

INSTALLATION AND MAINTENANCE INSTRUCTIONS 3 HOUR RATED, UL CLASSIFIED FIRE DAMPER FOR USE IN FIRE BARRIERS WITH RATINGS OF 3 HOURS OR MORE MODELS 317, D37

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.

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 for the connecting duct to separate in the event of the collapse of the hanging system. The fire damper must be positioned within the masonry or block fire barrier. If the damper uses an ETL (Electro-Thermal-Link) refer to the instruction packaged with the link.

DAMPER TO SLEEVE ATTACHMENT

A sleeve shall be used unless the damper has a housing of sufficient width 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 the following method:

Secure damper to sleeve with 1" long welds spaced 6" max. on centers and staggered upstream to downstream. Each side shall have welds no more than 2³/₄" from each corner.

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 opening. A 1/4" diameter rod cannot pass through the gap between two damper panels and its sleeve.

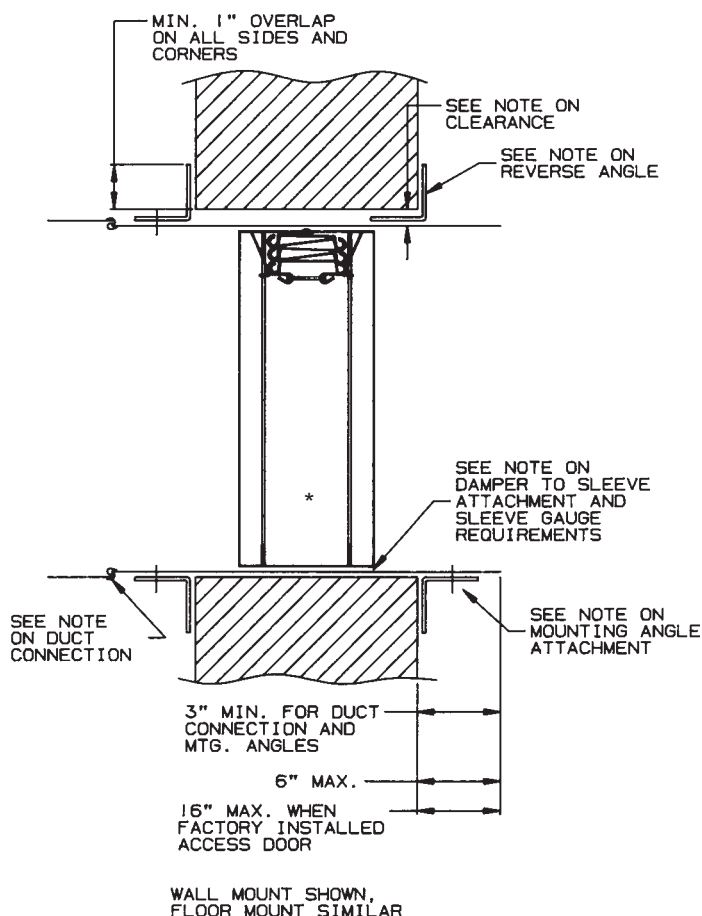
SLEEVE THICKNESS

Sleeve 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" (3/16" for stainless steel) per foot of overall damper/sleeve width and height is required. The maximum opening size shall not exceed 1/8" (3/16" for stainless steel) per foot plus 1", minimum total clearance shall be at least 1/4" larger than the overall assembly.

TYPICAL WALL INSTALLATION



* HORIZONTAL DAMPER TO BE INSTALLED WITH BLADE LOCK POINTS FACING DOWNWARD AND WITH ACCESS FROM ABOVE.

These installation instructions comply with Underwriters Laboratories, Inc. Safety Standard 555.

MESTEK, INC.

MOUNTING ANGLES

Secure mounting angles to the sleeve and not to the wall or floor. Mounting angles to frame the four sides of the sleeve on both faces. Where local codes allow, corners of mounting angles can be welded for dampers 24" x 24" or smaller. When reverse mounting angles are used, the size of the opening must be increased to maintain the specified expansion clearance between the angle/fasteners and the opening. Angles shall be a minimum of 1 1/2 x 1 1/2 x 1/8". Fasten angles to the sleeve using the 1/4" dia. bolts and nuts, or by welding with beads 1" in length. Fasteners or weld beads shall be 6" maximum on centers. Each side shall be connected no more than 2 3/4" from each corner.

ACCESS

Suitable access must be provided for damper inspection and servicing. Where it is not possible to achieve sufficient size access, it will be necessary to install a removable section of duct.

CAULKING

Caulking is allowed between the mounting angles and the damper sleeve, and between the mounting angles and the floor or wall construction. Caulking is not allowed between the damper sleeve and the wall or floor inside the opening.

Caulk shall be one of the following:

Dow Corning RTV 732, General Electric IS 808 or Novagard RTV 300.

DUCT CONNECTION

The installation of the damper and all duct connections to the damper sleeve shall conform to NFPA-90A and the SMACNA Fire, Smoke and Radiation Damper Installation Guide. All duct connections shall also conform to UL555. Connecting ducts shall not be continuous but shall terminate at the damper sleeve. Duct connections to the sleeve will be either of the breakaway or rigid types, breakaway types are listed below. The following determines if the connections are to be rigid or breakaway. For rigid type duct connections, sleeve shall be a minimum of 16 GA on dampers not exceeding 36" wide or 24" high or 24" diameter and 14 GA on larger units. Dampers supplied with thinner sleeves will require a breakaway connection of the following type: Plain "S" slip, Double "S" slip, Inside slip, Hemmed "S" slip, Standing "S" slip (bar reinforced, angle reinforced or alternate bar), Standing "S" slip shown below. All Connections not listed as breakaway shall be considered as rigid. Breakaway joints shall have no more than two No. 10 sheet metal screws on each side and on the bottom. The screws shall penetrate both sides of the slip pocket. When a breakaway joint is used along the top and bottom duct connection, a flat drive slip no longer than 20 inches is permitted on the two sides.

MAINTENANCE

Dampers shall be maintained in intervals as stated in NFPA-90A, Appendix B, unless local codes require more frequent inspections. Check the fuse link, check the stainless steel closure springs where furnished, cycle damper and check for free operation and complete closure, clean with mild detergent or solvent, secure damper open with fusible link.



PLAIN "S" SLIP



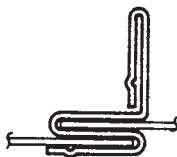
DOUBLE "S" SLIP



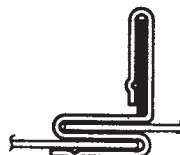
INSIDE SLIP JOINT



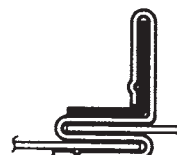
HEMMED "S" SLIP



STANDING "S" SLIP



STANDING "S" SLIP
(BAR REINFORCED)



STANDING "S" SLIP
(ANGLE REINFORCED)



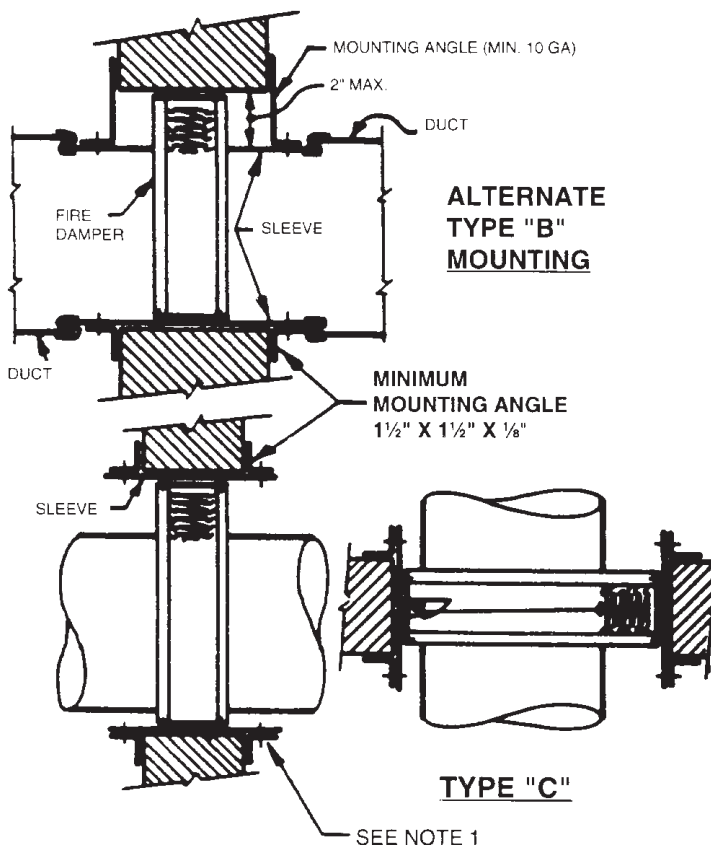
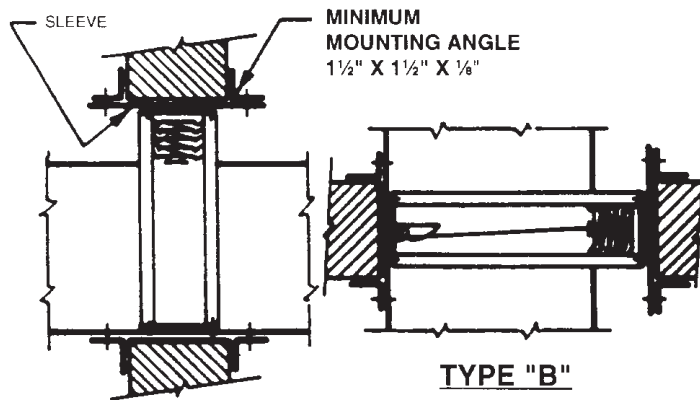
STANDING "S" SLIP
(ALTERNATE BAR)

The factory supplied 22 GA collar to 18 GA cap connection on type "C" dampers is a "break-away" connection under the following conditions:

1. Round duct diameters are no larger than 36".
2. Oval duct sizes are no larger than 71"W x 30"H.
3. Duct gauges shall conform to the SMACNA or ASHRAE duct standard.
4. Duct to be attached to the 22 GA damper collar with minimum #8 S.M.S. minimum of four screws per connection. For round duct diameters greater than 24", a minimum of five #10 S.M.S. are required per connection.

Dampers outside of these restrictions must use a 4" wide drawband connection as shown in the SMACNA Fire, Smoke and Radiation Damper Installation Guide.

5. A sleeve shall be provided, unless a damper has a frame of sufficient width, to permit direct attachment of perimeter mounting angles on each side of a wall or floor opening.



DAMPER SIZE LIMITATION

MODEL NO.	VERT. OR HORIZ. MOUNT	TYPE	MAX. W X H SINGLE SECTION (in.)	MAX. W X H ASSEMBLY (in.)	MAX. W X H SECTION OF ASSEMBLY	MAX. W X H MULLION DETAILS
317H	Horizontal	Static	48 X 48	72 X 36	36 X 36	1
317V	Vertical	Static	36 X 36	72 X 72	36 X 36	2
317V (STN)	Vertical	Static	47 X 48	93 X 48	47 X 48	2
D37V	Vertical	Dynamic	36 X 36	--	--	--
D37V (STN)	Vertical	Dynamic	36 X 36	--	--	--
D37H	Horizontal	Dynamic	24 X 24	--	--	--

(STN) = Stainless Steel Construction

NOTES:

- In cases where the wall/floor opening is larger than the maximum listed assembly size, an approved mullion must separate the large opening into smaller openings.
- Reference label on damper for velocity and pressure ratings of dynamically rated dampers.
- Mullion details specified are based on the fire ratings qualification tests. The user is responsible for additional structural supports of multiple section dampers when required by elevated air pressure differential in the closed position and in some cases seismic loading.
- Unassembled multiple section assemblies are shipped without the mullions and are to be field fabricated per details provided in these instructions.

