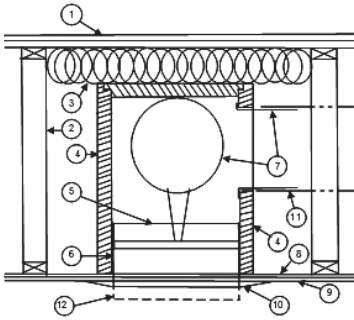


# INSTALLATION INSTRUCTIONS

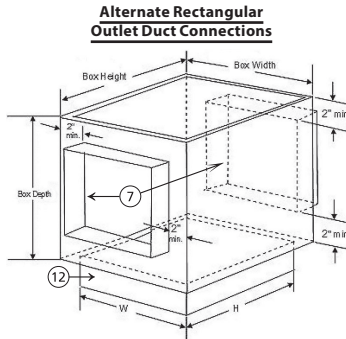
## Series 58 Ceiling Damper and Duct Board Plenum Box Assembly

For installation in Design No. L-528/L-558/L-562/L-574/L-585/L-587 Floor - Ceiling Assembly and P-533/P-544/P-545/P-547/P-556/P-580 Roof - Ceiling Assembly with rating of 1 hour or less



Item	Description
1.	Finish floor system
2.	Wood trusses
3.	Insulation
4.	Duct Board Plenum Box (See Note 1 below)
5.	UL 555C ceiling damper
6.	Damper Sleeve Assembly
7.	Collars (up to three, by others. See limitations to the right.)
8.	Resilient channels
9.	Gypsum board ceiling material
10.	Register, grille, diffuser (by others)
11.	Class 0, Class 1, flex-duct (or others)
12.	Alternate duct drop connection

**Max Field Installed Plenum Box 17" Deep**



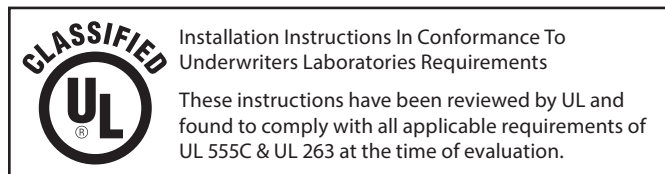
Max Collar Height = Box Depth - 4"  
 Max Collar Width = Box Width - 4"  
 \*Note: Edge of collars must be a minimum of 1½ in. from edge of duct board box.  
 Max Damper Size: 16"W x 20"H

Max Single Collar Area: 153.9 sq. in. per collar.  
 Max Total Removed Area (combined): 345.5 sq. in. removed from duct board box.  
 Maximum three outlet duct connections in duct board box (does not include damper)

**Model 58EA begin with Note 1 (for damper/sleeve assembly used with ductboard enclosure supplied by others)**  
**For Steel Plenum Instructions, See Page C-17**

**Model 58D go to Note 5 (for damper/sleeve assembly and ductboard enclosure supplied by Aire Technologies)**

- Fabricate Ductboard box, using UL 181 Listed Fiberglass Ductboard with a density of 4lbs/ft<sup>3</sup>, designated R-6.5, minimum thickness of 1½" or R-8, minimum thickness of 2". Basis of design: Knauf Duct board M, Knauf Eclipse Air Duct Board. Shiplap joint construction shall be employed in the manner illustrated above - four sides, and, top.
- Joints shall be taped with UL 181 Listed aluminum tape, 2" wide, minimum, sealing all corners, and mounting angle/boot rail penetrations.
- Gaps are not permitted between the insulation retainer surfaces and the Ductboard surfaces. The fiberglass ductboard plenum box must rest evenly and flat on all four sides of the insulation retainer.
- Secure the Series 58 Damper/sleeve/flange assembly to the plenum box using UL 181A-P Listed Tape. Squeegee all taped seams of/in the box. Squeegee the taped connection between the box and the flange.
- Cut the duct collar holes in the ductboard box accurately. Center the duct collar holes in the plenum box side to side. Maintain clearance from the top of the ceiling damper frame to the edge of the collar, including the fold-over collar tabs, when used. Maintain clearance from the inside top of the box to accommodate the fold-over tabs as well. Collar tabs may be trimmed, if necessary, to insure proper clearance for ceiling damper blade closure and operation. For alternate rectangular collar transitions and size limitations, see drawing above.
- Measure the distance between the trusses and add 7". Cut the "S" slip to this length for mounting, 28ga minimum and 2 pieces per box assembly. Snap the "S" slips onto the mounting flange on the appropriate opposite sides of the register opening of the box.
- Locate the position of the box (must have ¾" clearance between the box and the side of either/both truss(es) and cut only one (only if necessary) resilient channel to clear the dimension of the box. Attach the mounting rails to the bottom of the trusses, two fasteners, minimum at each point using #6 nails, or #8 or #10 screws of sufficient length to fasten to truss, minimum 1-½".
- Ensure the bottom of the box is in the same plane as the resilient channels (top side of the gypsum board ceiling), use small furring blocks if necessary.
- Cycle the ceiling damper several times to insure there is no impediment to damper function. Squeeze the ceiling damper blades together and set the fusible link in place.
- Attach Class 0, or Class 1 flex-duct as prescribed by the manufacturers installation instructions provided with that product.
- Hole cut in the gypsum board ceiling material shall not exceed register opening by more than 1/16" on any side.
- Register, grille, or diffuser shall be attached with screws sufficiently long enough to penetrate the ceiling and the steel flange/retainer at the bottom of the series 58 box (1 ½", min) as located by the mounting holes found in those products. In the case of a duct drop extending down through the ceiling membrane, a perimeter of 30ga (min) angles (½"x½" min) shall be mounted with screws (one per side minimum) sufficiently long enough (1½" min) to penetrate the angle, gypsum board ceiling membrane, and the mounting flange immediately above, creating a steel/sheetrock/steel sandwich.
- Fastener positions must not interfere with ceiling damper blade operation.

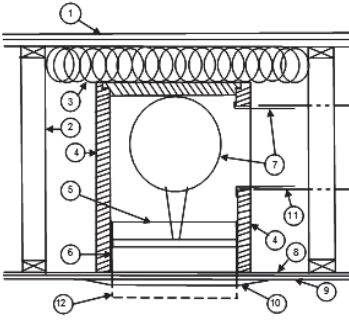


**ALL INSTALLATIONS ARE SUBJECT TO LOCAL AUTHORITY APPROVAL PRIOR TO ORDERING DAMPERS AND DAMPER INSTALLATION**

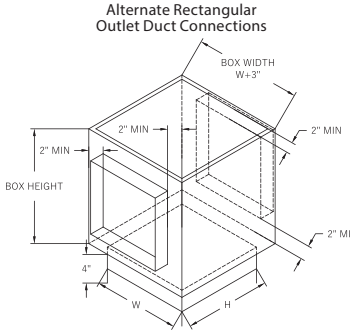
# INSTALLATION INSTRUCTIONS

## Series 58 Ceiling Damper and Steel Plenum Box Assembly

For installation in Design No. L-528/L-558/L-562/L-574/L-585/L-587 Floor - Ceiling Assembly and P-533/P-544/P-545/P-547/P-556/P-580 Roof - Ceiling Assembly with rating of 1 hour or less



Item	Description
1.	Finish floor system
2.	Wood trusses
3.	Insulation
4.	Steel Plenum Box. Use 26 ga. Steel, wrapped with minimum R-6.5 insulation Max size 16" W x 20" H*
5.	UL 555C ceiling damper
6.	Damper Sleeve Assembly
7.	Collars (up to 3, by others)
8.	Resilient channels
9.	Gypsum board ceiling material
10.	Register, grille, diffuser (by others)
11.	Class 0, Class 1, flex-duct (or others)
12.	Alternate duct drop connection



Max Collar Height = Box Depth - 4"  
 Max Collar Width = Box Width - 4"  
 \*Note: Edge of collars must be a minimum of 1½ in. from edge of duct board box.  
 Max Damper Size: 16"W x 20"H  
 Max Single Collar Area: 153.9 sq. in. per collar.  
 Max Total Removed Area (combined): 345.5 sq. in. removed from duct board box.  
 Maximum three outlet duct connections in duct board box (does not include damper)

**Model 58EA begin with Note 1 (for damper/sleeve assembly used with steel plenum box supplied by others)**

**Model 58S go to Note 5 (for damper/sleeve assembly and steel plenum box supplied by Aire Technologies)**

- The steel plenum box shall be a minimum of 26 ga. (0.47mm) galvanized steel.
- The inside dimensions of the steel plenum box shall be no greater than 1/8" larger than the damper sleeve. The plenum should be sized to fit tightly over the damper sleeve.
- The steel plenum shall be capped with 26 ga. (0.47mm) galvanized steel using #8 or #10 screws, 1/8" (3mm) rivets, spot welds, or tack welds. Use two fasteners per side, minimum.
- Wrap the steel plenum with Knauf Insulation R-6.5 ductboard or equivalent. Use UL 181A-P Listed tape, 2½" minimum width to tape secure the insulation. Squeegee all taped seams of/in the box and the taped connection between the box and flange.
- The steel plenum box shall be attached to the damper sleeve using hemmed s slip. The hemmed s slip shall be a minimum of 6" long, centered on the two sides of the sleeve not connected to the hinge, so as to avoid blade interference.
- Tape the entire joint between the steel plenum and the sleeve with UL 181A-P Listed tape, minimum 2½" wide. Tape over the hemmed s slip connection.
- Cut the duct collar holes in the steel box accurately. Center the duct collar holes in the plenum box side to side. Maintain clearance from the top of the ceiling damper frame to the edge of the collar, including the fold-over collar tabs, when used. Maintain clearance from the inside top of the box to accommodate the fold-over tabs as well. Collar tabs may be trimmed, if necessary, to insure proper clearance for ceiling damper blade closure and operation. For alternate rectangular collar transitions and size limitations, see drawing above. Any segment of the duct collar that protrudes inside the plenum wall must not interfere with the damper blade operation.
- Measure the distance between the trusses and add 7". Cut the "S" slip to this length for mounting, 28ga minimum and 2 pieces per box assembly. Snap the "S" slips onto the mounting flange on the appropriate opposite sides of the register opening of the box.
- Locate the position of the box (must have ¾" clearance between the box and the side of either/both truss(es) and cut only one (only if necessary) resilient channel to clear the dimension of the box. Attach the mounting rails to the bottom of the trusses using two fasteners, minimum, at each point using #6 nails, or #8 or #10 screws, minimum 1-½".
- Ensure the bottom of the box is in the same plane as the resilient channels (top side of the gypsum board ceiling). Use small furring blocks if necessary.
- Cycle the ceiling damper several times to insure there is no impediment to damper function. Squeeze the ceiling damper blades together and set the fusible link in place.
- Attach Class 0 or Class 1 flex-duct as prescribed by the manufacturer's installation instructions provided with that product.
- Hole cut in the gypsum board ceiling material shall not exceed register opening by more than 1/16" on any side.
- Register, grille, or diffuser shall be attached with screws sufficiently long enough to penetrate the ceiling and the steel flange/retainer at the bottom of the Series 58 box (1 ½", min) as located by the mounting holes found in those products. In the case of a duct drop extending down through the ceiling membrane, a perimeter of 30ga (min) angles (½"x½" min) shall be mounted with screws (one per side minimum) sufficiently long enough (1½" min) to penetrate the angle, gypsum board ceiling membrane, and the mounting flange immediately above, creating a steel/sheetrock/steel sandwich.
- Fastener positions must not interfere with ceiling damper blade operation.

	Installation Instructions In Conformance To Underwriters Laboratories Requirements
	These instructions have been reviewed by UL and found to comply with all applicable requirements of UL 555C & UL 263 at the time of evaluation.

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