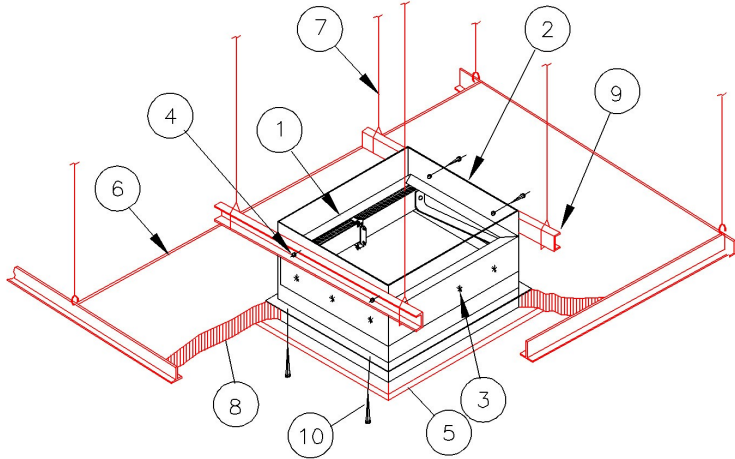


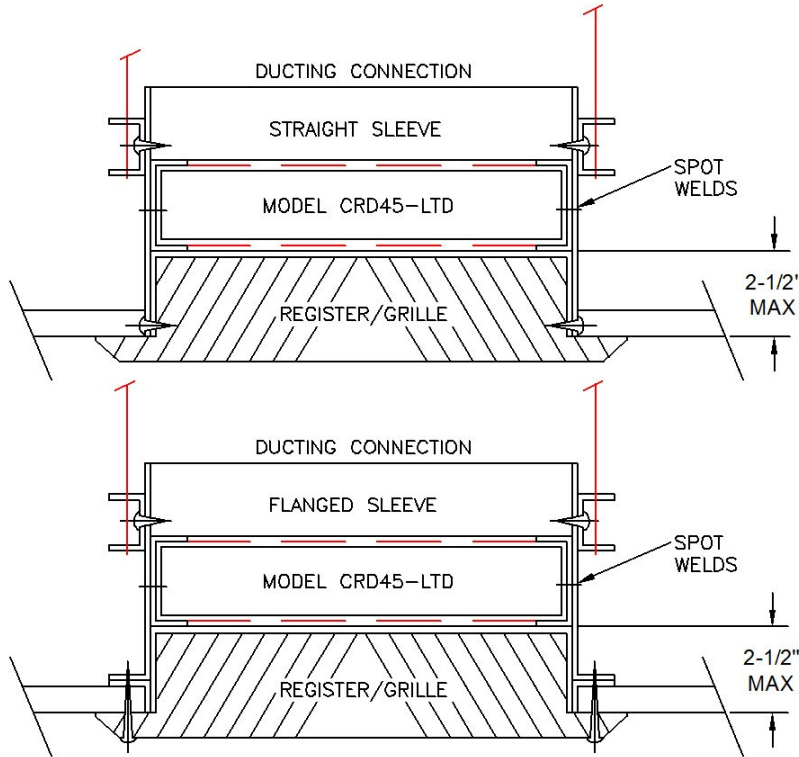


DROP CEILING INSTALLATION INSTRUCTION

Model: CRD45-LTD Thin Line (Rectangular and Horizontal)
For Registers & Grilles



- | ITEM | DESCRIPTION |
|------|---------------------------------------|
| 1. | Ceiling Radiation damper (Register) |
| 2. | Flanged sleeve (22 Ga. Min.) |
| 3. | (8) Factory spot welds (8) Min. |
| 4. | Channel Fasteners (2 each side min.) |
| 5. | Register/Grille (20 gauge steel min.) |
| 6. | Ceiling grid (UL Classified) |
| 7. | 12 gauge steel wire |
| 8. | Ceiling material (UL classified) |
| 9. | Support channel (2 required min.) |
| 10. | Flush mount grille fasteners (4 PLCS) |



Note: fasteners & other hardware must not interfere with dampers .
Verify damper operation & complete damper closure after installations.

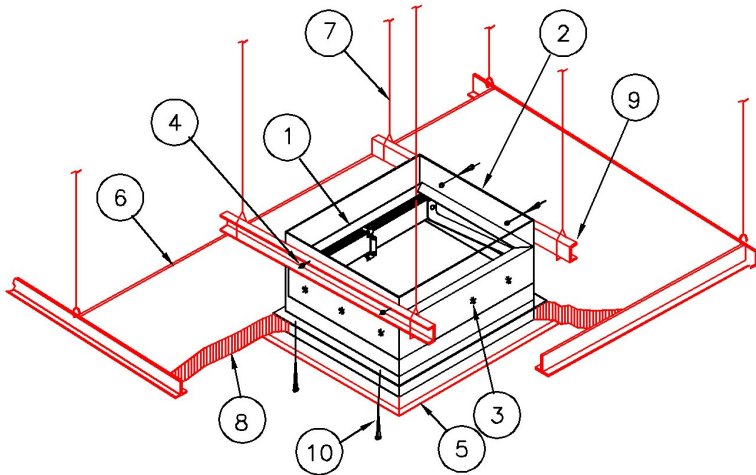
Rectangular ceiling damper size limitations

Maximum Size	Maximum width	Maximum length	Minimum width	Minimum length
196 SQ.IN.	14"	14"	4"	4"



DROP CEILING INSTALLATION INSTRUCTION

Model: CRD45-LTD Thin Line (Rectangular and Horizontal)
For Registers & Grills



- | ITEM | DESCRIPTION |
|------|--|
| 1. | Ceiling Radiation damper (Registers) |
| 2. | Flanged sleeve (22 Ga. Min.) |
| 3. | (8) Factory spot welds (8) Min. |
| 4. | Channel Fasteners (2 each side min.) |
| 5. | Register/ Grille (20 gauge steel min.) |
| 6. | Ceiling grid (UL Classified) |
| 7. | 12 gauge steel wire |
| 8. | Ceiling material (UL classified) |
| 9. | Support channel (2 required min.) |
| 10. | Register/Grille fasteners (4 PLCS) |

These ceiling dampers are Classified by Underwriters Laboratories, Inc. as to heat barriers in the Fire Resistance Directory under the category of Ceiling Dampers (CABS). Refer to the Classification information in the back of the Fire Resistance Directory regarding the use of these dampers in the various floor-ceiling or roof-ceiling assemblies. Ceiling dampers and the associated components (surface mounted diffusers or grilles, ducts, etc.) which are to be constructed of steel, are installed in the ceiling to maintain the CRD-45-LTD 2" "thinline" damper and spot welded flanged sleeve provide for flush mounting ceiling grilles. Fasten the damper sleeve to support channels made of 16 MSG by 1-1/2" channel using 3/16" Dia x 1/2" lg steel bolts, #8 x 1/2" lg steel sheet metal screws, or 3/16" Dia steel rivets. Use 2 fasteners on each channel. Fasten support channels to the damper sleeve and not through the ceiling radiation damper frame.

The damper assembly shall be hung with 12 SWG minimum hanger wires at each of the support channel ends. All hanger wires shall be supported directly from the structural members of the floor or roof by vertical (not diagonal) hanger wires. Cold-rolled channels shall be used as required to insure that the grid and damper are supported from the structural members by vertical hanger wires (not diagonal). The flange on the surface mounted diffuser at the ceiling membrane level shall provide a minimum 1 inch support for the ceiling panels. Size of hole cut in the panel for passage of the duct drop shall be no more than 1/8 inch. larger than opening for the damper. When cutting of a main runner or cross tee is needed, a 1/2 inch clearance must be maintained between the cut end of the main runner or cross tee and the damper. A 12 SWG hanger wire shall be installed near each end of the cut main runner or cross tee. No more than one main runner or cross tee may be cut.

The surface mounted grille shall be attached to the damper sleeve flange, and not through the damper frame. The steel diffusers shall be attached to the damper sleeve with No. 8 sheet metal screws, 3/16" diameter steel rivets, or 3/16 inch diameter by half inch long steel bolts.

Note: fasteners & other hardware must not interfere with dampers .
Verify damper operation & complete damper closure after installations.

Rectangular ceiling damper size limitations

Maximum Size	Maximum width	Maximum length	Minimum width	Minimum length
196 SQ.IN.	14"	14"	4"	4"