METAL-FAB® INC.
FIRE AND CEILING RADIATION DAMPERS

INSTALLATION INSTRUCTIONS MODEL MSCD CEILING DAMPER / TB5000 THERMAL INSULATION / AIR DIFFUSER ASSEMBLIES

UL CLASSIFIED
(SEE COMPLETE MARKING
ON PRODUCT)

Metal-Fab, Inc. ceiling radiation dampers are classified for all UL Fire Resistant Floor-Ceiling and Roof-Ceiling Designs in the UL Fire Resistance Directory that utilize a hinged type damper in the design. The classified UL assemblies are rated for three (3) hours or less and construction materials include gypsum wallboard and acoustical panels (lay-in tiles). Refer to the UL Fire Resistance Directory for specific design information.

When installed as described herein, the MSCD damper, TB5000 Thermal Insulation Assembly provides the necessary protection to lay- in style ceiling air diffusers in Fire Rated Floor/Roof-Ceiling assemblies with fire resistance ratings of 3 hours or less, as described in the current UL Fire Resistance Directory. A maximum size ceiling penetration of 576 sq. in. Can be protected utilizing the TB5000 Thermal Insulation furnished with the ceiling damper, to protect the exposed portion of the ceiling air diffuser and the neck or inlet of the diffuser. Installation and diffuser shown in **FIG. 1** illustrate a general arrangement. Installations must also include any specific requirements described in the specific fire resistant design.

Metal-Fab, Inc. ceiling radiation dampers are unrestricted in the type of transition incorporated between the damper and supply air or return air duct systems. It is acceptable to attach the duct, rigid metal sleeve (plenum or boot) or flexible, directly to the damper. Refer to the UL Fire Resistance Directory for specific design information (See **FIG. 2**).

All ceiling assemblies in the Fire Resistance Directory require that lay-in ceiling panels, which are cut to fill smaller size openings in the ceiling grid modules due to air duct penetrations, must bear a minimum of 3/8” on the flanges of the grid.

PRINCIPAL COMPONENTS

1. UL Classified Model MSCD Damper and Model TB5000 Thermal Insulation (marked accessory part of MSCD dampers/blanket assembly, UL Classified for use with damper size as noted on blanket).

ATTACHMENT OF MSCD DAMPER TO DIFFUSER NECK

1. Place damper tightly over or inside the diffuser neck and attach it to diffuser neck using #10 (min.) x 1/2” long sheet metal screws to 8 in. O.C. (max.) with a minimum of (4) screws, 1 per side at a minimum of 3/16” from bottom of damper frame.

IMPORTANT: SCREWS USED IN CONNECTION OF DAMPER MUST NOT INTERFERE WITH DAMPER BLADE OPERATION.

INSTALLATION OF TB5000 THERMAL INSULATION

1. Install TB5000 over back of diffuser making sure hole in thermal insulation fits over neck of diffuser and making sure it is square to diffuser. Replace if damaged during installation or shipment.
2. Tuck TB5000 Thermal Insulation behind T-bars around diffuser perimeter. TB5000 must cover all exposed surfaces of ceiling air diffuser.

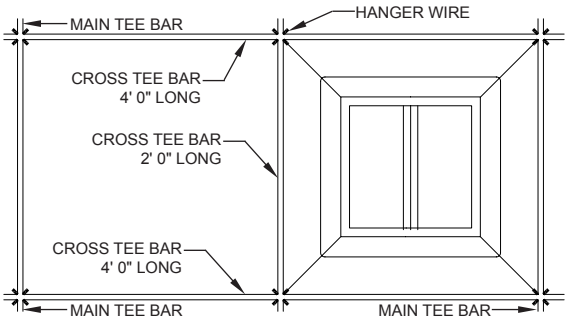
PREPARATION OF CEILING MEMBRANE

In order to properly install the Model MSCD damper/TB5000 Thermal Insulation / lay-in diffuser, the following must be done:

1. After installing the 2’ cross tee in the ceiling grid (or if already installed), bend back the tabs of the 2’ T-bars against the web of the T-bar intersected.
2. Using No. 12 S.W.G. (min.) galvanized steel hanger wire, independently support all four corners of the T-bar system at the corners of the diffuser. The hanger wires should be vertical (not splayed) and adequately fastened to the structural floor of roof members above.

GENERAL NOTES:

1. No dampers/ductless grilles (returns) shall be located in adjacent 24” x 48” ceiling grid modules.
2. If flexible duct is used, it shall be fastened to the diffuser neck with a steel clamp or #16 S.W.G. (min) galvanized steel wire. The flexible air duct shall be Class O or Class I type, bearing the UL Listing Mark-See the UL “Gas and Oil Equipment Directory”. Maximum Length of flexible duct shall not exceed 14’–0” in length. The flexible air duct shall not rest on the back surface of the ceiling grid or panels and provide a minimum of 4” clearance. The flexible air duct shall not interfere with the closing of the MSCD damper.
3. MSCD Damper/TB5000 Thermal Insulation/Air Diffuser Assemblies are for use in lieu of the hinged-blade, sheet metal damper in steel ducts as specified in the individual floor and roof-ceiling design(s) being used, as illustrated and described in the current UL Fire Resistance Directory.
4. If damper has an adjustable volume control, the 2 fuse links (shipped loose with damper) must be installed on damper for proper operation.
5. Cycle damper after installation.



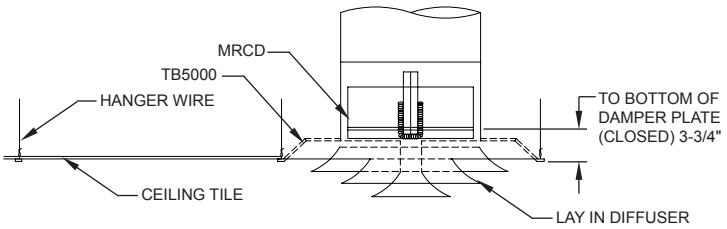


FIG. 1

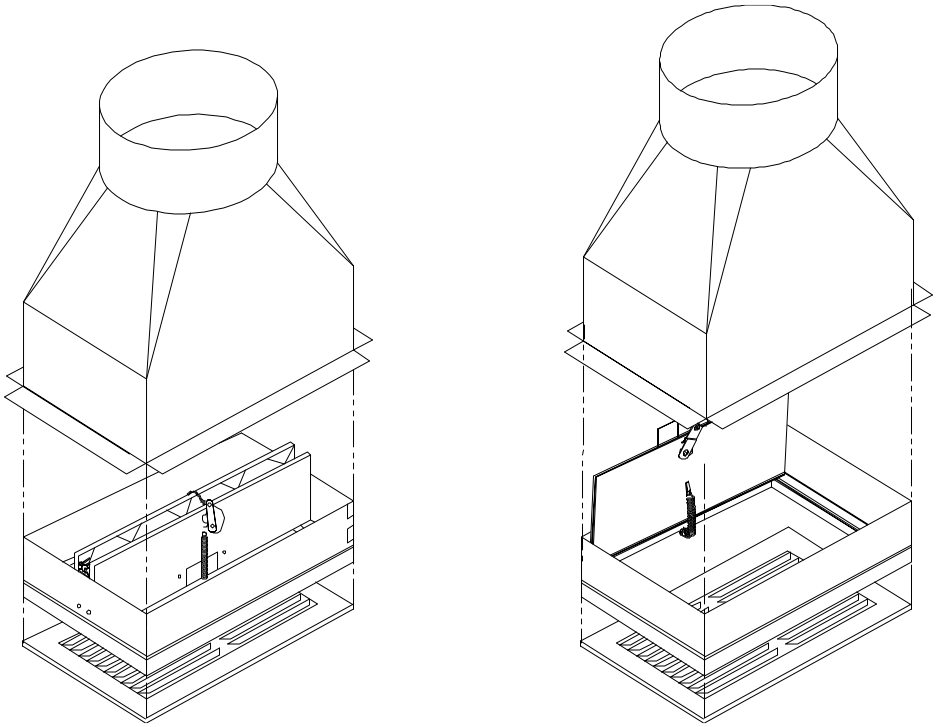


FIG. 2

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