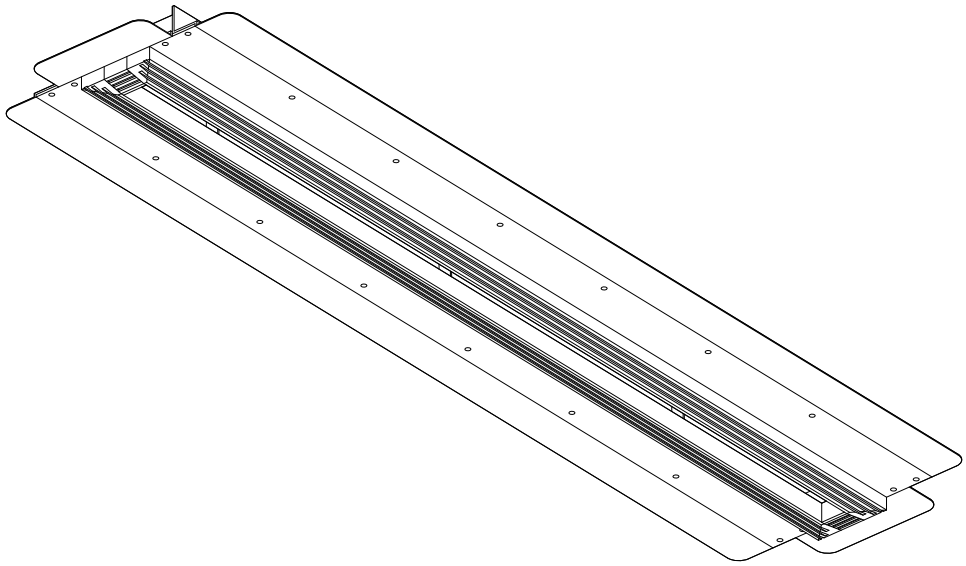
INSTALLATION INSTRUCTIONS

ARCHITECTURAL LINEAR AIR DIFFUSERS

L100, L145, L200, L245, L300, L345

MODEL NUMBERS LXXXXXXX



L0001100 sample configuration only: individual configurations may vary

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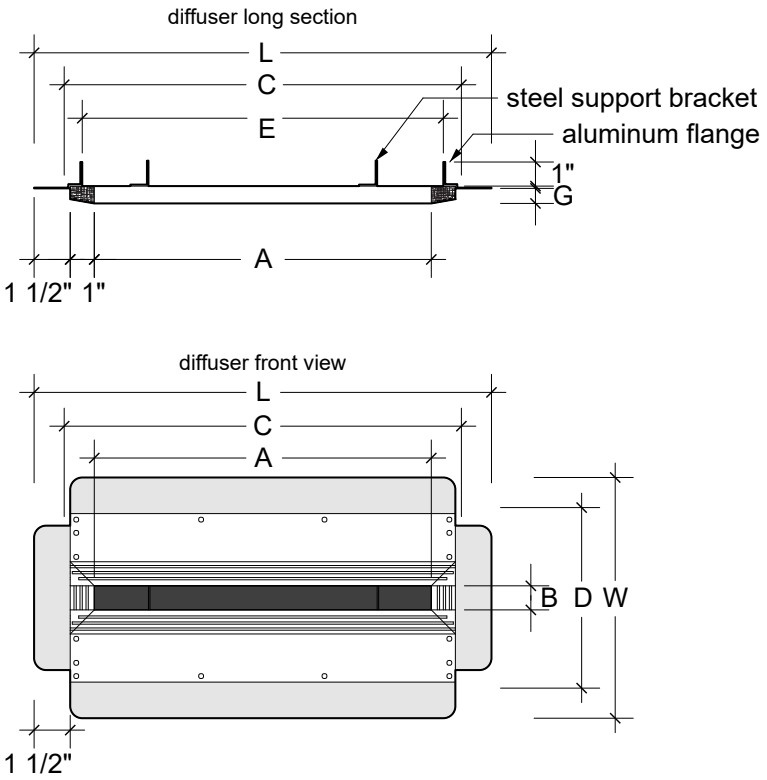
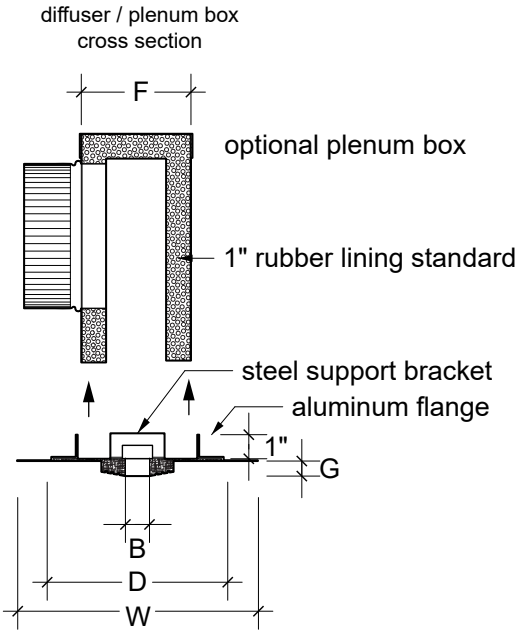
or contact us at **917-909-0343**
technical@inviair.com

TABLE OF CONTENTS

OVERVIEW OF DIMENSIONS





(A) NOMINAL LENGTH - Specified per order. Any custom size available; stock sizes are 12", 24", 36", 48" and 60".

(B) SLOT WIDTH - Specified per order. Custom sizes are available; stock sizes are ½", ¾", 1", 1 ½", and 2".

(C) REQUIRED ROUGH FRAME LENGTH - Rough frame opening length is A + 2 ½"; e.g. if A = 24", then C = 26 ½".

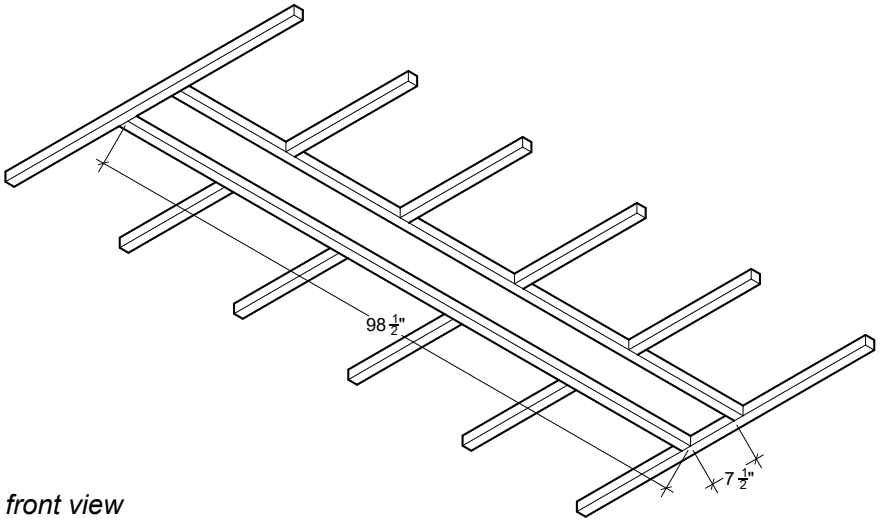
(D) REQUIRED ROUGH FRAME WIDTH-Rough frame opening width is (B x ((2 x # SLOTS) - 1)) + 6½" e.g. if B = 1", then D = 7½", or if B= 1½" and (# SLOTS) = 2 then D = 11".

(L) OVERALL PRODUCT LENGTH - Overall product length (including flange) is A + 5"; e.g. if A = 24", then L = 29".

(W) OVERALL PRODUCT WIDTH - Overall product width (including flange) is (B x ((2 x # SLOTS) - 1)) + 9" e.g. if B = 1", then W = 10", or if B= 1½" and (# SLOTS) = 2 then W = 13½".

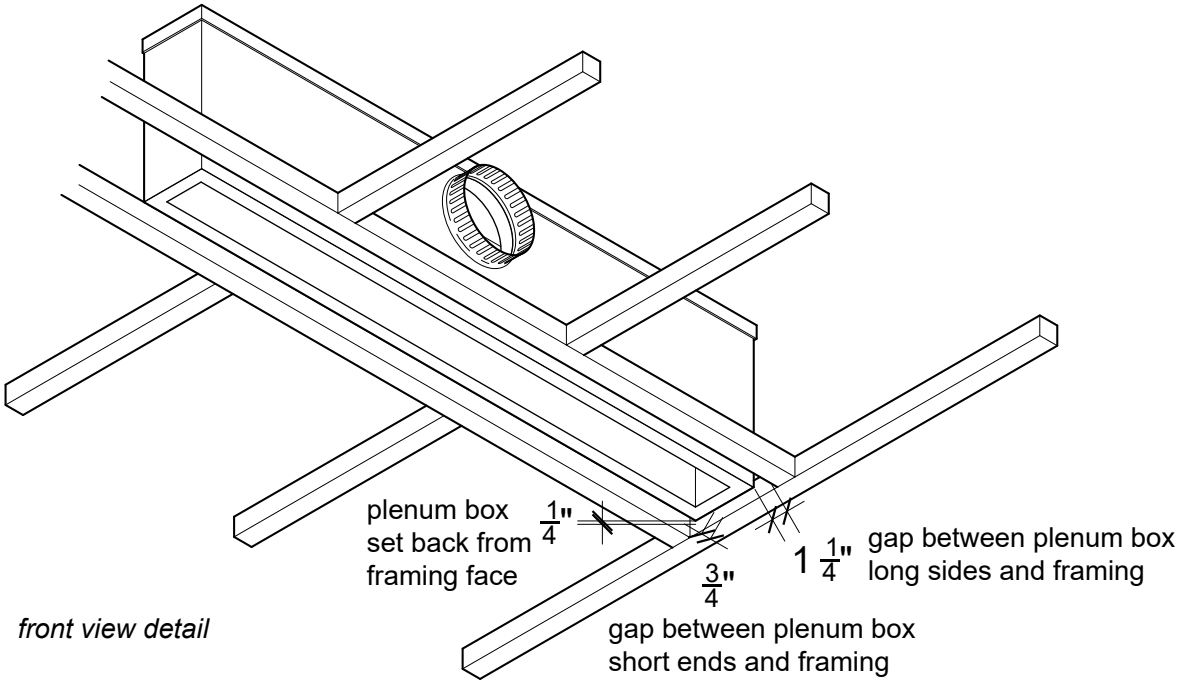
(G) GYPSUM BOARD THICKNESS - Specified per order. This dimension is necessary to clear production.

(F) PLENUM BOX DIMENSIONS - Plenum box length is A + 1", plenum box width is B + 4", plenum box height is specified per order, based on site conditions and air flow requirements.



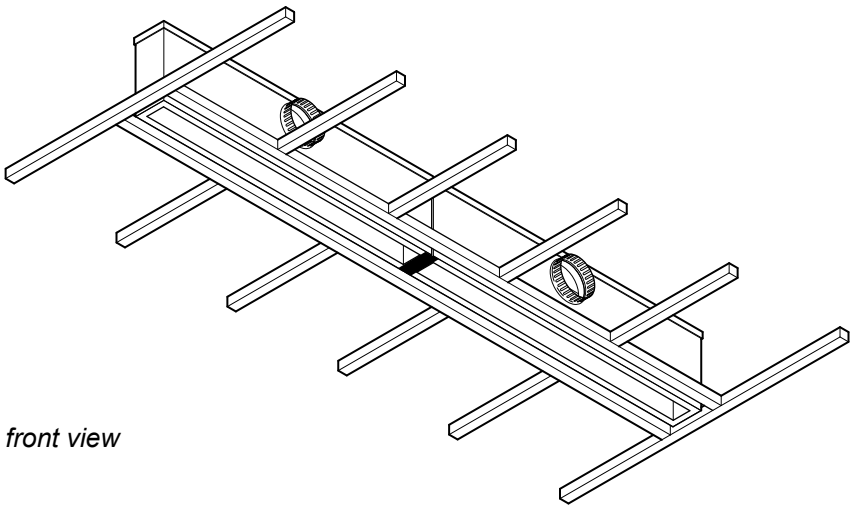
front view

1) Lay out the framing according to specifications, and match the rough opening dimensions on your submittal sheet. This example uses a 96” Continuous Linear 90° 1-slot x 1” Frameless Diffuser. The rough opening dimensions called for on the submittal sheet are 98.5” x 7.5”



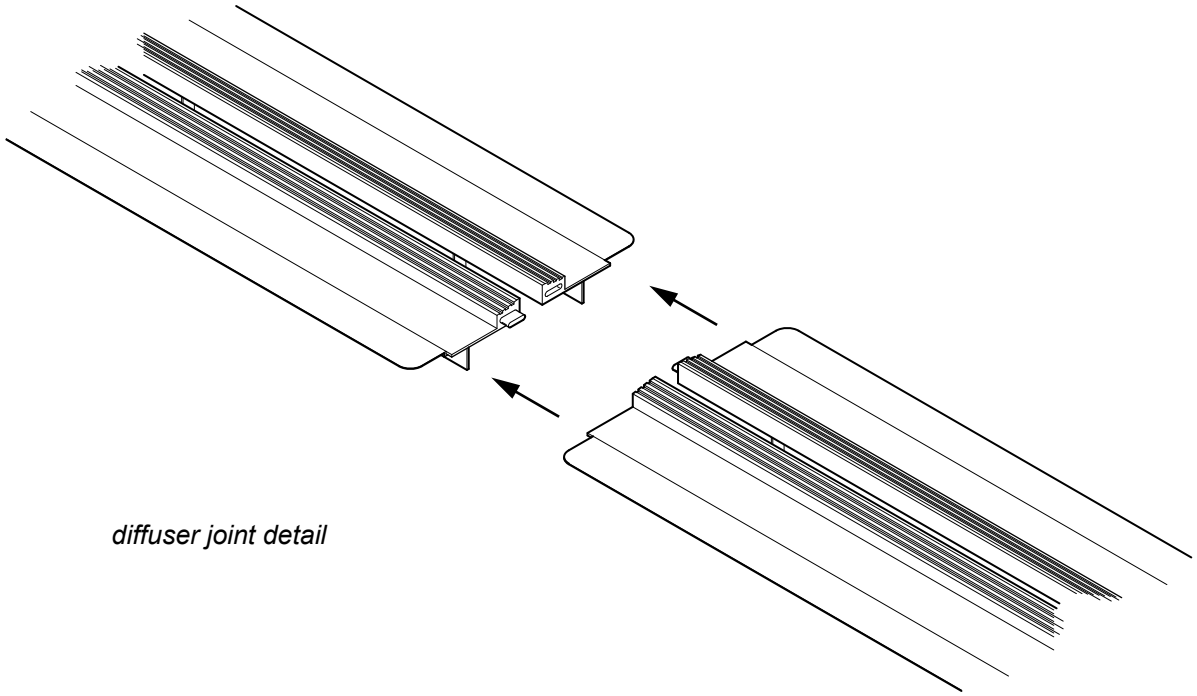
front view detail

2) Install the plenum box(es) centered in the framing rough opening. In this case, the plenum box width is 5”, while the rough opening is 7.5”. That leaves 2.5” divided between the 2 sides of the box, meaning the gap between framing and plenum box should be 1 1/4” on the sides. The total plenum box length to fill a 96” Linear diffuser is 97”. The submittal calls for a rough opening of 98.5”, making a difference of 1.5”, to be divided as 3/4” between the short ends of the box and the framing. The plenum box needs to be set 1/4” back from the front face of the framing.



front view

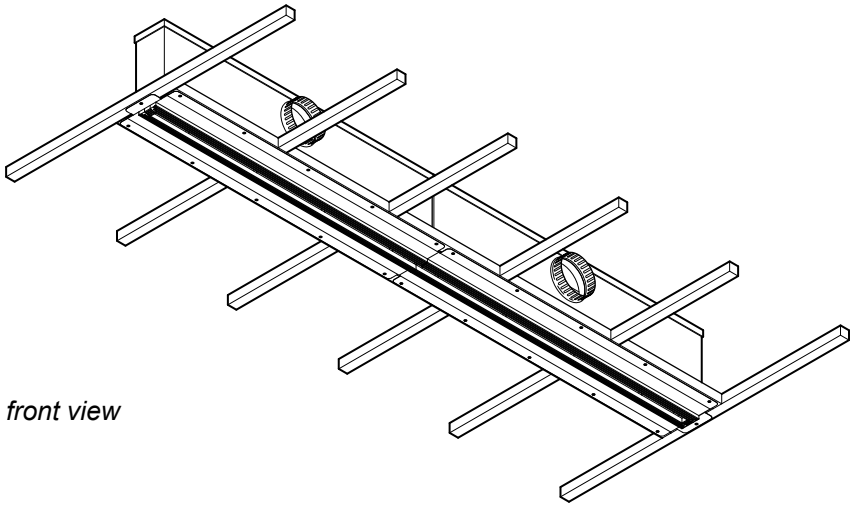
3) Plenum box(es) need to be secured in place either with straps to the native ceiling, or with bracing connecting the box to the framing. If multiple boxes are on the same diffuser, tape over the seam between the boxes with duct tape and paint the surface black, because that seam can show through the diffuser slot. All framing must be level and smooth before proceeding to the next steps. Diffusers may need to be shimmed out in order to maintain level.



diffuser joint detail

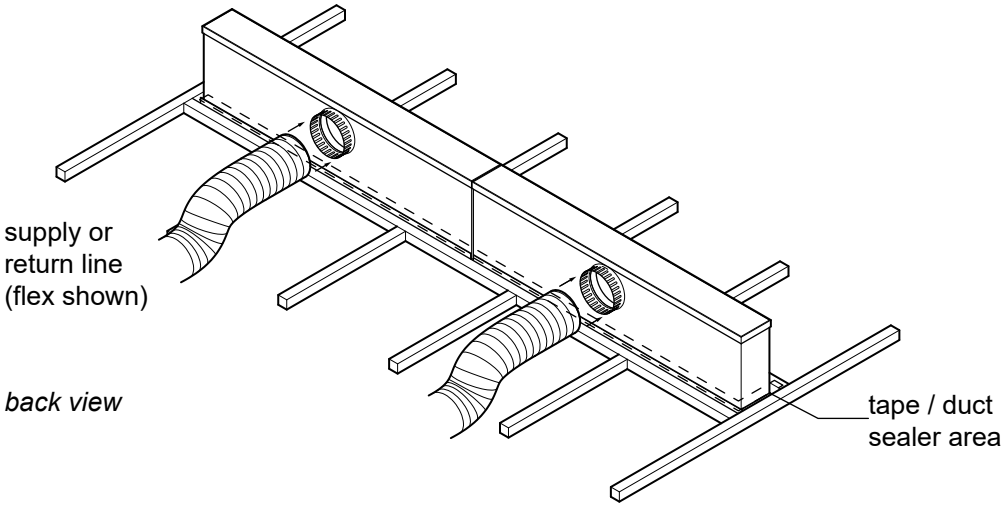
Steps 4 through 6 can be done in any order according to what makes the most sense for site conditions

4) Connect all diffuser sections according to the notation at the joint of each section. All of Invi's continuous linear diffusers are aligned in the factory and each joint is specific to your order. We use a domino system for alignment, and micro adjustments can be made to perfect alignment issues arising from site conditions while installing the diffuser by applying pressure in the correct direction(s) while screwing the diffuser into the framing.

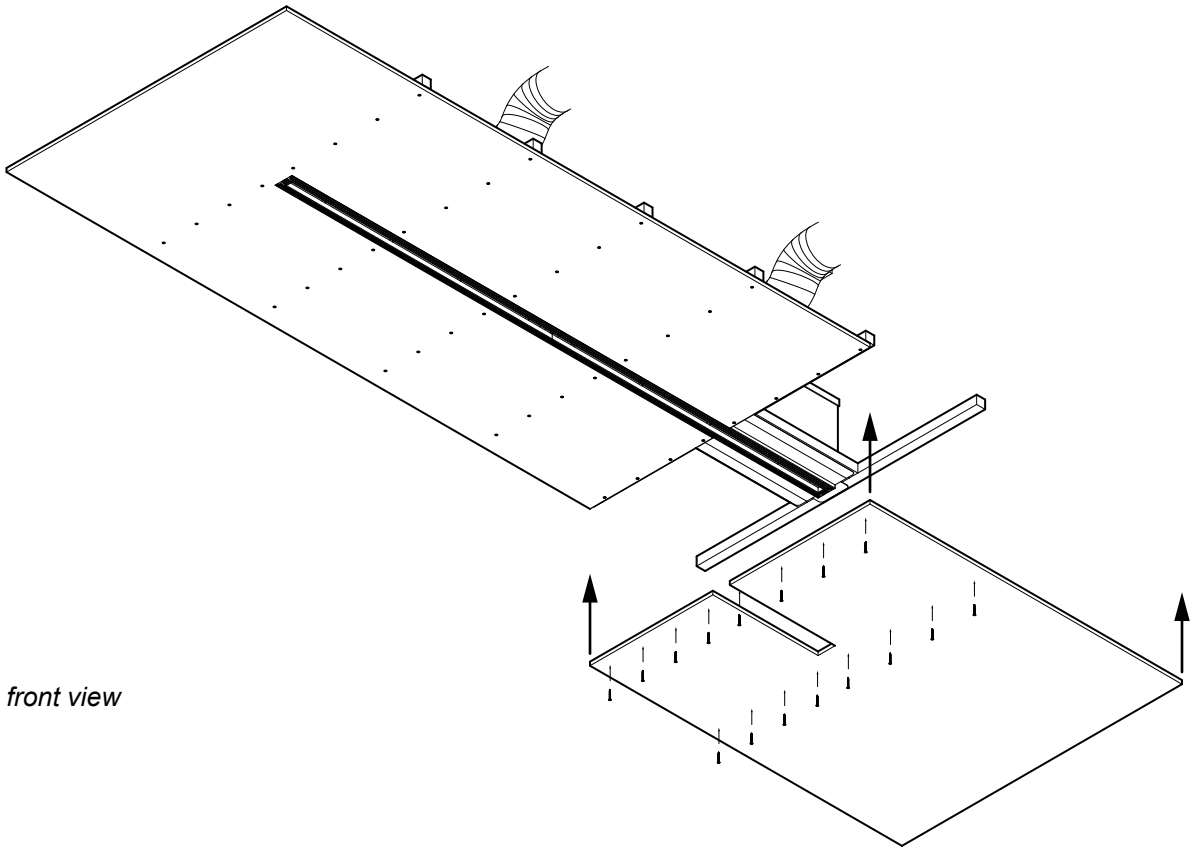


front view

5) Countersink the aluminum mounting flange as you screw the diffuser sections into the framing with flat head screws. This will prevent the screws from pushing the drywall forward. Make sure that securing the diffuser sections does not twist or push the diffuser out of level or out of line.



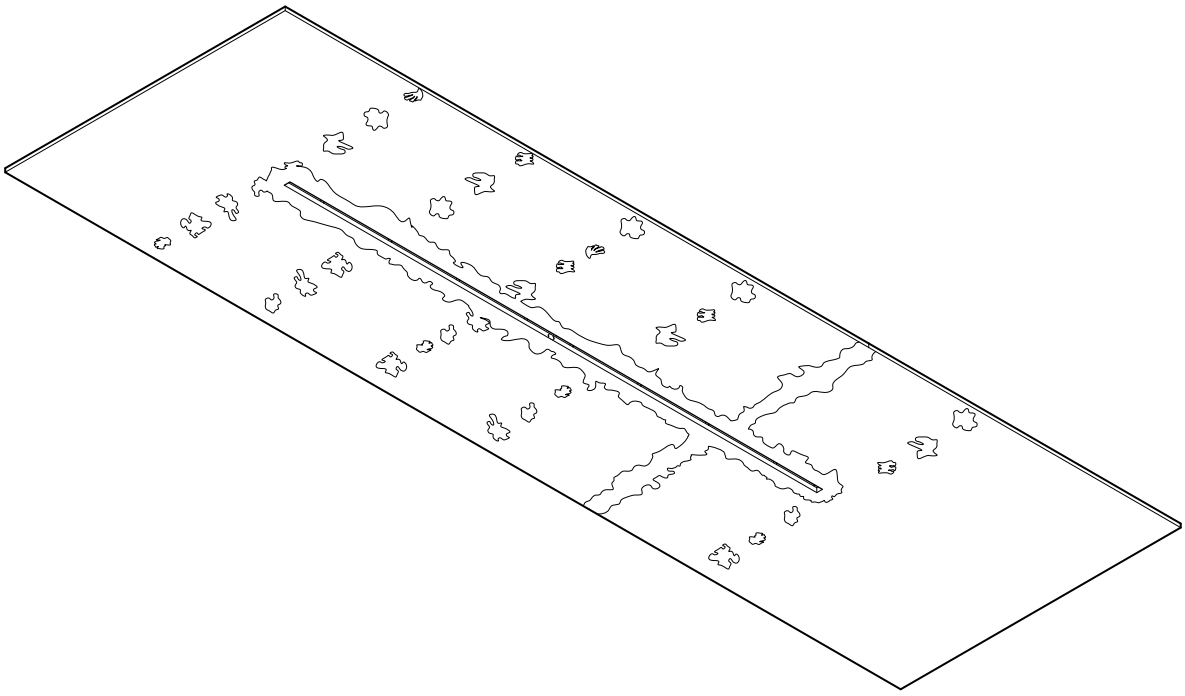
6) Connect and seal all supply and / or return lines to the plenum box(es). Seal or tape with duct tape over the seam between the diffuser and the plenum box(es).



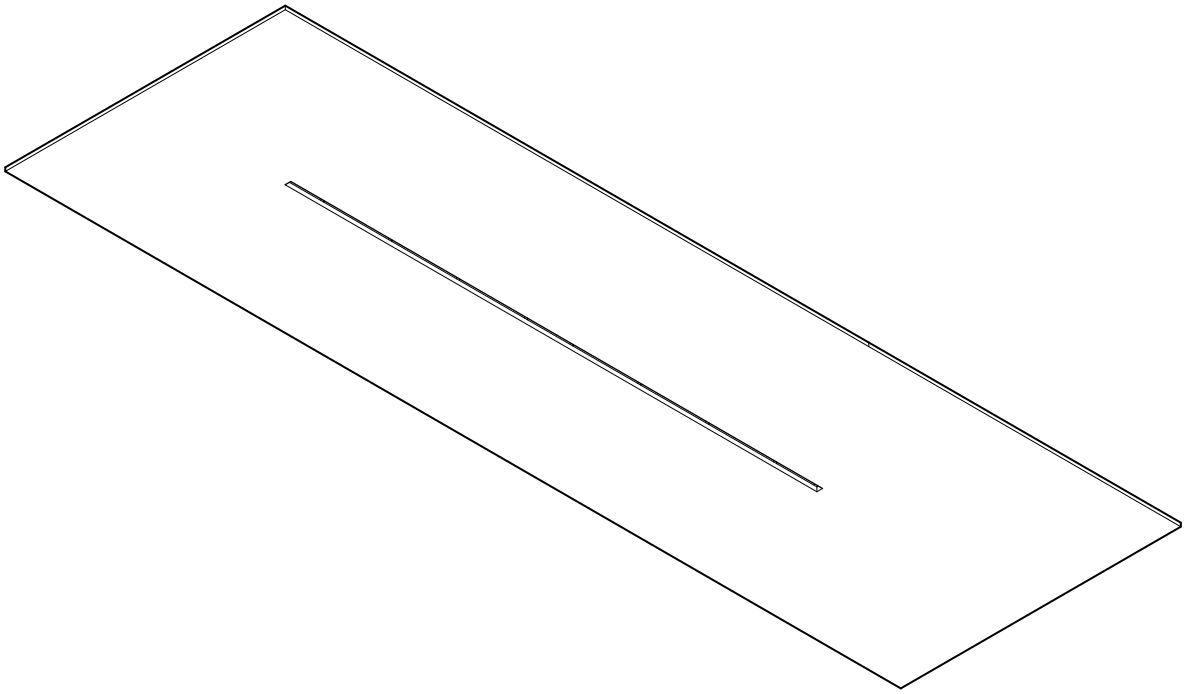
front view

7) Install drywall up to the mud-in bead on the diffuser. The front face of the drywall should be flush with the most forward edge of the mud-in bead. In some cases, it may help to pull the drywall and diffuser together by screwing into the drywall about 3/4” from the edge of the mud-in bead.

When drywall is installed and the diffuser is flush, apply a plaster bonding agent like Larsen Plaster Weld to the diffuser’s mud-in bead and the surrounding drywall surface. Also, apply bonding agent to any seams in the slot of the continuous diffuser that will receive compound going forward. Let it cure according to instructions before proceeding.



8) Apply a first layer of joint compound to all surfaces primed with the bonding agent, including the mud-in bead, the surrounding drywall, and any seams in the slot. Add mesh tape to the compound over the drywall and mud-in bead spanning the seam between the two. This will prevent future cracking. If possible, and if you are not applying a skim coat over the whole drywall surface, we recommend using Alex-Flex flexible joint compound or a similar product to prevent cracking over time.
Let compound cure, sand smooth, then repeat as necessary until the surface and slot appear seamless.



6) Paint the wall or ceiling and the diffuser slot according to specifications. The diffuser should now appear as only a slot in the wall or ceiling.

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