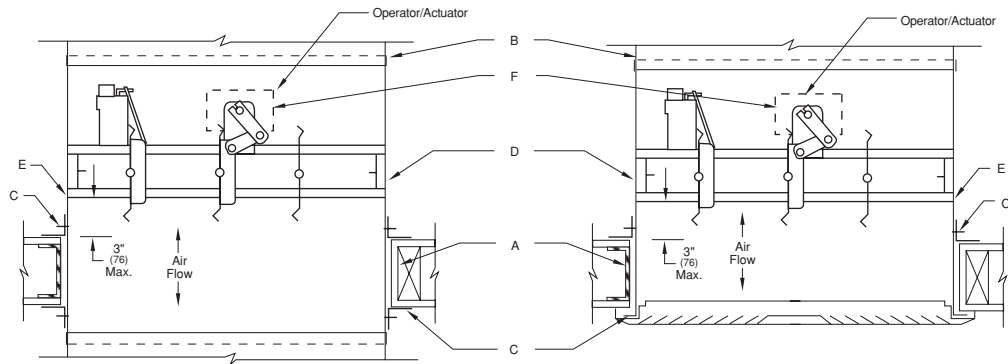


The following installation details apply to models **CFS-171, CFS-172, FSD-171** and **FSD-172**



**Damper Installed at Rated Partition  
Above Non-Rated Ceiling  
Horizontal Mount**

**Damper Installed at Rated Ceiling  
with Grille / Register  
Horizontal Mount**

**Notes:** All dimensions shown in ( ) are in millimeters.

Illustrations depicts damper installed from the top down with the actuator above the ceiling line.  
Damper may also be installed from the bottom up with the actuator below the ceiling line.

- A. Wood or steel framed ceiling shown. See Wood Stud and/or Steel Stud Framing for Fire Dampers In Tunnel Corridor Drywall and/or Shaftwall Ceilings Supplemental Installation Instructions for further details. The opening shall be a minimum of  $\frac{1}{4}$ " (6) to a maximum of  $\frac{3}{4}$ " (19) larger than the overall damper and sleeve assembly size.
- B. For rigid type duct connections, the sleeve shall be a minimum of 16 gauge (1.5). When lighter gauge sleeves are used, one or more of commonly used break away style connections are required. Refer to Sleeve Termination Supplemental Installation Instructions for further details. In no case will the sleeve gauge be less than the duct gauge to which it is connected. Damper sleeve shall not extend more than 16" (406) beyond the rated ceiling on the actuator side. The opposite side extension shall be a maximum of 6" (152) unless an access door is installed in the sleeve which then permits the extension to be a maximum of 16" (406).
- C. Mounting angles shall be a minimum of  $1\frac{1}{2}$ " x  $\frac{3}{4}$ " x 20 gauge (38 x 19 x 1). Do not fasten or weld angles together at the corners. The angles shall be attached to the sleeve, not the ceiling, with a minimum of  $\frac{3}{16}$ " (4.8) diameter steel rivets. Quick-Lock joint, welds, No.10 (M5) bolts or sheet metal screws at 8" (203) o.c. maximum. A minimum of two connections per side, top and bottom. Mounting angles shall overlap the ceiling a minimum of 1" (25). A minimum  $\frac{3}{4}$ " x 20 gauge (19 x 1) flange termination may be used in lieu of mounting angles on the bottom side of the damper sleeve. Refer to Sleeve Termination Supplemental Installation Instructions for further details. Ensure that attachment device does not interfere with the operation of the damper and the free movement of the damper blades.

**Note:**

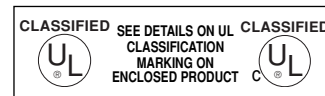
The annular space between damper sleeve and wall opening must not be filled with firestop materials such as fill, void, or cavity materials. However, if optional sealing between the retaining angle (or flange) leg and the surface of the partition, wall, or floor and/or between the retaining angle leg and the surface of the damper sleeve is required, any of the following sealants may be used:

Dow-Corning 700 or 732                      GE RTV 108 or SCS 1201 RTV

These sealants must be applied such that they do not intrude into the annular space between the outside surface of the damper sleeve and the opening of the partition, wall or floor into which the damper/sleeve is being installed.

- D. The damper may be installed outside of the ceiling provided the edge of the damper frame is no more than 3" (76) outside the ceiling. The damper shall be attached to the sleeve with a minimum of  $\frac{3}{16}$ " (4.8) diameter steel rivets, Quick-Lock Joints, welds, or No. 10 (M5) bolts or sheet metal screws at 8" (203) o.c. maximum. A minimum of two connections per side, top, bottom.
- E. A continuous bead of Dow-Corning 700 or 732, or GE RTV 108 or SCS 1201 RTV silicone rubber sealant shall be applied between the damper and the sleeve and between sections of a multiple damper assembly. Sealant is only required on one side of the damper.
- F. Fire/Leakage rated dampers and qualified operators are tested together by Underwriters Laboratories and are factory installed to qualify for standard damper/operator warranties. Damper operator/actuator must be tested prior to system start-up to ensure proper operation. Before applying power to the operator/actuator, the power must be verified.

Fire Smoke Dampers II Tunnel July 2009



Underwriter's Laboratories file #R11767  
The product is also listed by CSFM File #3225-0368:110 & 3230-0368:111  
and conforms to NFPA 90-A and NFPA 92-A.