

- “OUT OF WALL” MOUNTING
- ULTRA LOW LEAKAGE
- AIRFOIL BLADE
- UL 555 CLASSIFIED DYNAMIC FIRE DAMPER
- UL 555S SMOKE DAMPER

MODEL: 1221-OW



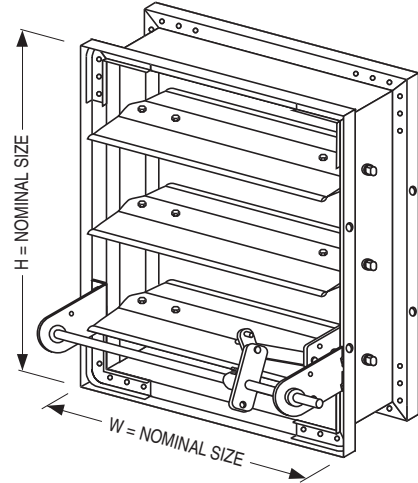
Nailor’s Model 1221-OW is an “out of wall” high performance combination fire /smoke damper specifically designed for supply or return ducts that terminate at a grille. The design allows for through the grille access to the damper, actuator and other components. The 1221-OW is perfect for applications where building codes require both a fire damper for the protection of duct penetrations in walls or floors that have a fire resistance rating of 2 hours or less and also require a leakage rated damper for operational smoke control in static or dynamic smoke management systems. The 1221-OW features Nailor’s unique inter-locking double skin airfoil blade design that eliminates combustible seals and provides flame and smoke seal under fire conditions at temperatures up to 2000°F! Model 1221-OW offers premium performance with the lowest leakage class available and a low pressure drop design that is well suited to the majority of commercial applications. Standard sleeve length accommodates most commercial supply and return grilles and registers.

QUALIFICATIONS:

- UL 555 Classified Dynamic Fire Damper, 1 1/2 hr. label (file #9492).
- UL 555S Classified Smoke Damper, Leakage Class I at 250°F or 350°F elevated temperature (file #9492).
- Meets NFPA 90A, NFPA 92A, BOCA, SBCCI, UBC and IBC requirements.
- City of New York MEA #119-00-M
- Maximum velocity of 2000 fpm (10 m/s) @ 4" w.g. dependent upon actuator.

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 for all dampers over 16" (406) high. Dampers 16" (406) high and under have a 20" (508) long sleeve.
- 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.
- JAMB SEALS:** Stainless Steel.
- HEAT RESPONSIVE DEVICE (CONTROLLED CLOSURE):** 250°F (121°C) standard. 165°F (74°C), 212°F (100°C) and, with ERL only, 350°F (176°C) available. ERL (Electric Resettable Link) is standard on all dampers with electric actuators. PRL (Pneumatic Replaceable Link) is standard on all dampers with pneumatic actuators.



**MODEL 1221-OW
(DAMPER ONLY SHOWN)**

MINIMUM SIZE:

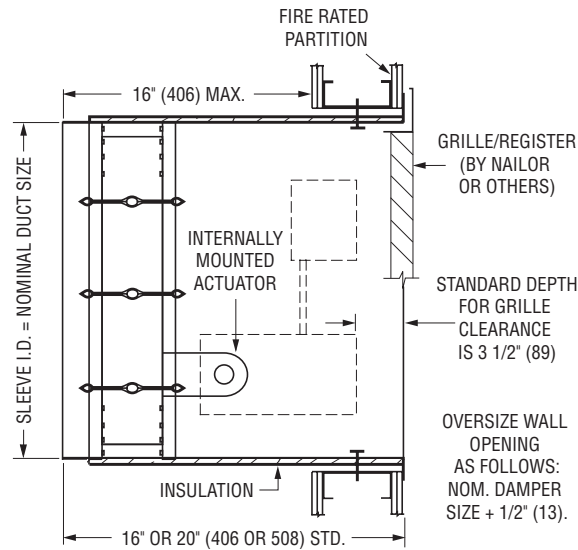
Vertical or Horizontal mount: 12" W x 8" H (305 x 203) or 8" W x 12" H (203 x 305) with electric actuator. 8" W x 20" H (203 x 508) with pneumatic actuator.

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.

COMBINATION FIRE/SMOKE DAMPERS

MODEL: 1221 - OW

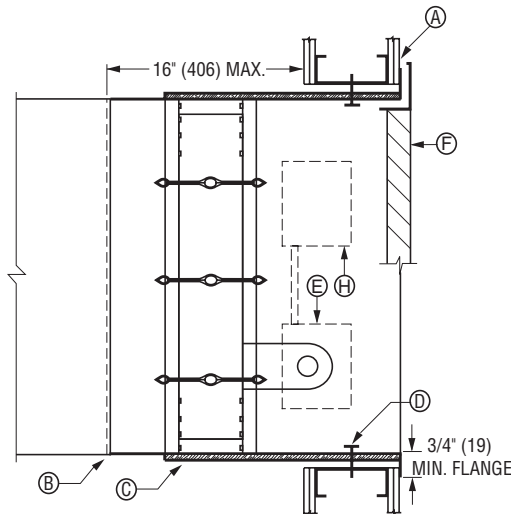


**MODEL 1221-OW
'OUT OF WALL' MOUNTING**

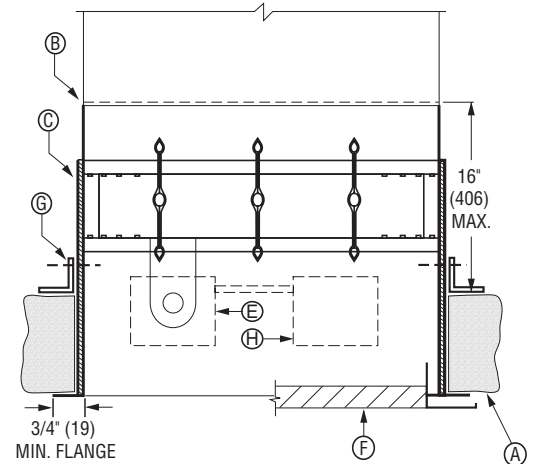
NOTES:

- 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.**
- FOR PERFORMANCE DATA SEE MODEL 1220.**

- A** Typical 2 hour rated vertical steel stud construction or horizontal concrete fire partition.
- B** Duct connection.
- C** Intumescent material.
- D** #10 sheet metal screws.
- E** Actuator
- F** Grille/Diffuser
- G** Rear retaining angle (required for horizontal mounting).
- H** ERL Electric Resettable Link (Heat Sensor)



VERTICAL MOUNT



HORIZONTAL MOUNT

COMBINATION FIRE/SMOKE DAMPERS

MODEL: 1221-OW

VARIABLES/ACCESSORIES

VARIABLES:	CODE	DESCRIPTION
MOUNTING:	V	Vertical Mount (wall)
	H	Horizontal Mount (floor)
LEAKAGE/ELEV. TEMP. RATINGS:	125	Class I @ 250°F
	135	Class I @ 350°F
CLOSURE DEVICE:	ERL	Electric Resettable Link
	ML4	MLS-400 Fire Sensor Reopenable Control System
	PRL	Pneumatic Replaceable Link
CLOSURE TEMPERATURE:	165	165°F (74°C)
	212	212°F (100°C)
	250	250°F (121°C)
	350	350°F (177°C)
	HL (must select with MLS-400)	High=350°F/Low=165°F
SLEEVE LENGTH/GAUGE:	Specify Sleeve Length:	See Note 1 below
	Specify Sleeve Gauge:	20G, 18G, 16G, 14G, 10G
ACTUATORS:	411	Honeywell ML4115 (120V)
	811	Honeywell ML8115 (24V)
	MS4	Honeywell MS4120F (120V)
	MS8	Honeywell MS8120F (24V)
	296	Siemens 331-2961 (25psi)
ACTUATOR MOUNTING:	INT	Internal Mount
FAIL POSITION:	CL	Damper to Fail Closed
DAMPER LOCATION IN SLEEVE:	L0	Specify Dimension from Sleeve End
ACCESSORIES:	CODE	DESCRIPTION
POSITION INDICATOR:	300	MLS-300 Switch Pack
E.P. SWITCH:	EPI	120V Siemens 2651008
	EP2	24V Siemens 2651007
RETAINING ANGLE:	QS1	One "Quick Set" retaining angle

Notes: 1. Standard sleeve is 16" (406) long (suitable for 4" (102) thick wall) x 20 ga. (1.0) for dampers over 16" (406) in height or 20" (508) long x 20 ga. (1.0) for dampers 16" (406) or less in height. Shorter sleeve lengths are available (down to 14" (356)) dependent on height when actuator mounting orientation can be vertical or required grille depth clearance is reduced. Standard sleeve provides minimum grille depth clearance of 3 1/2" (89).

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COMBINATION FIRE/SMOKE DAMPERS

HOW TO ORDER OR TO SPECIFY

COMBINATION FIRE/SMOKE DAMPERS

MODEL: 1221-OW

HOW TO ORDER:

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

MODEL	SIZE (W X H)	MOUNTING	LEAKAGE/ELEV. TEMP. RATING	CLOSURE DEVICE	CLOSURE TEMP. *	SLEEVE LENGTH **	SLEEVE GAUGE **	ACTUATOR	ACTUATOR MOUNTING	FAIL POSITION	DAMPER LOCATION IN SLEEVE	ACCESSORIES
1221-OW	ie: 24" x 36"	V H	125 135	ERL	165	SPECIFY LENGTH	20G	411	INT	CL	LO	300
				ML4	212		18G	811				EP1
				PRL	250		16G	MS4				EP2
					350		14G	MS8				QS1
				HL			10G	296				

- Notes:
- * Maximum closure temperature allowed is equal to elevated temperature rating. HL (high/low closure temps.) must be selected when MLS-400 is selected as closure device.
 - ** Standard sleeve is 16" (406) long (suitable for 4" (102) thick wall) x 20 ga. (1.0) for dampers over 16" (406) in height or 20" (508) long x 20 ga. (1.0) for dampers 16" (406) or less in height. Shorter sleeve lengths are available (down to 14" (356)) dependent on height when actuator mounting orientation can be vertical or required grille depth clearance is reduced. Standard sleeve provides minimum grille depth clearance of 3 1/2" (89).
 - IMPORTANT: Damper is furnished full ordered size to facilitate grille installation.
 - MLS-300 is included as part of MLS-400 package.

SUGGESTED SPECIFICATION:

Provide and install, as shown on plans and/or schedules, Combination Fire/Smoke Dampers approved for use where ductwork design penetrates and terminates at a fire separation. Dampers shall be as manufactured by Nailor Industries and shall meet or exceed 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. Dampers requiring blade seals to maintain leakage class when under elevated temperature conditions are not acceptable. 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. Jamb seals shall be compression-type stainless steel.

Dampers shall meet the requirements of NFPA 90A, 92A and 92B. Dampers shall be classified by Underwriter's Laboratories and labeled as 1 1/2 hour Fire Damper under UL 555, and Class I Smoke Damper under UL 555S at an elevated temperature of 250°F (121°C) or 350°F (177°C) (**specifier select one**) for use in dynamic or static Smoke Control Systems. Dampers shall be supplied with factory installed sleeves of minimum 16" (406) length for dampers over 16" (406) in height and minimum 20" (508) length for dampers 16" or less in height, and shall be field verified by contractor, dependent on wall thickness. Sleeves shall be caulked to UL requirements and shall be 20 ga. (1.0) galvanized steel with 3/4" (19) flange on one end. Sleeves shall be insulated on all four sides with intumescent thermal insulation to reduce heat transfer.

Appropriate electrical or pneumatic actuators (**specifier select one**) shall be installed internally by the damper manufacturer in the factory and shall have been tested and classified under UL 555S with the damper at an elevated temperature of 250°F (121°C) or 350°F (177°C). 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 three times to ensure correct operation.

Each damper shall be equipped with a UL Classified heat responsive device that will cause the damper to close in a controlled manner and lock in a closed position by means of an over center/knee lock linkage, when the duct temperature reaches the maximum degradation temperature of the damper/actuator assembly as required by UL 555S. Closure devices that cause instantaneous closure are not acceptable. Damper manufacturer shall submit independent test data supporting low pressure drop design. Pressure drop across a 24" x 24" (610 x 610) damper shall not exceed 0.12" w.g. at 2000 fpm. Standard of acceptance: Nailor Industries Model 1221-OW.

