ 4" w.g. (10 m/s @ 1 kPa) (up to 3000 fpm with size lim.).

CONSTRUCTION DETAILS:

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.
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.

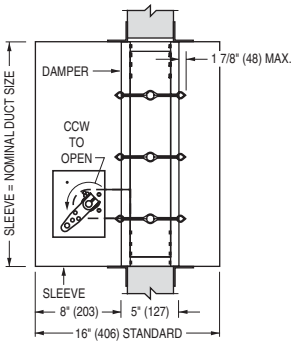


TYPE A: MODELS D1200/D1200-3

	MODEL D1200 (1 1/2 HR. LABEL)	MODEL D1200-3 (3 HR. LABEL)
MIN. DUCT SIZE:	Vertical or Horizontal mount: 8" x 8" (203 x 203).	Vertical or Horizontal mount: 8" x 8" (203 x 203).
MAX. DUCT SIZE:	Single Section Vertical mount: 36" x 48" (914 x 1219). Horizontal mount: 32" x 48" (813 x 1219). Multiple Section Assembly Vertical mount: 72" x 48" (1829 x 1219) or 36" x 96" (914 x 2438). Horizontal mount: 64" x 48" (1626 x 1219) or 32" x 96" (813 x 2438).	Single Section Vertical mount: 36" x 48" (914 x 1219). Horizontal mount: 32" x 48" (813 x 1219). Multiple Section Assemblies are not permitted.

Model Series D1200 dampers with duct heights less than 8" (203) require a type 'B' sleeve enclosure (Models D1202/D1202-3). Units less than 8" (203) in width only, or in both width and height, require a Type 'C' enclosure (Models D1203/D1203-3).

WITH TYPE A SLEEVE: MODELS D1201/D1201-3

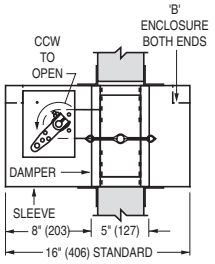


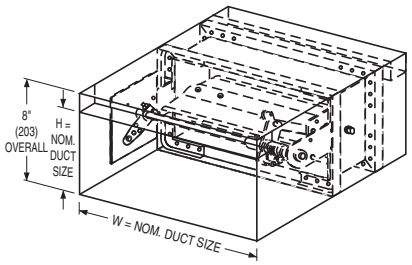
Wall Thickness	Minimum Sleeve Length
4 (102)	16 (406)
8 (203)	20 (508)
12 (305)	24 (610)
16 (406)	28 (711)

Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0).

Available up to 36" (914) dependent upon wall thickness and 10 through 20 ga. (3.5 - 1.0).

TYPE B SLEEVE ENCLOSURE: MODELS D1202/D1202-3





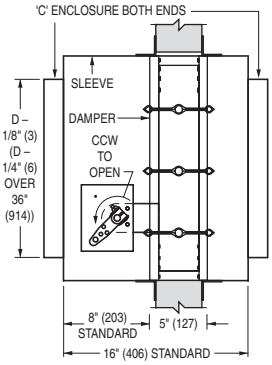
Min. Duct Size: 8" x 4" (203 x 102)
(Overall damper height is 8" (203)).

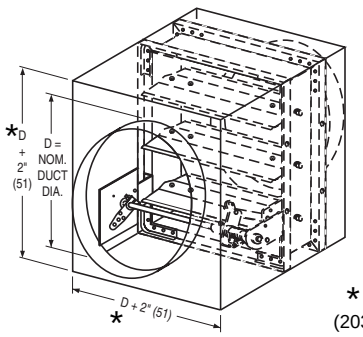
Max. Duct Size: Single Section
Vertical mount: 36" x 7 1/2" (914 x 191).
Horizontal mount: 32" x 7 1/2" (813 x 191).

Multiple Section Assembly Model 1202
Vertical mount: 72" x 7 1/2" (1829 x 191).
Horizontal mount: 64" x 7 1/2" (1626 x 191).

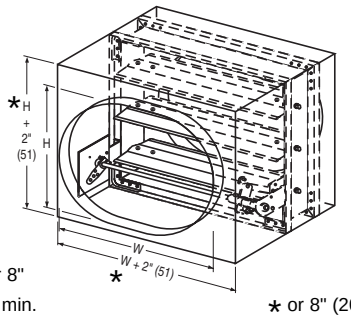
Multiple Section Assembly Model 1202-3
Multiple Section Assemblies are not permitted.

TYPE C SLEEVE ENCLOSURES: MODELS D1203/D1203-3



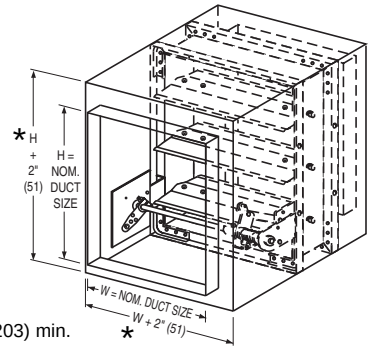


STYLE CR : FOR ROUND DUCT



* or 8" (203) min.

STYLE CO : FOR OVAL DUCT



* or 8" (203) min.

STYLE CSR : FOR SQUARE OR RECTANGULAR DUCT

Min. Duct Size: Vertical or Horizontal mount:
4" (102) diameter.
(Overall damper size is 8" x 8"
(203 x 203) min.).

Max. Duct Size: Single Section
Vertical mount: 34" (864) diameter.
Horizontal mount: 30" (762) diameter.

Multiple Section Assembly Model 1203
Vertical or
Horizontal mount: 46" (1168) diameter.

Multiple Section Assembly Model 1203-3
Multiple Section Assemblies are not permitted.

Min. Duct Size: Vertical or Horizontal mount:
4" x 4" (102 x 102).
(Overall damper size is 8" x 8"
(203 x 203) min.).

Max. Duct Size: Single Section
Vertical mount: 34" x 46" (864 x 1168).
Horizontal mount: 30" x 46" (762 x 1168).

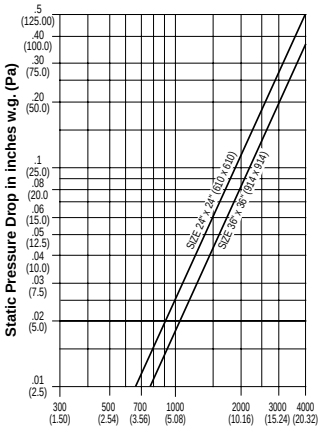
Multiple Section Assembly Model 1203
Vertical mount: 70" x 46" (1778 x 1168) or
34" x 94" (864 x 2388).
Horizontal mount: 62" x 46" (1575 x 1168) or
30" x 94" (762 x 2388).

Multiple Section Assembly Model 1203-3
Multiple Section Assemblies are not permitted.

MODELS: D1200/D1201/D1202/D1203 (1 1/2 HOUR LABEL)
D1200-3 / D1201-3 / D1202-3 / D1203-3 (3 HOUR LABEL)

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.

VARIABLES / ACCESSORIES

VARIABLES:	CODE	DESCRIPTION
MOUNTING:	V H	Vertical Mount (wall) Horizontal Mount (floor)
MAXIMUM VELOCITY / PRESSURE RATING:	24 34	2000 fpm @ 4" w.g. 3000 fpm @ 4" w.g.
CLOSURE DEVICE:	FL	Fusible Link
CLOSURE TEMP.:	165 212	165°F (74°C) 212°F (100°C)
SLEEVE LENGTH:	Specify Sleeve Length:	12" (305) to 36" (914)
SLEEVE GAUGE:	20 G 18 G 16 G 14 G 10 G	20 ga. (1.0 mm) 18 ga. (1.2 mm) 16 ga. (1.6 mm) 14 ga. (2.0 mm) 10 ga. (3.5 mm)
IF MODEL D1203 IS SELECTED, SPECIFY TYPE OF TRANSITION:	CR CO CSR	Round Type C Transitions Oval Type C Transitions Square/Rect. Type C Transitions
DAMPER LOCATION IN SLEEVE:	L8 L0	8" (204) from Sleeve End Specify Dimension from Sleeve End
OPTIONAL JAMB SEALS:	JSM	Flexible Metal Jamb Seals
ACCESSORIES:	**CODE**	**DESCRIPTION**
POSITION INDICATOR:	300	MLS-300 Switch Pack
SIDE MTG. PLATE:	SMP	Side Mounting Plate (required for mounting of MLS-300 without sleeve)
RETAINING ANGLES:	QS1 QS2	One "Quick Set" retaining angle Set of two "Quick Set" retaining angles
FLANGED SLEEVE: (MODELS D1201 AND D1201-3 ONLY)	TDF1 TDF2	TDF Flange on One End TDF Flange on Both Ends

HOW TO SPECIFY OR TO ORDER

MULTI-BLADE FIRE DAMPERS

MODELS: D1200 / D1201 / D1202 / D1203 (1 1/2 HOUR LABEL)
D1200-3 / D1201-3 / D1202-3 / D1203-3 (3 HOUR LABEL)

HOW TO ORDER:

Select model number and size, then select from each variable as applicable. Choose accessories as desired. See previous page for description of variables and accessories.

MODEL	SIZE (W X H)	MOUNTING	MAX. VELOCITY/ PRESSURE RATING	CLOSURE DEVICE	CLOSURE TEMP.	SLEEVE LENGTH *	SLEEVE GAUGE *	TRANSITION TYPE (MODEL 1203 ONLY)	DAMPER LOCATION IN SLEEVE	JAMB SEALS (OPTIONAL)	ACCESSORIES
D1200	ie: 36" x 24"	V	24	FL	165		20G	CR	L8	NONE	300
D1201	or	H	34		212		18G	CO	L0	JSM	SMP
D1202	18" dia.						16G	CSR			QS1
D1203							14G				QS2
D1200-3							10G				TDF1
D1201-3											TDF2
D1202-3											
D1203-3											

SPECIFY LENGTH

Notes: 1. * Standard sleeve is 16" (406) long (suitable for 4" (102) thick wall) x 20 ga. (1.0).

SUGGESTED SPECIFICATION:

Specification Text File

Provide and install, as shown on plans and/or schedules, multi-blade Dynamic Fire Dampers, as manufactured by Nailor Industries, meeting or exceeding the following criteria: 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 interlocking blade design that provides complete flame and smoke seal under fire conditions at an elevated temperature of 2000°F (1093°C) when in closed position. Blade axles shall be plated steel, double bolted at each end of blade to provide positive locking connection. Hex or 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.

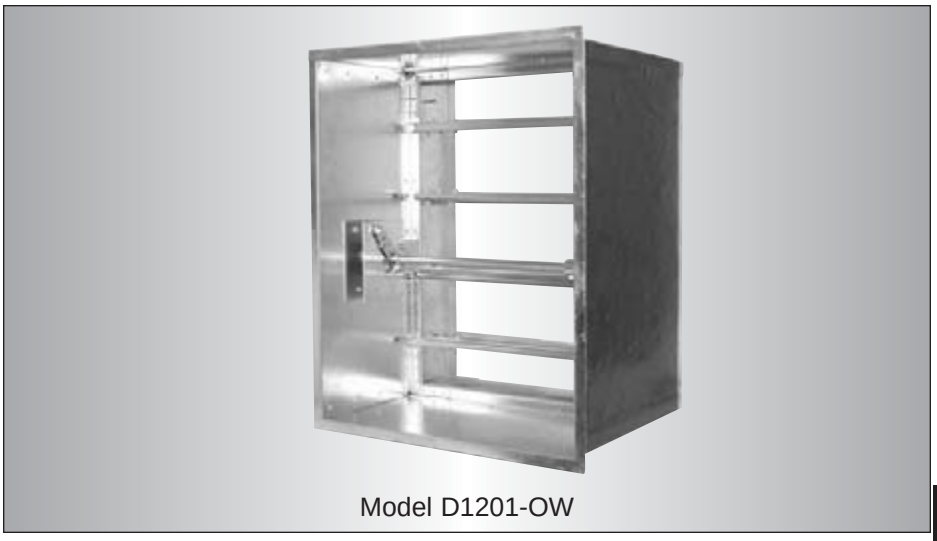
Fire dampers shall meet the requirements of NFPA 90A and shall be manufactured, tested and labeled in accordance with UL 555 Safety Standard for Fire Dampers – Sixth Edition, June 1999, including Dynamic Closure Test. Dampers shall be classified for dynamic closure against an airflow velocity of 2000 fpm (10.16 m/s) or 3000 fpm (15.24 m/s) **(specifier select one)** at 4" w.g. (1 kPa) static pressure differential (across closed damper).

Each fire damper shall bear a UL 1 1/2 hour or 3 hour **(specifier select one)** fire resistance rating label, in addition to label verifying the airflow and closure pressure ratings 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.

Each fire damper shall be complete with a **(specifier select one)** 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. Fire dampers shall each include a steel sleeve of appropriate length/gauge as field verified by contractor, and retaining angles, supplied by damper manufacturer to ensure proper installation in accordance with damper manufacturer's instructions. 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. Information submitted for approval shall include independent pressure drop data and confirmation of UL qualifications in addition to manufacturer's installation instructions. Each shipment of fire dampers shall include same installation instructions. Dynamic rated fire dampers shall be Nailor Industries Model Series D1200 (1 1/2 hour label) **or** Model Series D1200-3 (3 hour label), as indicated on plans.

- "OUT OF WALL" MOUNTING
- AIRFOIL BLADE
- UL 555 CLASSIFIED DYNAMIC FIRE DAMPER

MODEL: D1201-OW



Model D1201-OW

The Model D1201-OW is an "out of wall" high performance fire damper. It is 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.

The D1201-OW 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.

The D1201-OW 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.

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.

QUALIFICATIONS:

- UL 555 CLASSIFIED DYNAMIC FIRE DAMPER • 1 1/2 hr. Label (File # R9492).
- CAN/ULC-S112 CLASSIFIED FIRE DAMPER (File # R19569).
- Meets NFPA 80, 90A and 101 as well as IBC and NBC (Canada) and associated local building code requirements.
- Maximum velocity 2000 fpm @ 4" w.g. (10 m/s @ 1 kPa) (up to 3000 fpm with size limitations).
- For use in vertical or horizontal concrete partitions and vertical steel stud partitions only.

CONSTRUCTION DETAILS:

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.

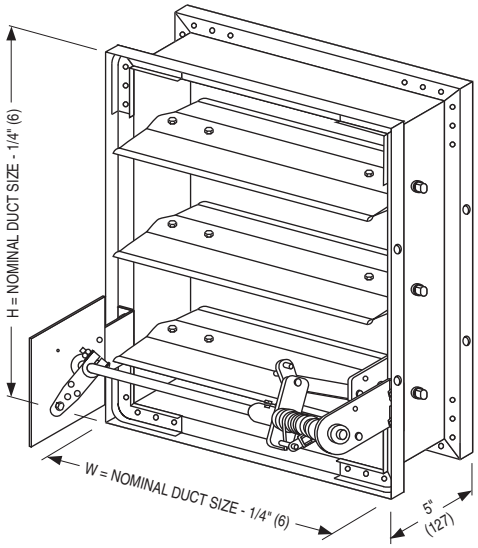
Axles: 1/2" (13) dia. plated steel double bolted to blades.

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.

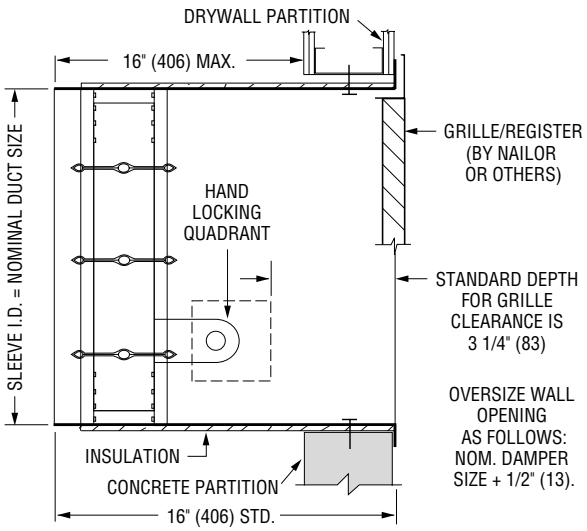
Minimum Size: Vertical or Horizontal mount: 8" W x 8" H (203 x 203).

Maximum Size: Single Section
Vertical mount: 36" W x 48" H (914 x 1219).
Horizontal mount: 32" W x 48" H (813 x 1219).
Multiple Section Assemblies are not permitted.



MODEL D1201-OW
(DAMPER ONLY SHOWN)

MODEL: D1201-OW

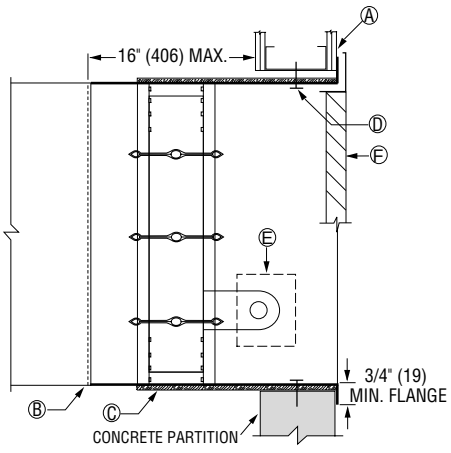


MODEL D1221-OW
'OUT OF WALL' MOUNTING

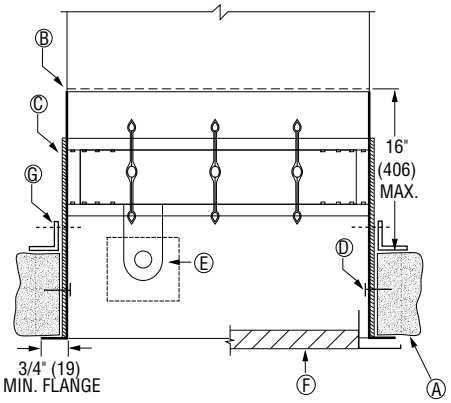
NOTES:

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.**
2. **FOR PERFORMANCE DATA SEE MODEL D1200.**

- **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** Grille/Diffuser
- **G** Rear retaining angle (required for horizontal mounting).



VERTICAL MOUNT



HORIZONTAL MOUNT

MODEL: D1201-OW

VARIABLES / ACCESSORIES

VARIABLES:	CODE	DESCRIPTION
MOUNTING:	V H	Vertical Mount (wall) Horizontal Mount (floor)
CLOSURE DEVICE:	FL	Fusible Link
CLOSURE TEMP.:	165 212	165°F (74°C) 212°F (100°C)
OPTIONAL JAMB SEALS:	JSM	Flexible Metal Jamb Seals
ACCESSORIES:	**CODE**	**DESCRIPTION**
POSITION INDICATOR:	300	MLS-300 Switch Pack
RETAINING ANGLES:	QS1	One "Quick Set" retaining angle

HOW TO ORDER

MODEL: D1201-OW

HOW TO ORDER:

Select model number and size, then select from each variable as applicable. Choose accessories as desired. See above for description of variables and accessories.

MODEL	SIZE (W X H)	MOUNTING	CLOSURE DEVICE	CLOSURE TEMP.	JAMB SEALS (OPTIONAL)	ACCESSORIES
D1201-OW	ie: 32" x 24"	V H	FL	165 212	NONE JSM	300 QS1

Notes:
1. Important: Damper is furnished full ordered size to facilitate grille installation.

HOW TO SPECIFY

MODEL: D1201-OW

SUGGESTED SPECIFICATION: Specification Text File

Provide and install, as shown on plans and/or schedules, multi-blade "Out of Wall" Dynamic Fire Dampers, as manufactured by Nailor Industries, meeting or exceeding the following criteria: 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 interlocking blade design that provides complete flame and smoke seal under fire conditions at an elevated temperature of 2000°F (1093°C) when in closed position. Blade axles shall be plated steel, double bolted at each end of blade to provide positive locking connection. Hex or 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.

Fire dampers shall meet the requirements of NFPA 90A and shall be manufactured, tested and labeled in accordance with UL 555 Safety Standard for Fire Dampers – Sixth Edition, June 1999, including Dynamic Closure Test. Dampers shall be classified for dynamic closure against an airflow velocity of 2000 fpm (10.16 m/s) at 4" w.g. (1 kPa) static pressure differential (across closed damper).

Each fire damper shall bear a UL 1 1/2 hour fire resistance rating label, in addition to label verifying the airflow and closure pressure ratings 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.

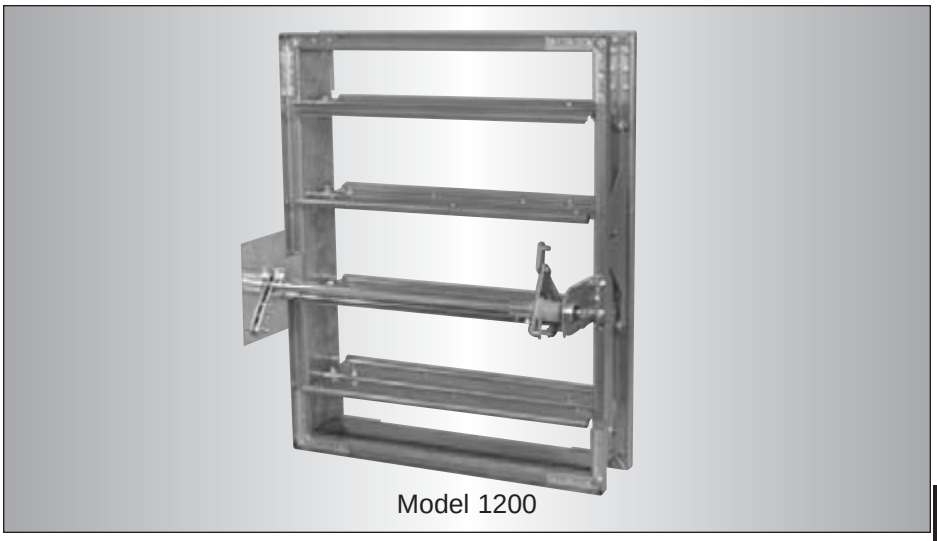
Each fire damper shall be complete with a **(specifier select one)** 165°F (74°C) **or** 212°F (100°C) UL Listed fusible link that will cause the damper to close and lock in closed position by means of an over center/knee lock linkage for assured closure. Fire dampers shall be supplied with factory installed sleeves of 20 ga. (1.0) galvanized steel with 3/4" (19) flange on one end. Sleeves shall be factory insulated on all four sides with intumescent thermal insulation. Each damper shall be supplied with an internal manual quadrant 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. Information submitted for approval shall include independent pressure drop data and confirmation of UL qualifications in addition to manufacturer's installation instructions. Each shipment of fire dampers shall include same installation instructions. Dynamic rated "Out of Wall" fire dampers shall be Nailor Industries Model D1201-OW.

- PREMIUM PERFORMANCE
- AIRFOIL BLADE
- UL 555 CLASSIFIED FIRE DAMPER
- FOR USE IN STATIC SYSTEMS

MODELS:

1200	TYPE A
1201	TYPE A IN SLEEVE
1202	TYPE B
1203	TYPE C

AIRFOIL



Model 1200

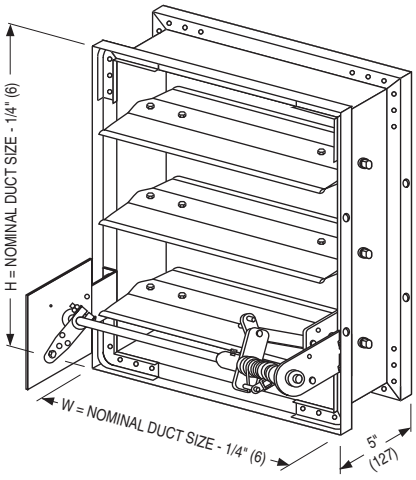
Nailor's 1200 Series multi-blade fire damper is classified for use only in static "fans off" systems where the HVAC system is automatically shut down in the event of a fire alarm. The 1200 Series utilizes an innovative inter-locking double skin airfoil blade design that maintains a complete barrier throughout the fire test with absolutely no visible through-gaps. Amazingly, the 1200 Series fire damper gets tighter as it gets hotter! Ideal for use where building codes require a fire damper for the protection of ductwork penetrations in walls or floors, Model Series 1200 has a 1 1/2 hour UL label suitable for use in separations with fire resistance ratings of less than 3 hours. Features include a unique airfoil blade design and maintenance-free concealed blade linkage for extremely low pressure drop and minimal turbulence and noise. Rugged hat-channel frame is reinforced with die-formed corner gussets for superior rigidity. Industry proven high torque spring/fusible link with over-center knee lock design provides the security of assured closure under fire condition. Supplied as standard with an internal hand locking quadrant to hold blades in open position or balance the system, the 1200 Series is available with factory fitted sleeve ready for installation and choice of transition styles to suit duct size and type.

QUALIFICATIONS:

- UL 555 & CAN/ULC-S112 CLASSIFIED FIRE DAMPER • 1 1/2 hr. Label. (File #'s R9492 & R19569).
- Meets NFPA 80, 90A and 101 as well as IBC and NBC (Canada) and associated local building code requirements.
- California State Fire Marshal Listing No. 03225-0935:101.
- City of New York. MEA # 366-03-M.

CONSTRUCTION DETAILS:

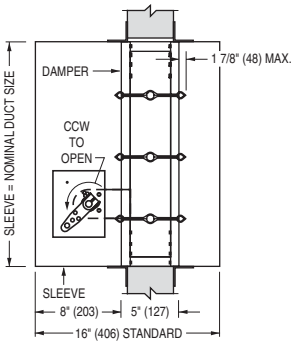
FRAME:	5" x 7/8" x 16 ga. (127 x 22 x 1.6) galvanized steel hat channel.
BLADES:	14 ga. (2.0) equivalent galvanized steel formed airfoil on 5 1/2" (140) centers. Opposed action.
LINKAGE:	Concealed in frame. 12 ga. (2.7) plated steel.
BEARINGS:	1/2" (13) dia. self-lubricating oilite bronze.
AXLES:	1/2" (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.
Minimum Size:	Vertical or Horizontal mount: 8" W x 8" H (203 x 203).
Maximum Size:	Single Section Vertical mount: 36" W x 48" H (914 x 1219). Horizontal mount: 32" W x 48" H (813 x 1219). Multiple Section Assemblies Vertical or Horizontal mount: 144" W x 96" H (3658 x 2438).



TYPE A: MODEL 1200

Model Series 1200 dampers with duct heights less than 8" (203) require a type 'B' sleeve enclosure (Model 1202). Units less than 8" (203) in width only, or in both width and height, require a Type 'C' enclosure (Model 1203).

WITH TYPE A SLEEVE: MODEL 1201

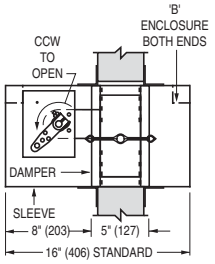


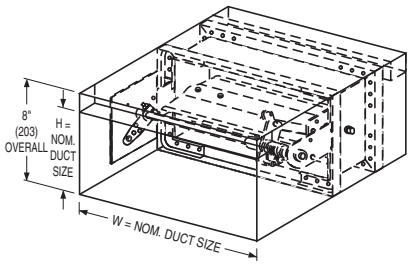
Wall Thickness	Minimum Sleeve Length
4 (102)	16 (406)
8 (203)	20 (508)
12 (305)	24 (610)
16 (406)	28 (711)

Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0).

Available up to 36" (914) dependent upon wall thickness and 10 through 20 ga. (3.5 - 1.0).

TYPE B SLEEVE ENCLOSURE: MODEL 1202



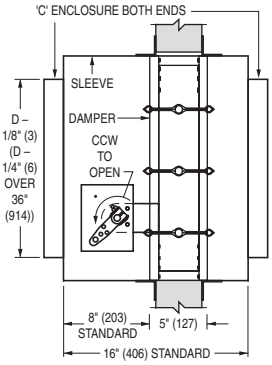


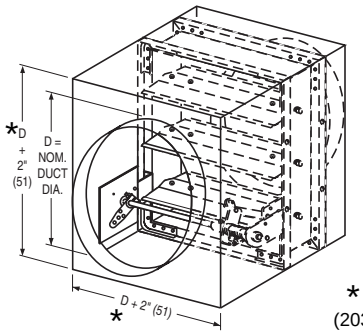
Min. Duct Size: 8" x 4" (203 x 102)
(Overall damper height is 8" (203)).

Max. Duct Size: Single Section
Vertical mount: 36" x 7 1/2" (914 x 191).
Horizontal mount: 32" x 7 1/2" (813 x 191).

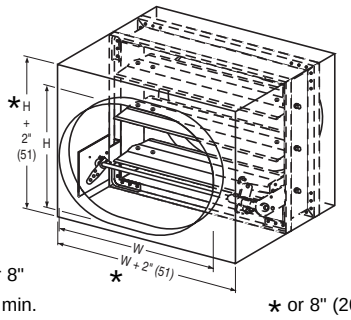
Multiple Section Assembly Model
Vertical or
Horizontal mount: 144" x 7 1/2" (3658 x 191).

TYPE C SLEEVE ENCLOSURES: MODEL 1203

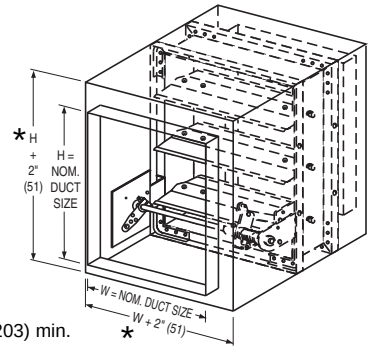




* or 8" (203) min.



* or 8" (203) min.



STYLE CR : FOR ROUND DUCT

STYLE CO : FOR OVAL DUCT

STYLE CSR : FOR SQUARE OR RECTANGULAR DUCT

Min. Duct Size: Vertical or Horizontal mount:
4" (102) diameter.
(Overall damper size is 8" x 8"
(203 x 203) min.).

Max. Duct Size: Single Section
Vertical mount: 34" (864) diameter.
Horizontal mount: 30" (762) diameter.

Multiple Section Assembly
Vertical or
Horizontal mount: 94" (2388) diameter.

Min. Duct Size: Vertical or Horizontal mount:
4" x 4" (102 x 102).
(Overall damper size is 8" x 8"
(203 x 203) min.).

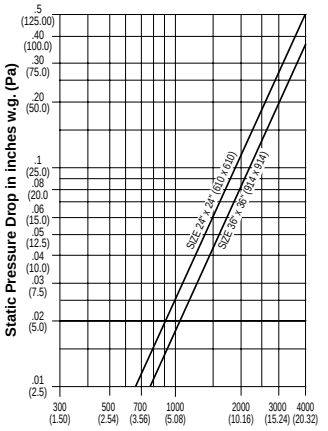
Max. Duct Size: Single Section
Vertical mount: 34" x 46" (864 x 1168).
Horizontal mount: 30" x 46" (762 x 1168).

Multiple Section Assembly Model 1203
Vertical or
Horizontal mount: 142" x 94" (3658 x 2388).

MODELS: 1200/1201/1202/1203

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.

VARIABLES / ACCESSORIES

VARIABLES:	CODE	DESCRIPTION
MOUNTING:	V H	Vertical Mount (wall) Horizontal Mount (floor)
CLOSURE DEVICE:	FL	Fusible Link
CLOSURE TEMP.:	165 212	165°F (74°C) 212°F (100°C)
SLEEVE LENGTH:	Specify Sleeve Length:	12" (305) to 36" (914)
SLEEVE GAUGE:	20 G 18 G 16 G 14 G 10 G	20 ga. (1.0 mm) 18 ga. (1.2 mm) 16 ga. (1.6 mm) 14 ga. (2.0 mm) 10 ga. (3.5 mm)
IF MODEL 1203 IS SELECTED, SPECIFY TYPE OF TRANSITION:	CR CO CSR	Round Type C Transitions Oval Type C Transitions Square/Rect. Type C Transitions
DAMPER LOCATION IN SLEEVE:	L8 L0	8" (204) from Sleeve End Specify Dimension from Sleeve End
OPTIONAL JAMB SEALS:	JSM	Flexible Metal Jamb Seals
ACCESSORIES:	**CODE**	**DESCRIPTION**
POSITION INDICATOR:	300	MLS-300 Switch Pack
SIDE MTG. PLATE:	SMP	Side Mounting Plate (required for mounting of MLS-300 without sleeve)
RETAINING ANGLES:	QS1 QS2	One "Quick Set" retaining angle Set of two "Quick Set" retaining angles
FLANGED SLEEVE: (MODELS 1201 AND 1201-3 ONLY)	TDF1 TDF2	TDF Flange on One End TDF Flange on Both Ends

HOW TO SPECIFY OR TO ORDER

MULTI-BLADE FIRE DAMPERS
MODELS: 1200 / 1201 / 1202 / 1203

HOW TO ORDER:

Select model number and size, then select from each variable as applicable. Choose accessories as desired. See previous page for description of variables and accessories.

MODEL	SIZE (W X H)	MOUNTING	CLOSURE DEVICE	CLOSURE TEMP.	SLEEVE LENGTH *	SLEEVE GAUGE *	TRANSITION TYPE (MODEL 1203 ONLY)	DAMPER LOCATION IN SLEEVE	JAMB SEALS (OPTIONAL)	ACCESSORIES
1200 1201 1202 1203	ie: 36" x 24" or 18" dia.	V H	FL	165 212	SPECIFY LENGTH	20G 18G 16G 14G 10G	CR CO CSR	L8 L0	NONE JSM	300 SMP QS1 QS2 TDF1 TDF2

Notes: 1. ***** Standard sleeve is 16" (406) long (suitable for 4" (102) thick wall) x 20 ga. (1.0).

SUGGESTED SPECIFICATION:

Specification Text File

Provide and install, as shown on plans and/or schedules, multi-blade fire dampers, as manufactured by Nailor Industries, meeting or exceeding the following criteria: 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 interlocking blade design that provides complete flame and smoke seal under fire conditions at an elevated temperature of 2000°F (1093°C) when in closed position. Blade axles shall be plated steel, double bolted at each end of blade to provide positive locking connection. Hex or 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.

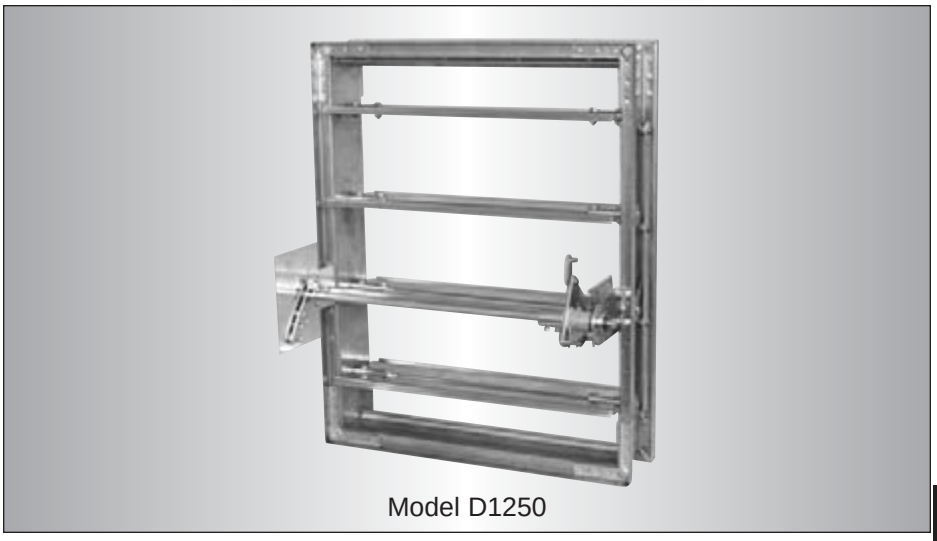
Fire dampers shall meet the requirements of NFPA 90A and shall be manufactured, tested and labeled in accordance with UL 555 Safety Standard for Fire Dampers – Sixth Edition, June 1999 and shall have a 1 1/2 hour fire resistance rating.

Each fire damper shall bear a UL label verifying fire resistance rating in addition to the intended mounting position.

Each fire damper shall be complete with a **(specifier select one)** 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. Fire dampers shall each include a steel sleeve of appropriate length/gauge as field verified by contractor, and retaining angles, supplied by damper manufacturer to ensure proper installation in accordance with damper manufacturer's instructions. 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. Information submitted for approval shall include independent pressure drop data and confirmation of UL qualifications in addition to manufacturer's installation instructions. Each shipment of fire dampers shall include same installation instructions. Standard of acceptance: Nailor Industries Model Series 1200.

- VEE-GROOVE BLADE
- UL 555 CLASSIFIED DYNAMIC FIRE DAMPER
- 1 1/2 HOUR LABEL

MODELS:
D1250 TYPE A
D1251 TYPE A IN SLEEVE
D1252 TYPE B
D1253 TYPE C


Model D1250

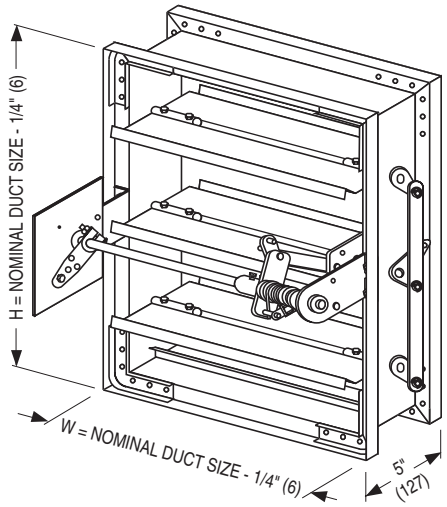
The Nailor Series D1250 multi-blade fire damper, with sturdy vee-groove style blades and rugged mitered corner hat channel frame design that virtually eliminates racking, provides 1 1/2 hour UL labeled fire protection suitable for use where ductwork penetrates a wall or floor with a fire resistance rating of up to 2 hours. The over-center/knee lock with high torque spring fusible link assures fail-safe closure during fire conditions. The D1250 series is also approved for use in static or dynamic HVAC system designs. Available with factory fitted sleeve Model D1251, and choice of transition styles, the D1250 Series is supplied as standard with an internal hand locking quadrant, and is a versatile and economical performer suitable for use in the majority of today's applications.

QUALIFICATIONS:

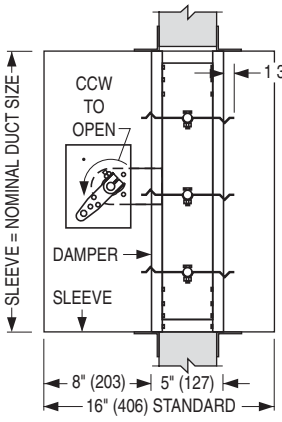
- UL 555 CLASSIFIED DYNAMIC FIRE DAMPER • 1 1/2 hr. Label. (File # R9492).
- CAN/ULC-S112 CLASSIFIED FIRE DAMPER (File # R19569).
- California State Fire Marshal: Fire Damper Listing No. 3225-0935:101
- City of New York Board of Standards and Appeals. Cal. No. 460-88-SA.
- Meets NFPA 80, 90A and 101 as well as IBC and NBC (Canada) and associated building code requirements.
- Maximum velocity 2000 fpm @ 4" w.g. (10 m/s @ 1 kPa) (up to 3000 fpm with size limitations).

CONSTRUCTION DETAILS:

FRAME:	5" x 7/8" x 16 ga. (127 x 22 x 1.6) galvanized steel hat channel.
BLADES:	6" (152) wide on 5 1/2" (140) centers. 16 ga. (1.6) galv. steel vee-groove design. Parallel action.
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.
MINIMUM SIZE:	Vertical or Horizontal mount: 8" x 8" (203 x 203).
MAXIMUM SIZE:	Single Section
	Vertical mount: 36" x 48" (914 x 1219).
	Horizontal mount: 30" x 40" (762 x 1016).
	Multiple Section Assembly
	Vertical mount: 72" x 48" (1829 x 1219) or 36" x 96" (914 x 2438).
	Horizontal mount: 60" x 40" (1524 x 1016) or 30" x 80" (762 x 2032).



TYPE A: MODEL D1250



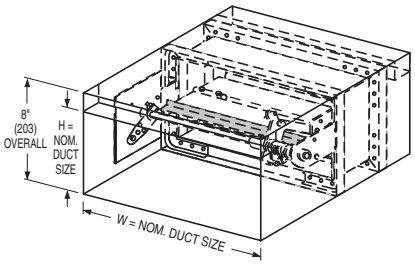
Wall Thickness	Minimum Sleeve Length
4 (102)	16 (406)
8 (203)	20 (508)
12 (305)	24 (610)
16 (406)	28 (711)

TYPE A WITH SLEEVE: MODEL D1251

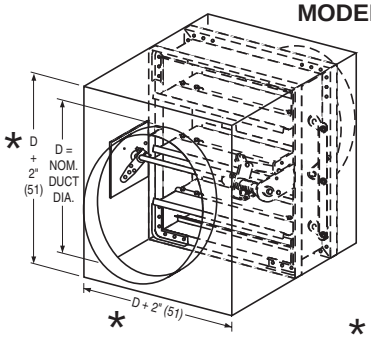
Standard factory sleeve (caulked to UL requirements) 16" long x 20 ga. (406 x 1.0). Available up to 36" (914) dependent upon wall thickness.

Model Series D1250 dampers with duct heights less than 8" (203) require a Type 'B' sleeve enclosure (Model D1252). Units less than 8" (203) in width only, or in both width and height, require a Type 'C' enclosure (Model D1253).

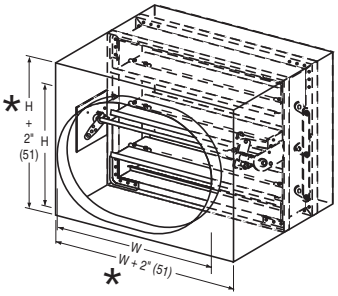
TYPE B SLEEVE ENCLOSURE
MODEL: D1252



TYPE C SLEEVE ENCLOSURES
MODEL: D1253

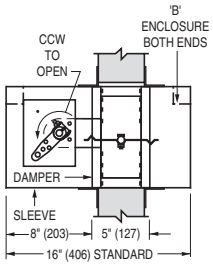


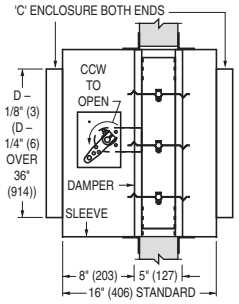
STYLE CR: FOR ROUND DUCT



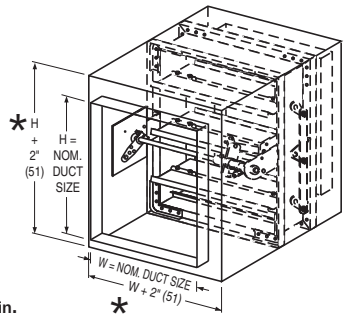
* or 8" (203) min.

STYLE CO: FOR OVAL DUCT





TYPE C SIDE VIEW



* or 8" (203) min.

STYLE CSR : FOR SQUARE or RECTANGULAR DUCT

Min. Duct Size: 8" x 4" (203 x 102). (Overall damper H is 8").
Max. Duct Size: Single Section
Vertical mount: 36" x 7 1/2" (914 x 191).
Horizontal mount: 30" x 7 1/2" (762 x 191).
Multiple Section Assembly
Vertical mount: 72" x 7 1/2" (1829 x 191).
Horizontal mount: 60" x 7 1/2" (1524 x 191).

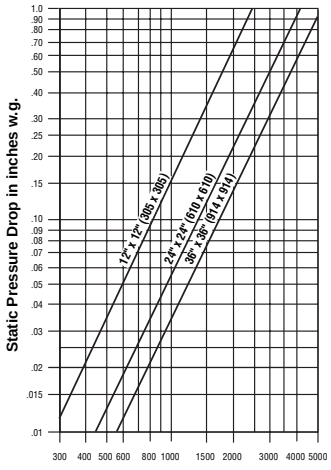
Min. Duct Size: Vertical or Horizontal mount: 4" (102) diameter.
(Overall damper size is 8" x 8" [203 x 203] min.).
Max. Duct Size: Single Section
Vertical mount: 34" (864) diameter.
Horizontal mount: 28" (711) diameter.
Multiple Section Assembly
Vertical mount: 46" (1168) diameter.
Horizontal mount: 38" (965) diameter.

Min. Duct Size: Vertical or Horizontal mount: 4" x 4" (102 x 102).
(Overall damper size is 8" x 8" [203 x 203] min.).
Max. Duct Size: Single Section
Vertical mount: 34" x 46" (864 x 1168).
Horizontal mount: 28" x 38" (711 x 965).
Multiple Section Assembly
Vertical mount: 70" x 46" (1176 x 1168) or 34" x 94" (864 x 2388).
Horizontal mount: 58" x 38" (1473 x 965) or 28" x 78" (711 x 1981).

PERFORMANCE DATA:

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.

PRESSURE DROP (damper fully open)



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

MULTI-BLADE FIRE DAMPERS

MODELS: D1250/D1251/D1252/D1253

VARIABLES / ACCESSORIES

VARIABLES:	CODE	DESCRIPTION
MOUNTING:	V H	Vertical Mount (wall) Horizontal Mount (floor)
MAXIMUM VELOCITY / PRESSURE RATING:	24 34	2000 fpm @ 4" w.g. 3000 fpm @ 4" w.g.
CLOSURE DEVICE:	FL	Fusible Link
CLOSURE TEMP.:	165 212	165°F (74°C) 212°F (100°C)
SLEEVE LENGTH:	Specify Sleeve Length:	12" (305) to 36" (914)
SLEEVE GAUGE:	20 G 18 G 16 G 14 G 10 G	20 ga. (1.0 mm) 18 ga. (1.2 mm) 16 ga. (1.6 mm) 14 ga. (2.0 mm) 10 ga. (3.5 mm)
IF MODEL D1253 IS SELECTED, SPECIFY TYPE OF TRANSITION:	CR CO CSR	Round Type C Transitions Oval Type C Transitions Square/Rect. Type C Transitions
DAMPER LOCATION IN SLEEVE:	L8 L0	8" (204) from Sleeve End Specify Dimension from Sleeve End
OPTIONAL JAMB SEALS:	JSM	Flexible Metal Jamb Seals
OPTIONAL BLADE SEALS:	BPV	PVC Blade Seals
ACCESSORIES:	**CODE**	**DESCRIPTION**
POSITION INDICATOR:	300	MLS-300 Switch Pack
SIDE MTG. PLATE:	SMP	Side Mounting Plate (required for mounting of MLS-300 without sleeve)
RETAINING ANGLES:	QS1 QS2	One "Quick Set" retaining angle Set of two "Quick Set" retaining angles
FLANGED SLEEVE: (MODEL D1251 ONLY)	TDF1 TDF2	TDF Flange on One End TDF Flange on Both Ends

HOW TO SPECIFY OR TO ORDER

MULTI-BLADE FIRE DAMPERS
MODELS: D1250/D1251/D1252/D1253

HOW TO ORDER:

Select model number and size, then select from each variable as applicable. Choose accessories as desired. See previous page for description of variables and accessories.

MODEL	SIZE (W X H)	MOUNTING	MAX. VELOCITY/ PRESSURE RATING	CLOSURE DEVICE	CLOSURE TEMP.	SLEEVE LENGTH *	SLEEVE GAUGE *	TRANSITION TYPE (MODEL 1253 ONLY)	DAMPER LOCATION IN SLEEVE	JAMB SEALS (OPTIONAL)	BLADE SEALS (OPTIONAL)	ACCESSORIES
D1250 D1251 D1252 D1253	ie: 36" x 24" or 18" dia.	V H	24 34	FL	165 212	SPECIFY LENGTH	20G 18G 16G 14G 10G	CR CO CSR	L8 L0	NONE JSM	NONE BPV	300D SMP QS1 QS2 TDF1 TDF2

Notes: 1. ***** Standard sleeve is 16" (406) long (suitable for 4" (102) thick wall) x 20 ga. (1.0).

Specification Text File

SUGGESTED SPECIFICATION:

Provide and install, as shown on plans and/or schedules, multi-blade Dynamic Fire Dampers, as manufactured by Nailor Industries, meeting or exceeding the following criteria: 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 of vee-groove design 16 ga. (1.6) galvanized steel on 5 1/2" (140) centers and shall be parallel configuration. Blade axles shall be 1/2" (13) dia. plated steel, double bolted at each end of blade to ensure positive locking connection. Hex or 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.

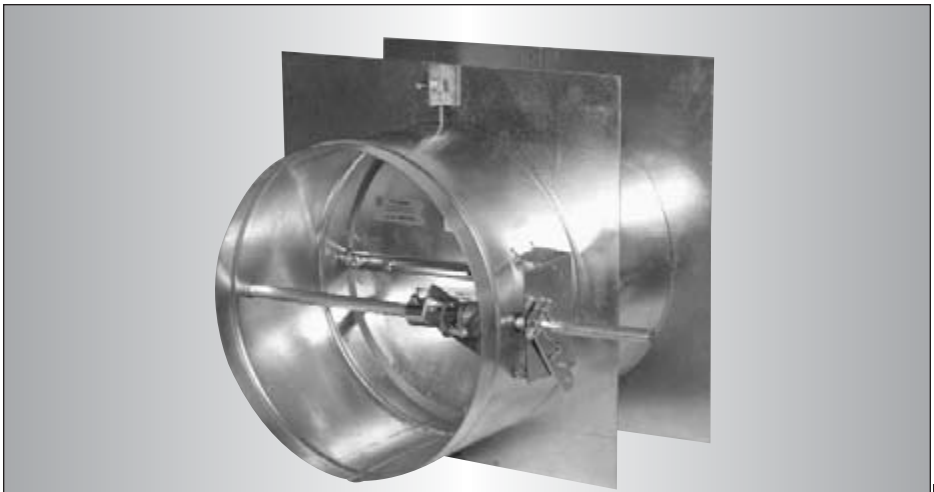
Fire dampers shall meet the requirements of NFPA 90A and shall be manufactured, tested and labeled in accordance with UL 555 Safety Standard for Fire Dampers – Sixth Edition, June 1999, including Dynamic Closure Test. Dampers shall be classified for dynamic closure against an airflow velocity of 2000 fpm (10.16 m/s) or 3000 fpm (15.24 m/s) **(specifier select one)** at 4" w.g. (1 kPa) static pressure differential (across closed damper).

Each fire damper shall bear a UL 1 1/2 hour fire resistance rating label, in addition to label verifying the airflow and closure pressure ratings 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.

Each fire damper shall be complete with a **(specifier select one)** 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. Fire dampers shall each include a steel sleeve of appropriate length/gauge as field verified by contractor, and retaining angles, supplied by damper manufacturer to ensure proper installation in accordance with damper manufacturer's instructions. 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. Information submitted for approval shall include independent pressure drop data and confirmation of UL qualifications in addition to manufacturer's installation instructions. Each shipment of fire dampers shall include same installation instructions. Standard of acceptance: Nailor Industries Model Series D1250.

- ROUND FIRE DAMPER
- UL 555 CLASSIFIED DYNAMIC FIRE DAMPER
- 1 1/2 HOUR LABEL

MODEL: 1290F

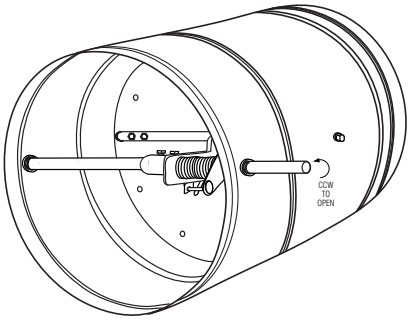


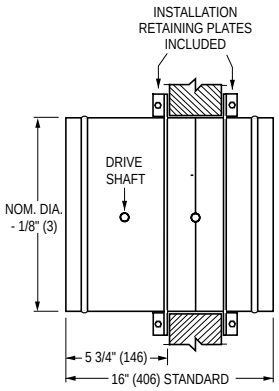
Model 1290F

The new Nailor 1290F round fire damper is suitable for use where building codes require a fire damper for protecting ductwork penetrations in walls or floors that have a fire resistance rating of up to 2 hours. The 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. The 1290F is approved for use in static or dynamic HVAC system designs. Features of the 1290F include the industry proven over-center/knee lock design with high torque spring/fusible link closure which provides fail-safe security under fire conditions. 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.

QUALIFICATIONS:

- UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER - 1 1/2 hr. Label. (File #'s R9492 and R19569).
- Meets NFPA 80, 90A and 101 as well as IBC and NBC (Canada) Building Code requirements.
- Maximum velocity 2000 fpm @ 4" w.g. (10 m/s @ 1 kPa).





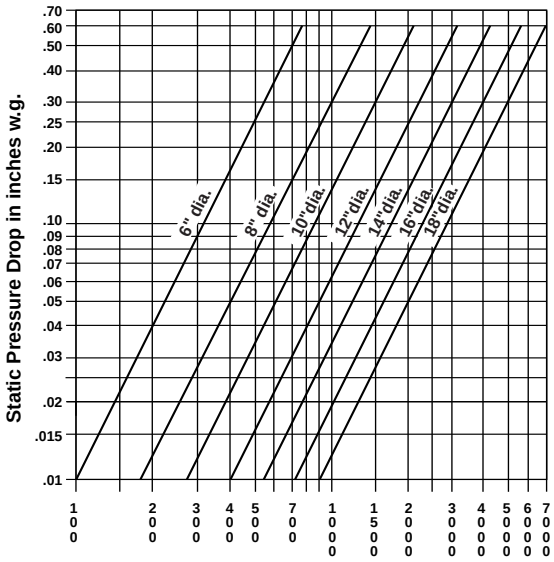
CONSTRUCTION	DETAILS:
FRAME:	20 gauge (1.0) galvanized steel integral sleeve and retaining plates.
BLADE:	2 x 20 (1.0) gauge galvanized steel laminated together, 14 gauge (2.0) equivalent thickness.
LINKAGE:	Jackshaft to blade.
BEARINGS:	1/2" (13) dia. self-lubricating oilite bronze.
AXLES:	1/2" (13) dia. plated steel double bolted to blades.
JACKSHAFT:	1/2" (13) dia. cadmium plated steel. Supplied with factory mounted hand locking quadrant.
FUSIBLE LINK:	165°F (74°C) standard. 212°F (100°C) available.
AVAILABLE SIZES:	6" (152) through 24" (610) diameter in nominal 1" (25) increments. Vertical or horizontal installation.

Wall Thickness	Minimum Sleeve Length
4 to 8 (102 to 203)	16 (406)
10 to 12 (254 to 305)	20 (508)
14 to 16 (356 to 406)	24 (610)

MODEL: 1290F

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:

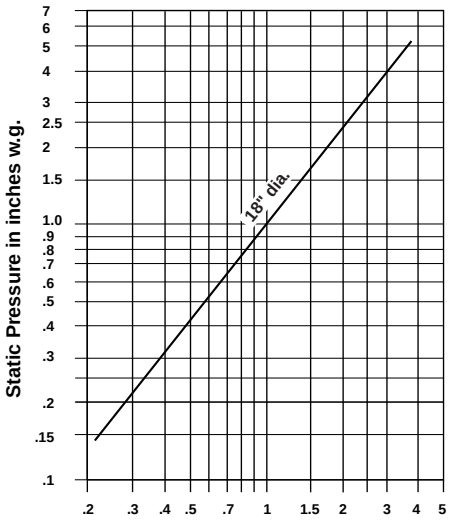
CFM x .4719 = liters per second

inches w.g. x .2486 = kilopascals

fpm x .00508 = meters per second

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

AIR LEAKAGE (damper closed)



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

HOW TO SPECIFY

SUGGESTED SPECIFICATION:
MODEL: 1290F

Specification Text File

Provide and install, as shown on plans and/or schedules True Round Fire Dampers, as manufactured by Nailor Industries, meeting or exceeding the following criteria: Frame/integral sleeve shall be roll-formed from 20 ga. (1.0) galvanized steel, beaded for structural strength and grooved to accept 20 ga. (1.0) galvanized steel retaining plate. Required sleeve length shall be field verified by contractor. Each damper shall be complete with retaining plate and 20 ga. (1.0) galvanized steel damper plate, supplied by the damper manufacturer to ensure proper fit and installation. Blade shall be of two 20 ga. (1.0) galvanized steel pieces laminated together with an equivalent thickness of 14 ga. (2.0). Blades axles shall be 1/2" (13) dia. plated steel double bolted to blade. Hex or square friction-fit or press-fit axles are not acceptable. Bearings shall be self lubricating oilite bronze type.

Fire dampers shall meet the requirements of NFPA 80, 90A & 101, and shall be manufactured, tested and labeled in accordance with UL 555 Safety Standard for Fire Dampers – Sixth Edition, June 1999, including Dynamic Closure Test. Dampers shall be classified for dynamic closure against an airflow velocity of 2000 fpm (10.16 m/s) at 4" w.g. (1 kPa) static pressure differential (across closed damper).

Each fire damper shall bear a UL 1 1/2 hour fire resistance rating label, in addition to label verifying the airflow and closure pressure ratings 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.

Each fire damper shall be complete with a **(specifier select one)** 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 fire damper shall be supplied with a manual quadrant 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. Information submitted for approval shall include independent pressure drop data and confirmation of UL qualifications in addition to manufacturer's installation instructions. Each shipment of fire dampers shall include same installation instructions. Standard of acceptance: Nailor Industries Model 1290F.

ROUND FIRE DAMPER

MODELS: 1290F

VARIABLES / ACCESSORIES

VARIABLES:	CODE	DESCRIPTION
MOUNTING:	V H	Vertical Mount (wall) Horizontal Mount (floor)
CLOSURE DEVICE:	FL	Fusible Link
CLOSURE TEMP.:	165 212	165°F (74°C) 212°F (100°C)
SLEEVE LENGTH:	Specify Sleeve Length:	Minimum sleeve length is 16" (406). (supplied as standard)
ACCESSORIES:	**CODE**	**DESCRIPTION**
POSITION INDICATOR:	300	MLS-300 Switch Pack

HOW TO ORDER

ROUND FIRE DAMPER

MODEL: 1290F

HOW TO ORDER:

Select model number and size, then select from each variable as applicable. Choose accessories as desired. See above for description of variables and accessories.

MODEL	SIZE (DIA.)	MOUNTING	CLOSURE DEVICE	CLOSURE TEMP. *	SLEEVE LENGTH **	ACCESSORIES
1290F	ie: 12" or 305 (mm) dia.	V H	FL	165 212	SPECIFY LENGTH	300

Notes: 1. * 165˚F (74˚C) fusible link is supplied as standard.
2. ** Standard sleeve is 16" (406) long (suitable for 4" (102) up to 8" (203)).

Options and Variables

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.

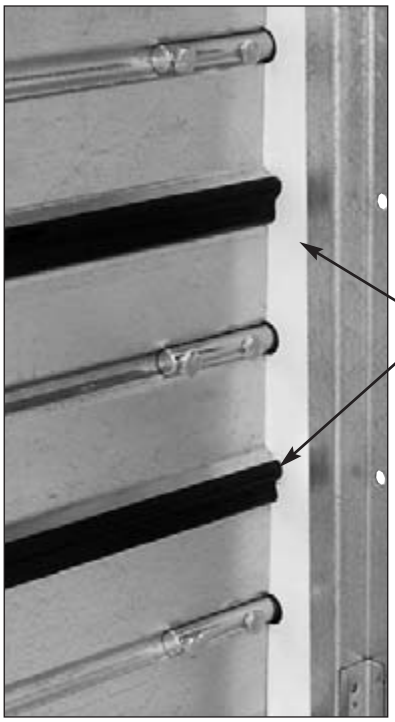
CLOSURE TEMPERATURES:

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 JSM 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. For use on 1250 Series dampers.

OPTION CODE **BSP**
PVC BLADE SEALS

Option Code BSP provides damper with dual durometer PVC 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. For use on D1250 Series dampers.

Options and Variables

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.

RETAINING ANGLES:

FOR USE WITH MODEL SERIES 1200 AND 1250

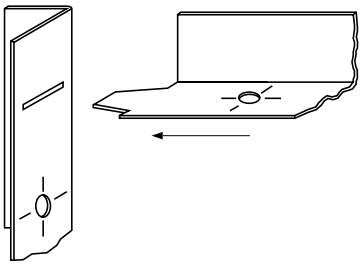
- Maximum Size: 90" x 48" (2286 x 1219) or 48" x 90" (1219 x 2286)

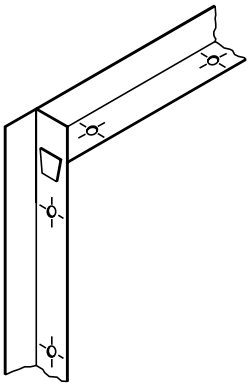
OPTION CODE **QS1, QS2**
'QUICK-SET' RETAINING ANGLES

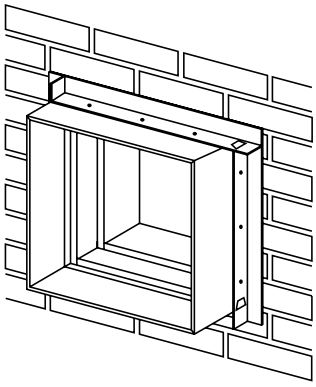
BENEFITS:

- 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.
Option Code **QS1** provides a single set of angles for applications requiring angles on one side of the damper only.
Option Code **QS2** provides the complete kit of two sets of angles suitable for most applications that require angles on both sides of the damper.
"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.







Options and Variables

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.

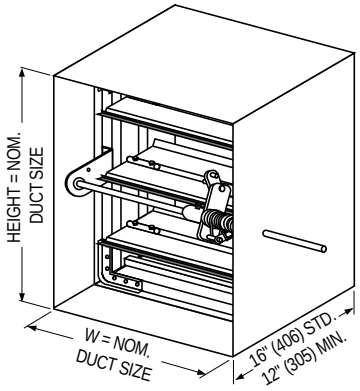
SLEEVES OR SIDE MOUNTING PLATE:

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 jobsite 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.

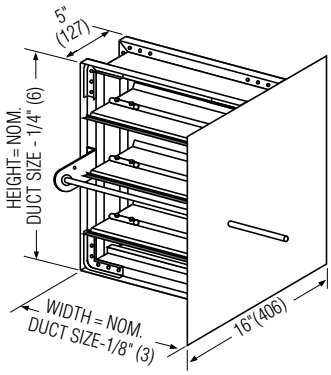
The following indicates model numbers to order for multi-blade fire dampers with factory fitted Type A sleeves:

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

Options and Variables

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.

FLANGED SLEEVE

OPTION CODES **TDF1, TDF2**
TDF FLANGE

TDF (by Engle) and **TDC** (by Lockformer) proprietary flange systems are approved as breakaway connections for connecting a multi-blade fire 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.

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).

Notes: