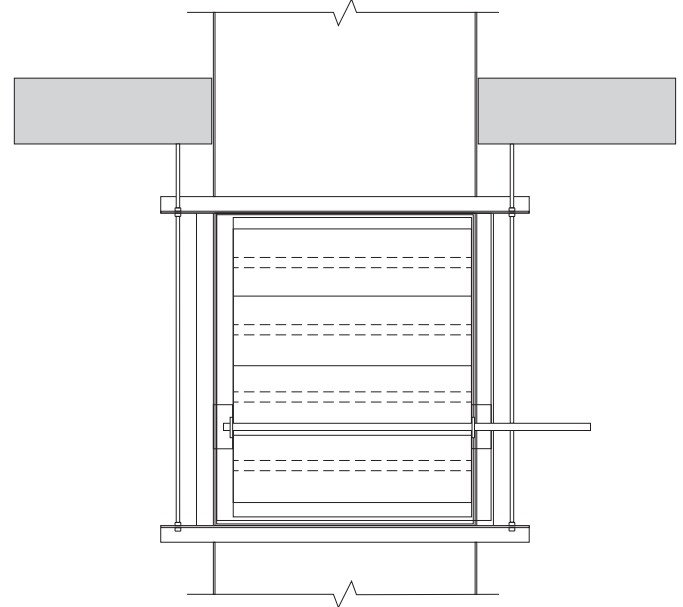


These instructions are for installing vertical mount fire and combination fire smoke dampers in a fire resistant ventilation duct (UL Ventilation duct Assembly HNLN.V-5).



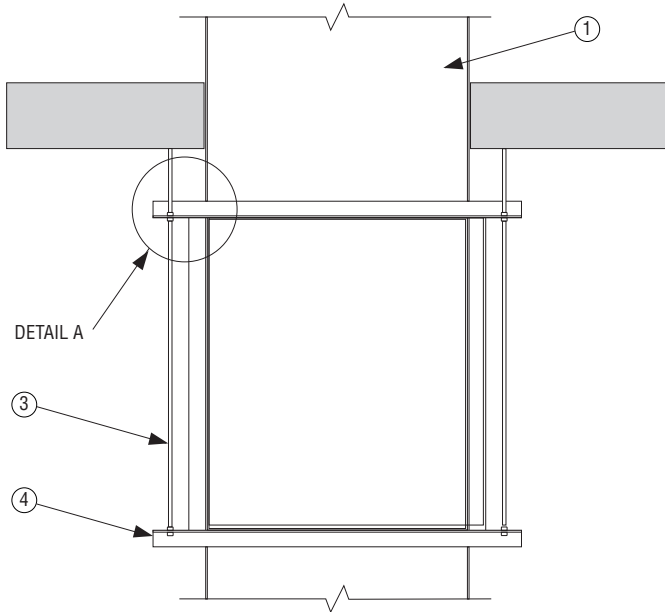
**NOTES:**

1. The damper sleeve must slip inside the fire resistant duct spool. Damper sleeve assembly will be 1/4" (6), 1/2" (13) maximum, smaller than duct spool size.
2. Damper is to be supplied with factory mounted sleeve. Sleeve gauge will be minimum of 16 ga. (1.5) for dampers up to 36" wide x 24" high (914 x 610) and 14 ga. (2) for dampers exceeding 36" wide x 24" high (914 x 610).
3. Mounting angles need to be the following sizes:
  - 1 1/2" x 1 1/2" x 1/4" up to 24" (38 x 38 x 6 up to 610)
  - 2" x 2" x 1/4" over 24" up to 32" (51 x 51 x 6 over 610 up to 813)
  - 2 1/2" x 2 1/2" x 1/4" over 32" up to 40" (64 x 64 x 6 over 813 up to 1016)
  - 3" x 3" x 1/4" above 40" (76 x 76 x 6 above 1016)
4. Mounting angle fasteners:
  - #10 bolts or screws
  - 3/16" (4.7) steel rivets
  - 1/2" (13) long welds
5. Mounting Angle Fasteners Spacing:
  - Mounting angles to dampers, space fasteners on 6" (152) on center.
  - Mounting angle to spool flange, space fasteners on 12" (305) on center.
  - Minimum 2 fasteners per side
6. Hanger rods:
  - 3/8" (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 & 6). Anchor to masonry per assembly No. V-5.
7. Duct to Damper Sleeve Connection:
  - See the fire damper or the combination fire smoke installation instructions for breakaway, flanged, or non-breakaway connections.

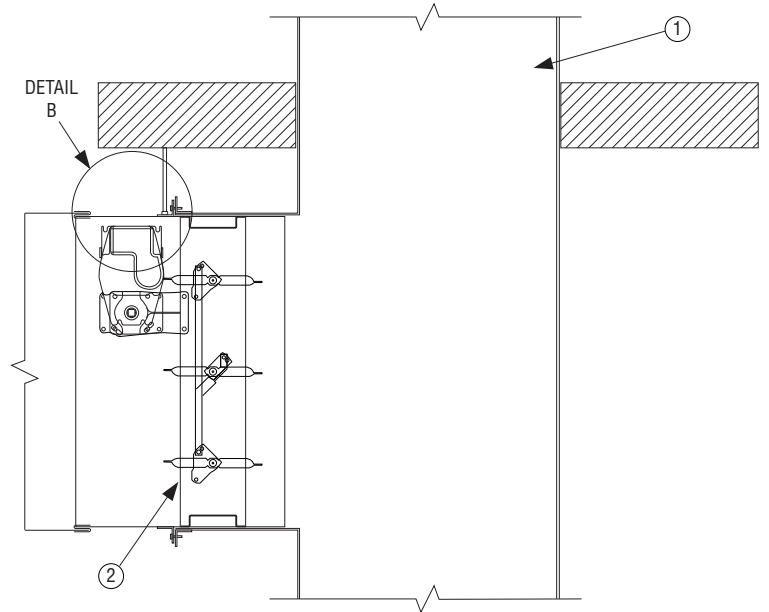


**END VIEW**

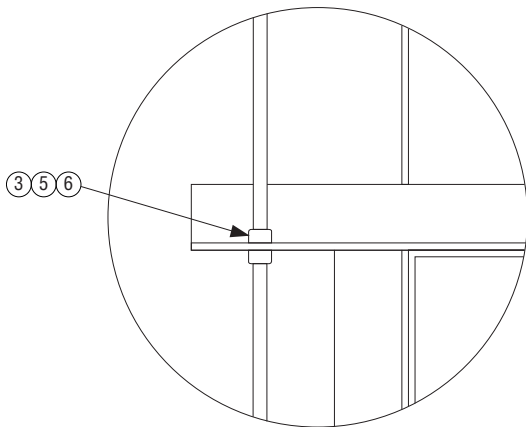
Item	Description
1	Fire Resistant Ventilation Duct (UL HNLN Assembly No. V-5)
2	Fire Damper or Combination Fire/Smoke Damper
3	Hanger rods in accordance with assembly No. V-5
4	Mounting angles (see instruction #3)
5	3/8" (10) hex nuts
6	3/8" (10) flat washer
7	Mounting angle fasteners (see instruction #4)



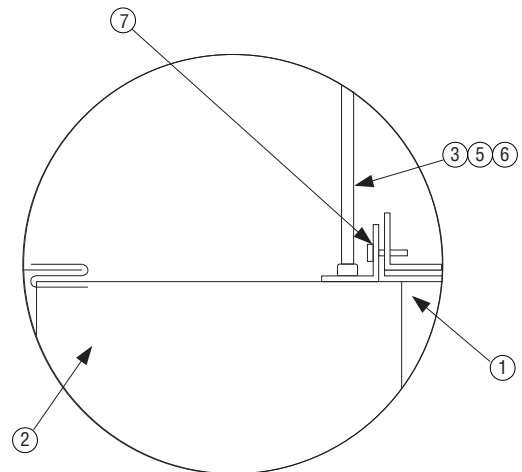
END VIEW



SIDE VIEW



DETAIL A



DETAIL B

Dimensions are in inches (mm).

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