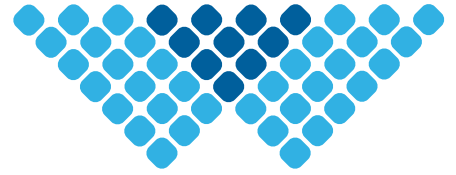
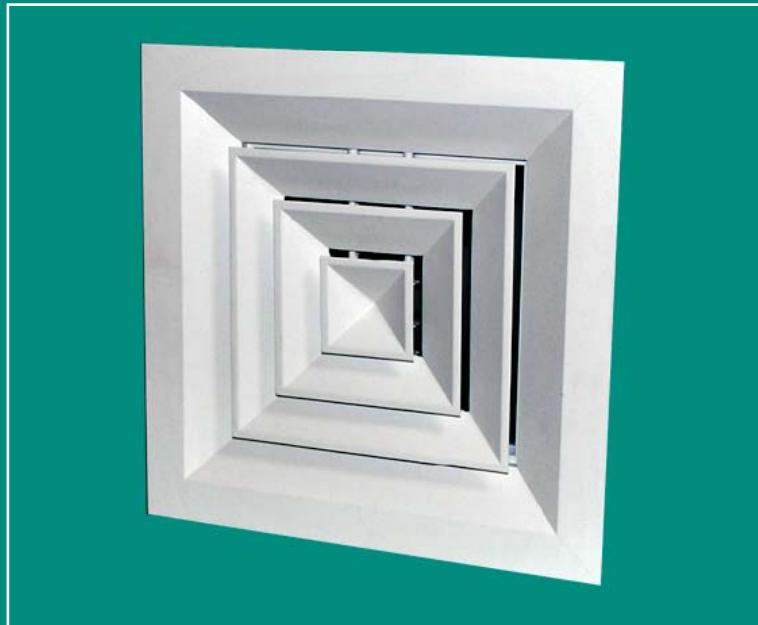


waterloo



Operating and Maintenance

Cut-in DF & MD Series Louvred Face
Diffuser





DF, MD, DF-T8, & DF-T16 Series Louvred Face Diffuser

Product Description

DF, MD Louvred Face Diffuser

Tools Required

- 1 x Pop riveter
- 1 x ø3.5mm drill bit
- 1 x Battery operated drill

Installation instructions:

1- Install the plenum box in its desired position by suspending it from its mounting holes with drop rods (supplied by others).

Raise or lower the plenum as required to give a set dimension within the following ranges from the proposed ceiling face (**Figures 1**):

MD Diffuser 'Dim X' = 12mm to 18mm

DF Diffuser 'Dim X' = 18mm to 25mm

Once you are happy with its positioning then secure the plenum in place using the lock nuts on the drop rods.

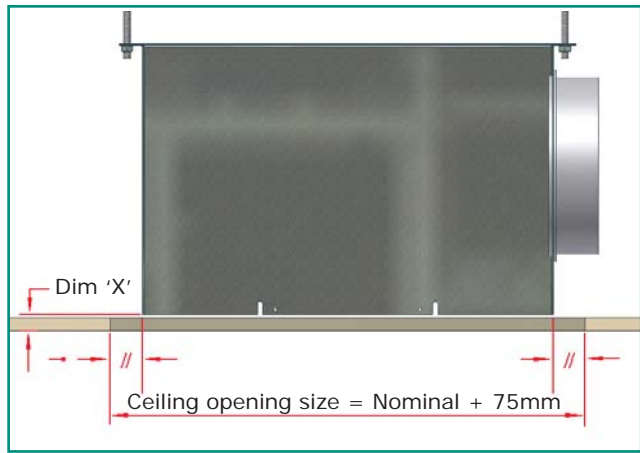


Figure 1: Mount plenum box

2- After the ceiling has been installed, the cut out for the diffuser must be created. The size of the opening required can be found using the formula:

'Nominal stack size' + 75mm.

For example, if you were fitting a DF-41/450x450 then the nominal stack size would be 450mm square. Therefore the opening would be $450+75 = 525$ mm on both sides.

3- Once the opening has been cut, the core of the diffuser will need to be removed.

Dependent on which variant of diffuser is being installed, there are two different methods for the fixing of the core in the diffuser. The first, utilises a spring on the core location pins, and the second utilises "Bunny Ear" spring clips mounted on the core centre bars.

The removal details of both these types as follows:



DF, MD, DF-T8, & DF-T16 Series Louvred Face Diffuser

Spring loaded Core removal

This method of fixing is common to both DF & MD series of diffuser. The removal details are as follows:

a- Locate which side of the diffuser core has springs fitted to the location pin (**Figure 2**).

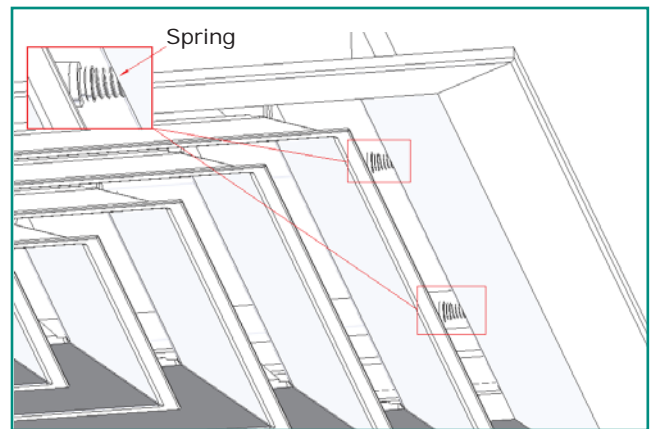


Figure 2: Locate springs

b- Place your hands on the core blade that opposes the spring position, and gently push towards the centre of the diffuser (**Figure 3**). This operation will compress the location pin springs and allow the pins on the opposing side to come free of their holes.

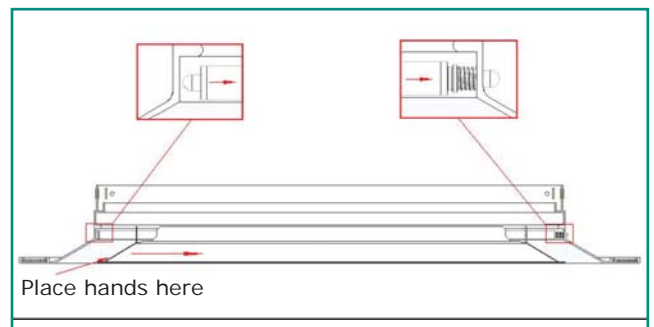


Figure 3: Push core towards the centre to compress springs

c- Whilst still compressing the springs, rotate the core downwards. The diffuser core may now be removed and stored away to prevent damage (**Figure 4**).

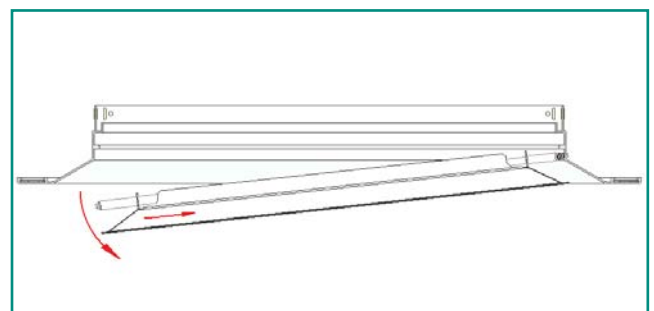


Figure 4: Rotate core downwards to remove



DF, MD, DF-T8, & DF-T16 Series Louvred Face Diffuser

Bunny Ears™ Core removal

This method of fixing is only common to some versions of DF diffuser and its removal details are as follows:

a- Locate the bunny ear clips holding the core in position. Please note that there will be at least 1x clip fitted on all four sides, though there could be more dependent on the diffuser size (**Figure 5 & 5a**).

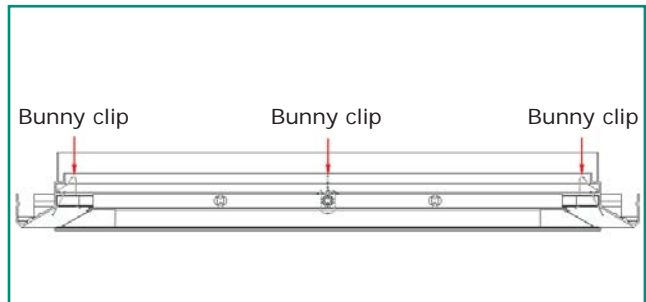


Figure 5: Locate bunny ear clips

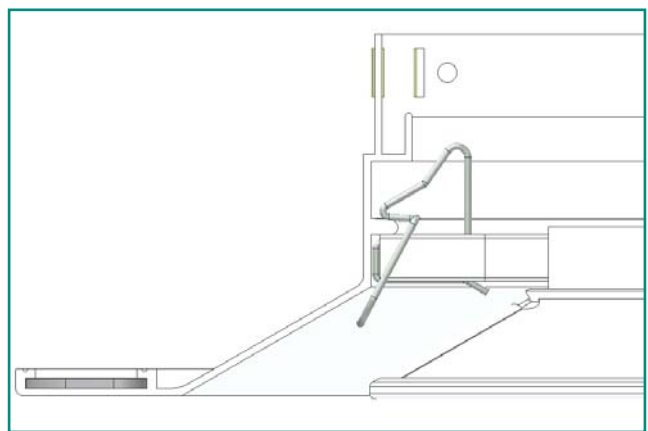


Figure 5a: Bunny clip detail

b- Push the bunny ear clips towards the centre of the diffuser. This will disengage the clip from the outer frame and release that side of the core (**Figure 6**).

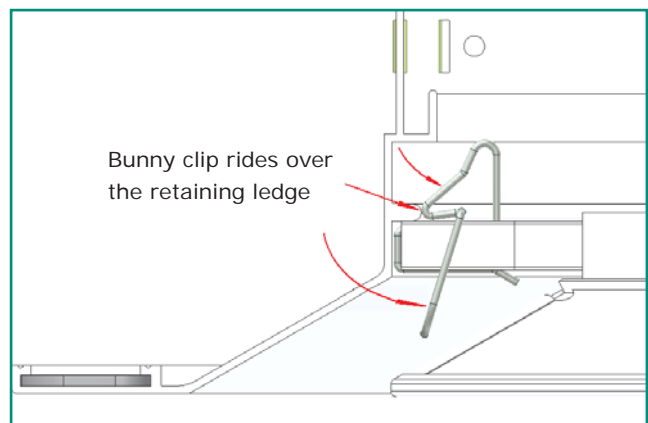


Figure 6: Push clip inwards to release

c- Repeat this operation on the remaining three sides, taking care to support the core, so as not to allow it to drop out onto the floor (**Figure 7**). Lower the core from the diffuser and store away to prevent damage.

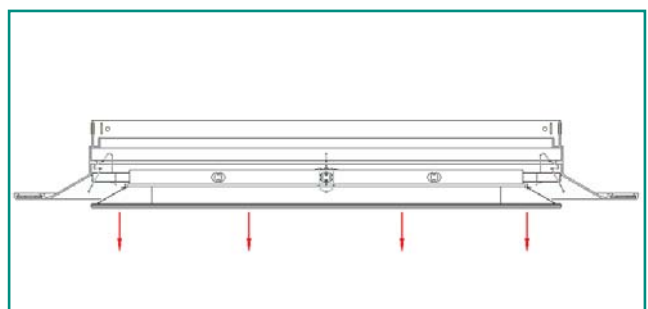


Figure 7: Lower core from diffuser frame



DF, MD, DF-T8, & DF-T16 Series Louvred Face Diffuser

Installation instructions:

4- Insert the diffuser frame in the ceiling opening making sure that the stack is positively located in the plenum box opening (**Figures 8**).

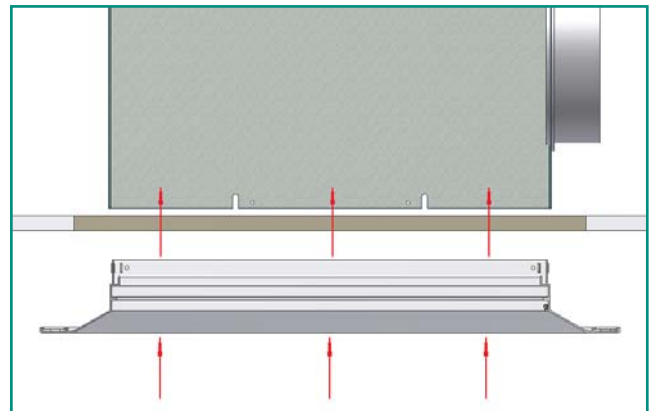


Figure 8: Locate diffuser in opening

5- When this has been achieved, push the frame up to ensure that the rear of the flange is butted up to the ceiling face. (**Figures 9** for D types and **Figures 9a** for MD diffuser).

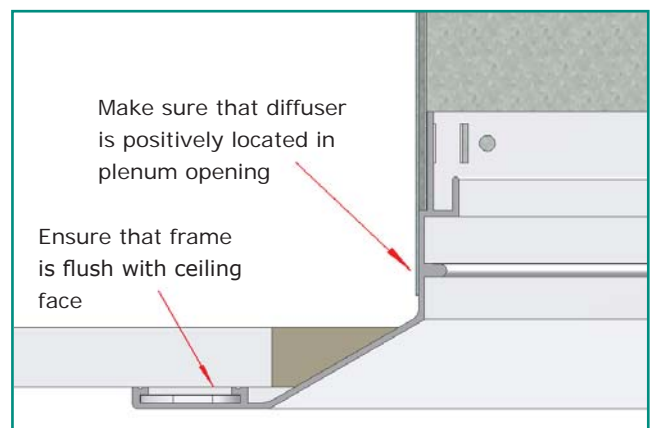


Figure 9: Ensure that diffuser is seated correctly–D Type

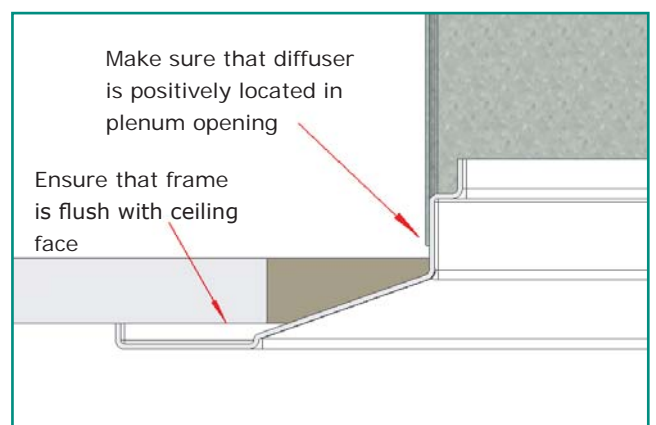


Figure 9a: Ensure that diffuser is seated correctly–MD

6- Take care that the slots in the lower part of the plenum provide sufficient clearance for the location pins of the diffuser core (if applicable), shown in (**Figures 10**).

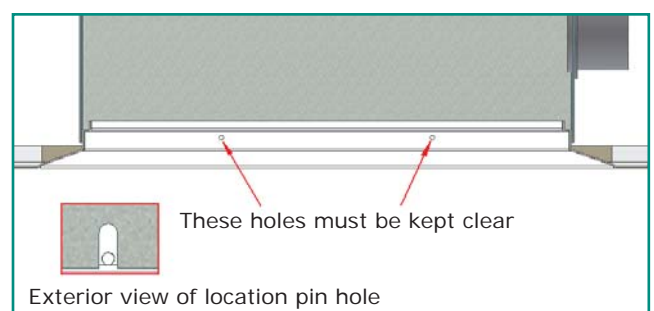


Figure 10: Ensure the location holes are clear



DF, MD, DF-T8, & DF-T16 Series Louvred Face Diffuser

Installation instructions:

7- Drill through the frame & plenum wall, and secure in position with pop rivets or self tapping screws (**Figures 11 & 11a**). Repeat this operation on the remaining sides as required.

8- Replace the core in the diffuser frame using the relevant method shown below:

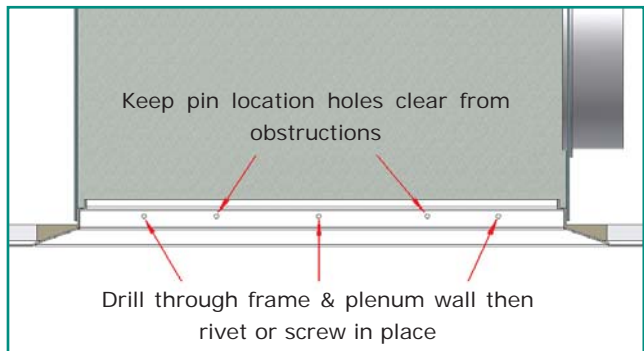


Figure 11: Rivet in place - MD

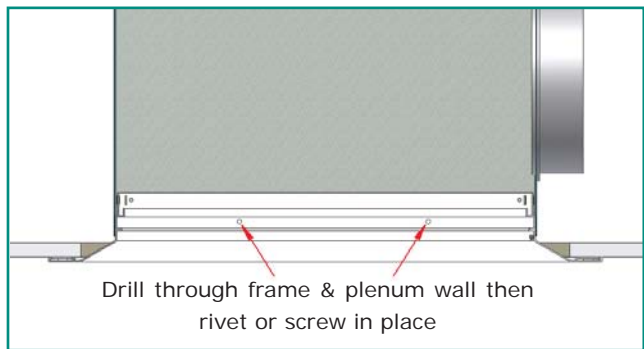


Figure 11a: Rivet in place – D Type

Spring loaded Core

To replace the spring loaded diffuser core, you simply reverse the removal instructions i.e. locate the spring loaded Pins in their respective location holes, compress the springs then rotate the core into position so that the opposing pins can slide into their respective location holes (**Figure 12**).

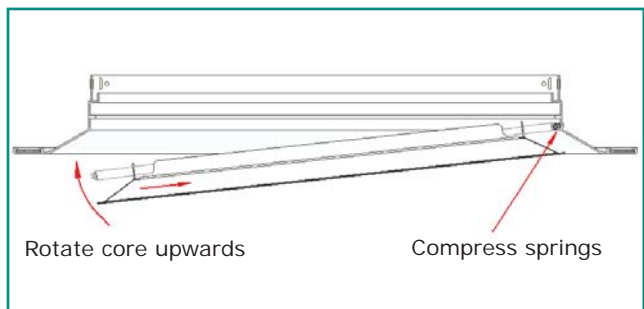


Figure 12: Compress springs and rotate core upwards



DF, MD, DF-T8, & DF-T16 Series Louvred Face Diffuser

“Bunny Ears” Core

a- To replace the core, simply centralise the core in the diffuser opening, resting the bunny clips on the retaining ledge within the outer frame (**Figure 13 & 13a**).

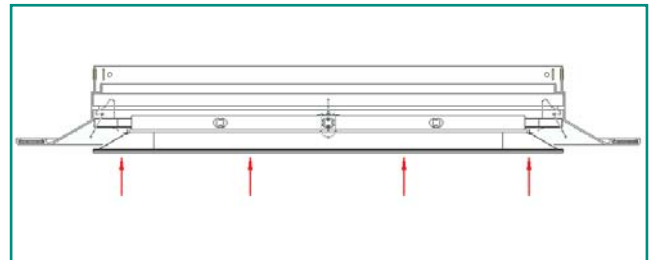


Figure 13: Locate core in diffuser opening

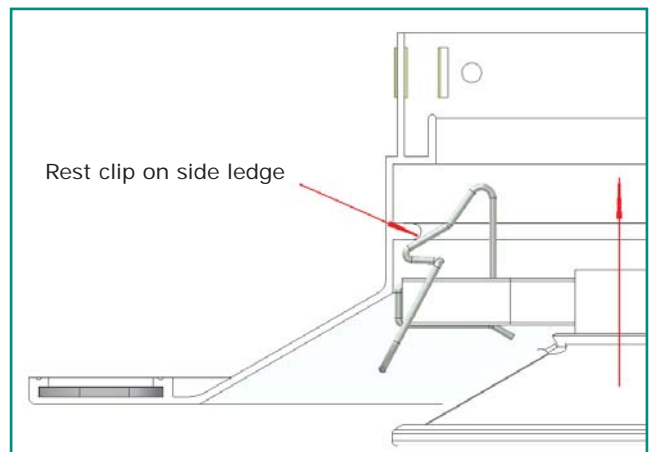


Figure 13a: Rest bunny clip on ledge

b- Carefully, push upwards to allow the bunny clips to re-engage (**Figure 14**). They will now spring back into the locked position (**Figure 14a**) so retaining the core in the diffuser.

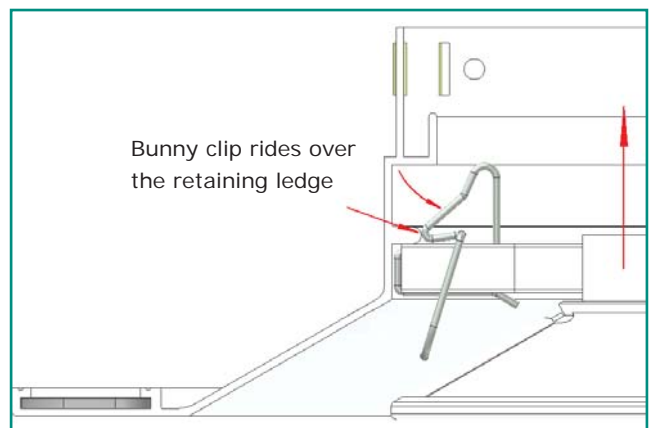


Figure 14: Clip rides over ledge

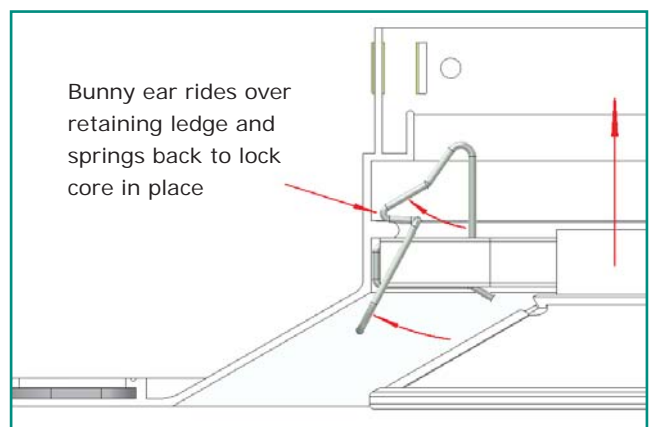


Figure 14a: Clip springs into position



DF, MD, DF-T8, & DF-T16 Series Louvred Face Diffuser

Cleaning and Maintenance:

Waterloo recommend that the diffuser faces are cleaned with warm soapy water. For regular cleaning, a simple wipe down of all accessible faces will suffice.

If a deeper clean is required then simply remove the diffuser core as previously described, then clean the interior faces of the diffuser frame and the whole of the diffuser core then reassemble.



Waterloo Product Range

GRILLES

A complete range of products suitable for all wall, ceiling and floor applications. Most grilles are made from aluminium and have a range of fixed or moveable blades designed to give performance whilst remaining aesthetically pleasing to the eye. Grilles are made to customer specified sizes and colours (PPM/G); standard colour PPM9010 (20% Gloss White). The range is complemented by the Aircell range of polymer Grilles.



DIFFUSERS

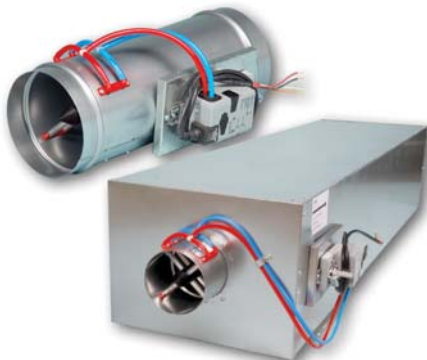
Designed to be installed in various ceiling systems, we have a complete range to suit both performance and aesthetic requirements. Most diffusers are made from aluminium and can be ordered with or without plenum boxes for easy duct work. Diffusers can be ordered in customer specified colours (PPM/G); standard colour is PPM 9010 (20% Gloss White). This range is complemented by the Aircell range of polymer Diffusers.



ACTIVE AND PASSIVE CHILLED BEAMS

The finest quality range of high output active beams, used for ventilated heating and cooling applications. These units have 4 pipe coils to allow heating and cooling circuits to run simultaneously, giving constant and responsive control. The design allows a large optimum capacity and also allows the customer to specify the nozzle type and pitch for individual circumstances.

Active beams are made from steel to a large range of customer specified sizes and as such are suitable for various different ceiling systems. Standard finish is PPM 9010, however other (PPM/G) colours are available on request.



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Pressure independent Variable Air Volume and Constant Air Volume dampers made from zintec plate. Most volume dampers are regulated with an electronic motor and sensors and are calibrated to customer specifications before delivery.

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EXTERNAL LOUVRES

A quality range of products for external wall applications. Made from aluminium, with birdscreen or insect screen options. All louvres are made to customer specified sizes and (PPM/G) colours; standard colour is PPM 9006.



DISPLACEMENT

A full range of recessed, semi-recessed, floor, wall and corner units providing high ventilation efficiency and excellent comfort. The very low pressure involved also offer quiet installations. Displacement units are available as wall or floor mounted, or indeed integrated within the architectural design.



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