

DAMPER INSTALLATION INSTRUCTIONS

INSTALLATION AND MAINTENANCE INSTRUCTIONS

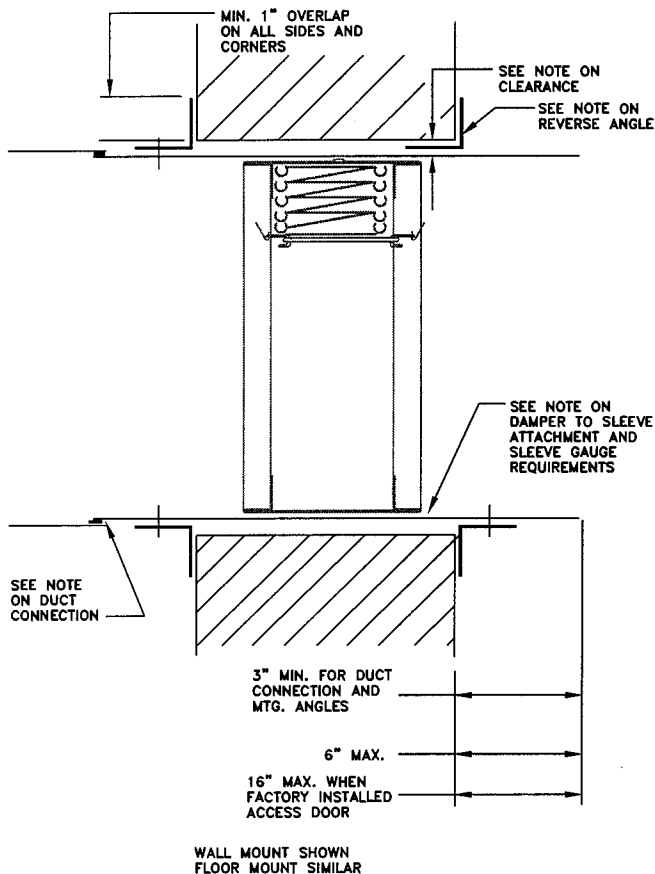
1-1/2 HOUR RATED, UL CLASSIFIED FIRE DAMPER

FOR USE IN FIRE BARRIERS WITH RATINGS OF LESS THAN 3 HOURS

INSPECTION

Inspect for shipping damage.
Inspect for proper size and model.
Inspect installed damper for proper orientation, as stated on damper label.
Inspect for obstructions which could interfere with free operation and complete closure.
Manually cycle the damper to verify proper operation.

TYPICAL WALL INSTALLATION



INSTALLATION

The basic intent of a proper installation is to secure the fire damper in, not to, the opening in such a manner as to prevent distortion and disruption of the damper operation by allowing the fire damper in openings to expand and the connecting duct to separate in the event of the collapse of the hanging system. The fire damper must be positioned within the masonry, block or gypsum wallboard fire barrier. Reference page 5 for details of a suggested drywall partition.

DAMPER TO SLEEVE ATTACHMENT

A Sleeve shall be used of sufficient length to permit direct attachment of perimeter mounting angles. This damper can be supplied by the factory mounted in a sleeve. If the sleeve is not factory supplied, it must be attached on both sides of the damper by one of the following methods:
Secure with 1/4" dia. bolts and nuts or by welding with beads 1/2" in length, or with No. 10 steel sheet metal screws, or 3/16" steel rivets. Fasteners shall be 8" maximum on centers. Fasteners cannot be placed where they will interfere with damper operation. Gaps at corners between the damper and its sleeve must be small enough to prohibit the passage of an 1/8" diameter rod through the entire depth of the gap between two damper panels and its sleeve.

SLEEVE THICKNESS

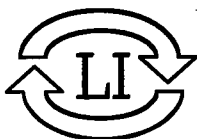
Sleeves shall be the same gauge or heavier as the duct to which it is attached. Gauges shall conform to SMACNA or ASHRAE duct standards. Damper sleeve can be no thicker than 10 GA steel. On type C dampers, the sleeve must be 18 GA. or heavier.

EXPANSION CLEARANCE

The opening in the wall or floor for the fire damper shall be sized so as to provide expansion clearance between the sleeve and opening. Clearances do not vary with walls constructed of different materials. A minimum of 1/8" per foot of overall damper/sleeve width and height is required. The maximum opening size shall not exceed 1/8" per foot plus 1", minimum total clearance shall be at least 1/4" larger than the overall assembly.



CLLOYD-50-REV-B



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DAMPER INSTALLATION INSTRUCTIONS

INSTALLATION AND MAINTENANCE INSTRUCTIONS

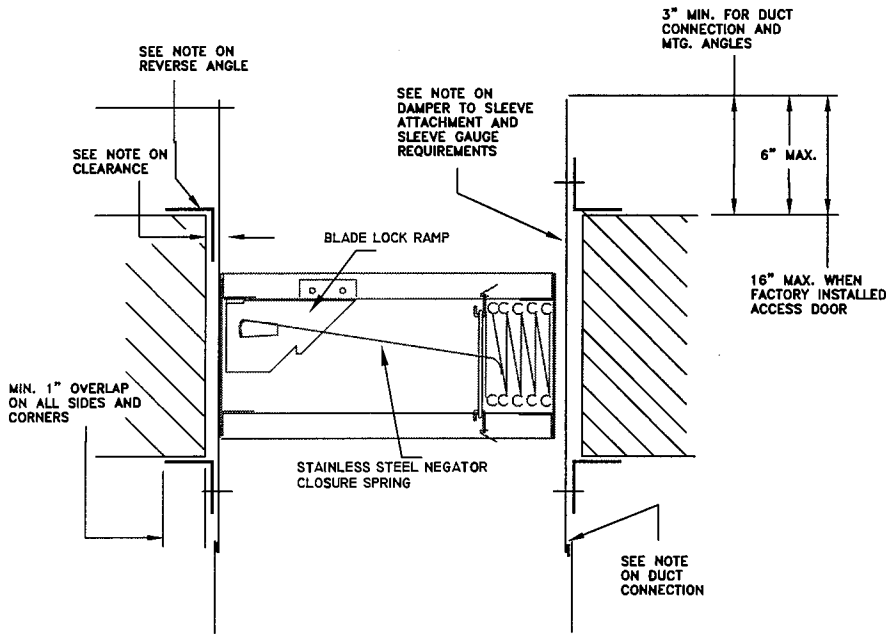
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FOR USE IN FIRE BARRIERS WITH RATINGS OF LESS THAN 3 HOURS

INSPECTION

Inspect for shipping damage.
Inspect for proper size and model.
Inspect installed damper for proper orientation, as stated on damper label.
Inspect for obstructions which could interfere with free operation and complete closure.
Manually cycle the damper to verify proper operation.

TYPICAL HORIZONTAL INSTALLATION



HORIZONTAL MOUNT SHOWN

INSTALLATION

The basic intent of a proper installation is to secure the fire damper in, not to, the opening in such a manner as to prevent distortion and disruption of the damper operation by allowing the fire damper in openings to expand and the connecting duct to separate in the event of the collapse of the hanging system. The fire damper must be positioned within the masonry, block or gypsum wallboard fire barrier. Reference page 5 for details of a suggested drywall partition.

DAMPER TO SLEEVE ATTACHMENT

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Secure with 1/4" dia. bolts and nuts or by welding with beads 1/2" in length, or with No. 10 steel sheet metal screws, or 3/16" steel rivets. Fasteners shall be 8" maximum on centers. Fasteners cannot be placed where they will interfere with damper operation. Gaps at corners between the damper and its sleeve must be small enough to prohibit the passage of an 1/8" diameter rod through the entire depth of the gap between two damper panels and its sleeve.

SLEEVE THICKNESS

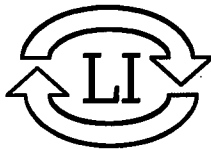
Sleeves shall be the same gauge or heavier as the duct to which it is attached. Gauges shall conform to SMACNA or ASHRAE duct standards. Damper sleeve can be no thicker than 10 GA steel. On type C dampers, the sleeve must be 18 GA. or heavier.

EXPANSION CLEARANCE

The opening in the wall or floor for the fire damper shall be sized so as to provide expansion clearance between the sleeve and opening. Clearances do not vary with walls constructed of different materials. A minimum of 1/8" per foot of overall damper/sleeve width and height is required. The maximum opening size shall not exceed 1/8" per foot plus 1", minimum total clearance shall be at least 1/4" larger than the overall assembly.



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SLEEVE INSTALLATION INSTRUCTIONS

ATTACHING FIRE DAMPERS TO SLEEVES

Fire dampers must be attached to sleeves as shown in fig. 1. All four sides of the damper frame must be attached to the sleeve with one row of attachments on each side of the blade channel. Attachments must be spaced a maximum of 6" on centers and a maximum of 2" from corners. A minimum of 4 attachments (2 on each side of the blade channel) per side (16 per damper) are required. One of the methods of attachment shown below must be used.

- tack or spot welds
- No.10 sheet metal screws
- 1/4" bolts and nuts
- 3/16" steel pop rivets

SECURING FIRE DAMPER AND SLEEVES TO WALL AND FLOOR OPENINGS

Fire damper and sleeve assemblies must be installed in wall and floor openings using retaining angles on each side of the wall or floor as described below:

- Retaining angles must be a minimum of 16 gauge steel and have a minimum of 1-1/2" x 1-1/2" legs.
- Retaining angles must be attached to the sleeve using the procedures and methods described in section 3. The angles must be attached to all 4 sides of the sleeve with butt joints at each corner. A minimum of two attachments are required on each side, top and bottom. The angles need not be attached to each other at the corners.
- Retaining angles must completely cover the clearance space between the sleeve and the wall / floor opening, plus overlap the wall / floor a minimum of 1". This coverage includes all corners (fig. 2).
- Retaining angles should not be fastened to the wall / floor material. The angles should only sandwich the wall / floor and allow for damper / sleeve expansion during periods of intense heat.
- For grille installation, angle legs may be reversed and one leg inserted into the wall / floor opening providing the required clearance is maintained between angle leg fasteners and the wall / opening.

CONNECTING DUCTS TO FIRE DAMPER SLEEVE

Any duct connection other than breakaway is considered rigid. The connections shown on page 3 are considered breakaway. Factory furnished duct collars on type R and CR fire dampers are also considered breakaway. See Fig. 3.

MULTIPLE SECTION FIRE DAMPERS

When multiple sections are shipped unassembled, installer shall fasten dampers together.

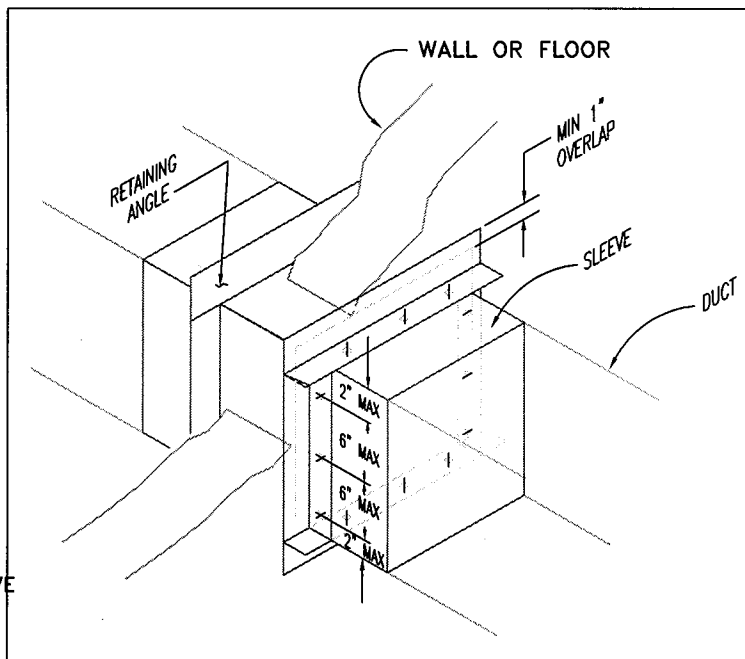
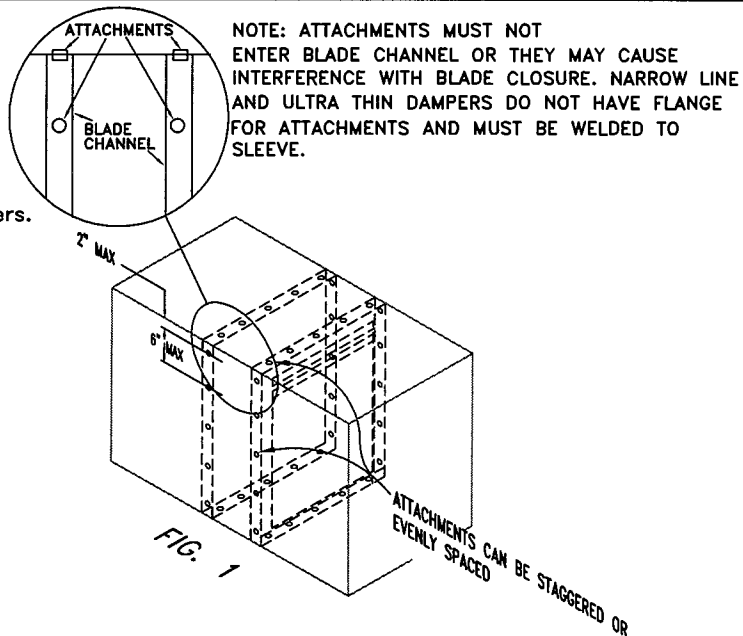
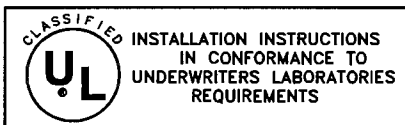
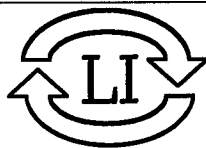


FIG. 2



CLLOYD-48-REV-C



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SINGLE SIDE RETAINING ANGLE

INSTALLATION INSTRUCTIONS

VERTICAL OR HORIZONTAL MOUNT 1-1/2 HR RATING

"Lloyd Rapid Mounting Angles" (For use on one sided angle installations)
 These instructions apply to 1-1/2 hour rated combination fire/smoke, smoke, Dynamic, and curtain fire dampers mounted in masonry, block, or metal, stud walls and floor.

Angles shall be a minimum of 1-1/2" X 1-1/2" X 16 Gage for openings in metal stud, and concrete/masonry walls and floors of 48"x36" and less. Mounting Angles are only required on one side of the wall or top of the floor. They must be attached to both the sleeve and the wall. Mounting angles may be installed directly to the metal stud under the wall board on metal installations only. Sizes larger will require the previous retaining angle design which consisted of 4 separate angles per side.

For one sided Lloyd Rapid Mounting Angle installations, the sleeve fasteners shall be no. 10 sheet metal screws spaced 3" from each end and no greater than 12" on center.

With a minimum of two (2) fasteners on each side, top and bottom, wall/floor fasteners shall be no. 10 sheet metal screws 2" long; two screws on each side angle spaced 3 inches from each end; three screws on each head and sill angle with one screw in the center and one at each end spaced 3 inches from the ends.

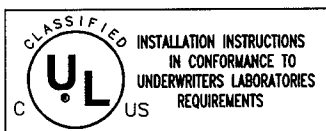
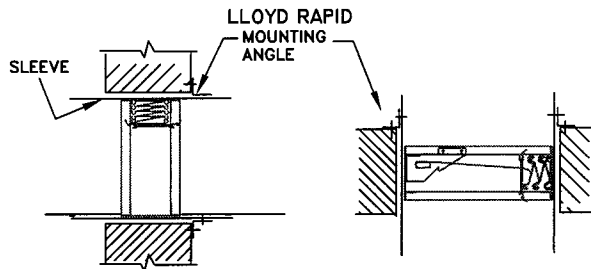
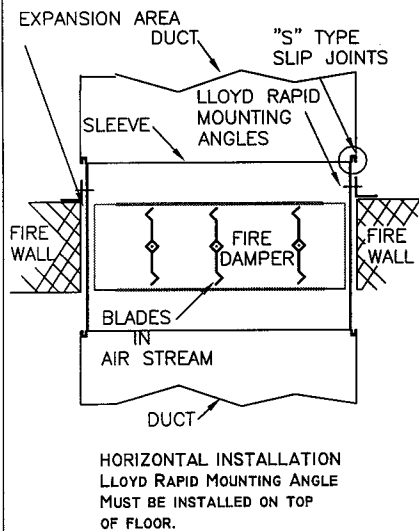
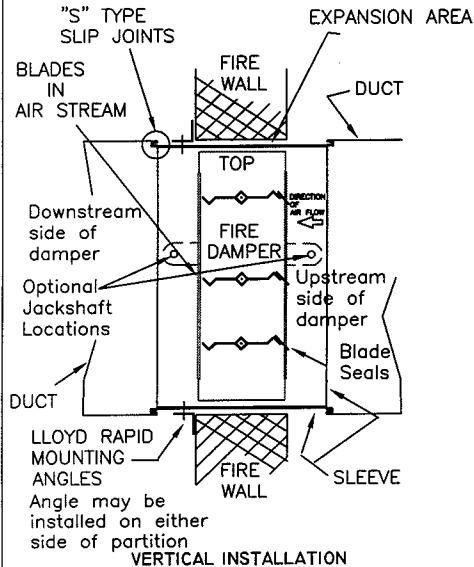
Screw fasteners used in metal stud must engage the metal stud a minimum of 1/2"

Screw fasteners used in masonry walls or floors must engage the wall or floor a minimum of 2"

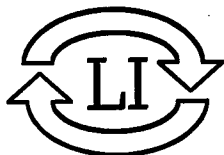
Angles should overlap the partition a minimum of 1" around the entire opening.

Installation per NFPA.90A, UL555, and SMACNA Fire Smoke and Radiation Installation Guide.

FASTENERS MUST BE PLACED WHERE THEY DO NOT INTERFERE WITH THE DAMPER OPERATION.



CLLOYD-61-REV-E



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