# FLOWBAR - Type 22

**Installation - Maintenance**

## Health & Safety

### Symbols in this user manual

Warning/Caution!

### General

Please read this manual carefully in advance and make it accessible to all persons involved in a suitable and appropriate place. We point out that not observing the instructions in this document may affects the warranty.

It is not permissible to make changes or modify this product other than those specified in this document.

### Personnel

Work should be carried out by a competent person.

### PPE

Appropriate personal protective equipment should be used. All operatives should follow guidance for the specific building site. We recommend the following: Safety shoes or boots, work gloves, eye protection, helmet, high viz clothing, hearing protection, face mask.

### Handling and Storage

No special precautions are required. When handling air diffusers / grilles, but they should always be treated with care. The products do not fall within the scope of COSHH regulations.
Grilles / Diffusers should be stored in a dry ambient location and protected from dust & impact damage.

### Maintenance

These are static units without moving parts therefore maintenance is confined to cleaning.

To remove significant amounts of lint etc from the unit a vacuum cleaner with a soft brush head may be used.

Powder coated surfaces should be washed with a warm water solution of mild detergent or suitable proprietary cleaning agent.

Abrasive cleaners or those containing ketones, esters, acids, alkali or alcohol should not be used.

# Plasterboard ceiling Installation

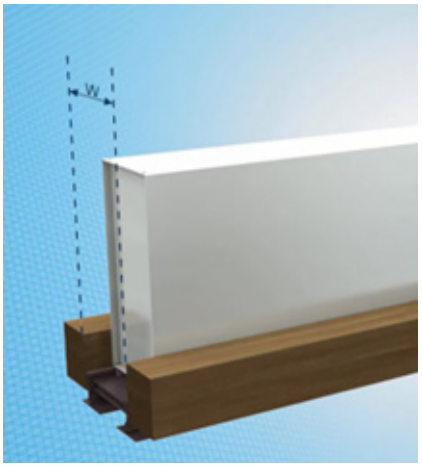
## Installed After Hard Ceiling Installation

Video guidance: https://www.youtube.com/watch?v=EwtGFyElUDA

### Construct Ceiling FrameWork

- Before installing plasterboard, a framed opening must be constructed to support the FlowBar Diffuser.
- It is recommended that the framework be continuous to accommodate the Hard Ceiling Clip spacing requirements.
- The framing material must be suitable to hold the Diffuser in place when attached with screws through the FlowBar Mounting Clips. The width of the framed opening required depends on the model of FlowBar being installed. The frame opening width dimension, 'W', is listed in Table 1.

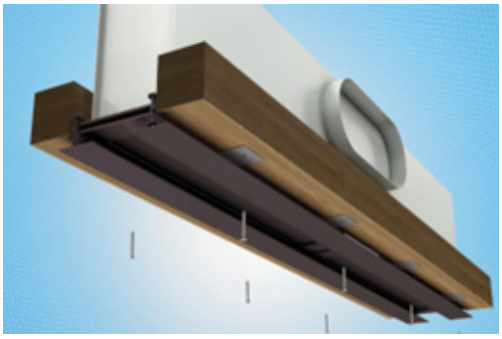
**NOTE: If it appears that it will be difficult to install plenums after the opening is framed and FlowBar installed, then use wires to support the Plenums above the framework first.**




| Frame Opening Dimensions | |
|---|---|
| FlowBar Model | Frame opening 'W' |
| FL-10 | 83 |
| FL-15 | 108 |
| FL-20 | 133 |
| FL-25 | 159 |
| FL-30 | 184 |

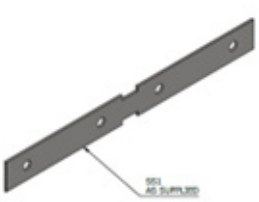
### Attach Mounting Clips

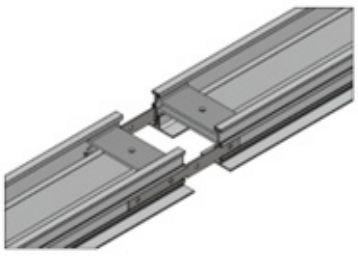
- Hard Ceiling Clips are shipped loose for field attachment to the FlowBar Diffuser.
- Slide the Hard Ceiling Clips into either side keyway of each frame rail as per chosen installation method.
- Position the clips at a maximum of 300mm intervals along the Diffuser frame.
- The Hard Ceiling Clips must be secured to a framing member.



### Attach Diffuser To Ceiling Frame

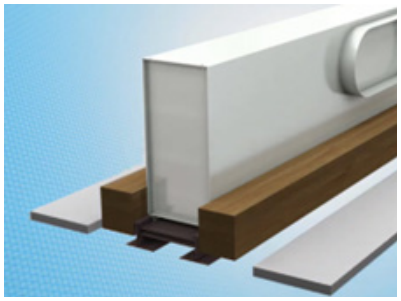
- Lift the FlowBar Diffuser into the framed opening and secure the Mounting Clips to the frame with screws as shown.
- If multiple sections of FlowBar are required, repeat previous step by lifting additional sections into the framed opening.
- Be sure to insert Spline Support Clips-SS1 into the FlowBar ends to ensure a tight and aligned connection as shown.





## Install Plasterboard

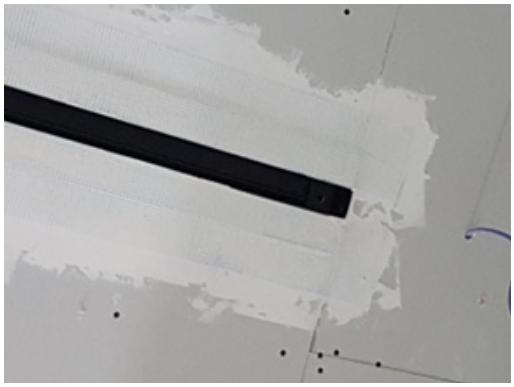
- Slide the plasterboard tightly between the mounting clips and the FlowBar flange. For ease of installation, insert the tapered edge of the plasterboard into this opening. For the best fit, slide the edge of the plasterboard all the way to the vertical leg of the frame.
- Every 300mm and between the Hard Ceiling Clips attach screws just beside the diffuser flange, through the plasterboard and into the framing member.
- **Review installation to ensure The FlowBar diffuser is secure and straight.**



## Surface Finish

- Remove dust from finishing surface with a tack cloth, and clean with a mild cleaner/degreaser.
- Apply first coat of Setting/Bonding/Jointing compound onto the diffusers finishing flange and onto the plasterboard.
- Embed a 100mm wide mesh tape into the first coat of compound. Smooth to remove air pockets.
- The tape should cover the aluminium rail, but not extend over the raised lip on the rail.
- Apply second coat of setting compound over the tape and smooth.
- After the compound has dried, (typically 36 – 48hrs) apply two coats of standard finishing compound and let dry.
- Sand smooth, prime and paint as scheduled.

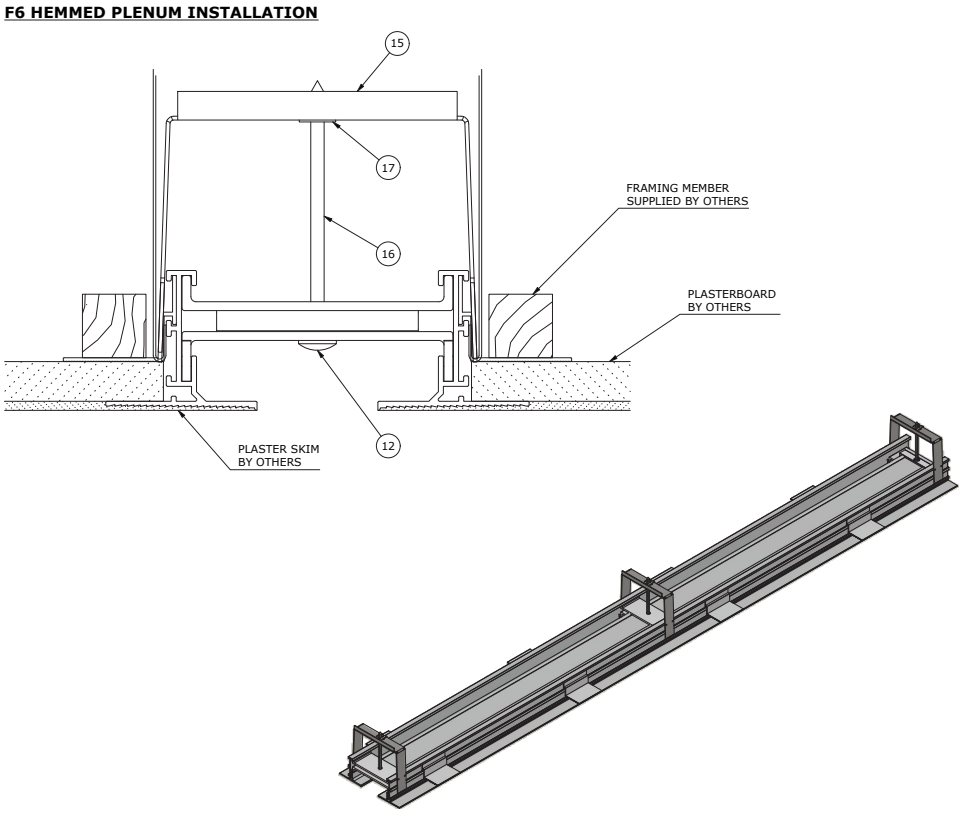
## Field installation image prior to finishing compound being applied



# HT

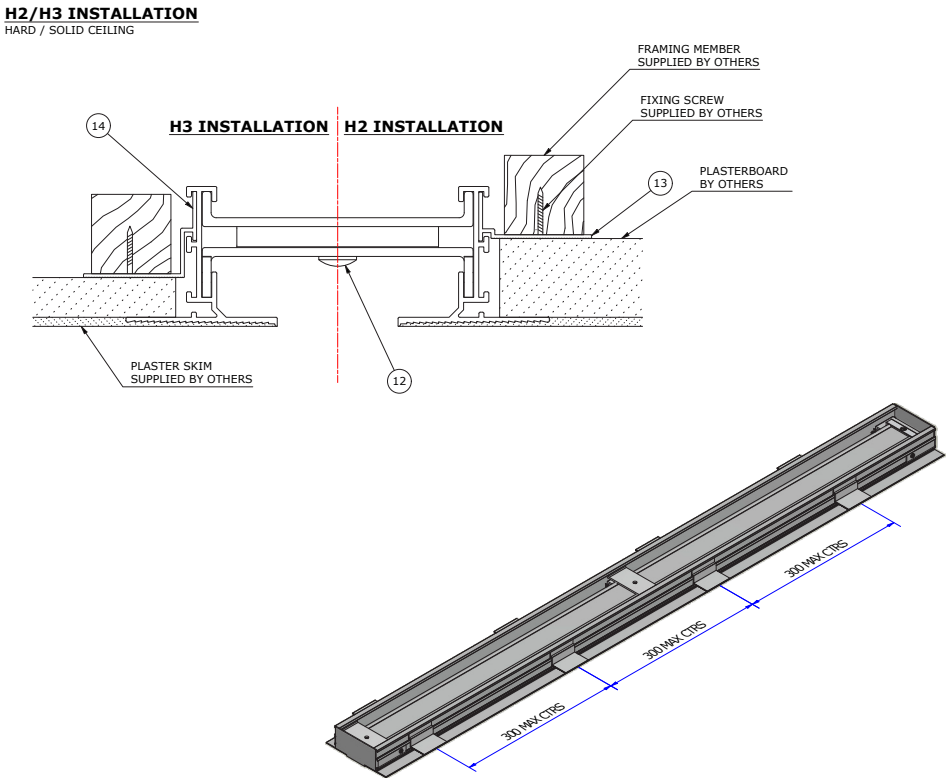
## Standard Plenum Installation with H3 hard ceiling clip & F6 U-bracket

HT ceiling mounted diffuser standard plenum installation using PBHL hemmed plenum box




## Diffuser only Installation with H3 hard ceiling clip

For use in inactive or return air application where no plenum is fitted. H3 for use with a 12.5mm plasterboard ceiling. H2 for use with a 25mm plasterboard ceiling

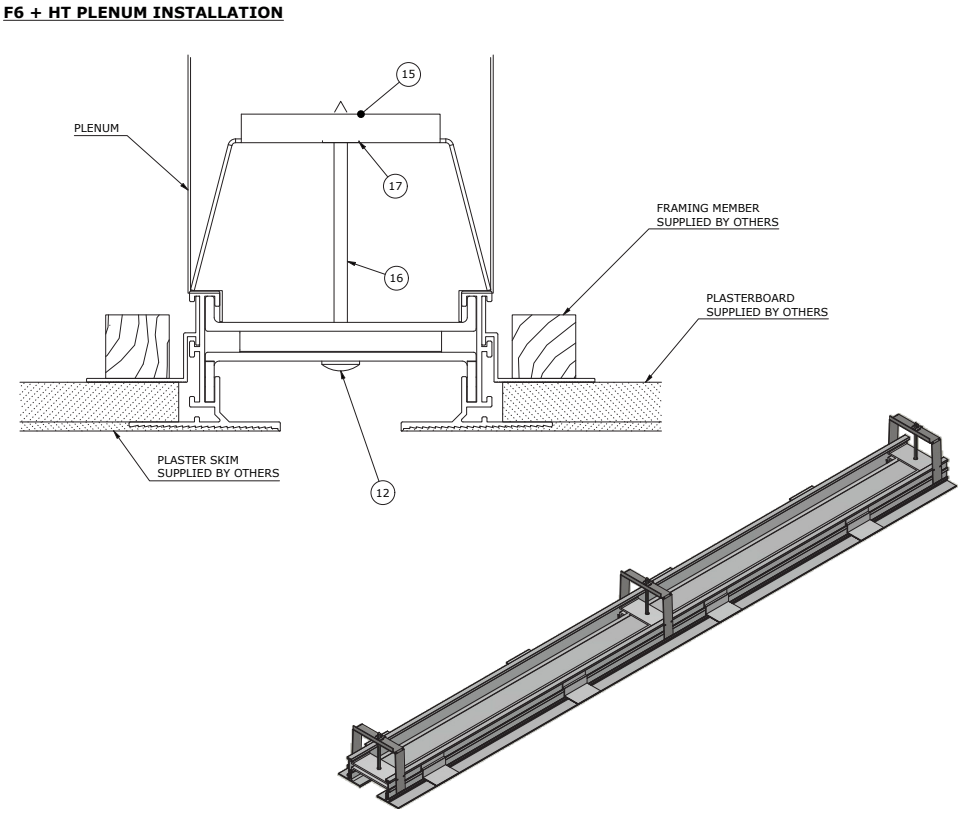




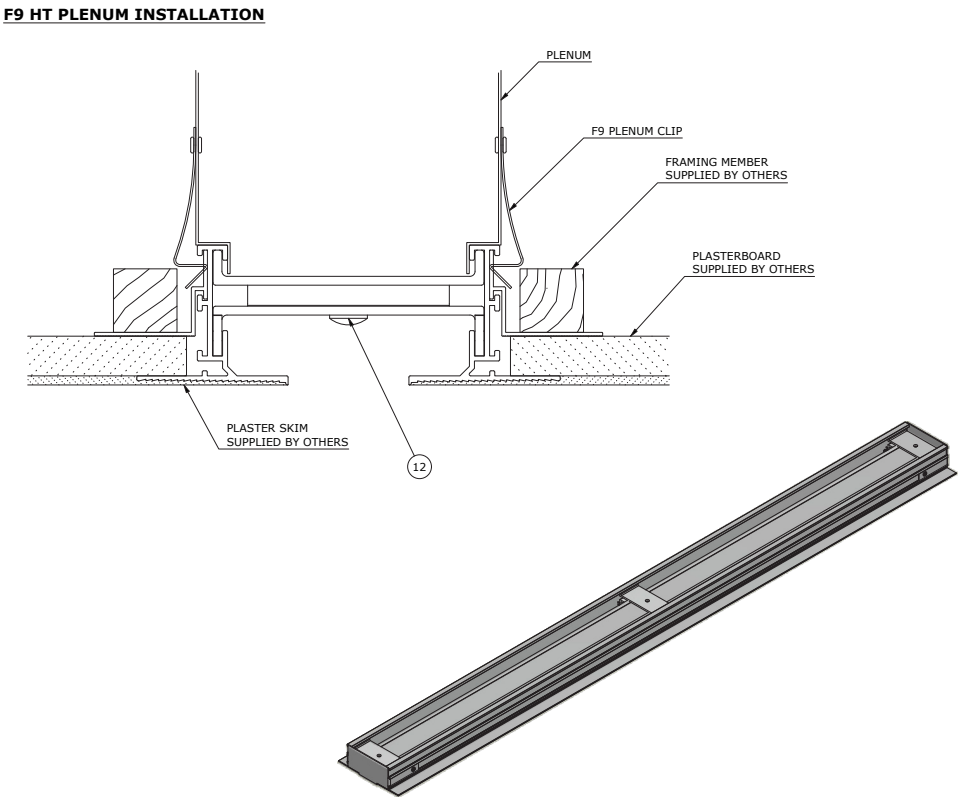
## Alternative Plenum Installation with H3 hard ceiling clip & F6 U-bracket

Alternative plenum installation using PLS connecting edge plenum




## Alternative Plenum Installation with H3 hard ceiling clip & F9 plenum clip

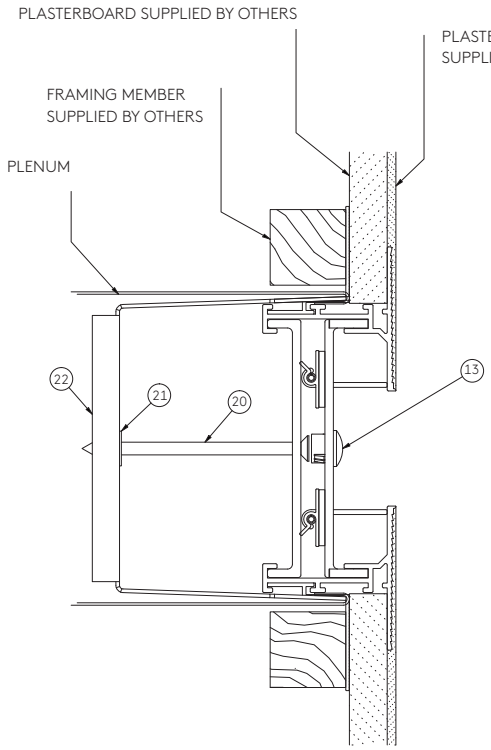
Alternative plenum installation using PLS connecting edge plenum

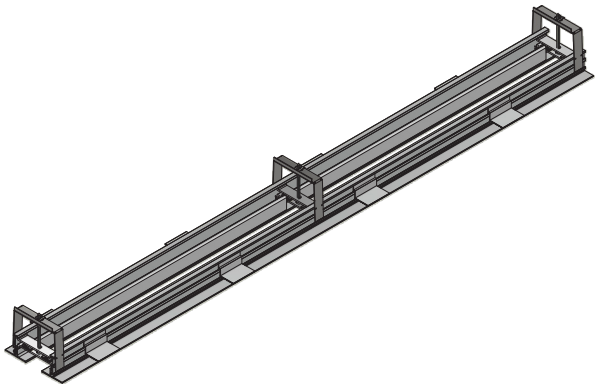


# JT

## Standard Plenum Installation with H3 hard ceiling clip & F6 U-bracket

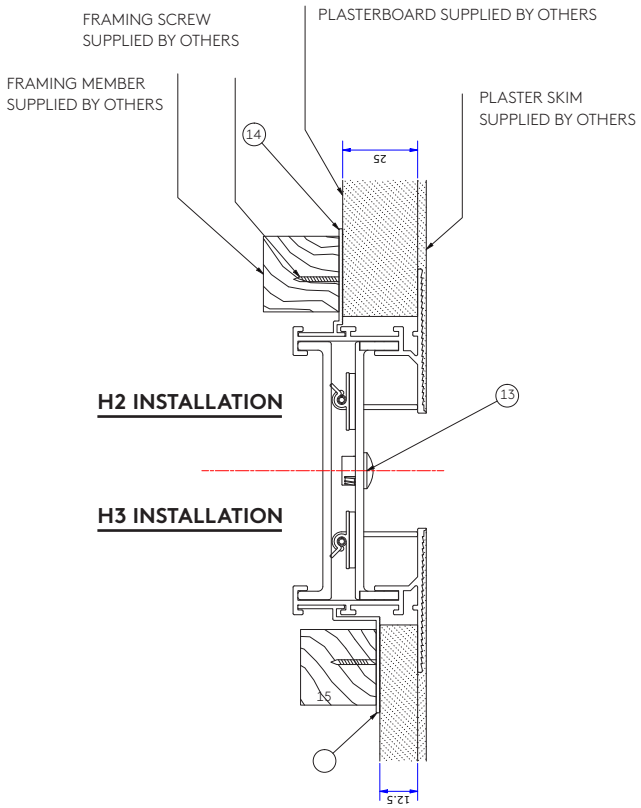
JT wall mounted diffuser standard plenum installation using PBSW hemmed plenum box

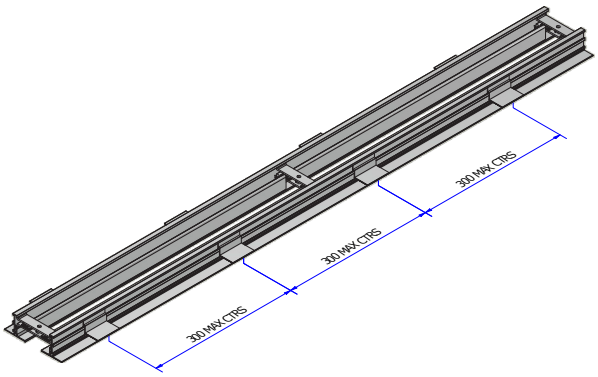


## Diffuser only Installtion with H2/H3 hard ceiling clips

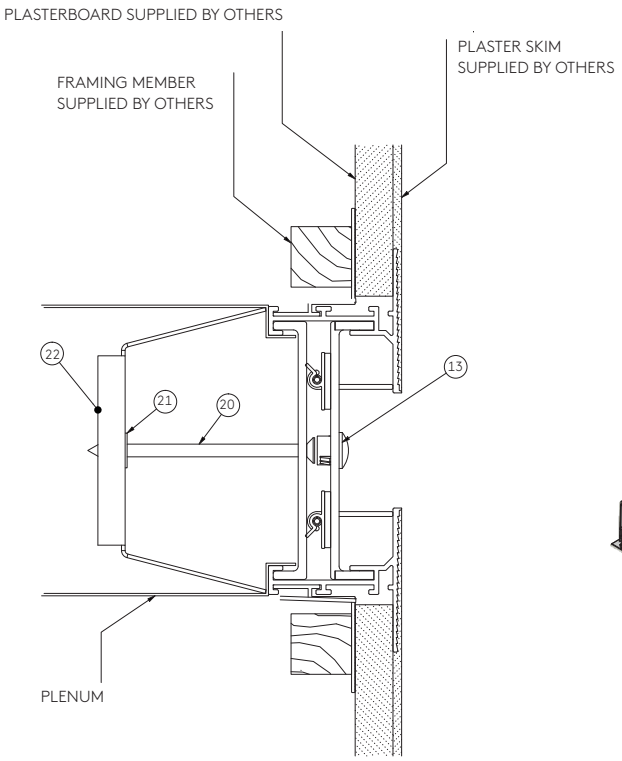
For use in inactive or return air application where no plenum is fitted. H3 for use with a 12.5mm plasterboard ceiling. H2 for use with a 25mm plasterboard ceiling

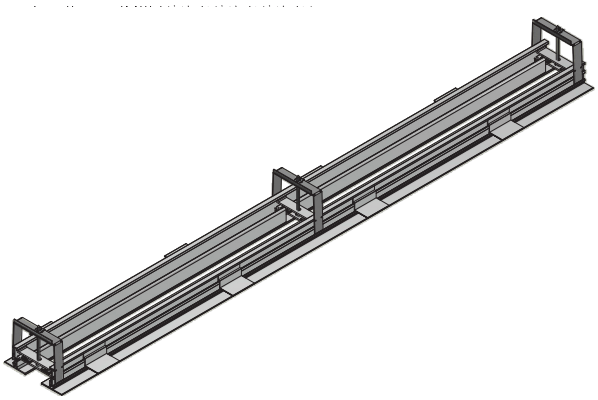


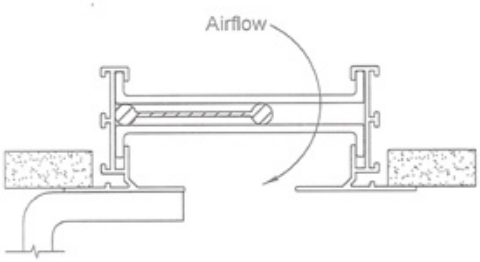
### Alternative Plenum Installation using H3 hard ceiling clip & F6 U-bracket

Alternative plenum installation using PBSWLS connecting edge plenum.



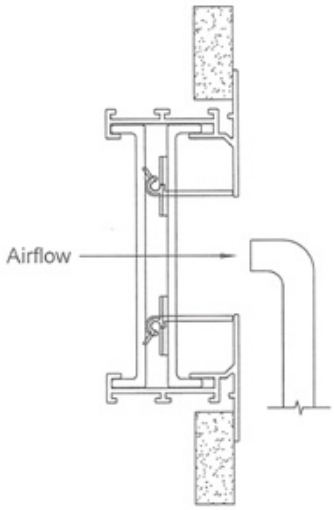



# Commissioning




Alnor 6070, 6000, 2220-A, or 2220 Velometer

| HT FlowBar Diffuser Air Flow Factor | |
|---|---|
| Slot Opening | $A_{x/s}$ |
| FL10 | 0.019 |
| FL15 | 0.023 |
| FL20 | 0.028 |
| FL25 | 0.038 |
| FL30 | 0.041 |




Alnor 6070, 6000, 2220-A, or 2220 Velometer

| JT FlowBar Diffuser Air Flow Factor | |
|---|---|
| Slot Opening | $A_{x/s}$ |
| FL10 | 0.025 |
| FL15 | 0.038 |
| FL20 | 0.051 |
| FL25 | 0.064 |
| FL30 | 0.076 |

- Ensure pattern controllers are set in the correct position
- Place velometer in the airflow path as shown in detail
- Apply the free area figures per metre presented in the table to the active plenum length on site (eg. 1.8m active JT FL10 0.025 x 1.8 = 0.045m²)
- Calculate flow rate by using the equation below:

  Volume (m³/s) = Face velocity (m/s) X Area (m²)