

QUALIFICATIONS:

- UL 555 & CAN/ULC-S112 CLASSIFIED DYNAMIC FIRE DAMPER 1 1/2 hr. Label (File # R9492).
- UL 555S CLASSIFIED SMOKE DAMPER (File # R9492) Leakage Class I or II at 250°F or 350°F elevated temperature.
- City of New York. MEA #366-03-M.
- California State Fire Marshal: Fire Damper Listing No. 3225-0935:0106.
- Meets NFPA 80, 90A, 92, 101 and 105 as well as IBC and NBC (Canada) Building Code requirements.
- Maximum velocity 2000 fpm @ 4" w.g. (up to 4000 fpm with size and actuator limitations. Consult Nailor).

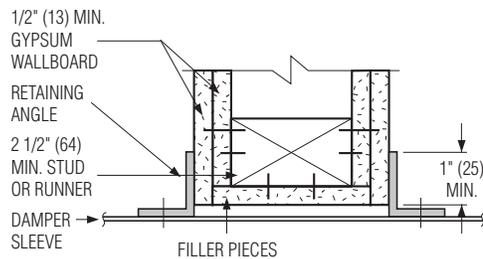


APPLICATION:

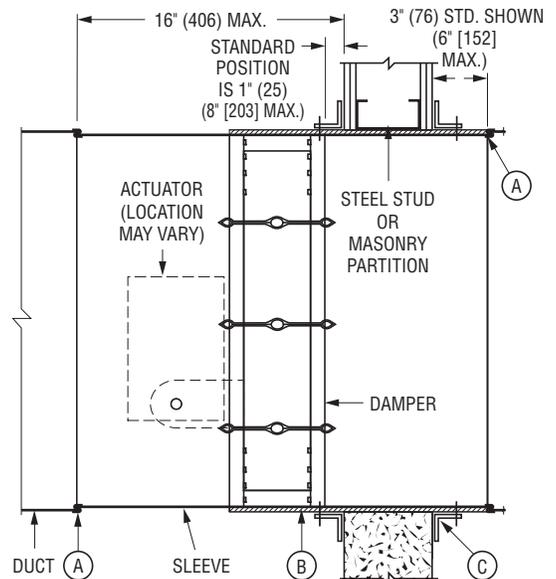
Models 1221-DOW and 1221-DOWM combination fire/smoke dampers are specially designed for "out of wall" (vertical mount) or "out of floor" (horizontal mount) through penetration applications (ductwork is connected to both sides) where the damper cannot be installed within the plane of the wall or floor.

ITEMS:

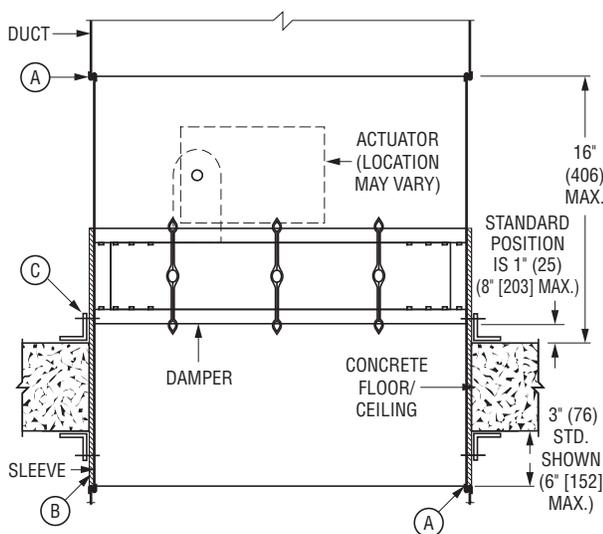
- (A) Duct/sleeve connection (See Note #4).
- (B) Intumescent material (insulation).
- (C) Retaining angles and fasteners (See Note #6).
- (D) Typical 2 Hour Rated Vertical Wood Stud Construction



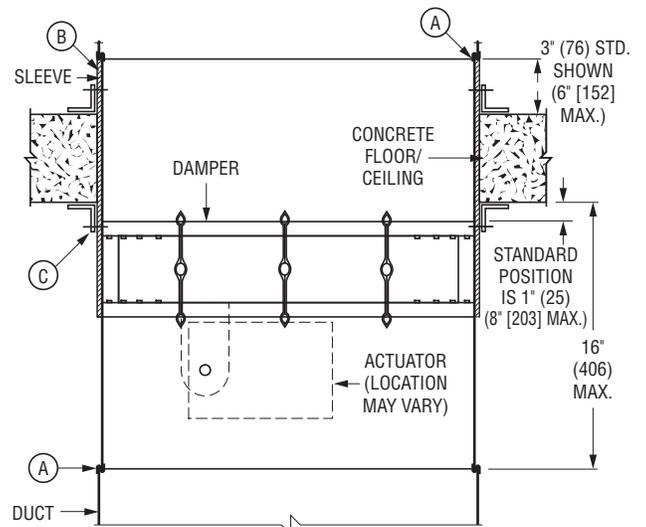
D: Wood Stud Detail



VERTICAL INSTALLATION



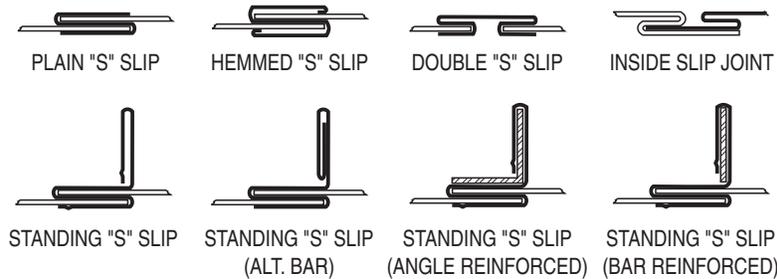
ABOVE FLOOR INSTALLATION



BELOW FLOOR INSTALLATION

NOTES:

1. Installation shall be in accordance with the appropriate requirements of the National Fire Protection Association Standard NFPA 90A latest edition.
2. **Damper Location Within Sleeve:** The maximum distance that the leading edge of the damper frame can be installed outside the wall or floor is as follows:
Steel Stud, Wood Stud or Masonry Walls: 8" (203).
Concrete Floors: 8" (203).
3. **Damper Sleeve:** Factory furnished sleeves shall not be less than 20 gauge. (1.01) coated steel.
Sleeve thickness must be equal to or thicker than the duct connected to it. Sleeve gauge requirements are listed in the SMACNA Fire, Smoke and Radiation Damper Installation Guide for HVAC Systems and in NFPA 90A. If a break-away style duct/sleeve connection is not used, damper sleeves up to 36" wide by 24" (914 x 610) high of not less than 16 gauge (1.61) coated steel, or larger sleeves of not less than 14 gauge (1.99) thick coated steel may be attached to the duct with screws or other types of mechanical fasteners. The maximum sleeve thickness for such rigid joints is 10 gauge (3.51) for coated steel.
The connecting duct shall not be continuous thru the wall or floor opening but shall terminate at the sleeve. Sleeves shall extend a maximum of 16" (406) from the wall/floor on the damper/actuator side and maximum 6" (152) on the other side.
4. **Break-away duct/sleeve connections:**
 - a. Rectangular ducts must use one or more of the following connections if the gauge is less than the requirement in note 3 for rigid connections:



In addition:

- One of the above connections on the top and bottom joints with flat drive slip connections on the side joints may be used for dampers up to 20" (508) in height.



- A maximum of two #10 sheet metal screws on each side and on the bottom, located in the center of the slip pocket and penetrating both sides of the slip pocket may be used.
- b. Round or oval duct may be attached to the round or oval collar which is part of the damper/sleeve in the following manner:
 - Duct diameters 22" (559) and smaller may use three #10 sheet metal screws equally spaced around the circumference.
 - Duct diameters over 22" (559) up to and including 36" (914) may use five #10 sheet metal screws equally spaced around the circumference.
 - Duct diameters larger than 36" (914) high or diameter may use eight #10 sheet metal screws equally spaced around the circumference.
 - c. For the use of approved alternative Ductmate or TDC/TDF break-away connections, refer to the supplements noted on this page.
Note: When optional sealing of these break-away connections is desired, the duct sealant shall be PA2084T Duct Sealant by Precision or water based DP1010 by Design Polymetrics.
 5. **Opening Size:** Expansion clearance is not required, however the opening size in partition should be sized 1/2" (13) larger than nominal damper size in all directions to allow for sleeve thickness and insulation.
 6. **Retaining Angles** shall be a minimum of 1 1/2" x 1 1/2" x 16 gauge (38 x 38 x 1.61). Secure the retaining angles to the sleeve with 1/2" (12.7) long welds, 1/4" (6.35) dia. bolts and nuts, 3/16" (4.76) dia. steel rivets or #8 sheet metal screws, 8" (203) on center and 2" (51) maximum from corner of sleeve on all four sides. The retaining angles must lap the structural opening by 1" (25.4) minimum. Field fabricated retaining angles are not to be mechanically fastened at the corners.
 7. **Maximum Size Limitations:** Vertical: 36" x 48" (914 x 1219), Horizontal: 32" x 48" (813 x 1219). Minimum size is 8" x 8" (203 x 203).
 8. **Actuator Connections and accessories:** Combination fire/smoke dampers and qualified actuators are tested together by UL and are factory installed to qualify for damper/actuator standard warranties. Factory installed electric actuators are either 24, 120 or 230 VAC. All wiring must be in accordance with the appropriate electrical codes and NFPA 70. Factory installed pneumatic actuators are rated at and have a maximum pressure of 25 PSI. The pneumatic actuator shall be connected to the air supply thru metallic tubing. A short silicone tubing pigtail is acceptable.

ERL (Electric Resettable Link): Dampers are supplied with an electric thermostat-type temperature responsive device as standard. Refer to Figure 1 for wiring of the ERL. If dampers are ordered with a pneumatic actuator and ERL, an EP switch is required with an appropriate electric power circuit to allow the ERL to control the pneumatic actuator.

When DTO (MLS-400) re-openable controls or MLS-300 position indicators are used, refer to the installation and wiring instructions for these units. Documents IOM-MLS4 and IOM-MLS3 (H or N) respectively.

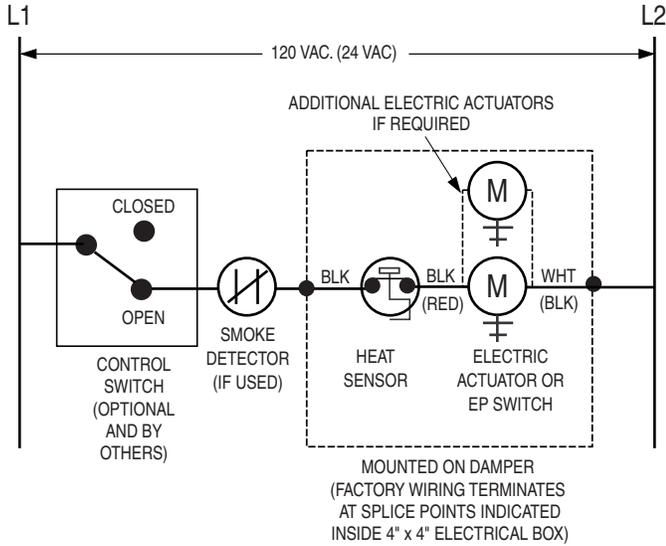


Figure 1. ERL Wiring

REFER TO THE APPROPRIATE NAILOR INSTALLATION INSTRUCTION SUPPLEMENTS FOR ADDITIONAL INFORMATION OR SPECIAL REQUIREMENTS:

- | | |
|--|------------|
| MLS-300 (Honeywell) POSITION INDICATOR | MLS3H |
| MLS-300 (Nailor) POSITION INDICATOR | MLS3N |
| DTO DUAL TEMPERATURE OVERRIDE SENSOR (MLS-400) | DTO |
| ERL ELECTRIC RESETTABLE LINK | ERL |
| STEEL AND WOOD STUD FRAMING | FDSWSFINST |
| CAVITY SHAFT WALL PARTITIONS | FDCSWINST |
| FLANGED TYPE ALTERNATE BREAKAWAY CONNECTIONS | FDFABCINST |
| TDC/TDF FLANGED DUCT CONNECTION | FDTDCFINST |
| QUICK-SET RETAINING ANGLES | FDQSRA |

Dimensions are in inches (mm).

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