

CEILING RADIATION DAMPER WITH FIRE RATED FIBERGLASS PLENUM BOX

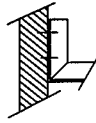
TRUSS/GYPSUM INSTALLATION INSTRUCTIONS
MODEL CRD 50-95BT AND CRD 50-95EA-BT (90° RECTANGLE CRD / BOOT/ REGISTER BOX ASM.)

1 HOUR RATED REGISTER GRILL ASSEMBLY CRD/PLENUM BOX ASSEMBLY FOR
FLOOR/CEILING, ROOF/CEILING: WOOD TRUSS ASSEMBLIES

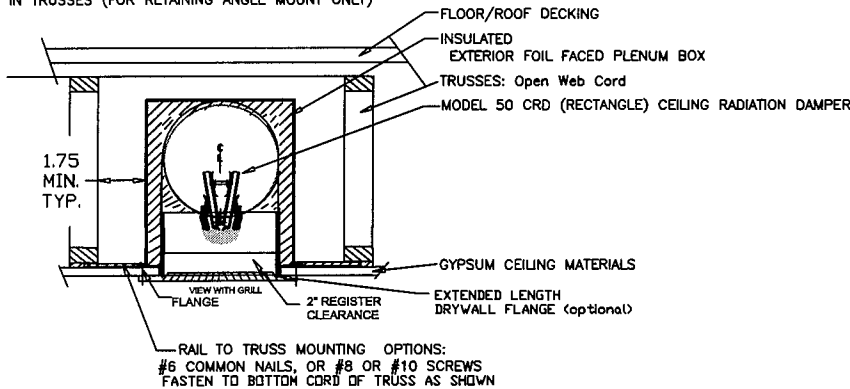
UL DESIGN L- 563, P- 544, L-521, L-546, P-522, And L-528 Types

OPTIONAL

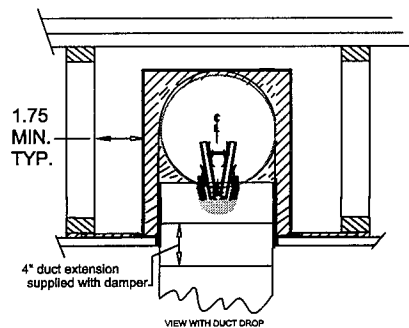
90° FORMED
ANGLE ENDS
FOR SIDE
FASTENING
IN TRUSSES



(FOR RETAINING ANGLE MOUNT ONLY)



RAIL TO TRUSS MOUNTING OPTIONS:
#6 COMMON NAILS, OR #8 OR #10 SCREWS
FASTEN TO BOTTOM CORD OF TRUSS AS SHOWN



Notes:

- Before installing the damper, CRD Model 50-95BT (rectangle), and CRD Model 50-95EA-BT (rectangle) 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 CRD Model 50-95EA-BT flex the spring wire and secure the link.
- Measure the actual truss centers and add approx. 6" to determine straight rail lengths. (2) required per box) For Angle Mount only. When using the optional formed Boot Rail allow for adequate flanges at each mounting, and span the truss cavity to overlap face of truss bottom cords min. of 2-1/2 in.
- Establish the location of the gypsum flange and snap the (2) hanger rails to the plenum box
- Mounting rails are fastened to trusses with a minimum of two fasteners for each mounting point using #6 common nails or #8 or #10 wood screws.
- The clearance between each side of the ceiling damper and the duct drop shall be 1/16 in. for a total of 1/8 inch maximum.
- Steel grille to be attached to the ceiling damper using No.8 by 2 inch long sheet metal screws at each end of grill for a total of 2, screws

IMPORTANT:
FASTENERS MUST NOT INTERFERE WITH THE DAMPER BLADES OPERATION.

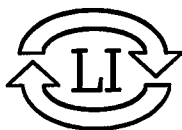


UL CLASSIFIED
SEE COMPLETE
MARKING ON PRODUCT



APPLIED RESEARCH LABORATORIES (UL555C)
CLASSIFIED CEILING RADIATION DAMPERS.
FIRE RESISTENCE RATED 1 HOUR.
FOR USE IN UL CLASSIFIED BUILDING
MATERIALS RATED 1 HOUR OR LESS.

10319-REV-A



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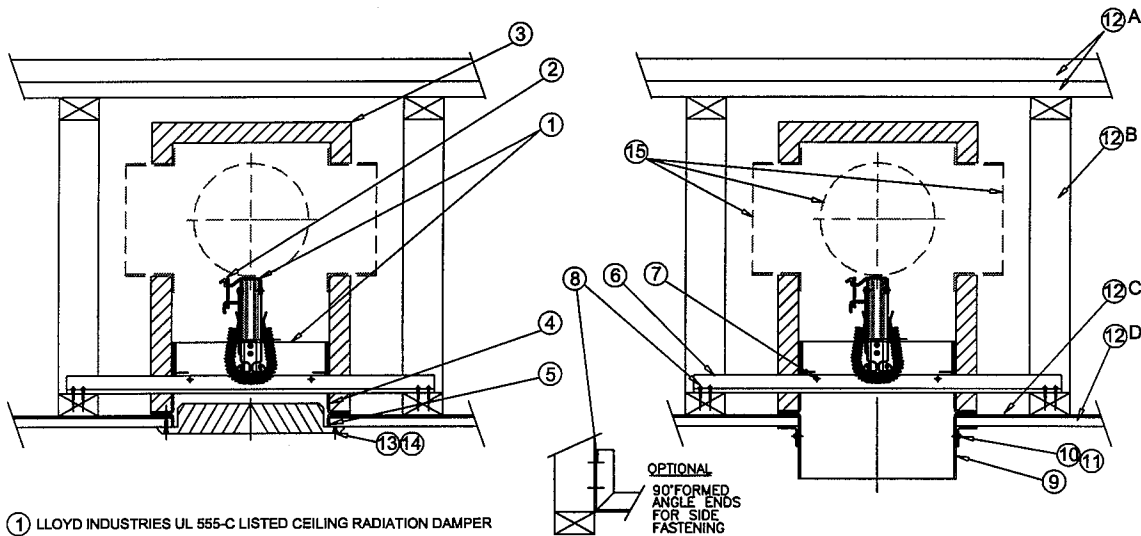
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CEILING RADIATION DAMPER WITH FIRE RATED FIBERGLASS PLENUM BOX

INSTALLATION INSTRUCTIONS

MODEL CRD 50-FGPB-4.2 & MODEL CRD 50-EA-FGPB-4.2 FOR REGISTER & GRILLE INSTALLATIONS
MODEL CRD 50-FGPB-4.2 & MODEL CRD 50-EA-FGPB-4.2 FOR DROP THRU DUCT INSTALLATIONS

THESE DAMPER ASSEMBLIES HAVE BEEN TESTED AND APPROVED FOR INSTALLATION IN 1 HOUR
ROOF/CEILING, FLOOR/CEILING DESIGN NUMBERS: UL-L-563 AND UL-P-544

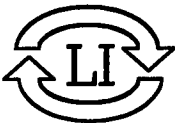


- ① LLOYD INDUSTRIES UL 555-C LISTED CEILING RADIATION DAMPER
- ② EASY ACCESS OR STD FUSIBLE LINK (165°F STD)(212°F OPTIONAL)
- ③ FIBERGLASS DUCTBOARD 1" THICK PLENUM BOX (UL RATED 181 CLASS 1 MATERIALS)
- ④ DAMPER SLEEVE: FLANGED 1" FOR PLENUM INSULATION SUPPORT (22 GA. GALV STEEL)
- ⑤ REGISTER/GRILLE SLEEVE 22 GA. GALV STEEL. (FOR 5/8" THICK GYPSUM)
- ⑥ SUPPORT ANGLES (2) PER UNIT: FACTORY INSTALLED OR SUPPLIED SEPERATELY
A. STD. (16 GA X 3/4" X 3/4" X 26" LG)
B. OPTIONAL (22 GA X 1-1/2" X 1-1/2" X 26" LG)
- ⑦ SUPPORT ANGLE FASTENERS (FASTENS SUPPORT ANGLES TO DAMPER)
#8 X 3/4" LG SHEET METAL SCREWS, 3/16 DIAMETER RIVETS, OR SPOT WELDS. (2) PLACES ON EACH SUPPORT ANGLE MINIMUM.
- ⑧ SUPPORT ANGLE FASTENERS (ANGLES TO TRUSS CORDS) #8 OR #10 X 1-1/2" LG SHEET METAL OR DRYWALL SCREWS OR #6 COMMON NAILS (8) PLCS.
- ⑨ DROP DUCT SLEEVE 22 GA. GALV STEEL
- ⑩ DROP DUCT MOUNTING ANGLES (4) 22 GA. X 1" X 1" GALV STEEL
- ⑪ DROP DUCT ANGLE FASTENERS (ANGLES TO SLEEVE)
#8 OR #10 X 3/4" LG SHEET METAL SCREWS OR 3/16" POP RIVETS (8) PLCS.
- ⑫ UL LISTED AND TESTED TRUSSES:
A. DECK/ROOF MATERIALS
B. TRUSS WOOD CORDS
C. RC CHANNEL
D. GYPSUM BOARD 5/8" THICK MINIMUM
- ⑬ REGISTER/GRILLE (26 GA STEEL MIN)(.55 MM)
(PROVIDED BY OTHER)
- ⑭ REGISTER/GRILLE MOUNTING SCREWS (2) #8 X 2" LG MINIMUM.
(PROVIDED BY OTHER)
- ⑮ FLEXIBLE DUCT AND DUCT CONNECTORS: UL CLASSIFIED CLASS 0 OR CLASS 1 (PROVIDED AND INSTALLED BY OTHER)
- ⑯ BOOT CLIP INSTALLATION PERMITTED USING (2) #8 OR #10 SHEET METAL SCREWS. USE A MIN OF (2) #8 "S" TYPE SCREWS TO FASTEN TO TRUSS CORDS AT EACH MOUNTING POINT.

INSTALLATION NOTES:

1. Before installing the damper assembly, open the ceiling radiation damper blades and secure the blades open with the easy access wire catch and the temperature rated fusible link.
2. Ceiling penetrations should be located between adjacent trusses and RC Channels using a s a minimum of 1-3/4" from the truss to the outside of the plenum box as shown. If required (1) RC Channel may be cut to allow installation. The clearance between the damper/sleeve and the gypsum ceiling material must not exceed 1/16" per side and 1/8" total max.
3. Installation:
 - A. If support angles have been provided pre-assembled to the units by the factory, center dampers between trusses and locate support angle rails on top of the lower truss cords. Fasten using a minimum of (2) #8, or #10 wood or drywall screws X 1-1/2" lg or #6 common nails at each mounting point.
 - B. Support angles may be cut and formed 90° for truss side mounting inside truss cords as shown.
 - C. If support angles have been provided separate from the unit, establish the dimension for the gypsum flange location to the top of the lower truss cord and fasten (2) support angles to units using (2) #8 x 3/4" lg sheet metal screws or (2) 3/16" diameter rivets for each angle. **NOTE: Insure that fasteners do not interfere with the ceiling radiation damper operation.**
4. The Fiberglass insulation plenum box permits cutting and installing a maximum of (3) collars for class 1 or class 0 flexible ducting. Use UL 181 Class 1 reinforced 2" wide aluminum Tape where required for assembly and box/duct sealing.
NOTE: Duct and collar installation must not interfere with damper operation inside the fiberglass ductboard plenum box.
5. Registers/grilles of steel construction with 26 ga. (.55 mm) minimum are to be attached to the ceiling radiation damper gypsum flange using (2) #8 x 2" lg sheet metal screws minimum. (1) at each end of the grille/register minimum.
6. Drop duct installations require 22 ga. 1" x 1" retaining angles on all (4) sides fastened to the steel drop duct sleeve using (2) #8 x 3/4" lg sheet metal or 3/16" diameter rivets on each side as shown.

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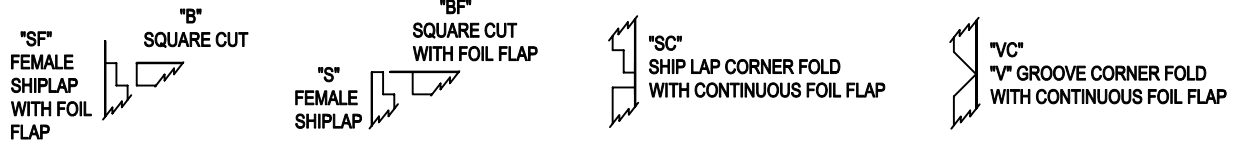
CEILING RADIATION DAMPER WITH FIRE RATED FIBERGLASS PLENUM BOX

SUPPLEMENTARY INSTALLATION INSTRUCTIONS

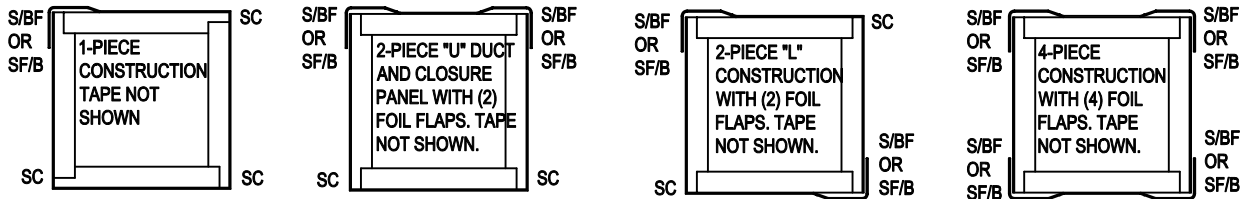
FIBERGLASS DUCTBOARD FABRICATION AND ASSEMBLY
ACCEPTABLE METHODS FOR CUTTING, JOINING, AND
ASSEMBLING FIBERGLASS DUCTBOARD PLENUM BOXES

MODELS CRD 50-FGPB-4.2 & CRD 50-EA-FGPB-4.2, CRD 50-FGPB-6.0, CRD 50-EA-FGPB-6.0

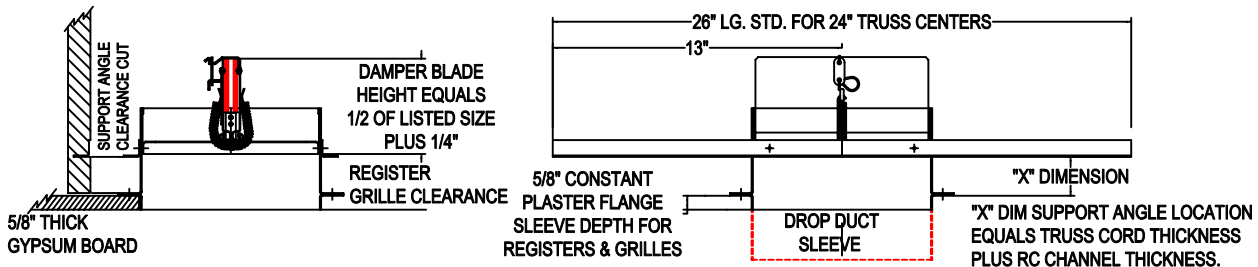
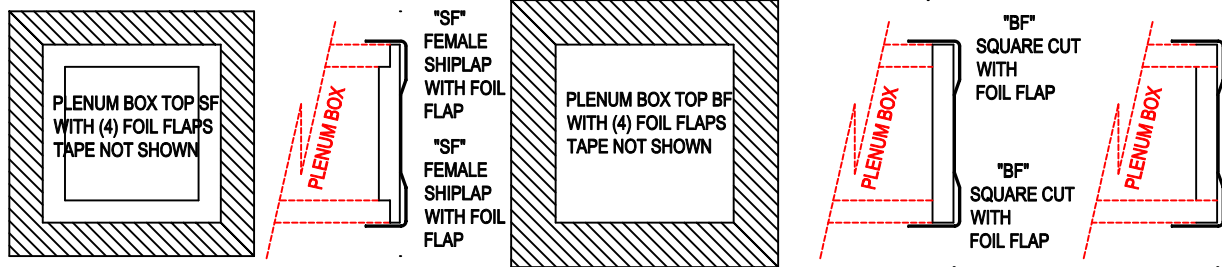
TYPICAL DUCTBOARD JOINTS



TOP VIEW OF APPROVED FIBERGLASS DUCTBOARD PLENUM JOINTS



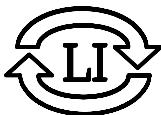
TOP PANEL CONSTRUCTION OF FIBERGLASS DUCTBOARD PLENUM JOINTS



NOTES:

- Use only UL 181 Listed fiberglass ductboard with a density of 4 lbs/cubic foot and minimum thickness of 1" nom. (25.4 mm) for Models CRD-50-FGPB-4.2 & CRD 50-EA-FGPB-4.2 (1" Ref)
Use only UL 181 Listed fiberglass ductboard with a density of 6 lbs/cubic foot and minimum thickness of 1-3/8" (35 mm) for Models CRD-50-FGPB-6.0 & CRD 50-EA-FGPB-6.0 (1-1/2" Ref)
- Joint preparation shall be in accordance with the joint construction and ductboard foil backing overlap shown above.
- Use only UL 181 Listed aluminum tape 2" wide minimum sealing all corners, joints and support angle penetrations.
- Secure the plenum box to the damper sleeve and support angles using UL 181A-P Listed Tape.
- Install Ceiling Radiation Damper/Plenum Box Assemblies in accordance with instruction sheet 10514 & UL 181A.

10515-REV-D (1 of 3)



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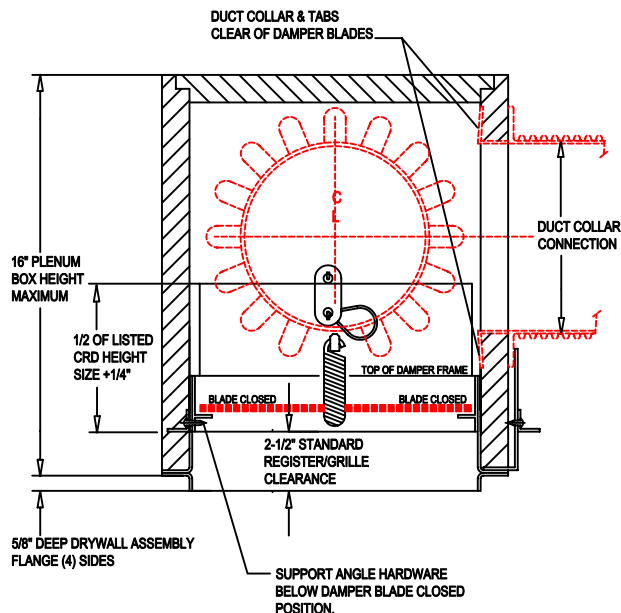
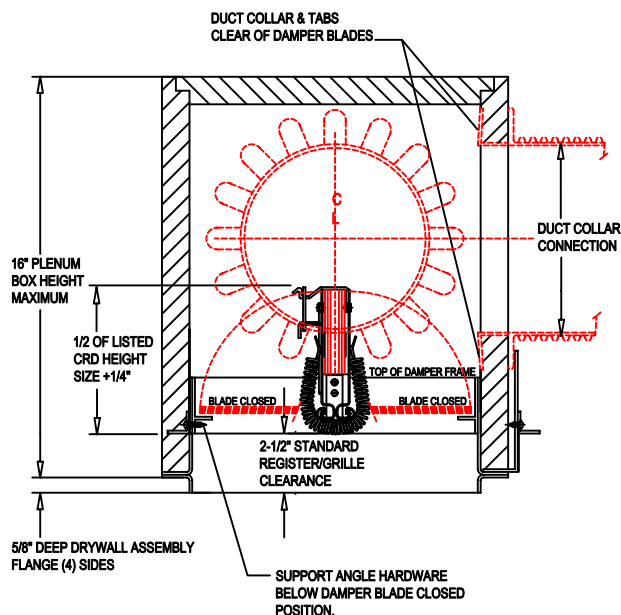
CEILING RADIATION DAMPER WITH FIRE RATED FIBERGLASS PLENUM BOX

SUPPLEMENTARY INSTALLATION INSTRUCTIONS

FIBERGLASS DUCTBOARD FABRICATION AND ASSEMBLY ACCEPTABLE METHODS FOR CUTTING, JOINING, AND ASSEMBLING FIBERGLASS DUCTBOARD PLENUM BOXES

MODELS CRD 50-FGPB-4.2 & CRD 50-EA-FGPB-4.2, CRD 50-FGPB-6.0, CRD 50-EA-FGPB-6.0

FIELD ASSEMBLY METHODS & QUALITY REQUIREMENTS



1. FABRICATE THE FIBERGLASS DUCTBOARD PLENUM BOX USING SHIPLAP/OVERLAP JOINTS AND MATERIALS AS SHOWN IN DWG 10515 SHEET 1 OF 2
2. CUT & INSTALL THE FIBERGLASS DUCTBOARD PLENUM BOX TO FIT ACCURATELY ON ALL (4) SIDES OF THE DAMPER SLEEVE.
3. GAPS OR SPACES BETWEEN THE SLEEVE SURFACES AND THE DUCTBOARD SURFACES ARE NOT PERMITTED.
4. THE INSIDE SURFACES OF THE DUCTBOARD MUST BE FLAT & STRAIGHT. THE INSIDE SURFACES OF THE DUCTBOARD MUST NOT INTERFERE WITH THE DAMPER BLADE CLOSURE AND DAMPER OPERATION.
5. THE FIBERGLASS DUCTBOARD PLENUM BOX MUST REST FLAT & EVENLY ON ALL (4) OUTBOARD GALVANIZED STEEL PLASTER FLANGES SURFACES.
6. GAPS BETWEEN THE SLEEVE FLANGES AND THE DUCTBOARD BOTTOM EDGES ARE NOT PERMITTED.
7. TAPE & SQUEEGY ALL TAPED SEAMS. TAPE & SQUEEGY THE CONNECTION BETWEEN THE PLENUM BOX AND THE GALVANIZED STEEL SLEEVE FLANGE TO SECURE THE PLENUM BOX ASSEMBLY TO THE DAMPER AND THE GALVANIZED SLEEVE ASSEMBLY.
8. CUT THE DUCT COLLAR HOLES IN THE DUCTBOARD ACCURATELY. CENTER THE DUCT COLLAR HOLES IN THE PLENUM BOX SIDE TO SIDE. MAINTAIN THE REQUIRED CLEARANCE FROM THE TOP OF THE DAMPER FRAME TO THE EDGE OF THE DUCT COLLAR INCLUDING THE FOLD-OVER COLLAR TABS WHEN USED. POSITION COLLARS SO THAT ADEQUATE CLEARANCE IS PROVIDED INSIDE THE TOP OF THE PLENUM BOX FOR COLLAR TABS. IF NECESSARY, TRIM COLLAR ASSEMBLY TABS TO INSURE CLEARANCE FOR OPTIMUM DAMPER BLADE CLOSURE & OPERATION. WHEN ATTACHING DUCTING INSURE THAT COLLARS REMAIN STABLE. DUCT COLLARS MUST NOT INTERFERE WITH DAMPER BLADES AND OPERATION AT ANY TIME.
9. WHEN STANDARD SUPPORT ANGLES ARE USED, INSTALL SUPPORT ANGLES PRIOR TO THE DUCTBOARD PLENUM BOX INSTALLATION. INSURE THAT THE #8, OR #10 STEEL SCREWS OR 3/16" DIA STEEL RIVETS ARE INSTALLED BELOW THE DAMPER BLADE CLOSED POSITION. HARDWARE MUST NOT INTERFERE WITH DAMPER BLADE CLOSURE AND OPERATION.
10. AFTER INSTALLING THE DUCTBOARD PLENUM BOX, TAPE & SQUEEGY ALL AREAS AROUND THE SUPPORT ANGLES.
11. WHEN AJUSTABLE SUPPORT ANGLE MOUNTING BRACKETS ARE USED LIMIT THE #8, OR #10 STEEL SCREW OR 3/16" DIA STEEL RIVET LENGTH TO 1/2" LG TO PREVENT DAMAGING THE FIBERGLASS DUCTBOARD INSULATION.
12. PRIOR TO INSTALLATION: MANUALLY TEST ALL DAMPERS FOR BLADE CLOSURE AND OPERATION. THE PLENUM BOX, DUCT COLLARS, AND SUPPORT ANGLE MOUNTING SCREWS MUST NOT INTERFERE WITH DAMPER BLADE FULL CLOSURE & DAMPER OPERATION.

10515-REV-D (2 of 3)



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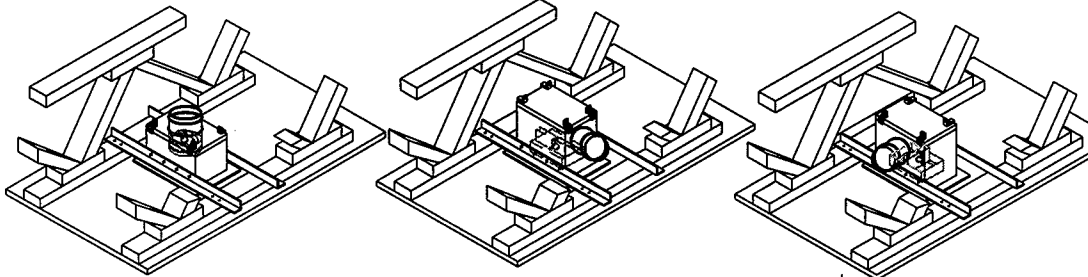
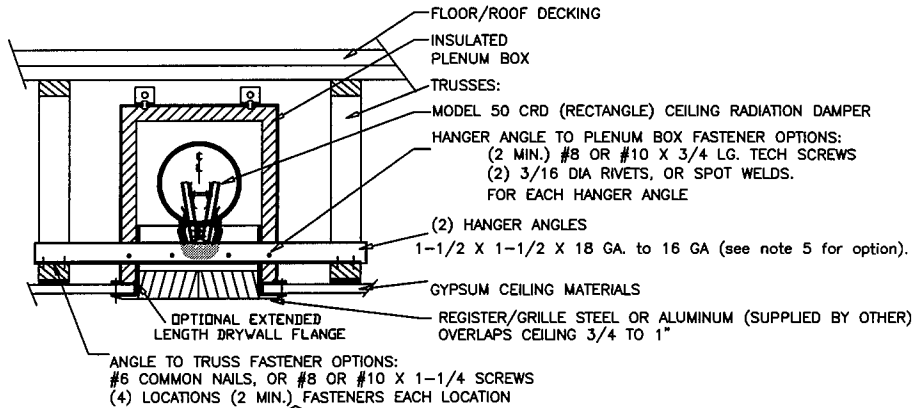
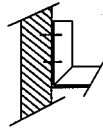
CEILING RADIATION DAMPERS

TRUSS/GYPSUM INSTALLATION INSTRUCTIONS

MODEL CRD 50-BT AND CRD 50-EA-BT (90° RECTANGLE CRD/REGISTER BOX ASM.)
 MODEL CRD 55-BT AND CRD 55-EA-BT (STRAIGHT RECTANGLE CRD/REGISTER BOX ASM.)

1 HOUR RATED ASSEMBLIES FOR USE IN
 FLOOR/CEILING, ROOF/CEILING: TRUSS/GYPSUM CONSTRUCTION
 UL DESIGN L-563, P-544

OPTIONAL
 90° FORMED
 ANGLE ENDS
 FOR SIDE
 FASTENING
 IN TRUSSES



MODEL 55-EA-BT STRAIGHT DUCTING

MODEL 50-EA-BT DUCTED 90° THRU TRUSSES

MODEL 50-EA-BT DUCTED 90° PARALLEL TO TRUSSES

Notes:

- Before installing the damper, CRD Model 50-BT (rectangle), and CRD Model 50-EA-BT (rectangle) 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 CRD Model 50-EA-BT flex the spring wire and secure the link.
- Measure the actual truss centers and add approx. 6" to determine straight angle lengths. (2) required per box. When using the optional formed angle allow for adequate flanges at each mounting point and cut and bend the angles on both ends to 90 degrees, or the appropriate angle required.
- Establish the location of the gypsum flange and fasten the (2) hanger angles to the plenum box with (2) minimum #8 x 3/4 sheet metal screws or 3/16 diameter rivets for each hanger angle. spot welding or bolts. Two connections on each angle as a minimum. Note: fastener positions must not interfere with the damper blade operation.
- Mounting angles are fastened to trusses, with a minimum of two fasteners for each mounting point using #6 common nails or #8 x 1-1/4" long screws.
- As an alternate to hanger angles, two standard 28 ga. min steel boot rails may be used, by snapping onto opposite sides of damper box flange, boot rails are then fastened to trusses using #6 common nails or #8 or #10 wood screws.
- Register, grille or diffuser to be attached to the ceiling radiation damper box using screws supplied with register, grille or diffuser.
- Flex duct shall be UL classified Air Duct Class "0" or Class "1". Fold back neck flaps of blanket and slip flexible duct over collar of plenum box, replace neck flaps of blanket over duct and fasten duct to collar over blanket, using steel clamp, plastic strap, or minimum 18 gauge steel wire, in accordance with Duct Manufacturers installation instructions.
- As an option the plenum box can be ordered with an extended length drywall flange
- MEETS UL263, NFPA 90A REQUIREMENTS

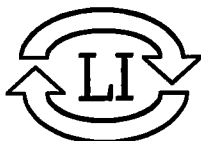
IMPORTANT:

FASTENERS MUST NOT INTERFERE WITH THE DAMPER BLADES OPERATION.



APPLIED RESEARCH LABORATORIES (UL555C)
 CLASSIFIED CEILING RADIATION DAMPERS.
 FIRE RESISTANCE RATED 1 HOUR.
 FOR USE IN UL CLASSIFIED BUILDING
 MATERIALS RATED 1 HOUR OR LESS.

10547-REV-A-2



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