

FLOWBAR – Type 55

Installation - Operation - 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 affect 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.

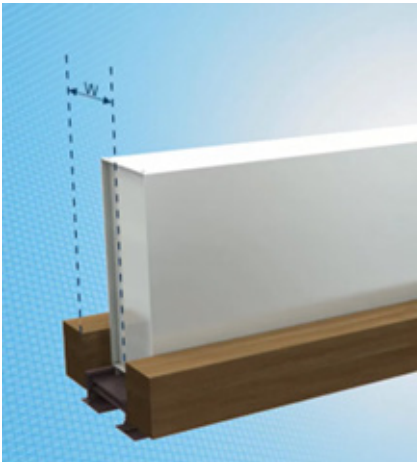
Abrasive cleaners or those containing ketones, esters, acids, alkali or alcohol should not be used.

Plasterboard ceiling Installation

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

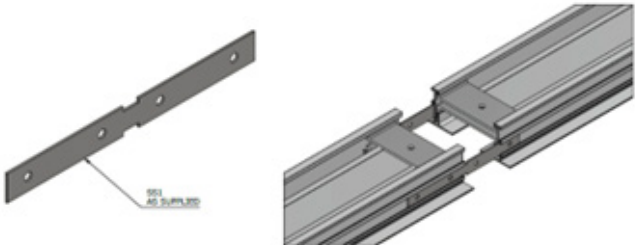
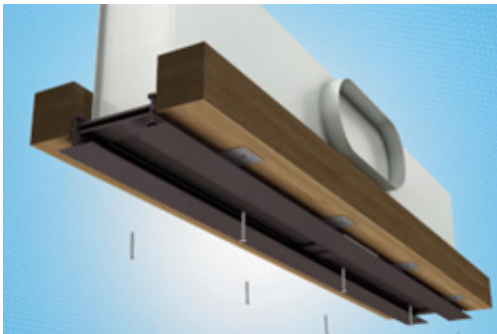
Attach Mounting Clips

- 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

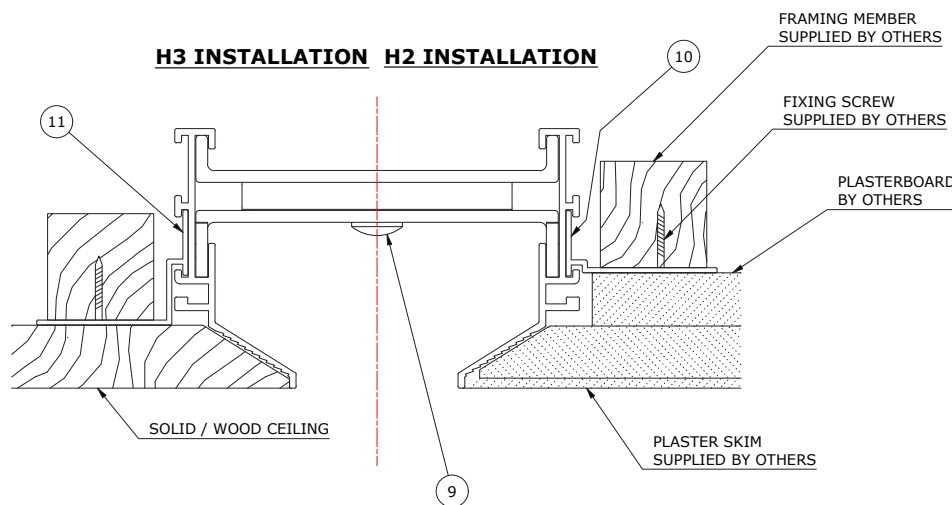
- Lift the FlowBar Diffuser into the framed opening and secure the Mounting Clips to the frame with screws as shown. *(Indicative Image for illustration purposes only)*
- If multiple sections of FlowBar are required, repeat previous step by lifting additional sections into the framed opening.
- Be sure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



Plasterboard ceiling Installation

Install Plasterboard

- For standard H2 installation but up a 12.5mm sheet of plasterboard to the diffuser frame covering the H2 clip.
- Chamfer the edge of a another 12.5mm plasterboard sheet to a 45 degree angle and slide this up against the angled flange as detailed.
- For H3 installation chamfer the edge of a 12.5mm plasterboard sheet to a 45 degree angle and slide this up against the angled flange as detailed.
- 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.**



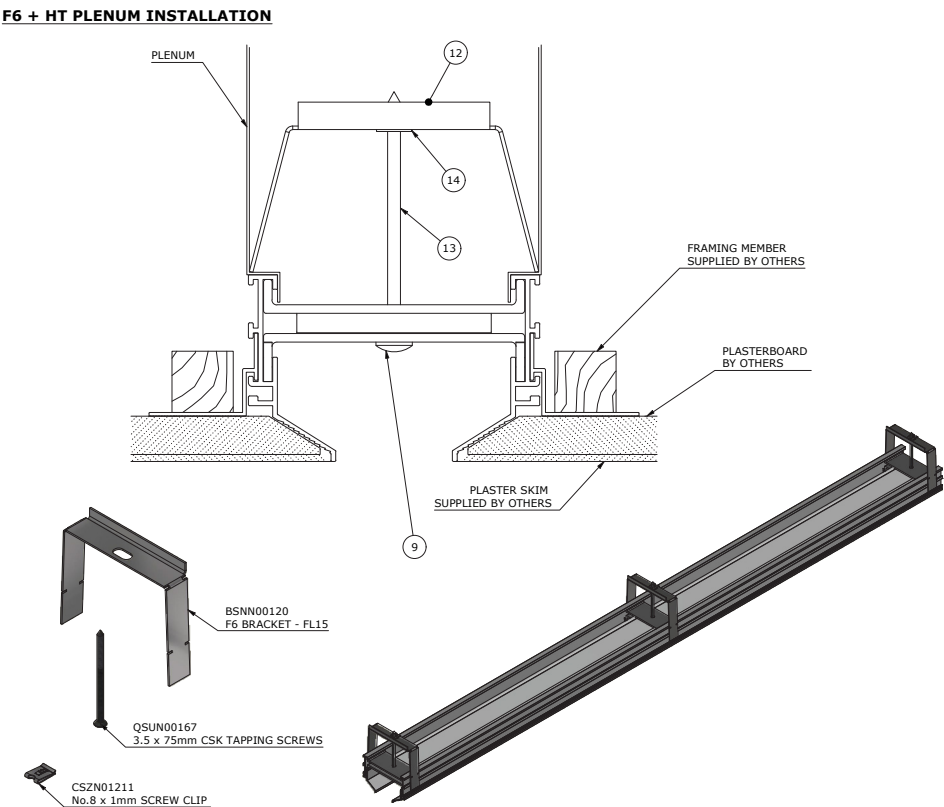
Surface Finish

- Apply coats of jointing /finishing compounds up to bead as per board manufacturer /plasterers recommendations.
- Sand smooth, prime and paint as scheduled.



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

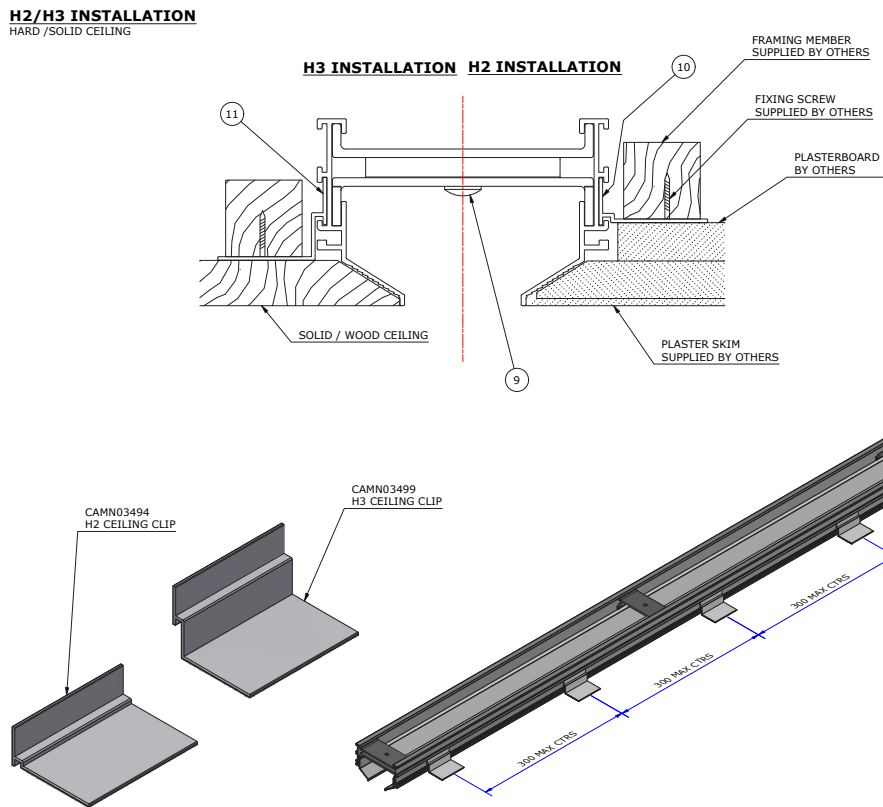
HT ceiling mounted diffuser standard plenum installation using PLS connecting edge plenum box.



Diffuser only Installation with H3 or H2 hard ceiling clip

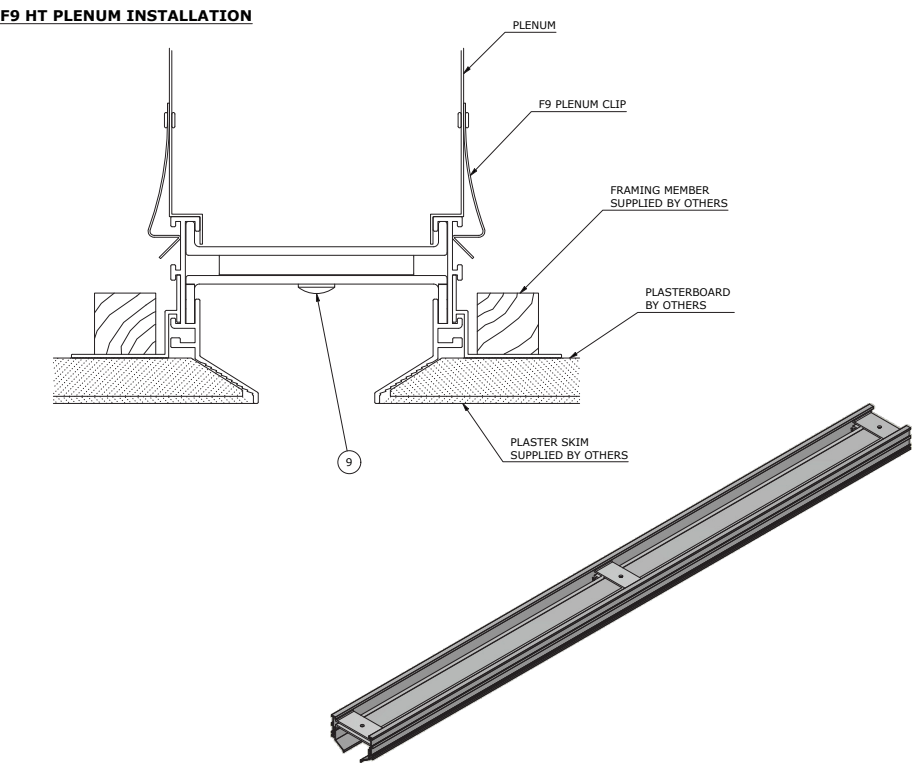
For use in inactive or return air application where no plenum is fitted. H3 for use with a 12.5mm plasterboard ceiling. H2 for use with a 25mm plasterboard ceiling

Installation can also be applied to a solid or wood panelled ceiling.



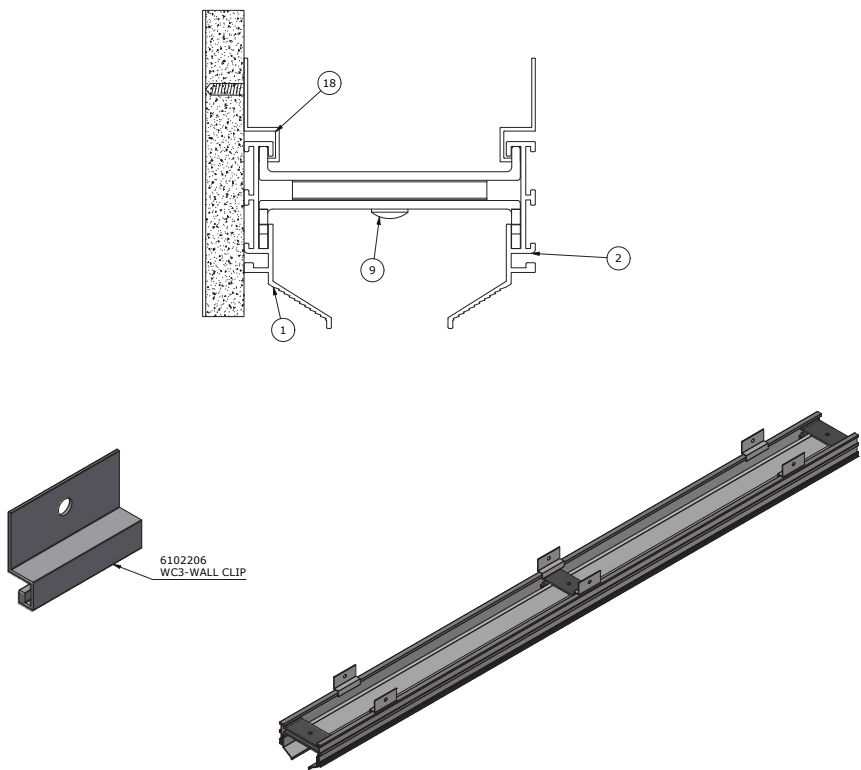
Alternative Plenum Installation with H3 hard ceiling clip & F9 plenum clip

Alternative plenum installation using PLS connecting edge plenum & F9 clip fix.
Note this type of clip fix requires diffuser to be fitted to plenum prior to the ceiling installation.



Installation direct to wall

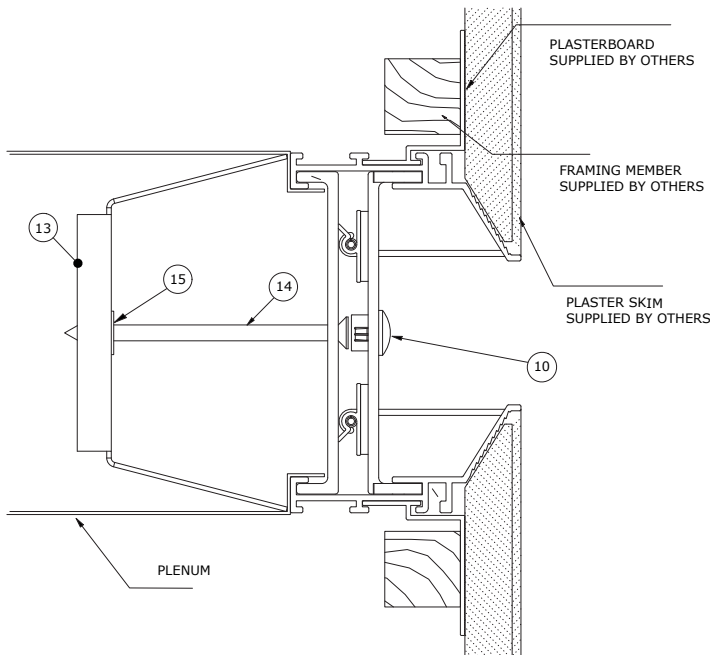
HT ceiling mounted diffuser fixed to a vertical structure using WC3 wall clip. Allow 50mm plenum spacing to accommodate clip



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

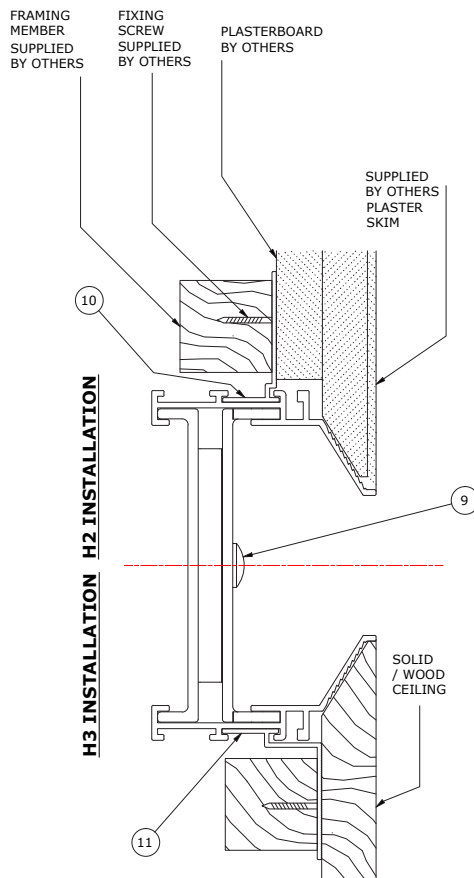
JT wall mounted diffuser standard plenum installation using PBSWLS connecting edge plenum
Installation can also be applied to joinery.

F6 + HT PLENUM INSTALLATION

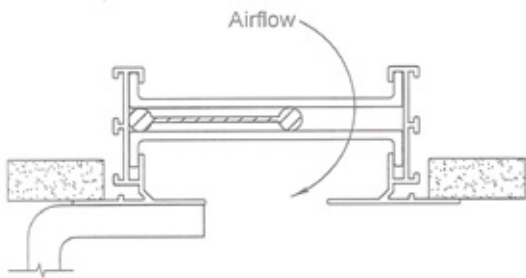


Diffuser only Installtion with H2/H3 hard ceiling clips

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.
Installtion can also be applied to Joinery.

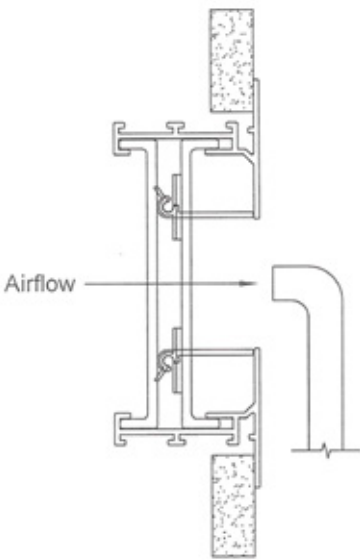


Commissioning



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

HT FlowBar Diffuser Air Flow Factor	
Slot Opening	A _{sf} /L
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 _{sf} /L
FL10	0.025
FL15	0.038
FL20	0.051
FL25	0.064
FL30	0.078

- 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)