SLEEVE INSTALLATION INSTRUCTIONS

ATTACHMENTS

BLADE CHANNEL

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).

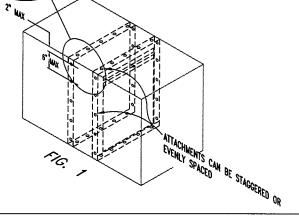
- Retaining angles should not be fastened to the wall / floor material. The angles

- 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 SLEEV 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. NOTE: ATTACHMENTS MUST NOT
ENTER BLADE CHANNEL OR THEY MAY CAUSE
INTERFERENCE WITH BLADE CLOSURE. NARROW LINE
AND ULTRA THIN DAMPERS DO NOT HAVE FLANGE
FOR ATTACHMENTS AND MUST BE WELDED TO
SLEEVE.



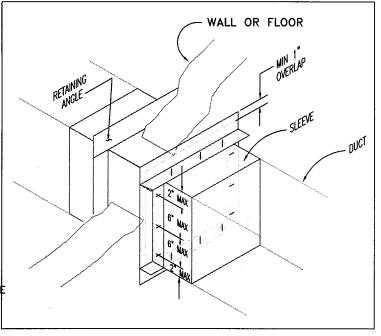


FIG. 2



CLLOYD-48-REV-C



LLOYD INDUSTRIES INC.

231 COMMERCE DRIVE
MONTGOMERYVILLE, PA. 18936

TEL: 215-412-4445 FAX: 215-412-4409

EMAIL: LLOYDIND@FIREDAMPER.COM

5858 BROADWAY AVE.

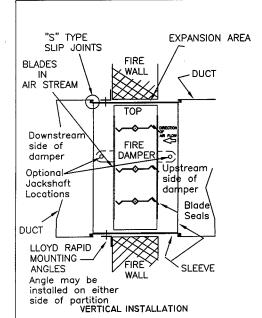
JACKSONVILLE, FL. 32254

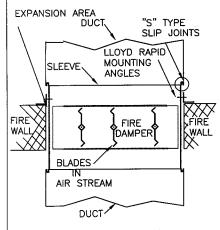
TEL: 904-378-8440 FAX: 904-378-8441

EMAIL: LLOYDINDI@BELLSOUTH.NET

WEB SITE: FIREDAMPER.COM

SINGLE SIDE RETAINING ANGLE





HORIZONTAL INSTALLATION LLOYD RAPID MOUNTING ANGLE MUST BE INSTALLED ON TOP OF FLOOR.



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 masonary, 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 Angles shall be a minimum of 1-1/2" X 1-1/2" X 16 Gage for openings in metal stud , and concrete/masonary 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 seperate 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.

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.

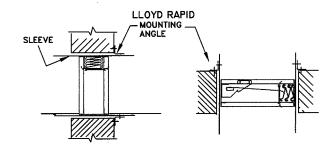
Screw fasteners used in metal stud must engage the metal stud a minimum of 1/2"

Screw fasteners used in masonary walls or floors must engage the wall or floor a minimum of $2^{\prime\prime}$

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



INDUSTRIES

231 COMMERCE DRIVE MONTGOMERYVILLE, PA. 18936

TEL: 215-412-4445 FAX: 215-412-4409

EMAIL: LLOYDIND@FIREDAMPER.COM

5858 BROADWAY AVE. JACKSONVILLE, FL. 32254

TEL: 904-378-8440 FAX: 904-378-8441

EMAIL: LLOYDINDI@BELLSOUTH.NET

WEB SITE: FIREDAMPER.COM