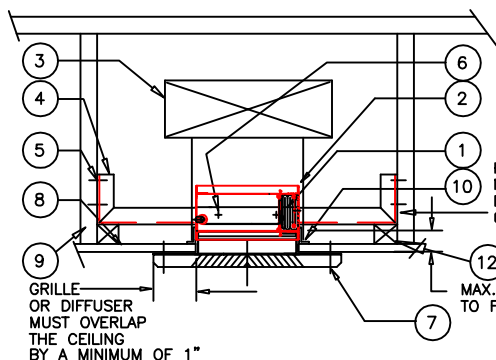


# CEILING RADIATION DAMPERS

## GENERAL INSTALLATION INSTRUCTIONS MODEL 45 -LT

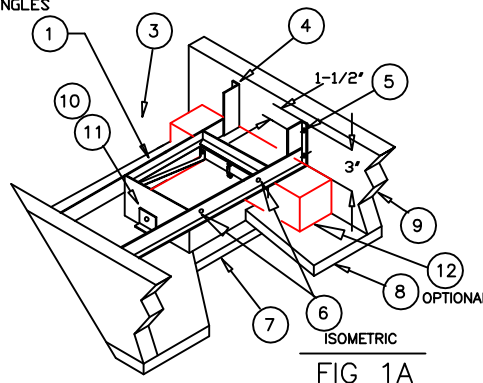


1. CEILING RADIATION DAMPER
2. STEEL DUCT DROP (LESS #3 PLENUM PERMITTED)
3. BRANCH PLENUM, OR PLENUM BOOT
4. HANGER ANGLES (2) 1-1/2 X 1-1/2 X 16 GAUGE
5. #6 COMMON NAILS OR #8 X 1-1/4 SCREWS
6. MOUNTING FASTENERS (BOLTS, SCREWS, RIVETS)
7. STEEL GRILLE, DIFFUSER, OR DROP DUCTING
8. CEILING : GYPSUM WALLBOARD  
ACOUSTICAL TILE OR ACOUSTICAL PANEL (LAY-IN)
9. JOISTS, TRUSSES, BEAMS
10. STABILIZING ANGLES (2) 1/2 X 1-1/2 X 16 GA. X 3"
11. MOUNTING FASTENERS (BOLTS, SCREWS, RIVETS)
12. OPTIONAL NAILING BLOCKS 2X2 USED WITH STRAIGHT HANGER ANGLES

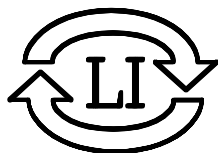
These ceiling dampers are Classified by Underwriters Laboratories, Inc. as to heat barriers in the Fire Resistance Directory under the category of Ceiling Dampers (CABS). Refer to the Classification Information in the back of the Fire Resistance Directory regarding the use of these dampers in the various 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 hourly ratings of the floor-ceiling assemblies which are rated 3 hours or less.

### INSTALLATION INSTRUCTIONS:

1. Before installing the damper, Model 45 LT, open the curtain and hook the fusible link over the link catch on the opposite side of the curtain. Bend down the link catch to secure the link in position.
2. Measure the actual spacing between the joists or other structural members. Allowing for a 3.00" flange at each mounting point. Cut and bend the angles on both ends to 90 degrees. or the appropriate angle required. Mounting angles are fastened to joists or other structural members with a minimum of two fasteners for each mounting point using #6 common nails or #8 x 1-1/4" long screws.
3. Model 45LT is connected to the mounting angles with sheet metal screws, rivets, or bolts. Two connections on each angle as a minimum. Note: fastener positions must not interfere with the damper operation.
4. Model 45LT is connected to the stabilizing angles with sheet metal screws, rivets, or bolts. One connection on each angle as a minimum. The stabilizing angles are to be mounted with one face of the angle flush to the ceiling material. Note: fastener positions must not interfere with the damper operation.
5. The installation mounting position of the closed damper face must not exceed 2-5/8" from the face of the rated barrier.
6. Install the ceiling damper in the duct drop using 3/16 inch diameter by 1/2 inch long steel bolts, No. 8 by 1/2 inch steel sheet metal screws or 3/16 inch diameter by 1/2 inch long steel bolts, No. 8 by 1/2 inch steel sheet metal screws or 3/16 inch diameter steel rivets at 6 inches o.c. and a minimum of (3) places. For flexible ducting; connect with draw clamps, #16 SWG wire, or cable ties as per SMACMA Standards requirements.
7. The clearance between each side of the ceiling damper and the duct drop shall be 1/8 inch maximum.
8. The maximum size of Model 45 LT is 14" W x 14" H.
9. Steel/Alum. grille or diffuser to be attached to the duct drop or ceiling damper using No. 8 by 1-1/2 inch lg. sheet metal screws .



ALL INSTALLATIONS ARE SUBJECT  
TO LOCAL AUTHORITY APPROVAL  
PRIOR TO ORDERING DAMPERS  
AND DAMPER INSTALLATION.



## LLOYD INDUSTRIES INC.

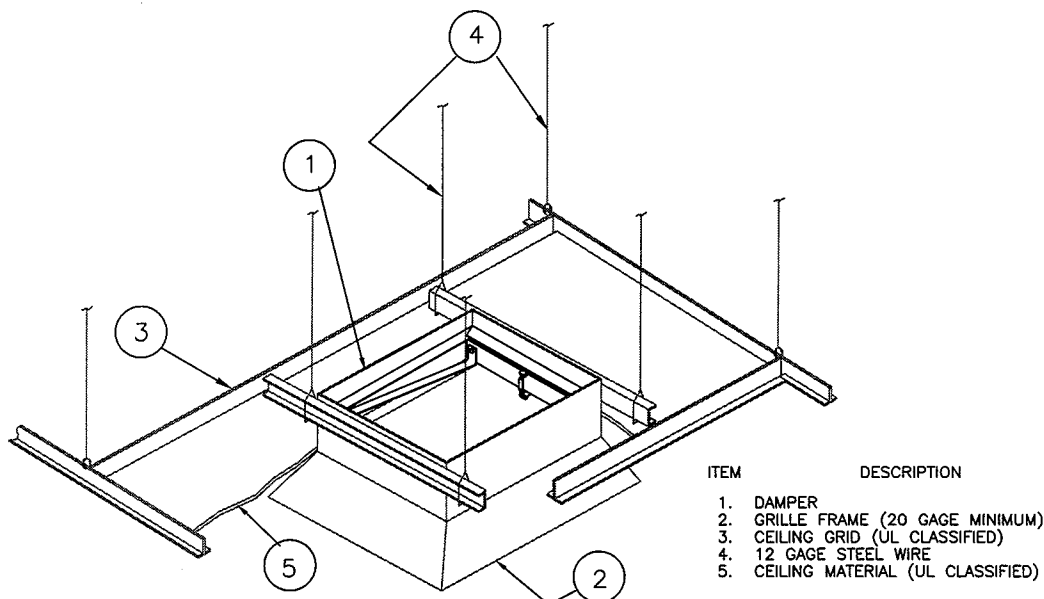
231 Commerce Drive  
Montgomeryville, Pa. 18936  
Tel: 215-412-4445  
fax: 215-412-4409  
Email: lloydind@firedamper.com

5858 Broadway Ave.  
Jacksonville, Fl. 32254  
Tel: 904-378-8440  
fax: 904-378-8441  
Email: lloydind1@bellsouth.net

Web Site: firedamper.com

# CEILING RADIATION DAMPERS

## APPLICATION SHEET MODEL 45 TYPE LT CRD (RECTANGULAR)(HORIZONTAL)



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 hourly ratings of the floor-ceiling assemblies which are rated 3 hours or less.

The damper/surface mounted diffuser shall be installed as shown on installation sheet. The damper on the opposite sides shall be connected to support channels (16 MSG by 1-1/2 or 2 inch channel) with 3/16 inch diameter by 1/2 inch long steel bolts, No. 8 by 1/2 inch steel sheet metal screws or 3/16 inch diameter steel rivets at 6 inches OC minimum 3 per side.

The damper assembly shall be hung with 12 SWG minimum hanger wires at each of the 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 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 when penetrating the ceiling membrane.

The steel diffusers shall be attached to the damper with No. 8 sheet metal screws, 3/16" tubular steel rivets, 3/16 inch diameter by half inch long steel bolts, or 1/4" tack welds.

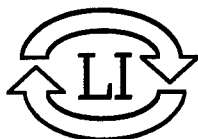
### RECTANGULAR CEILING DAMPER SIZE LIMITATIONS

MAXIMUM SIZE	MAXIMUM WIDTH	MAXIMUM LENGTH	MINIMUM WIDTH	MINIMUM LENGTH
196 SQ. IN.	14"	14"	4"	4"



SEE DETAILS ON  
UL CLASSIFICATION  
MARKING ON ENCLOSED  
PRODUCT

10548-REV-A-1



## LLOYD INDUSTRIES INC.

231 COMMERCE DRIVE  
MONTGOMERYVILLE, PA. 18936  
TEL: 215-412-4445  
FAX: 215-412-4409

EMAIL: LLOYDIND@FIREDAMPER.COM

5858 BROADWAY AVE.  
JACKSONVILLE, FL. 32254  
TEL: 904-378-8440  
FAX: 904-378-8441

EMAIL: LLOYDINDI@BELLSOUTH.NET

WEB SITE: FIREDAMPER.COM