

INSTALLATION INSTRUCTIONS

CFD21 CEILING RADIATION DAMPER BOX ASSEMBLY

1 HOUR RATED CEILING DAMPERS FOR WOOD TRUSS ASSEMBLIES

APPLICATION

The CFD21 is a UL tested ceiling radiation damper factory installed in an R6 insulated duct board box. The assembly is ARL tested and classified for installation in air ducts penetrating fire resistive membrane ceilings constructed from trusses fabricated from 2 x 4 lumber. The CFD21 can be applied where the air duct terminates at a grille or where the air duct "through penetrates" the ceiling assembly.

GENERAL INSTRUCTIONS

1. Ceiling Penetration

The ceiling penetration should be located between adjacent trusses and between RC channels without necessitating cuts in the RC channel. If required, a maximum of one RC channel may be cut to allow proper damper installation. The maximum clearance between the damper box assembly and the edges of the cutout in the ceiling material shall not exceed 1 1/2" (38) on any side.

2. Grille Installation

The grille shall be fastened to the mounting flanges on the damper box assembly using No. 8 screws. The gypsum wallboard is sandwiched between the grille flange and the damper box flange. Use a minimum of 2 connections, one at each end.

3. Air Duct Through Penetration

In place of a grille, an air duct may be connected to the bottom of the damper box assembly. In this case a minimum 1" x 1" x 22 gage (25 x 25 x .85) angle shall be mechanically fastened to the air

duct so as to sandwich the gypsum wallboard between the angle and damper box flange.

4. Support Angles

The damper box shall be supported with a minimum 1" x 1" x 26 gage (25 x 25 x .85) vertical angle of 18 SWG vertical hanger wire in at least two places on opposite sides of the damper box. The vertical angle or wire shall in turn be supported by a minimum 1" x 1" x 26 gage (25 x 25 x .85) horizontal angle or nominal 2" x 4" (51 x 102) wood support studs. The horizontal angles or studs shall be fastened at each end to adjacent trusses with minimum 16d nails, No. 8 screws or bolts. Only one connection per end is required.

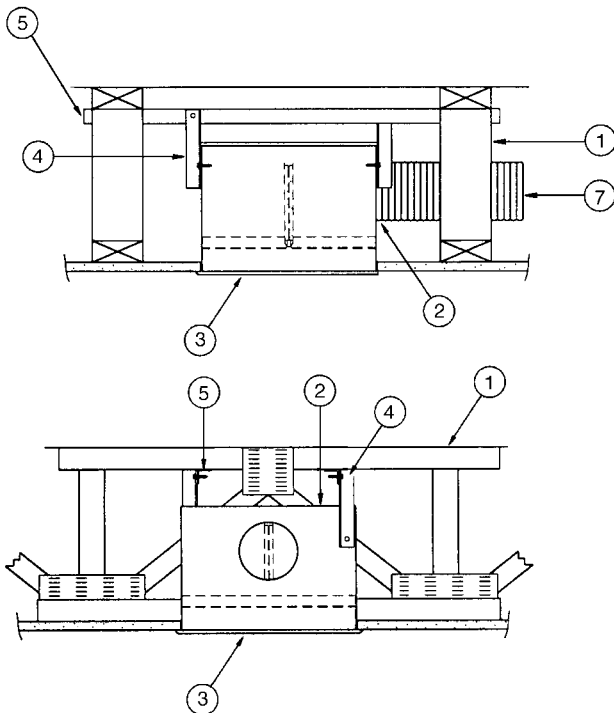
5. Roof/Ceiling Installation

When the damper box is installed in a roof/ceiling horizontal supports shall be installed so the box can be properly secured. The horizontal supports can be 2" x 4" (51 x 102) wood studs or 1" x 1" x 26 gage (25 x 25 x .85) steel angles. The supports are to be attached to adjacent truss members provided they are a minimum of 17 3/8" (441) above the underside of the ceiling. As an alternate, the horizontal members can be attached directly to the underside of the roof truss provided they are a minimum 17 3/8" (441) above the underside of the ceiling. The horizontal supports must not interfere nor infringe upon the structural capabilities of the truss system.

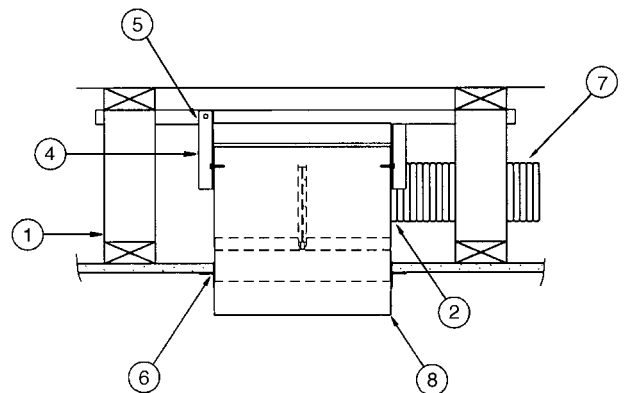
6. Flex Duct

Flex duct shall be UL Classified Air Duct Class 0 or Class 1. In each case, a steel clamp, plastic strap or 18 SWG minimum steel wire shall be used to fasten the duct to the damper box.

GRILLE INSTALLATION



THROUGH PENETRATION



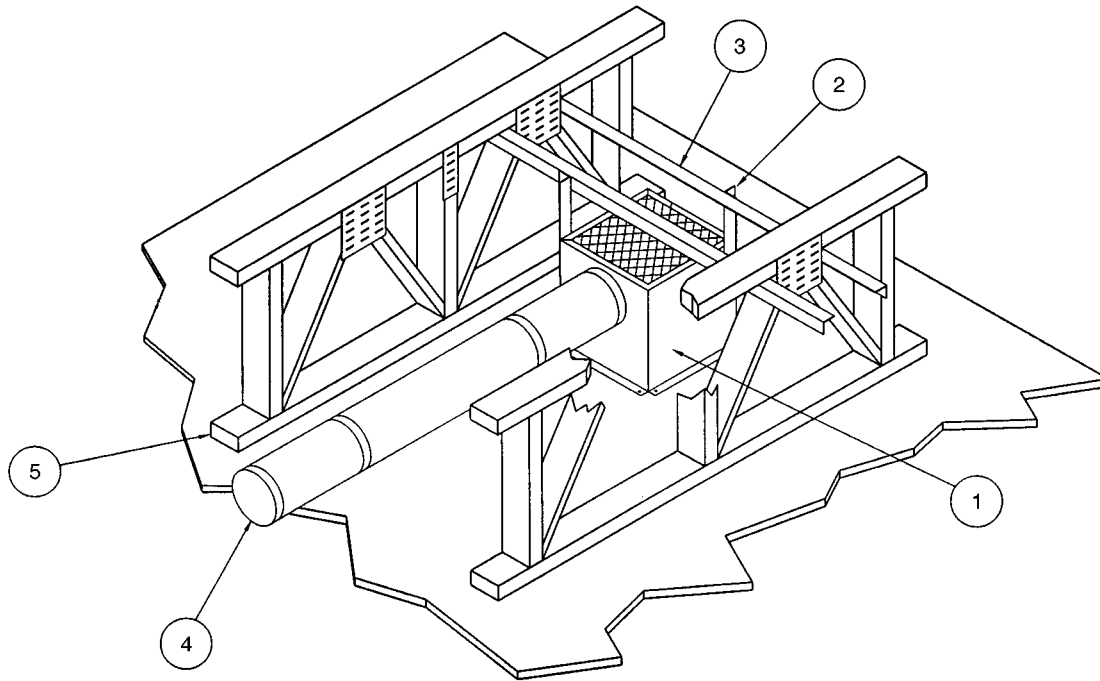
DESCRIPTION

1. Ceiling assembly
2. Damper box assembly
3. Grille
4. 1" x 1" x 26 gage angle or 18 SWG wire
5. 1" x 1" x 26 gage angle or 2" x 4" wood stud
6. 1" x 1" x 22 gage angle retaining angle
7. Flex duct
8. Air duct



APPLIED RESEARCH LABORATORIES
LISTED CEILING RADIATION DAMPERS.
FIRE RESISTANCE RATED 1 HOUR FOR USE IN
UL CLASSIFIED BUILDING MATERIALS RATED 1
HOUR OR LESS.

INSTALLATION (TOP VIEW)



DESCRIPTION

1. Damper box assembly
2. 1" x 1" x 26 gage angle or 18 SWG wire
3. 1" x 1" x 26 gage angle or 2" x 4" wood stud
4. Flex duct
5. Ceiling assembly