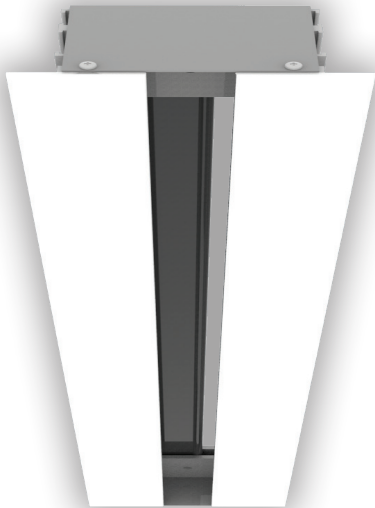


**Installation, Operation and Maintenance Manual  
XG-AFL and XG-AFLC Architectural Linear Slot Diffuser**

## Installation, Operation and Maintenance Manual

Please read and save these instructions for future reference. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with these instructions will result in voiding of the product warranty and may result in personal injury and/or property damage.



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### Getting Started/Model Nomenclature

1. Before starting, inspect all shipping boxes for visible damage. If any visible damage is found, note it on the BOL and contact your local Greenheck Representative.
2. If you decide to keep the shipment, take all linear diffusers out of the shipping boxes and inspect for any manufacturing flaws or hidden damage. If anything is found, contact your local Greenheck Representative.
3. Once all product is accounted for in acceptable condition locate any mounting hardware (if included) and be sure to keep this hardware with the applicable diffuser.
4. Referring to the Model Nomenclature on the following page and the Table of Contents on this page, proceed to the appropriate page within this IOM to begin installation.

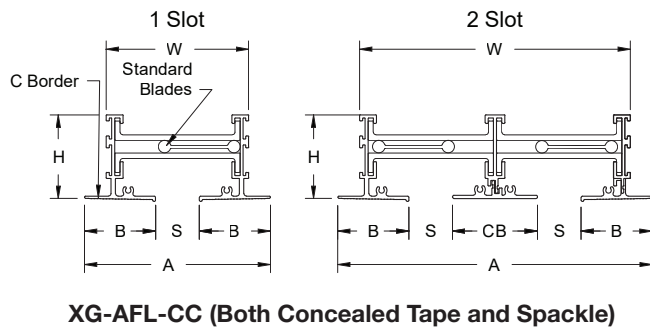
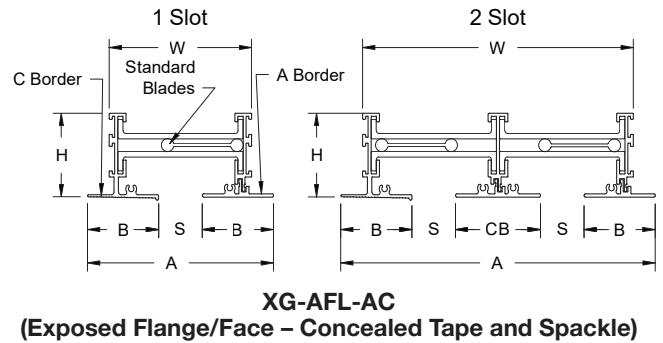
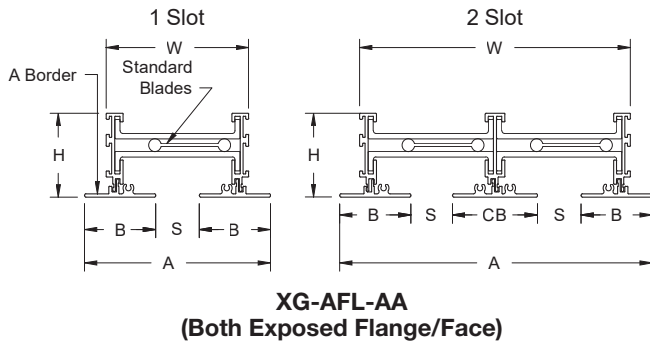
# Model Nomenclature

## XG-AFL and XG-AFLC Architectural Linear Slot Diffuser

Product Family	Slot Width	Border Type	Border/Mounting	Length in Inches	# of Slots	End Types	Finish	Left Hardware	Right Hardware	Pattern Controller
X G - A F L C	- 1 O	A A	- 1	48	x 1	1EB	20	F21	F21	S
Blank = Non-Concealed Mounting C = Concealed Mounting	10 = 1" Slot 15 = 1.5" Slot 20 = 2" Slot 25 = 2.5" Slot 30 = 3" Slot	AA = Both Exposed Flange/Face AC = Exposed Face / Tape and Spackle CC = Both Concealed Tape and Spackle	1 = Surface Mount 6 = Lay-In / T-Bar Mount (AA Border Type Only)	Length of Linear in Inches	*Quantity of Slots (1 or 2)	1EB = 1 End Border and 1 Open End 1EC = 1 End Cap and 1 Open End 2EB = 2 End Borders (both ends have borders) 2EC = 2 End Caps (both ends have caps) MM = Both Ends are Mitered MO = 1 Mitered End and 1 Open End OO = 2 Open Ends (both ends are open)	20 = White Frame with Black Pattern Controller	F21 = 1/2" Drywall Installation F22 = 5/8" Drywall Installation F23 = Bolt Slot Donn Finline Installation F24 = Sidewall Installations with 1" Standoff F25 = Sidewall Installations with 5" Standoff F26 = Suspended Applications F27 = Cross-Tee Installations F28 = Alignment Strips for Continuous Installation	S = Standard Blade C = Combo Blade	

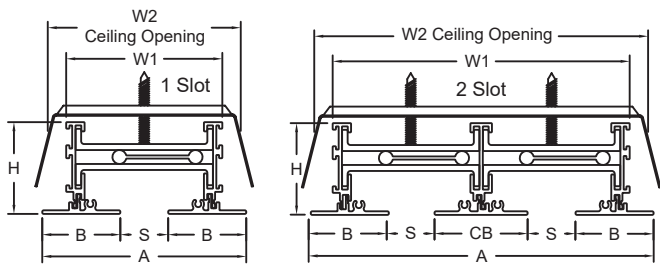
## Border Types - Dimensional Drawings

### XG-AFL:

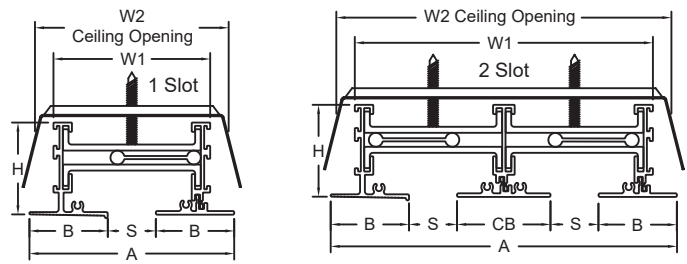


## Border Types – Dimensional Drawings (continued)

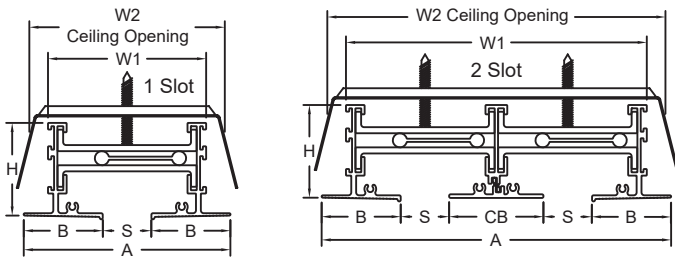
### XG-AFLC – Concealed Mounting:



**XG-AFLC-AA**  
(Both Exposed Flange/Face)



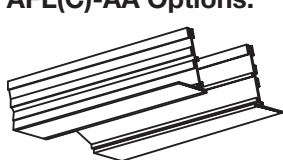
**XG-AFLC-AC**  
(Exposed Flange/Face – Concealed Tape and Spackle)



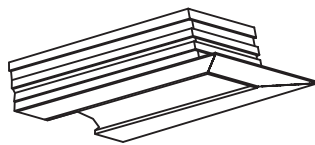
**XG-AFLC-CC** (Both Concealed Tape and Spackle)

## End Types

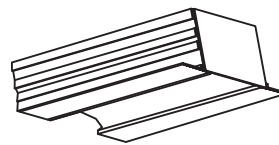
### AFL(C)-AA Options:



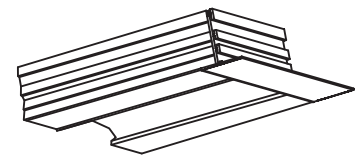
Open End



Mitered Border



End Cap

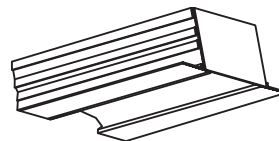


End Border

### AFL(C)-AC Options:



Open End

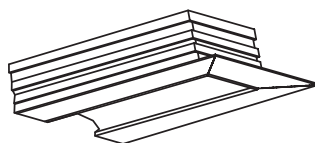


End Cap

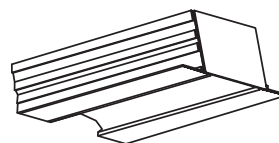
### AFL(C)-CC Options:



Open End



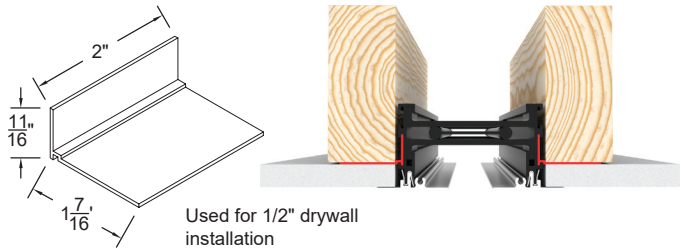
Mitered Border



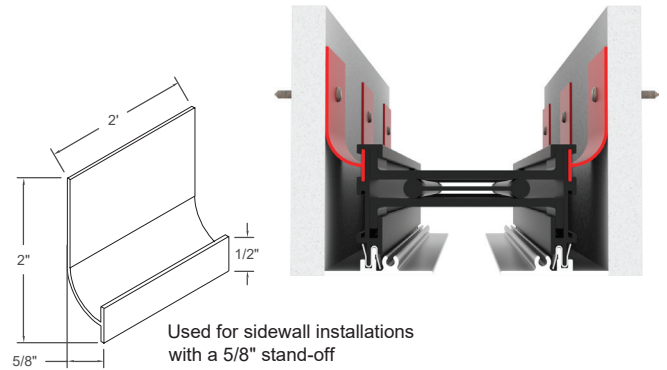
End Cap

# Mounting F Clip Breakdown for the XG-AFL

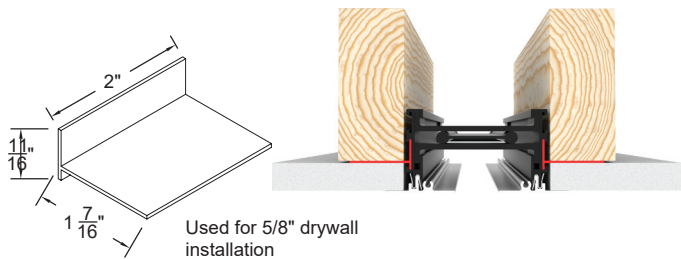
**F21 Mounting Hardware**



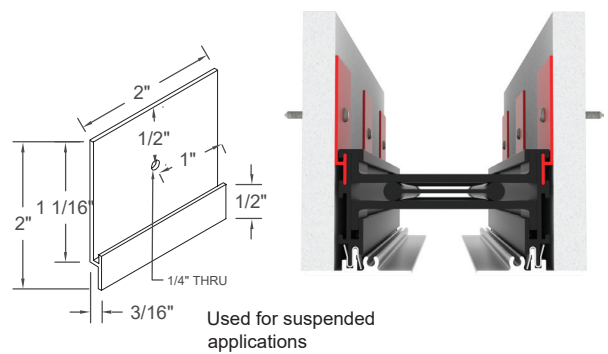
**F25 Mounting Hardware**



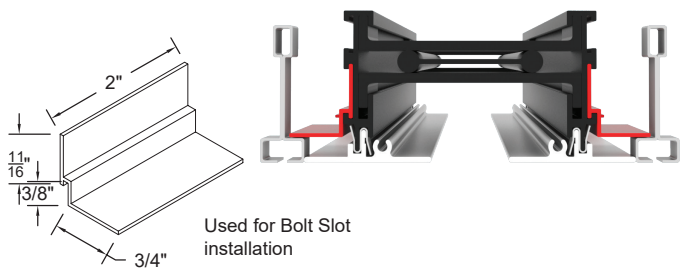
**F22 Mounting Hardware**



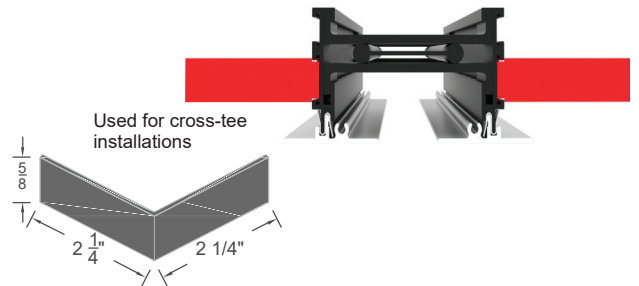
**F26 Mounting Hardware**



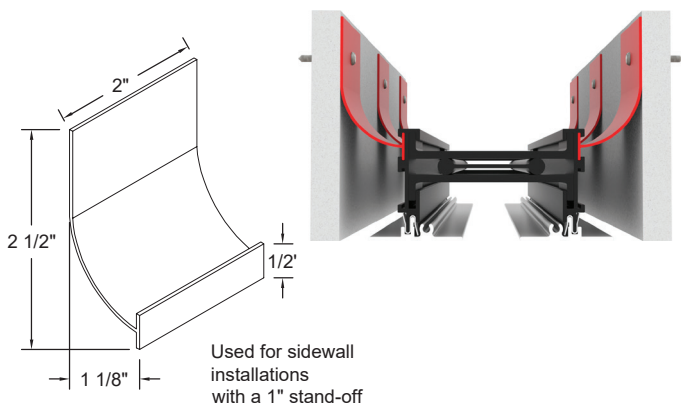
**F23 Mounting Hardware**



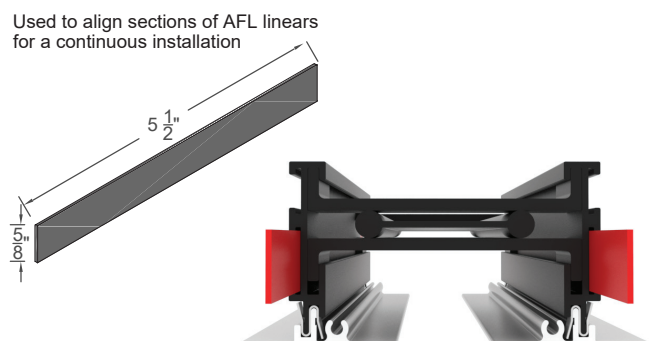
**F27 Mounting Hardware**



**F24 Mounting Hardware**



**F28 Mounting Hardware**



# Installation Instructions for Drywall Surface Mount - Model XG-AFL

This section applies to Greenheck model XG-AFL-AA, XG-AFL-AC and XG-AFL-CC specifically. The XG-AFL is a high capacity architectural linear slot diffuser. The “A” represents exposed frame/flange border and the “C” represents a tape and spackle border.

## Step 1 – Mounting Hardware

A. Locate and ensure all proper mounting clips were supplied with the linear diffuser before starting installation. Installation clips for the XG-AFL are referred to as F Clips and the types are displayed on the previous page. Regardless of the type of F Clip ordered, Figure 1 shows how many should have been supplied by the factory for installation based on the length of the linear.

XG-AFL Linear Length	# of F Clips Supplied
24" or less	2 each side (4 total)
> 24" to 48"	3 each side (6 total)
> 48" to 72"	4 each side (8 total)

Figure 1 (Step 1A)

## Step 2 – Framing the Opening

A. Before installing drywall, an adequate frame must be constructed for the Greenheck XG-AFL Architectural Linear Slot Diffuser. This framing must be suitable to hold the weight of the diffuser (typically wood framing). The length and width of the framing depends on the length and number of slots of the linear diffuser being installed.

B. In general, the length of the opening within the framing should be the ordered/listed size (see Figure 2) and the opening width should be the “D” Dimension (see Figure 4).

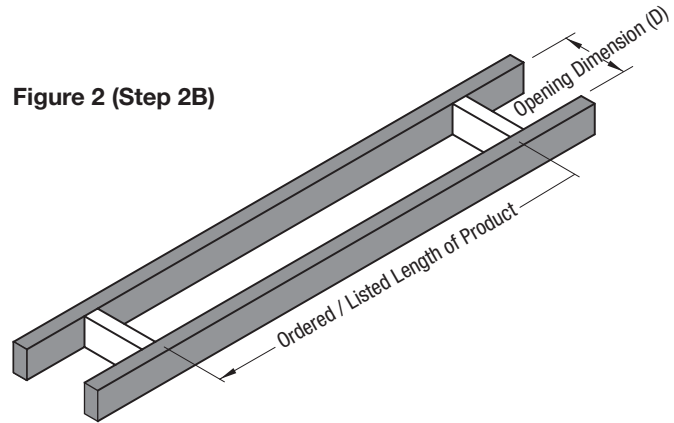


Figure 2 (Step 2B)

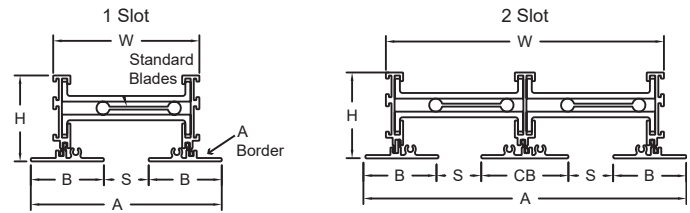


Figure 3 (Step 2B): XG-AFL Cut Section (-AA shown)

Model	S	Opening D Dimension	
	Slot Width	1 Slot	2 Slot
XG-AFL-10	1"	4"	6-15/16"
XG-AFL-15	1-1/2"	4-1/2"	7-15/16"
XG-AFL-20	2"	5"	8-15/16"
XG-AFL-25	2-1/2"	6-1/2"	11-15/16"
XG-AFL-30	3"	7"	12-15/16"

Figure 4 (Step 2B): XG-AFL “D” Dimension Table

### Step 3 – Installing F Clips

- A. The F Clip is meant to be secured to the framing made in Step 2. The following information will show the installation of the F22 Clip, however other clip installations are similar. For a better understanding of how other F Clips are installed, please refer to the “Mounting F Clip Breakdown” earlier in this document.
- B. First attach the F Clip to the XG-AFL Linear Slot Diffuser (see Figure 5) with equal spacing between clips.
- C. Then attach the F Clip and XG-AFL Linear Diffuser to the underside of the framing with screws or nails by others (see Figure 6).

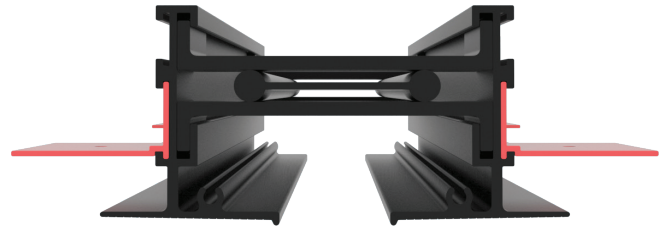


Figure 5 (Step 3B): XG-AFL with F Clip (F22 Clip Shown)

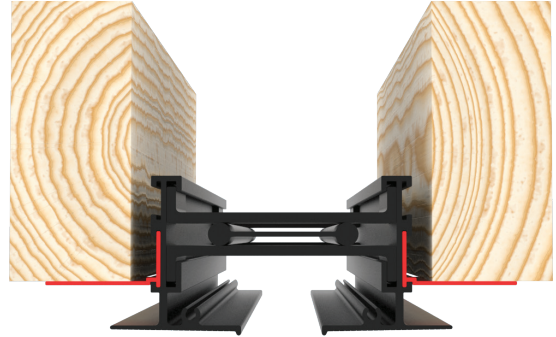


Figure 6 (Step 3C): XG-AFL Installed in Framing

### Step 4 – Optional Use of Plenum

- A. The Greenheck model XG-UP (uninsulated) or XG-UPI (insulated) can be used with the XG-AFL linear slot diffuser. A plenum can also be fabricated in the field. If the plenum is the XG-UP(I), there will be clips on the plenum that attach to the XG-AFL linear slot diffuser (see Figure 7).

To install the AFL onto the plenum, first place the AFL unit onto the plenum so it's aligned on all four sides. Once it's aligned, the AFL linear can be pushed up into the plenum and the clips will click and lock into the side of the linear, securing the unit in place.

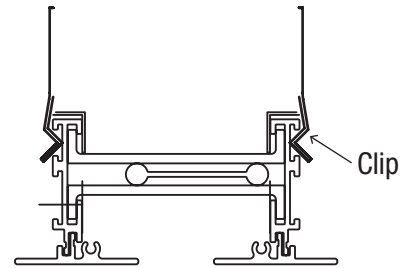


Figure 7 (Step 4A):  
XG-AFL Installed in XG-UP(I) Plenum



## Step 5 – Install Drywall

A. Lastly, install sheetrock into the slot created by the F Clip and the border of the XG-AFL diffuser (see Figure 8). If one or both borders have a tape and spackle border (“C”), see Figure 9.

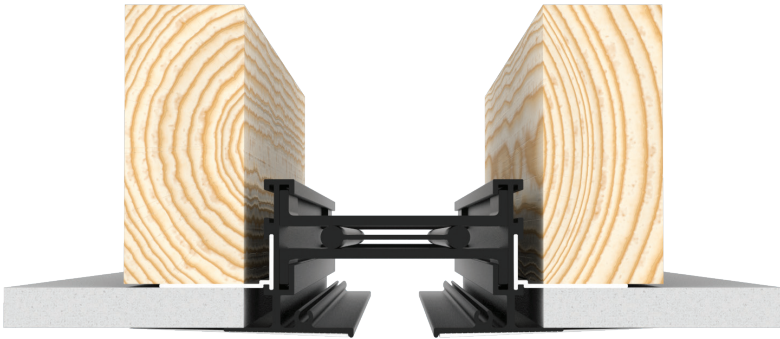


Figure 8 (Step 5A): Install Drywall – Exposed Face/Flange Border (A)

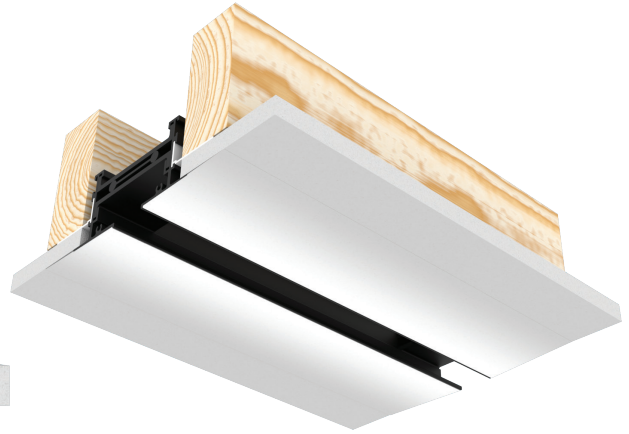


Figure 9 (Step 5A): Install Drywall – Tape and Spackle Border (C)

## Installation Instructions for Drywall Surface Mount with Concealed Mounting Hardware - Model XG-AFLC

This section applies to Greenheck model XG-AFLC-AA, XG-AFLC-AC and XG-AFLC-CC specifically. The XG-AFLC is a high capacity architectural linear slot diffuser with mounting hardware for concealed installation. The “A” represents exposed frame/flange border and the “C” represents a tape and spackle border.

### Step 1 – Mounting Hardware

A. Locate and ensure all proper mounting brackets and screws were supplied with the linear diffuser before starting installation. See Figure 10 for a table showing how many hanger brackets are shipped with the corresponding linear lengths.

XG-AFLC Linear Length	# of Hanger Brackets
24" or less	2
> 24" to 48"	3
> 48" to 72"	4

Figure 10 (Step 1A)



## Step 2 – Framing the Opening

- A. Before installing drywall, an adequate frame must be constructed for the Greenheck XG-AFLC Architectural Linear Slot Diffuser. This framing must be suitable to hold the weight of the diffuser (typically wood framing). The length and width of the framing depends on the length and number of slots of the linear diffuser being installed.
- B. In general, the length of the opening within the framing should be the ordered/listed size (see Figure 11) and the opening width should be the “W2” Dimension. For convenience, we have provided the dimensional drawing (see Figure 12) and dimension table (see Figure 13) from the XG-AFLC submittal (please note the most up-to-date information will be on the submittal).

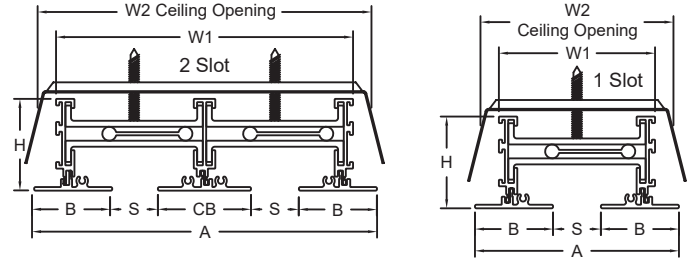
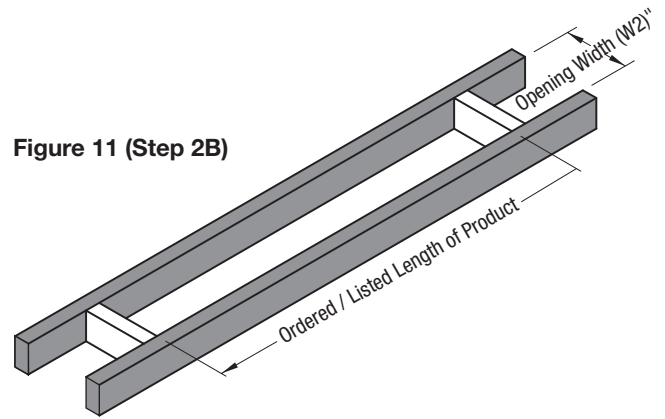


Figure 12 (Step 2B): XG-AFLC Cut Section (-AA shown) Sub Frame Installed in Framing

Model	S	Opening W2 Dimension	
	Slot Width	1 Slot	2 Slot
XG-AFLC-10	1"	4"	6-15/16"
XG-AFLC-15	1-1/2"	4-1/2"	7-15/16"
XG-AFLC-20	2"	5"	8-15/16"
XG-AFLC-25	2-1/2"	6-1/2"	11-15/16"
XG-AFLC-30	3"	7"	12-15/16"

Figure 13 (Step 2B): XG-AFLC “W2” Dimension Table

## Step 3 – Preparation for the Hanger Supports

- A. The hanger bracket hardware is meant to be installed above the plane of the sheet rock in the ceiling. Once installed above that plane, using the screws provided, you will be able to screw from the face of the diffuser and the linear diffuser will be pulled up into the opening.
- B. There are several ways to support the hanger brackets – see Figure 14.

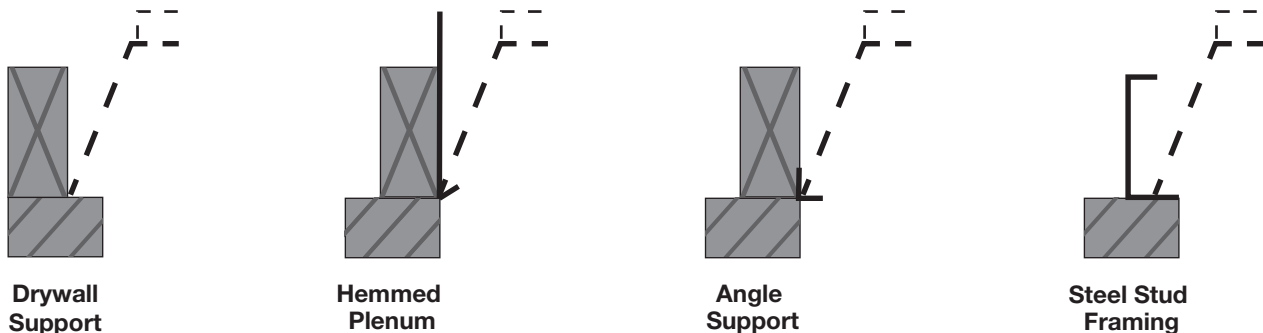


Figure 14 (Step 3B): Hanger Support Options

## Step 4 – Installing Hanger Brackets

- A. To start, insert the screw through the face of the diffuser and start the screw into the hanger bracket – do not tighten all the way, only enough to be attached (see Figure 15).
- B. Push all brackets up into the opening until all hanger brackets get caught on the hanger bracket support (drywall, hemmed plenum, angle, steel stud, etc.) – see Figure 16.

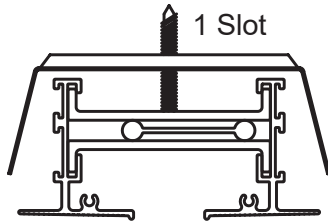


Figure 15 (Step 4A)



Figure 16 (Step 4B): Hanger Bracket Install Using Angles (other methods similar)

## Step 5 – Install Drywall

- A. Lastly, install sheetrock as shown in Figure 17. If one or both borders have a tape and spackle (“C”) border, see Figure 18.

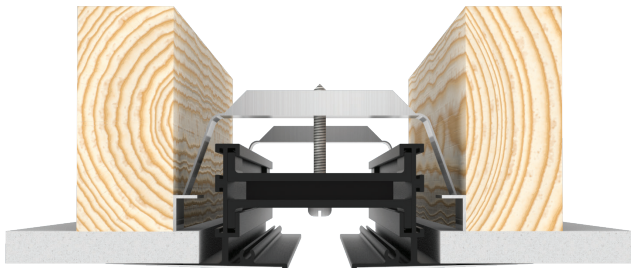


Figure 17 (Step 5A): Install Drywall – Exposed Face/Flange Border (A)

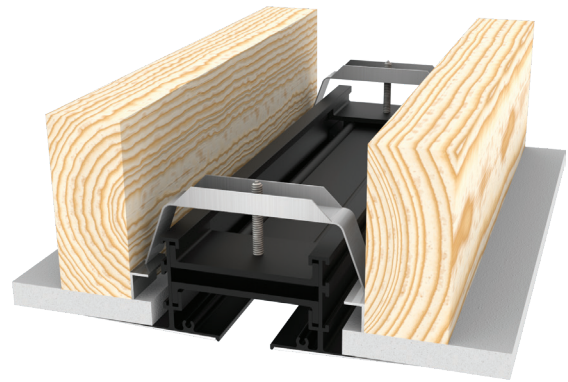


Figure 18 (Step 5A): Install Drywall – Tape and Spackle Border (C)



## Step 5A – Install Drywall/Wood for GG Frame

- A. To install the GG frame, sheetrock or wood has to be cut at a 45 degree angle and installed flush against the angled part of the GG frame XG-AFL/AFLC unit. For an ease of installation, we would recommend using the F23 clips. See figure 19 below.

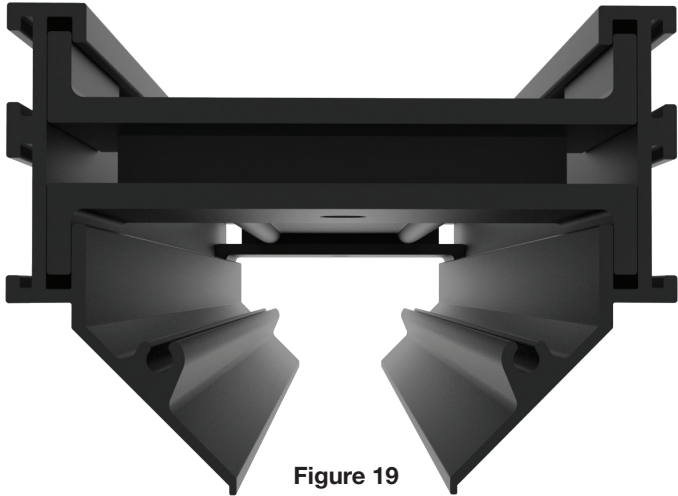
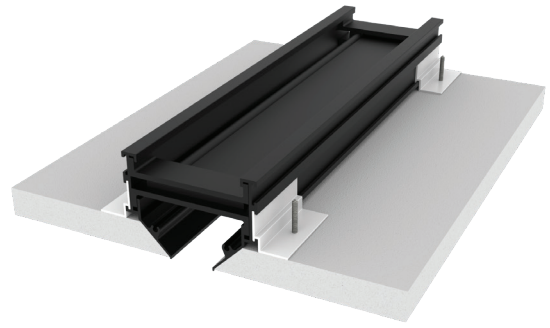


Figure 19



## Step 6 – Tape and Spackle Units Only

- A. Once the hanger bracket has been tightened to securely attach the XG-AFLC unit to the ceiling, the next step is to use tape and spackle to conceal the flange.
- B. First use medium grit sand paper to rough up the drywall surface to ensure that the joint compound will adhere properly. Ensure surface of the linear is clean and free of dust.
- C. Apply a first coat of joint compound spackle to the surface of the linear's flange and surrounding border of drywall.
- D. Use drywall tape and install it around the entire perimeter of the unit. The tape should cover the aluminum perimeter flange of the linear, as well as overlap onto the drywall to ensure a smooth transition. Then apply another layer of spackle to the surface.
- E. Once the spackle is dry, apply a finishing compound and let it dry. Finish the installation by sanding the surface smooth, priming it and painting it.

## Operation

### Pattern Controller Adjustment (Supply Models Only)

The pattern controllers can be used to adjust the direction of the airflow as well as dampen the volume of airflow when needed. The Standard/Straight pattern controller is operated by sliding the controller left or right looking at a side profile (see Figure 19). The Combination pattern controller is operated by pivoting one or both slanting pattern controllers to reach desired volume and direction (see Figure 21).

Figure 20 - Standard Blade Pattern Controller

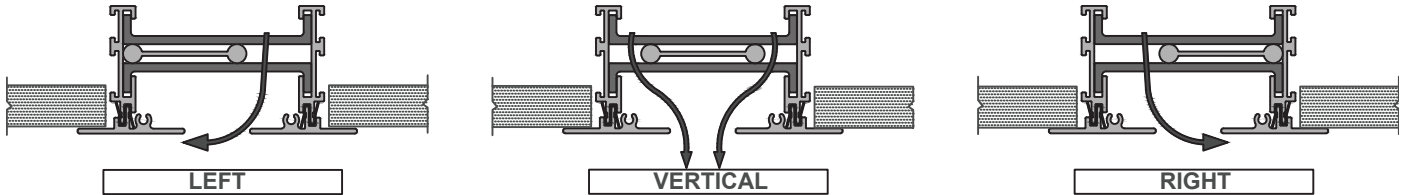
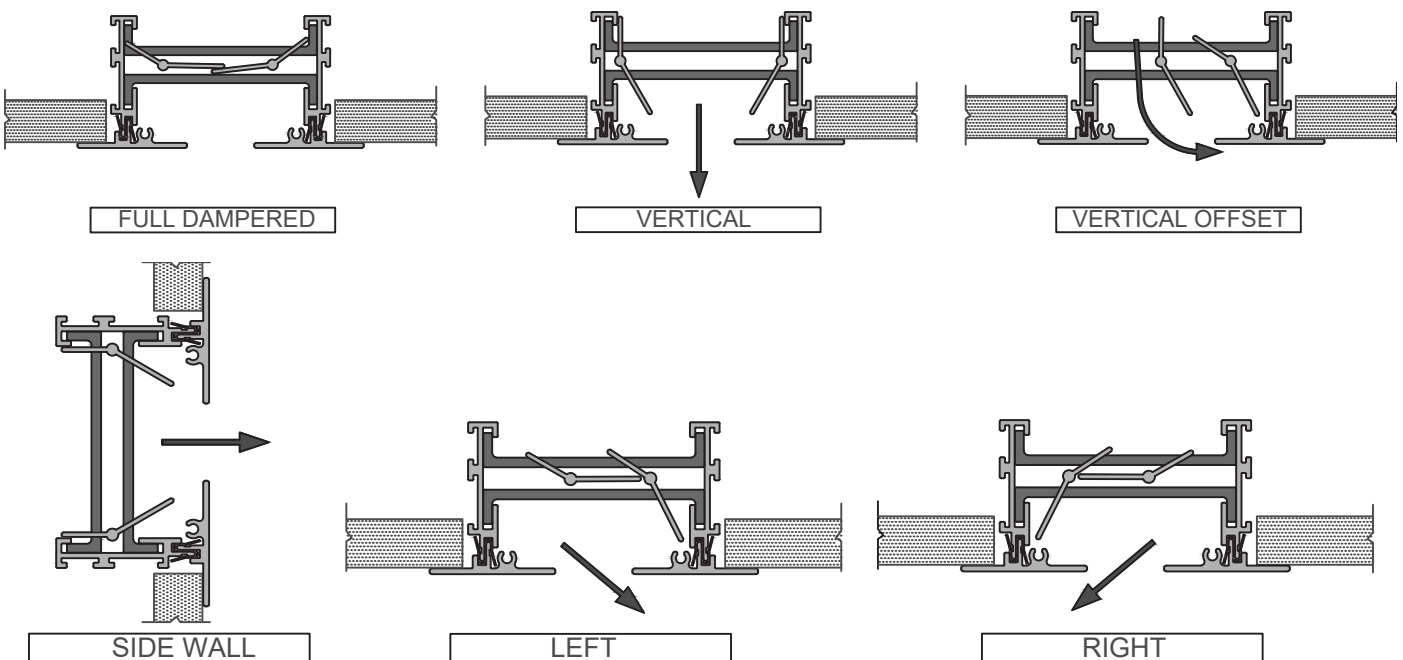


Figure 21 - Combo Blade Pattern Controller



## General Maintenance

Linear Slot Diffusers are basically maintenance free. The face of most diffusers can be cleaned with water and mild detergent if dirt and dust begin to build up.

## Our Commitment

As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.

Product warranties can be found online at [Greenheck.com](http://Greenheck.com), either on the specific product page or in the literature section of the website at [Greenheck.com/Resources/Library/Literature](http://Greenheck.com/Resources/Library/Literature).



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