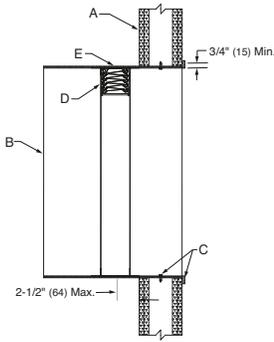
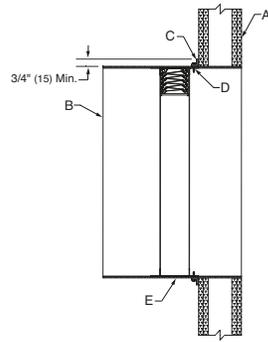


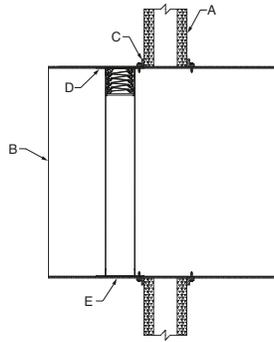
The following installation details apply to models **FD-4D-OP** and **FD-4-OP**



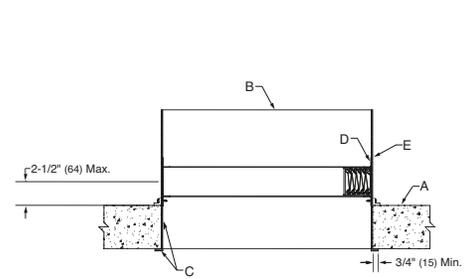
**Vertical Mount Duct Terminate Flange Method**  
(Horizontal Similar)



**Vertical Mount Duct Terminate Single Angle Method**  
(Horizontal Similar)



**Vertical Mount Thru Duct with Dual Retaining Angles**  
(Horizontal Similar)



**Horizontal Mount Duct Terminates Flange Method Above Floor (shown)**  
Options: Below Floor, Single Angle Method, and Dual Angle with Thru Duct

- A. Typical 2 hour steel stud vertical and concrete horizontal fire partition shown. See Steel Stud Framing for Fire Dampers in Drywall and/or Cavity Shaft wall Partitions Supplemental Installation Instructions for further details. The opening shall be a minimum of 1/8" (3) to a maximum 3/8" (10) larger than the overall damper and sleeve assembly size. Damper must be installed with the centerline of the damper frame no more than 2 1/2" (89) outside of the partition.
- B. For rigid type duct connections, the sleeve shall be a minimum of 16 gauge (1.5) up to 36" wide by 24" high (914 x 610) and 14 gauge (1.9) for larger units. When lighter gauge sleeves are used, one or more of commonly used breakaway 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 partition on the damper side.
- C. Mounting flanges shall be a minimum of 3/4" by 20 gauge (15 x 1). When not integral to the sleeve, the flange shall be attached to the sleeve with 3/16" (4.8) diameter steel rivets Quick Lock joint, welds, No. 10 (M5) bolts or sheet metal screws at 6" (152) o.c. maximum. A minimum of two connections per side, top and bottom. A minimum 1 1/2" x 3/4" x 20 gauge (38 x 15 x 1) mounting angle may be used on the opposite side of the partition from the mounting flange in lieu fastening the sleeve directly to the partition. When using mounting angles, they shall be attached to the sleeve under the same guidelines as the mounting flange. Note if optional sealing between the retaining angle (or flange) leg and the surface of the partition or wall and/or between the retaining angle leg and the surface of the damper sleeve is required, the following sealants may be used: Dow-Corning 732 or GE RTV 108 or SCS 1201 RTV. These sealants should 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 or wall into which the damper/sleeve is being installed.
- D. When fastening the damper to the sleeve, the damper shall be fastened with 3/16" (5) diameter steel rivets, Quick-Lock Joints, welds, No. 10 (M5) bolts or sheet metal screws at 6" (152) o.c. maximum. A minimum of two connections per side, top and bottom.
- E. A factory installed minimum of one layer of thermal blanket wrap shall encase the exterior of the damper sleeve and shall span the entire length of the sleeve from the outer most edge of the damper frame to the mounting flange. Care should be taken during handling and installation to prevent tearing or bending of the material. To aide in this, the thermal blanket may be fastened to the sleeve with Super 77 spray adhesive by 3M.

Special Notes for Dampers Installed in Wood Stud Construction:

1. The opening must be made larger to permit the attachment of gypsum wallboard to the sides and top of the outside of the damper sleeve. The wallboard must be a minimum of 1/2" (13) thick and must be UL rated for use in fire protective construction. The bottom of the damper requires no wallboard. Therefore, if 1/2" (13) thick wallboard is used, the opening will have to be 1" (25) wider and 1/2" (13) higher than normal.
2. The wallboard must be attached to outside of the damper sleeve with a minimum of 2 drywall screws on each of the sides and on the top. The screws on the sides should be located approximately 1 1/2" (38) from the back edge of the sleeve and approximately 1 1/2" (38) down from the top and 1 1/2" (38) up from the bottom of the sleeve. The screws on top should be located approximately 1 1/2" (38) from the back edge of the sleeve and approximately 1 1/2" (38) in from each side of the sleeve. The screws should be #6 or larger and must be 3/8" (10) longer than the thickness of the drywall attached to the sleeve.
3. In lieu of the sleeve to partition attachment details above, the damper/sleeve must be attached to the opening with a minimum #10 screws (drywall, wood, or equivalent), 3" (76) long. The screws must be a maximum of 6" (152) o.c. and must be located such that they penetrate the wood framing members around the opening.
4. A steel grille must be installed on the flange of the damper sleeve. The grille must be a min of 24 gauge thick and have a flange that overlaps the damper flange of minimum of 1" (25).

Single Sizes	Galvanized Steel	
	Vertical	Horizontal
Maximum Single Section Size	36" x 36" (914 x 914)	36" x 36" (914 x 914)
Maximum Multiple Section	NA	NA
Minimum	6" x 6" (152 x 152)	6" x 6" (152 x 152)

Note:

Annular space between damper sleeve and wall opening shall not be filled with firestop materials such as fill, void, or cavity materials.

Underwriter's Laboratories file #R14981. The product is also listed by CSFM file # 3225-1401:101.

Information is subject to change without notice or obligation.

**NOTE:** Dimensions in parentheses ( ) are millimeters.