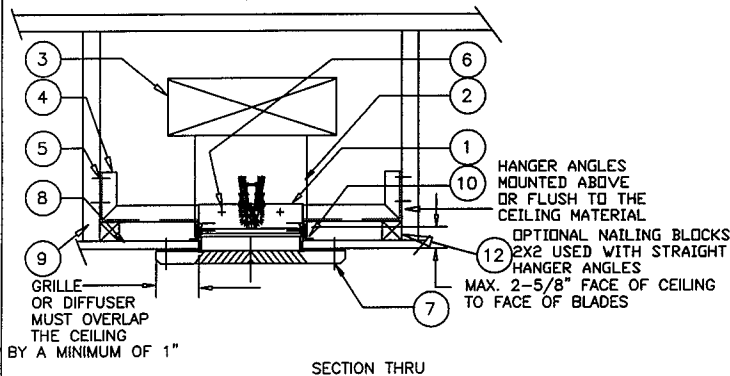


CEILING RADIATION DAMPERS

GENERAL INSTALLATION INSTRUCTIONS MODEL CRD 55 AND CRD55-EA (ROUND) 3 HOUR OR LESS RATED PARTITIONS



1. MODEL 55 CRD (ROUND) 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, WELDS)
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)

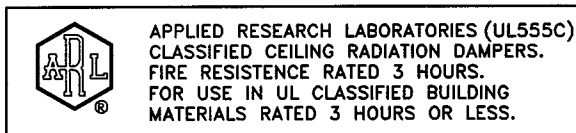
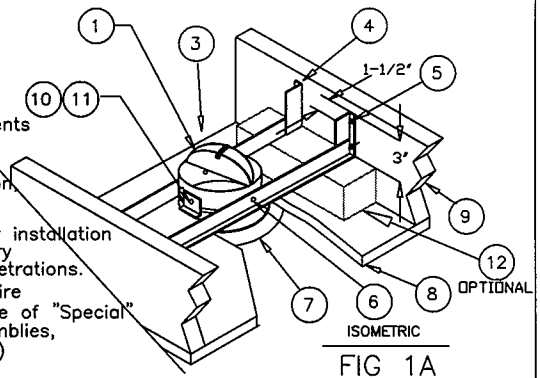
Model CRD55 and CRD55-EA Ceiling Radiation Dampers are Classified to UL 555C for 3 HR or less heat barriers illustrated in the UL Fire Resistance Directory.

Refer to the partition classification information in the Fire Resistance Directory regarding the use of these dampers in the various floor-ceiling and roof-ceiling assemblies. Ceiling dampers and the associated components (diffusers, grilles, ducts, etc. which are to be constructed of steel are installed in the ceiling to maintain the hourly ratings of these rated floor-ceiling, roof-ceiling, assemblies. The combination of damper, partition, and installation establish this 3 HR or less Partition Fire Rating.

Lloyd Industries MODEL CRD55 and CRD55-EA are laboratory approved for installation in all 3 hr. or less rated fire barriers listed in the Underwriters Laboratory Fire Resistance Directory, where fire barriers are shown with partition penetrations. Fire barriers without penetrations, and fire barriers not listed in the UL Fire Resistance Directory are not approved for installations and require the use of "Special" Assemblies such as CRD50-BT, and CRD55-BT Laboratory Approved Assemblies, or approval of local authorities. (See spec sheets for CRD-BT Assemblies)

INSTALLATION INSTRUCTIONS:

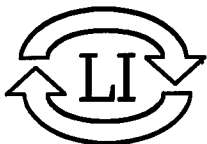
1. Before installing the damper, Model 55 CRD (round), and Model 55-EA (round) open the blades and hook the fusible link over the link catch on the opposite blade. Bend down the link catch to secure the link in position. For Model 55-EA flex the spring wire and secure the link.
2. Measure the actual 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. Models CRD 55 and Model CRD 55-EA are connected to the mounting angles with sheet metal screws, rivets, or bolts. One connection on each angle as a minimum. Note: fastener positions must not interfere with the damper blade operation.
4. Models CRD 55 and Model CRD 55-EA are 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 blade operation.
5. The installation mounting position of the closed damper blade face must not exceed 2-5/8" from the face of the rated barrier.
6. Install the ceiling damper in duct drops 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 55 CRD (round) and Model 55-EA (round) is 24 inches in diameter.
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.



CONFORMING TO THE INSTALLATION
REQUIREMENTS OF UL 555C

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

10122-REV-C



LLOYD INDUSTRIES INC.

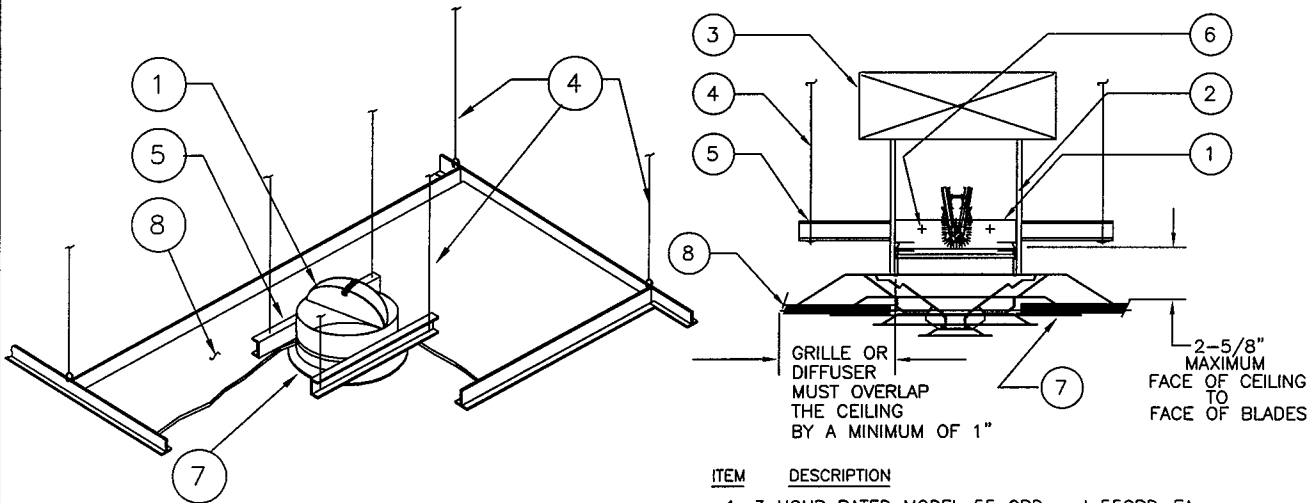
231 COMMERCE DRIVE
MONTGOMERYVILLE, PA. 18936
TEL: 215-412-4445
FAX: 215-412-4409
EMAIL: LLOYDIND@FIREDAMPER.COM

5858 BROADWAY AVE.
JACKSONVILLE, FL. 32254
TEL: 904-378-8440
FAX: 904-378-8441
EMAIL: LLOYDINDI@BELLSOUTH.NET

WEB SITE: FIREDAMPER.COM

CEILING RADIATION DAMPERS

INSTALLATION INSTRUCTIONS MODEL CRD 55 AND CRD55-EA (ROUND) PARTITION RATINGS OF 3 HOURS OR LESS DUCTED SUPPLY OR RETURN



ITEM DESCRIPTION

1. 3 HOUR RATED MODEL 55 CRD and 55CRD-EA (ROUND) CEILING RADIATION DAMPER
2. STEEL DUCT DROP, SLEEVE (LESS #3 PLENUM PERMITTED)
3. BRANCH DUCT
4. 12 SWG HANGER WIRES (4) MIN REQD
5. STEEL SUPPORT CHANNELS
6. MOUNTING FASTENERS (BOLTS, SCREWS, RIVETS)
7. MOUNTED STEEL GRILLE OR DIFFUSER OR DROP DUCTING
8. CEILING : ACOUSTICAL PANEL (LAY-IN) ACOUSTICAL TILE OR GYPSUM WALLBOARD

INSTALLATION INSTRUCTIONS:

1. Before installing dampers: Model 55CRD (round), open blades and hook fusible link over link catch on opposite blade. Bend down link catch to secure link in position. Model 55CRD-EA (round easy access) flex the spring wire and secure the link.
2. Support the duct with (2) 16 ga. cold-rolled steel support channels, 1-1/2 or 2 inches deep with 1/2 inch flanges. Place the support channels at the lower end of the duct adjacent to both sides of the duct drop. Use 12 SWG galvanized steel hanger wire to independently support channels on each end, from the structural members of the floor or roof above. Use fasteners specified in line item #3 to secure channel to ducting/register box. Refer to line item #7 for locations.. All hanger wires shall be supported directly from the structural members of the floor or the 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).
3. 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, 3/16 inch diameter steel rivets or spot welds at 6 inches on center maximum and a minimum of (3) places. Pre-assembly of ceiling radiation dampers/ducting/register boxes is permitted using the listed fastening methods.
4. The clearance between each side of the ceiling damper and the duct drop and lay-in panel shall be 1/8 inch maximum.
5. Duct outlets in lay-in ceilings should be field located in an acoustical ceiling panel or tile. Where it is necessary to cut a main runner or cross tee, each cut end shall be supported by a vertical 12 gauge hanger wire. A 1/2 inch clearance shall be maintained between the duct outlet and each cut end of main runner or cross tee. The duct outlet shall be located so that no more than one main runner or cross tee is cut when penetrating the ceiling membrane.
6. Steel grille or diffuser to be attached to the duct drop or ceiling damper using No. 8 by 1-1/2 inch long sheet metal screws, 3/16 tubular rivets, or 1/4 tack welds.
7. Fastener positions must not interfere with damper blade operation.

ROUND CEILING DAMPER SIZE LIMITATIONS MAXIMUM SIZE 452 SQ. IN.

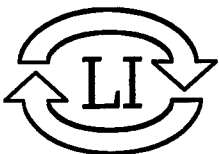
MODEL	MAXIMUM DIAMETER	MINIMUM DIAMETER
CRD55	24"	4"
CRD55-EA	24"	6"

CONFORMING TO THE INSTALLATION REQUIREMENTS OF UL 555C



APPLIED RESEARCH LABORATORIES
CLASSIFIED CEILING RADIATION DAMPERS.
FIRE RESISTANCE RATED 3 HOURS.
FOR USE IN UL CLASSIFIED BUILDING
MATERIALS RATED 3 HOURS OR LESS.

10234-REV-D-1



LLOYD INDUSTRIES INC.

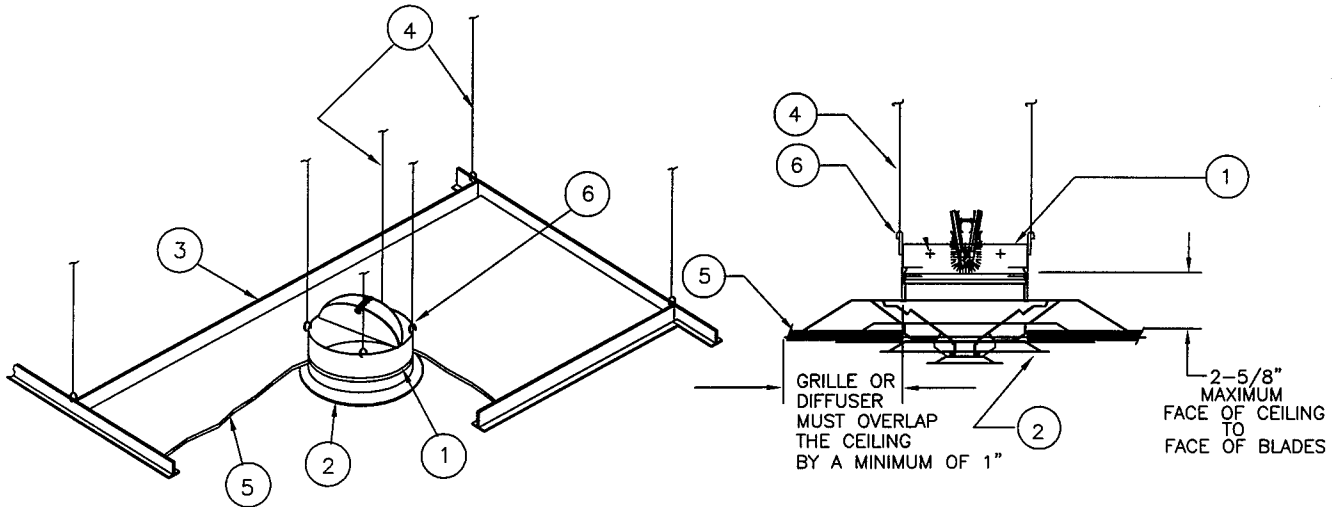
231 COMMERCE DRIVE
MONTGOMERYVILLE, PA. 18936
TEL: 215-412-4445
FAX: 215-412-4409
EMAIL: LLOYDIND@FIREDAMPER.COM

5858 BROADWAY AVE.
JACKSONVILLE, FL. 32254
TEL: 904-378-8440
FAX: 904-378-8441
EMAIL: LLOYDINDI@BELLSOUTH.NET

WEB SITE: FIREDAMPER.COM

CEILING RADIATION DAMPERS

INSTALLATION SHEET MODEL 55 CRD AND CRD55-EA (ROUND) PARTITION RATINGS OF 3 HOURS OR LESS NON-DUCTED SUPPLY OR RETURN



INSTALLATION INSTRUCTIONS:

- Before installing dampers:
Model 55CRD (round), open blades and hook fusible link over link catch on opposite blade. Bend down link catch to secure link in position.
Model 55CRD-EA (round easy access) flex the spring wire and secure the link.
- Support the damper with (2) 16 ga. cold-rolled steel support channels, 1-1/2 or 2 inches deep with 1/2 inch flanges. Place the support channels at the top of the damper adjacent to both sides of the damper. Use 12 SWG galvanized steel hanger wire to independently support channels on each end, from the structural members of the floor or roof above. Use fasteners specified in line item #3 to secure channel to damper. Refer to line item #7 for locations.
All hanger wires shall be supported directly from the structural members of the floor or the 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).
- Fasten the ceiling damper to channels 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, 3/16 inch diameter steel rivets or spot welds at 6 inches on center maximum and a minimum of (3) places. Pre-assembly of ceiling radiation dampers to channels is permitted using the listed fastening methods.
- The clearance between each side of the ceiling damper and lay-in panel shall be 1/8 inch maximum.
- Damper outlets in lay-in ceilings should be field located in an acoustical ceiling panel or tile. Where it is necessary to cut a main runner or cross tee, each cut end shall be supported by a vertical 12 gauge hanger wire. A 1/2 inch clearance shall be maintained between the duct outlet and each cut end of main runner or cross tee. The duct outlet shall be located so that no more than one main runner or cross tee is cut when penetrating the ceiling membrane.
- Steel grille or diffuser to be attached to the duct drop or ceiling damper using No. 8 by 1-1/2 inch long sheet metal screws, 3/16 tubular rivets, or 1/4 tack welds.
- Fastener positions must not interfere with damper blade operation.

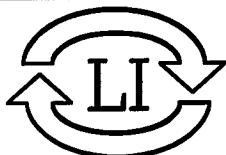
ROUND CEILING DAMPER SIZE LIMITATIONS MAXIMUM SIZE 452 SQ. IN.

MODEL	MAXIMUM DIAMETER	MINIMUM DIAMETER
CRD55	24"	4"
CRD55-EA	24"	6"

CONFORMING TO THE INSTALLATION REQUIREMENTS OF UL 555C



APPLIED RESEARCH LABORATORIES
CLASSIFIED CEILING RADIATION DAMPERS.
FIRE RESISTENCE RATED 3 HOURS.
FOR USE IN UL CLASSIFIED BUILDING
MATERIALS RATED 3 HOURS OR LESS.



LLOYD INDUSTRIES INC.

10234-REV-D-2

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