

# INSTALLATION & OPERATION MANUAL

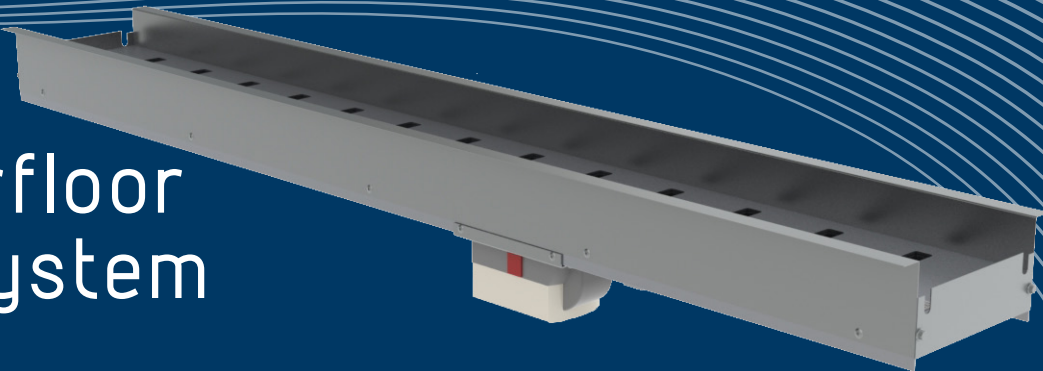


## TAF-L Underfloor Perimeter System

TAF-L-R / TAF-L-W

TAF-L-V / TAF-L-E

TAF-L-F / CT-TAF-L



## TAF-L Underfloor Perimeter System

The TAF-L underfloor perimeter system consists of a series of plenum boxes under linear runs of CT-TAF-L diffuser along the perimeter of a building. The TAF-L-V plenum provides cooling, the TAF-L-W provides heating, and the TAF-L-R provides a return.

The TAF-L-V cooling unit has a variable linear bar diffuser with a series of

apertures through which the air exits. The TAF-L-W heating plenum has a hot water fin tube heater assembly in the plenum.

The CT-TAF-L core itself has a specific wing configuration designed to deflect the air and provide throw reduction. Figure 1 below shows all the major components of the system and their typical installation.

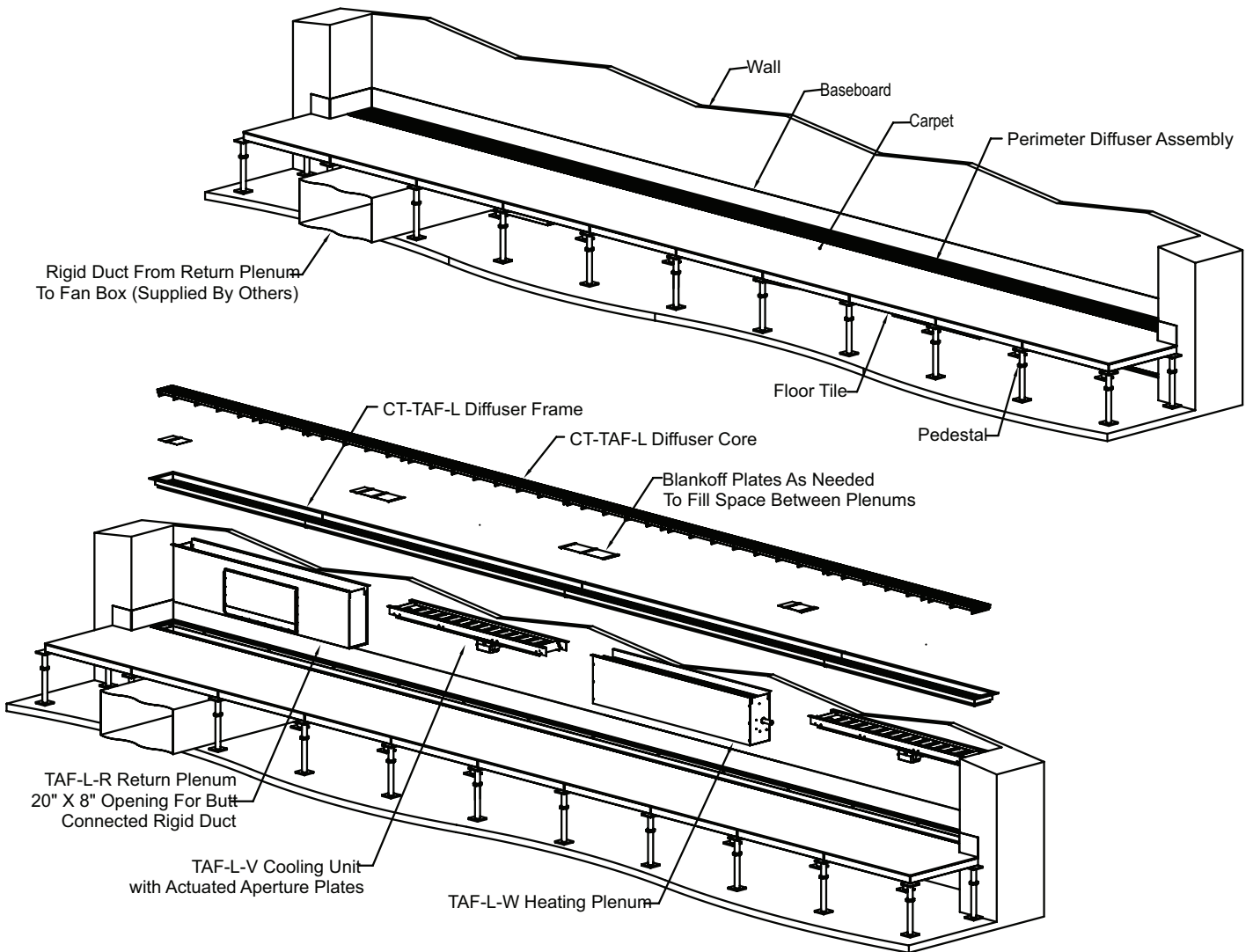


Figure 1 - Typical Finished Installation

## TAF-L Underfloor Perimeter System

### WALL ANGLE PLACEMENT

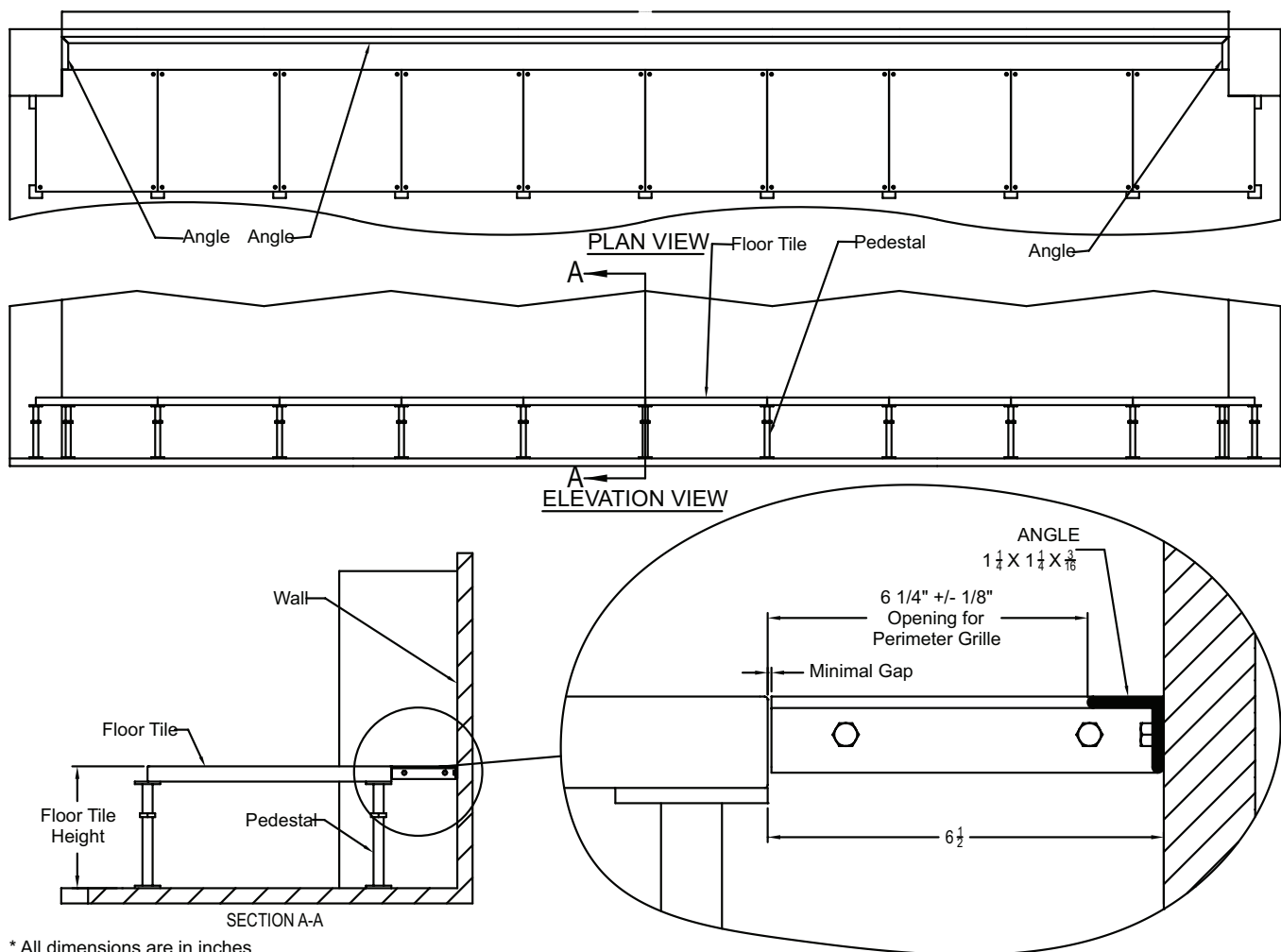
Attach a 1 1/4" x 1 1/4" x 3/16" angle to the wall where the perimeter diffuser Assembly will be installed. This includes the long span between columns and the short section along each column.

The angle should be installed level with top of the desired floor tile height. The angle will carry half the weight of the diffuser assembly. See Figure 2.

### FLOOR TILE PLACEMENT

Install raised floor tiles with a 6 1/2" space between the edge of the tile and the wall. The top of the angle needs to be level with the top of the floor tiles. See Figure 2.

There needs to be an opening of 6 1/4" (+/- 1/8") between the floor tile edge and the angle edge. If wall variations result in less than a 1/8" slot, the angle shall be ground down to within tolerance.



\* All dimensions are in inches

Figure 2 - Floor Tile and Angle Placement

## TAF-L Underfloor Perimeter System

### PLENUM INSTALLATION

Install the desired plenums by placing them into the slot between the floor tiles and the angle. Plenums should be placed such that thermostats are not in a direct airflow from the plenums.

### TAF-L-R RETURN PLENUM

Position TAF-L-R ducted return plenums first. These plenums have a 20"x8" rectangular opening for a rigid duct connection to a fan box.

Center the duct opening between two floor pedestals. The TAF-L-R return plenum has four flanges that can manually be bent out 90° in order help in the installation of the duct.

The duct should have a butt type connection and can be secured to the plenum by driving self-drilling sheet metal screws into the side of the plenum.

Removal of one or more floor tiles may be necessary to help with the connection of the duct. See Figure 3.

### TAF-L-W HEATING PLENUM

Position TAF-L-W heating plenums next as hot water piping has to be connected. The unit has 2 1/2" of straight copper tubing extending beyond both sides of the plenum for field connections. Note the orientation of the unit as the hot water tubing should be located on the exterior wall side of the building per the section view shown in figure 8 on page 6.

Removal of a floor tile may be necessary to help with tubing connections.

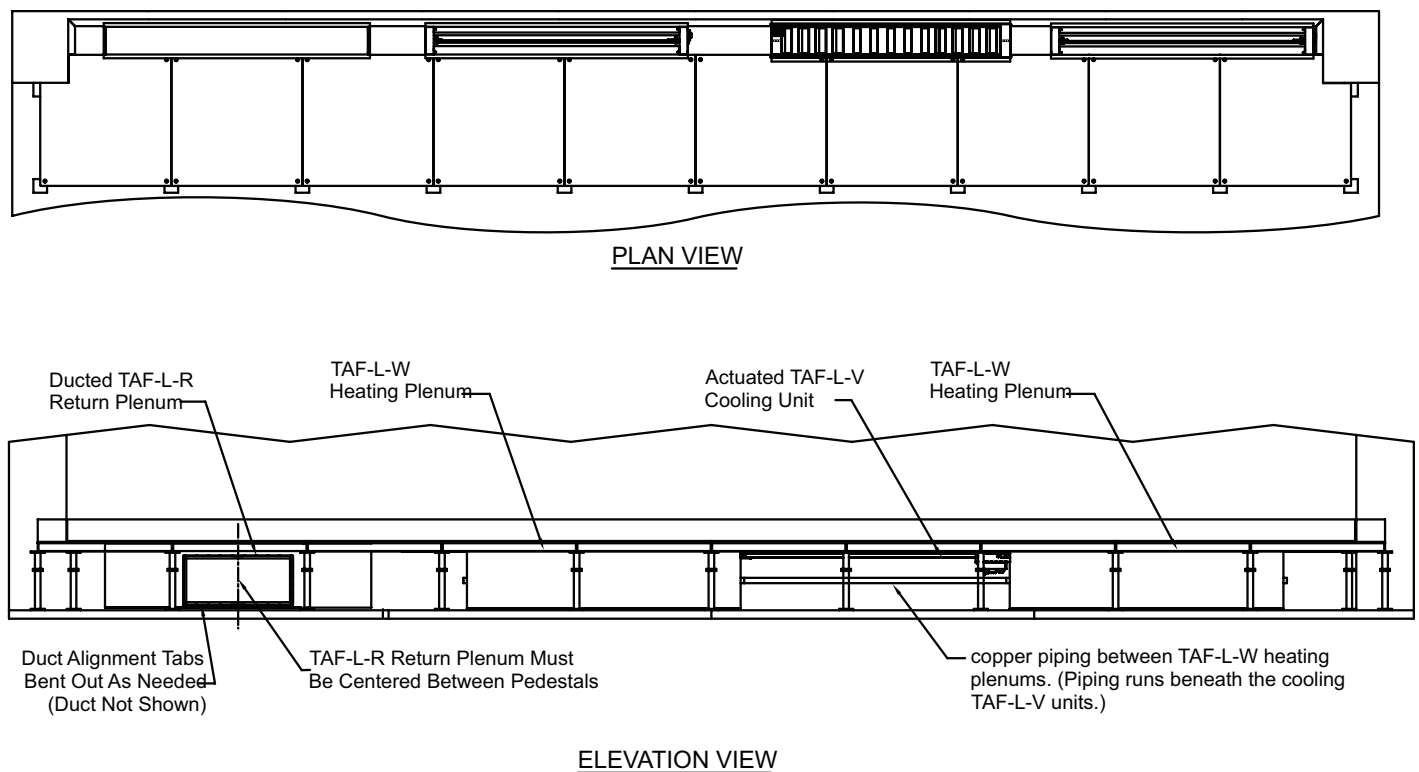


Figure 3 - Plenum Installation

## TAF-L Underfloor Perimeter System

### TAF-L-V COOLING PLENUM

Position the actuated TAF-L-V cooling units last. Make the necessary electrical connections to the actuator (shown on page 8) before placing the unit in the slot.

Place the TAF-L-V units in the slots such that the aperture plates all actuate in the same direction.

### CARPETING

Lay carpeting up to the edge of the floor tile and along the angle. Carpeting will cover the plenum flanges. See Figure 5.

### CT-TAF-L FRAME

The CT-TAF-L diffuser frame is supplied in multiple sections. Each section goes into the slot and sits on top of the carpeting.

Place the frame sections into their appropriate positions in the slot. See Figure 5. A maximum of  $\frac{1}{2}$ " may be cut off of any 'Y' frame end. Alignment clips may no longer fit if a section has been cut. Never cut off the last frame cross support bar!

See page 6 for alignment clip installation instructions.

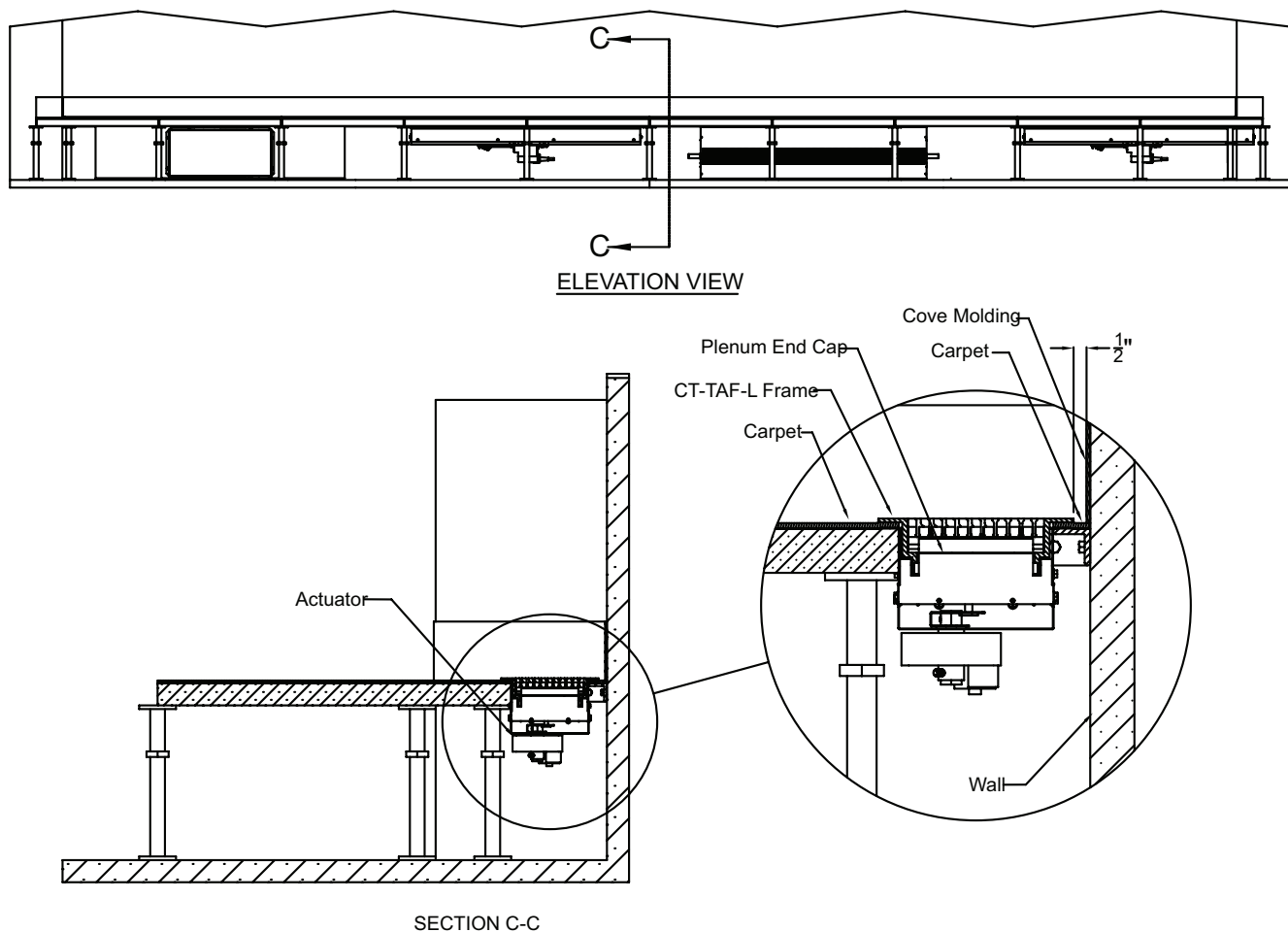
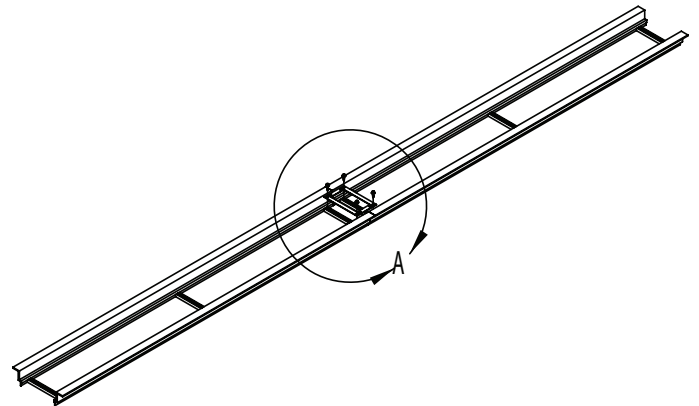
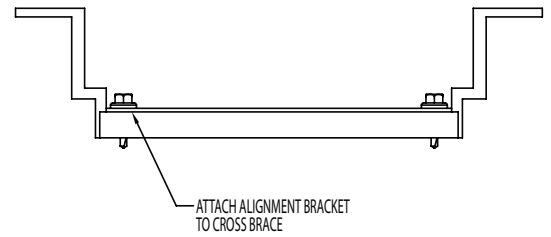
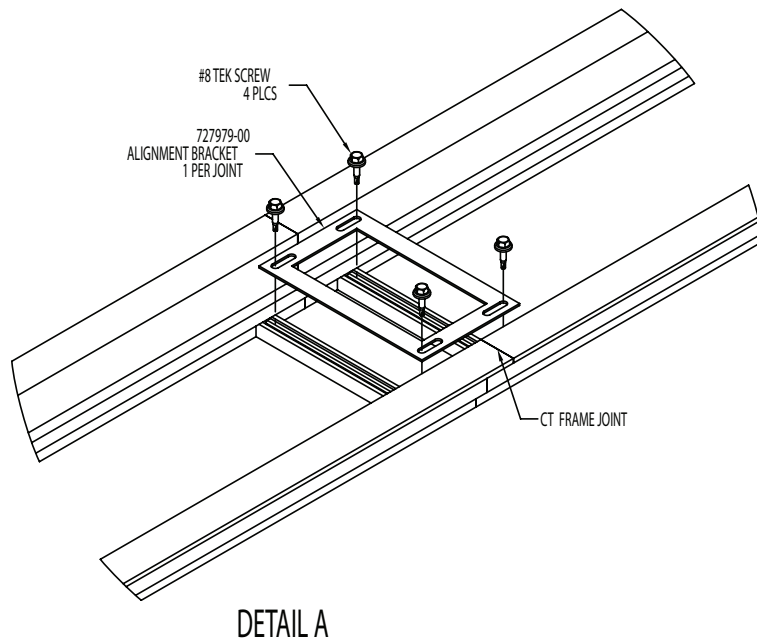


Figure 5 - Carpet & Frame Installation

## TAF-L Underfloor Perimeter System

### CT-TAF-L Frame (cont.)

Frame sections can be aligned with the use of a frame alignment clip. The clip snaps onto the bottom stackhead of the frame extrusion and is placed partially on the end of two sections that butt to one another.



## TAF-L Underfloor Perimeter System

### CT-TAF-L BLANK-OFF PLATE

There will be openings between plenums and between plenum ends and the CT-TAF-L frame ends. Measure these openings and cut blank-off plates to fit into these gaps. Be sure and follow the following guidelines for cutting blank-off plates. See Figure 6.

Blank-off plates must lie below the core support bars and a core support bar cannot sit on a blank-off support strip. (Core will not sit level and will rock)

Where possible, have at least 2 support strips per cut section to keep the blank-off plate from falling into the under floor plenum space.

Leave no more than 3 inches from the edge of a support strip to the edge of the blank-off plate. Sections longer than 3 inches may cause the plate to sag and vibrate.

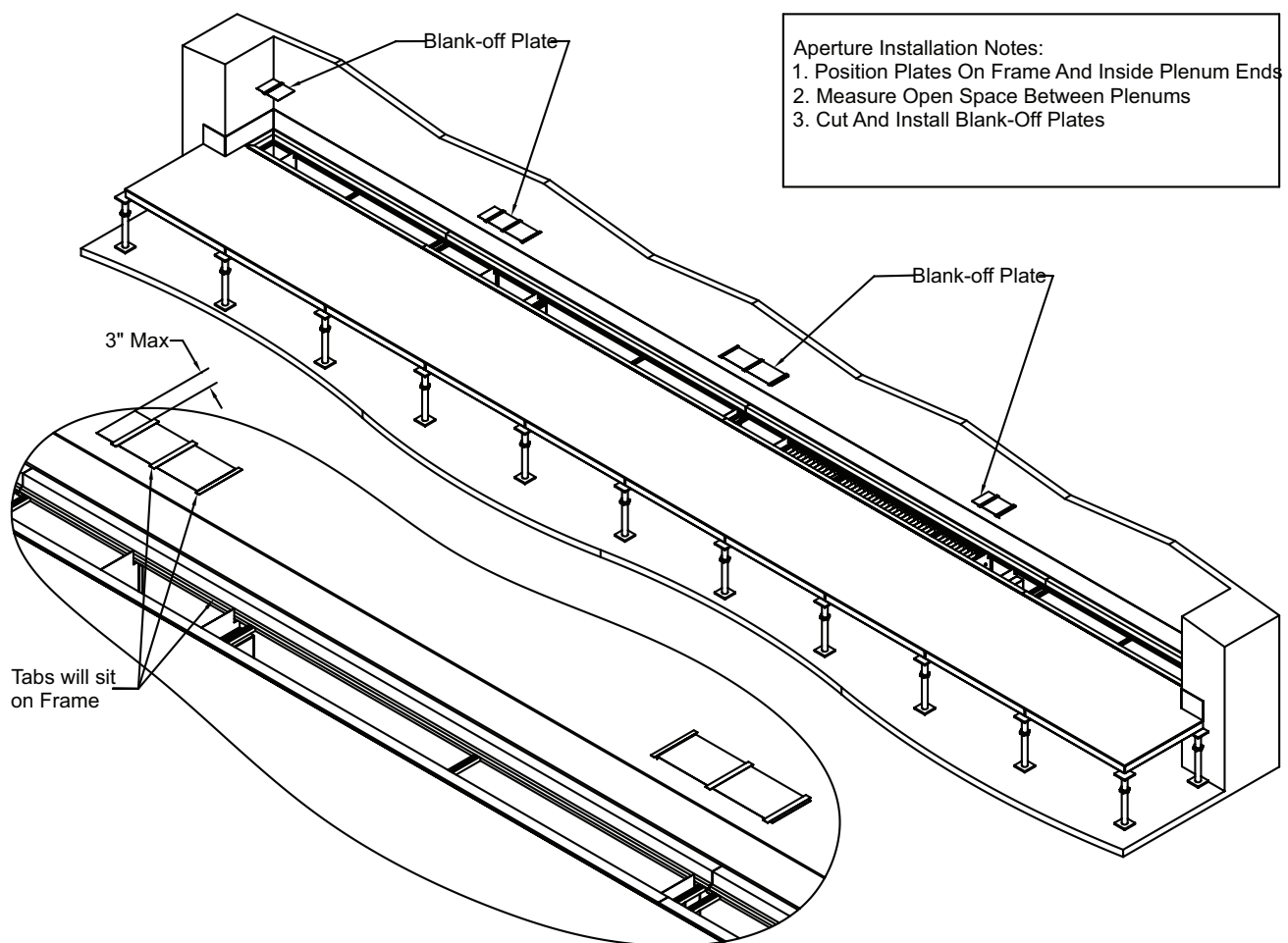


Figure 6 - Aperture Plate & Blank-Off Installation

## TAF-L Underfloor Perimeter System

### CT-TAF-L CORE

Place the CT-TAF-L cores into the frames with orientation shown in Figures 7 and 8 below. With this orientation, air deflection will be into the room and not against the wall.

A maximum of 3/4" may be cut to from each core end. Never cut off the last core support bar! Doing so may result in unsupported core wings which will not support foot traffic.

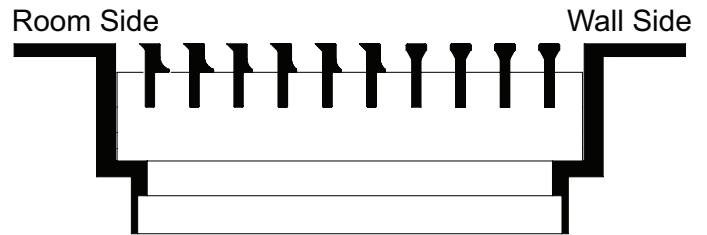


Figure 7 - Proper Core Orientation in Frame

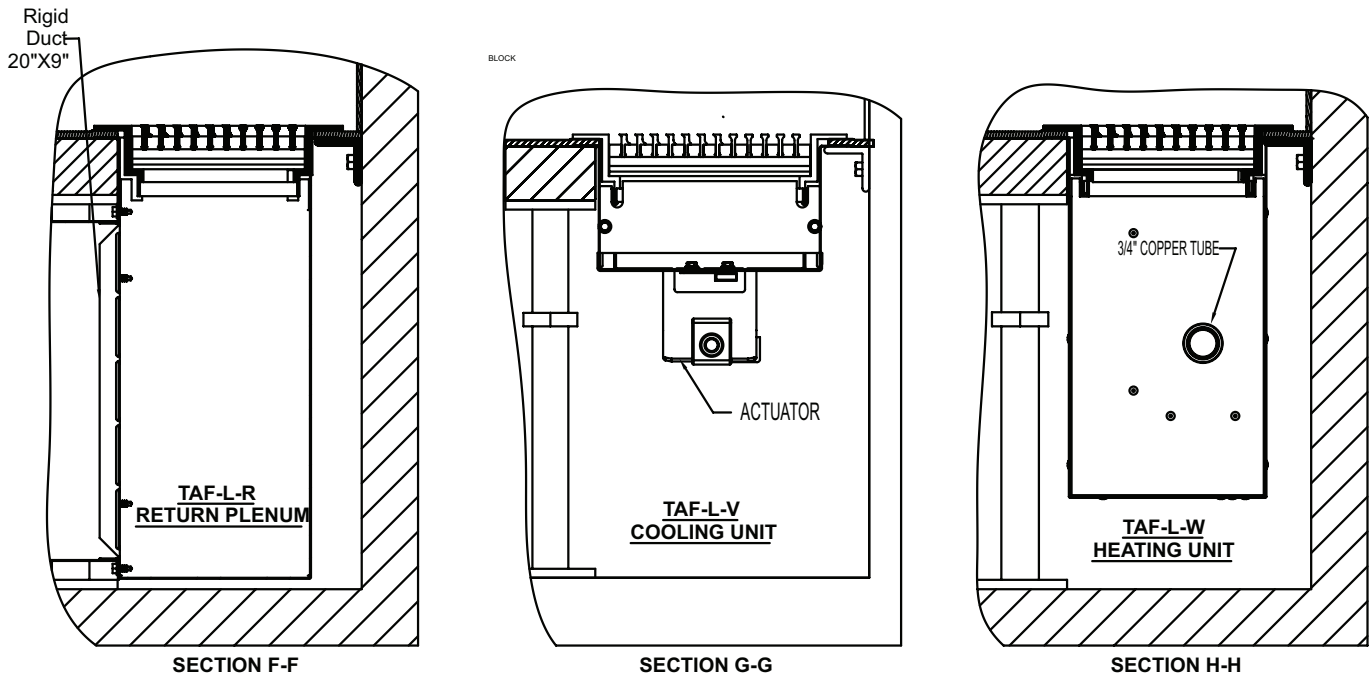
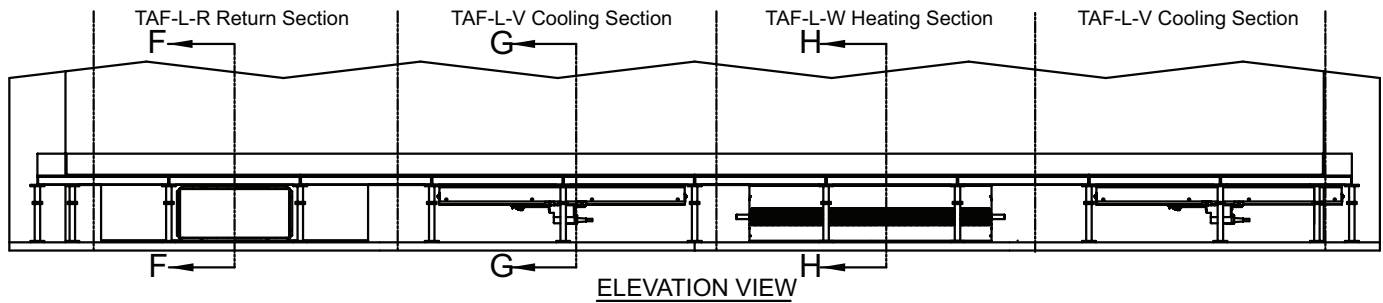


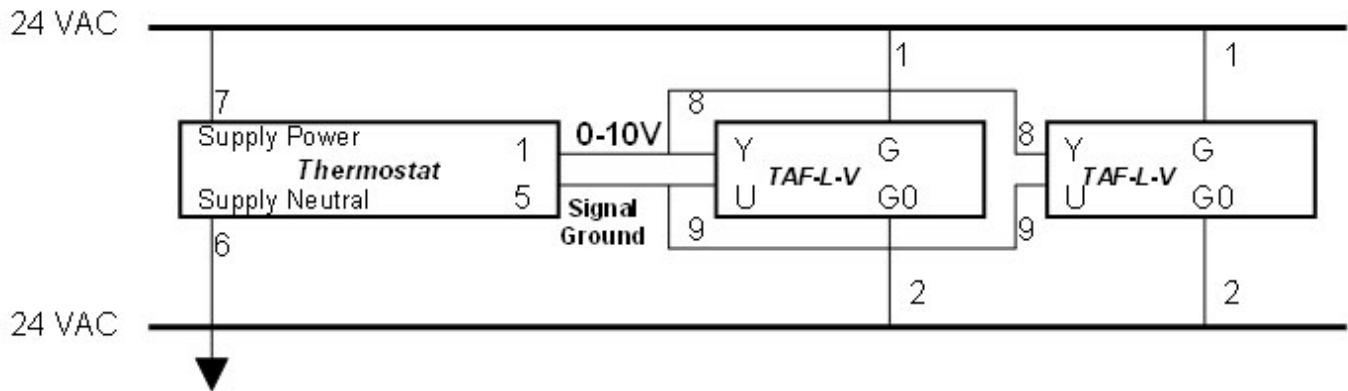
Figure 8 - Complete Installation

**Note:** The TAF-L-V is designed so that the tubing which connects the TAF-L-W together runs just beneath the TAF-L-V unit as to avoid tube interference.

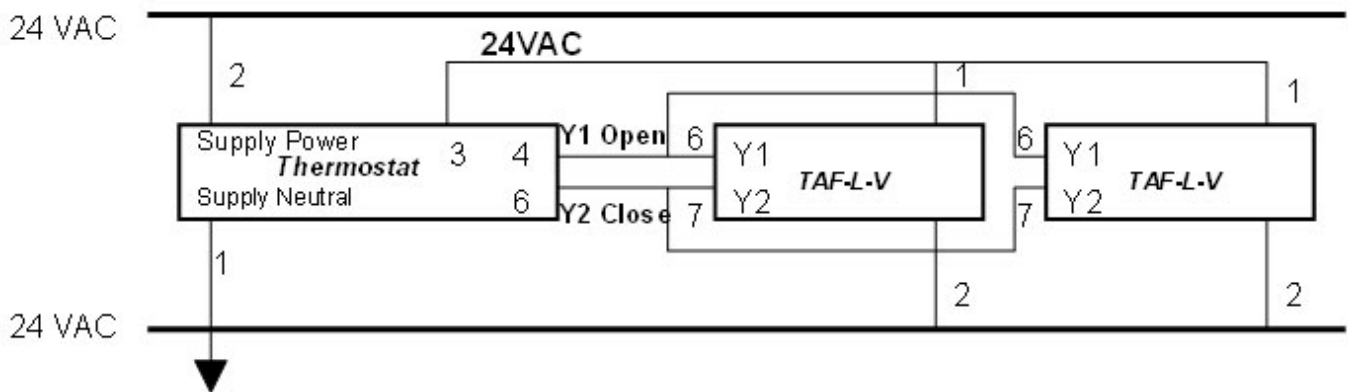


## TAF-L Underfloor Perimeter System

### TAF-L-V WIRING DIAGRAMS / UNDERFLOOR DIFFUSER SERIES / LINEAR DIFFUSER PLENUM WITH VARIABLE APERTURE PLATE



Modulating (0-10V) Diagram  
Code ET03



Modulating (3-Point Floating) Diagram  
Code ET04

IOM  
CT-TAF-L/TAF-L-W/TAF-L-V/TAF-L-E  
TAF-L-F/TAF-L-R

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