

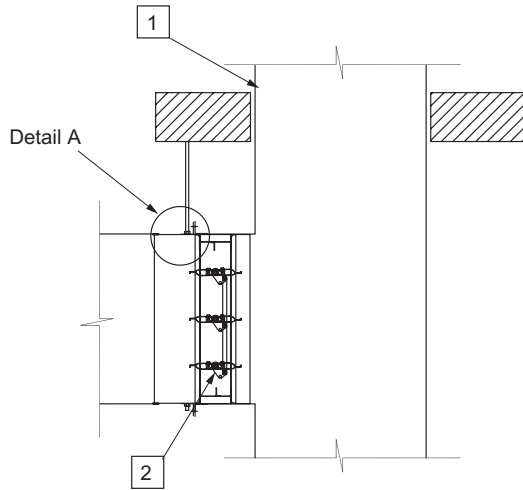
The following installation details apply to models **FD-140, FD-150, FD-340, FSD-141, FSD-142, FSD-143, FSD-151, FSD-152, FSD-341, FSD-342, FSD-343, VFD-10, VFD-30, VFD-10D and VFD-30D**

These installation instructions outline the required details to properly install vertical dampers in fire resistant ventilation ducts. These installation instructions apply to UL Ventilation Duct Assembly No. V-5.

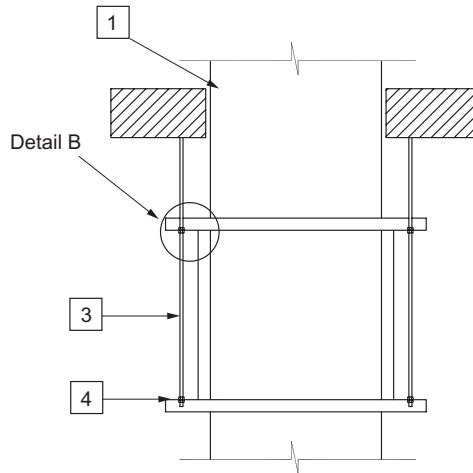
- A. The damper sleeve must slip inside the fire resistant duct spool. Damper sleeve assembly will be ¼" (6) min., ½" (13) max., smaller than duct spool size.
- B. Damper to be supplied with factory mounted sleeve. Sleeve gauge shall be minimum of 16 (1.6) gauge for dampers up to 36" w x 24" h (914 x 610) and 14 (2) gauge for dampers exceeding 36" w x 24" h (914 x 610).
- C. Mounting Angles: 1½" x 1½" x ¼" (38 x 38 x 6) up to and including 24" (610) long.
2" x 2" x ¼" (51 x 51 x 6) over 24" (610) up to and including 32" (813) long.
2½" x 2½" x ¼" (64 x 64 x 6) over 32" (813) up to and including 40" (1016) long.
3" x 3" x ¼" (76 x 76 x 6) up to and including 40" (1016) long.
- D. Mounting Angle Fasteners shall be: #10 (4) bolts or screws or ¾" (4) steel rivets or ½" (13) long welds.
- E. Mounting Angle Fasteners Spacing: Mounting angles to damper sleeve, space fasteners 6" (152) on center.
Mounting angle to spool flange, space fasteners 12" (305) on center.

Note: Minimum of 2 fasteners per side.

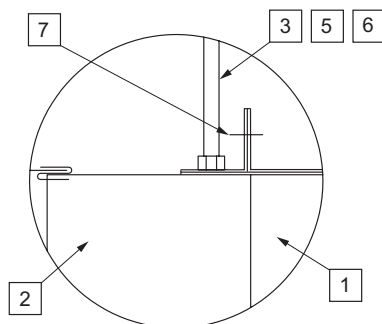
- F. Hanger Rods: ¾" (10) threaded rod anchored to the floor above and attached to the mounting angles through hole in the angles and secured with hex nut and washer (Items #5 and 6 below). Anchor to masonry per UL assembly No. V-5.
- G. Duct to Damper Sleeve Connection: Refer to fire damper or combination fire/smoke damper installation instructions as well as sleeve termination installation instructions.



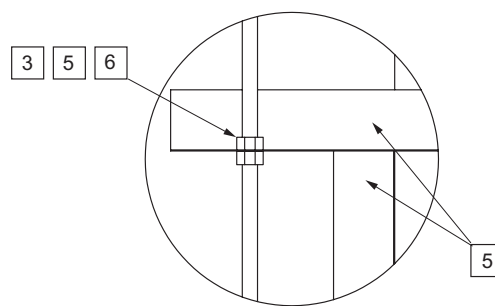
Side View



End View



Detail A



Detail B

ITEM	DESCRIPTION
1.	Fire Resistant Ventilation Duct (UL Category Control No. HNLN. Assembly No. V-5).
2.	Fire Damper or Combination Fire/Smoke Damper.
3.	Hanger Rods in Accordance with Assembly No. V-5.
4.	Mounting Angles (See Note #C).
5.	¾" (10) Hex Nuts.
6.	¾" (10) Flat Washer.
7.	Mounting Angle Fasteners (See Note #D).

