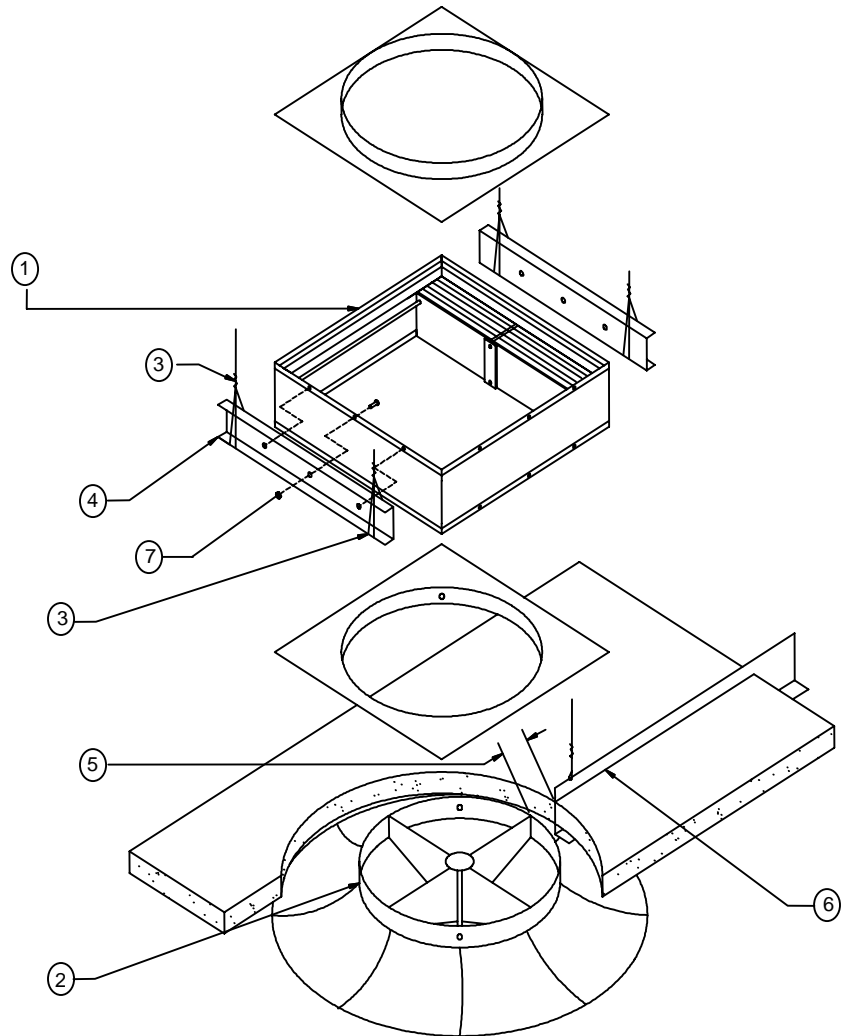


Installation Instructions Model – 410

1. "C" pans may only be used with "Standard" frame Type 410 ceiling damper.
2. "C" pans shall be made of No.22 MSG galv. steel. The outside dimensions shall be no more than 2" larger than the diameter of the round collar. The length of the collar shall be approx. 1-1/2", such that in the installed position the distance from the face of the ceiling to the lower fabric curtain of the damper (in the closed position) shall not exceed 3".
3. No more than one cross tee or main runner of an exposed grid ceiling may be cut to accommodate the duct drop. Ends of cut cross tee or main runner at the duct drop shall clear the duct drop by 1/2" and be supported by No. 12 SWG galv. steel wire. For concealed suspension system acoustical tile ceilings the cut ends of "Z" or "H" runners shall be similarly supported. All hanger wires shall be tied to the structural components of the floor or roof.
4. The damper shall be oriented with the leading edge of the lead blade in the down position and sandwiched between the two "C" pans. In the closed position, this will result in a full closure of the damper curtain along the lower track of the damper opening. The damper must be supported by means of two pieces of cold-rolled steel channel, one channel on each side of the damper perpendicular to duct direction. The cold-rolled channels shall be 1-1/2" high with 1/2" flanges made of No.16 MSG painted or galv. steel. Each channel shall be approx. 12" longer than the width of the duct and be supported near each end by No.12 SWG galv. steel wire.
5. Each channel shall be bolted through the upper extension of the damper frame with 3/16" diameter by 3/4" steel bolt and nuts. The other two sides of the upper "C" pan and all four sides of the lower "C" pan shall be fastened to the damper frame extensions with No.10 by 3/4" sheet steel screws. The number of bolts and screws attaching channels and "C" pans to the damper frame shall be a min. of one per side for 4" – 8" long sides, min. 2 per side for 8" – 16" long sides, and min. 3 per side for 16" – 24" long sides, uniformly spaced.
6. The collar of the upper "C" pan shall be attached to the duct drop with a min. of 3 steel screws, uniformly spaced.
7. The steel diffuser shall be attached to the collar of the lower "C" pan with a min. of three No.10 by 3/4" sheet steel screws equally spaced along collar perimeter and not over 8" O.C. steel diffuser must provide a min. of one inch support for the acoustical panels or tile.



1. Damper
2. Diffuser
3. No.12 SWG Galvanized Steel Wire
4. 16 Gauge Steel Channel 1-1/2" deep with 1/2" flange
5. 1/2" Clearance
6. Suspension System Runner
7. Fasten channel to upper extension of channel with 3/16" dia. by 3/4" steel bolts and nuts

Type 410 ceiling dampers are for use in lieu of the hinged-blade, sheet metal damper in steel ducts as specified in the "Design Information Section-General" and in the individual floor or roof-ceiling design (s) being used, as illustrated and described in the current UL Fire Resistance Directory".

The damper shall be inserted into the duct drop close to the level of ceiling such that the distance from the face of the ceiling to the lower fabric curtain of the damper (in the closed position) shall not exceed 3".