

**Refer to:**

'Installation Instructions for FD, DFD, DFD X, & FD X series Models Fire' (Part #481324)

'Installation Instructions for FSD-XXX, DFD-XXX, & SSFSD-XXX, Series Fire & Combination Fire Smoke Damper' (Part #481318)



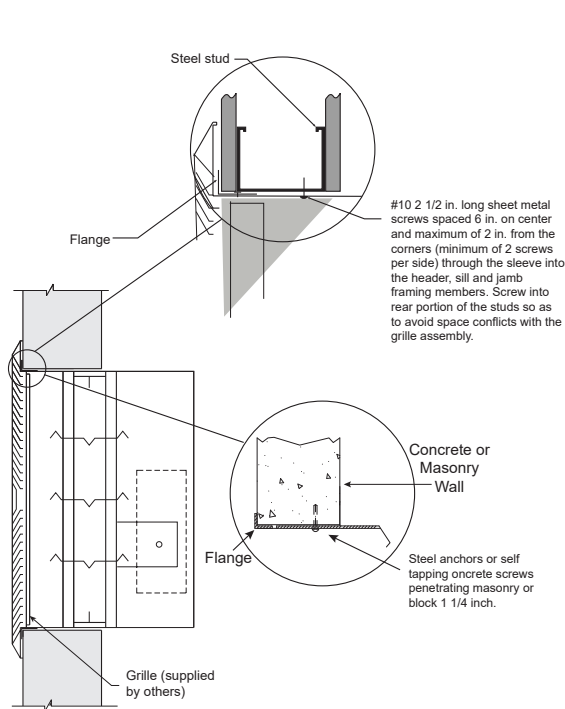
**Clearance Requirements**

There is no minimum clearance requirement between the wall opening and the sleeve exterior. However, to facilitate installation, clearances between the wall opening and the damper sleeve are recommended. Although there is no maximum allowable clearance, a minimum overlap of ½ in. (13 mm) between the wall and the flange/retaining angle must be maintained.

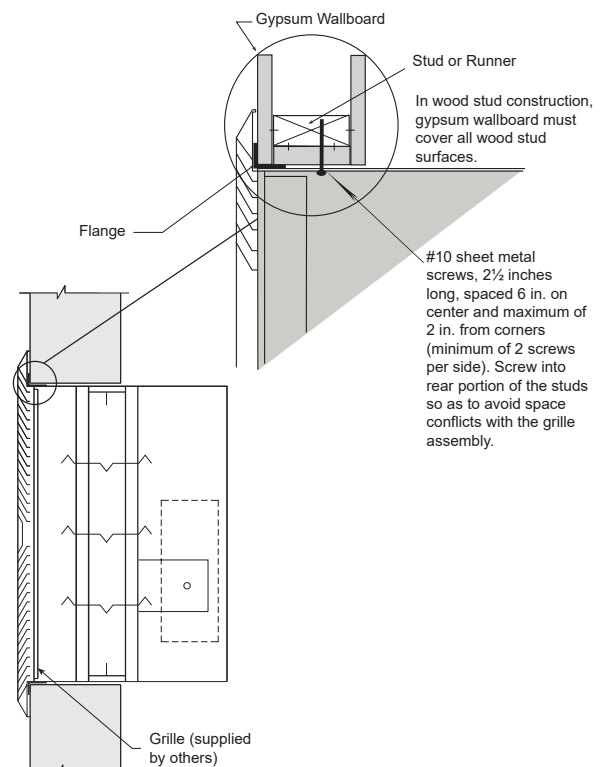
**1. Single Flange Method**

Damper/sleeve assemblies must be installed in wall openings using flanges and sheet metal screws as illustrated and describe below. This method is only applicable to 1½ hour rated damper; the 3 hour damper and dampers larger than 36 in. x 36 in. (914 mm x 914 mm) will require a minimum of 1½ in. x 1½ in. (38 mm x 38 mm) legs.

- Flange on front (grille end) of sleeve must be a minimum of 16 ga. (1.6 mm) steel and have a 5⁄8 in. minimum flange leg. Using #10 sheet metal screws, screw from inside of sleeve through the rear portion of the studs (as shown in **Figure 1 and 2**). Space screws a maximum of 6 in. (152 mm) on center and a maximum of 2 in. (51 mm) from the corners (minimum of two screws per side). No retaining angles are required on the side of wall opposite from the grille.



**Figure 1 - Metal Stud or Concrete Wall**



**Figure 2 - Wood Stud**

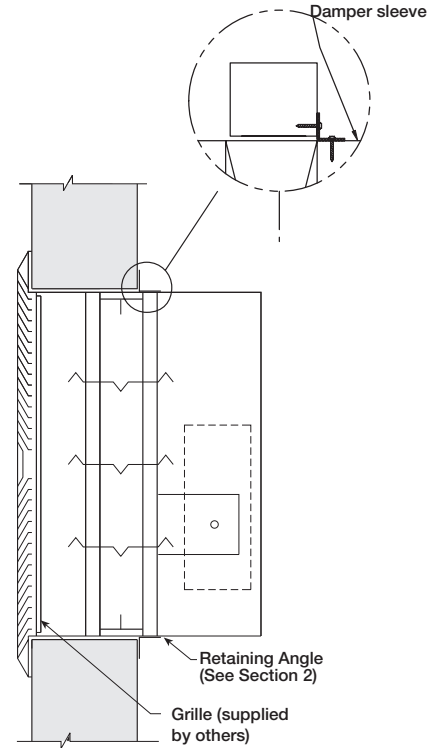
## 2. Retaining Angle Method

Damper/sleeve assemblies must be installed in wall and floor openings using retaining angles on at least one side of the wall or floor as described below:

- Retaining angles for 1½ hour rated dampers with a width and height 48 in. (1219 mm) or less must be a minimum of 20 ga. (1 mm). Retaining angles for all 3 hour rated dampers and all dampers with a width or height greater than 48 in. (1219 mm) must be a minimum of 16 gauge (1.5 mm). The leg of the retaining angle on the damper sleeve shall be a minimum of 1¼ in. (32 mm). The leg of the retaining angle on the wall/floor shall be long enough to cover the annular space and overlap the wall/floor by a minimum of 1 in. (25 mm)(see **Figure 3**).
- For grille installation on fire damper up to 36 in. x 36 in. (914 mm x 914 mm) maximum, angle legs may be reversed and one leg inserted into the wall/floor opening providing the required clearance is maintained between angle leg fastener and the wall/floor opening. Note: Screws used to attach grille are allowed to penetrate reversed angle leg.
- Retaining angles must be attached to the damper using one or more of the following methods of attachment (refer to label on outside of sleeve for 'No Screw' area):
  - Tack or spot welds
  - #10 (¾ in. [19 mm] max.) sheet metal screws
  - ¼ in. (6 mm) bolts and nuts
  - ⅜ in. (4 mm) steel pop rivets

A minimum of two connections per side, top and bottom, 12 in. (305 mm) O.C. maximum. The angles must be attached to all four sides of the sleeve. Ensure that attachment device does not interfere with the operation of the damper and the free movement of the damper blades. The angles need not be attached to each other at the corners.

- Retaining angles must be attached to the partition using one of the methods below:
  - Drywall screws of a length such that the screw engages the steel stud/track by ½ in. (13 mm) (steel framing).
  - Drywall screws of a length such that the screw engages the wood stud by 1¼ in. (44 mm) (wood framing).
  - Steel anchors or self tapping concrete screws penetrating masonry or block 1¼ in. (31 mm)



**Figure 3**

## Our Commitment

*As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.*

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