

# Operating and Maintenance

Lay-in & Tegular DF, MD, DF-T8, & DF-T16 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  $\varnothing 3.5\text{mm}$  drill bit
- 1 x Battery operated drill

### Installation instructions:

1- Install the plenum box, suspending it from its mounting holes with drop rods (supplied by others). Centralise the plenum box in both directions within the opening where the diffuser is to be fitted (**Figures 1**).

2- Once you are satisfied with its alignment within the ceiling grid, raise the plenum box approximately 200mm (or as required) above the grid to allow sufficient space to install the diffuser (**Figures 2**).

3- Locate one end of the diffuser into the ceiling opening, and in a sliding motion move it to the far end of the opening (**Figures 3**).

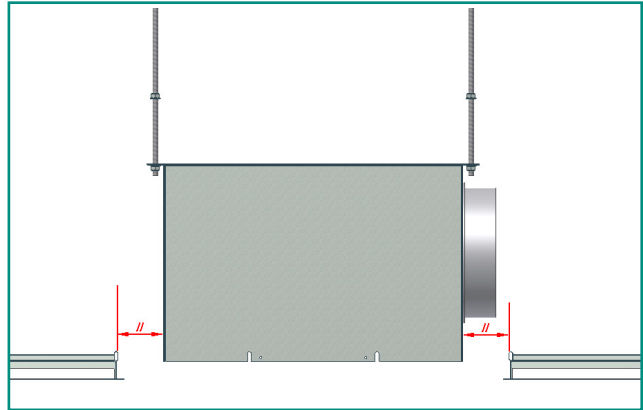


Figure 1: Centralise plenum

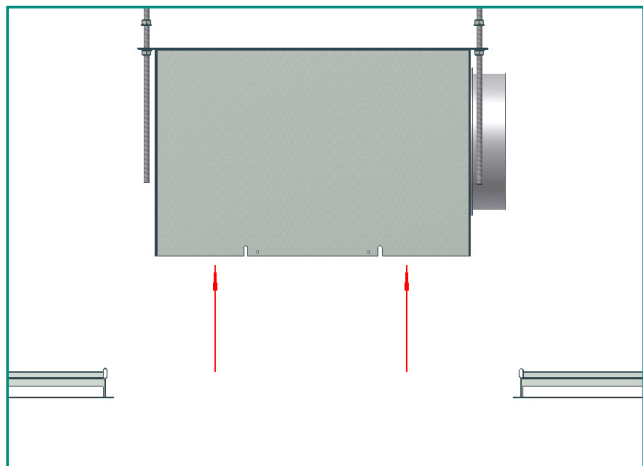


Figure 2: Raise plenum box

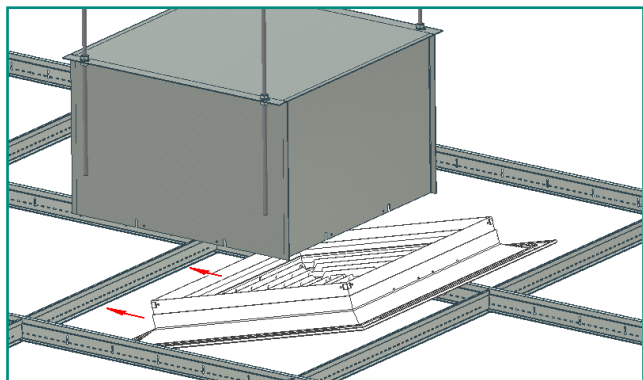


Figure 3: Slide diffuser into opening

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

### Installation instructions:

4- Place the diffuser into the opening, ensuring that it is firmly seated against the tee bars of the ceiling grid (**Figures 4**).

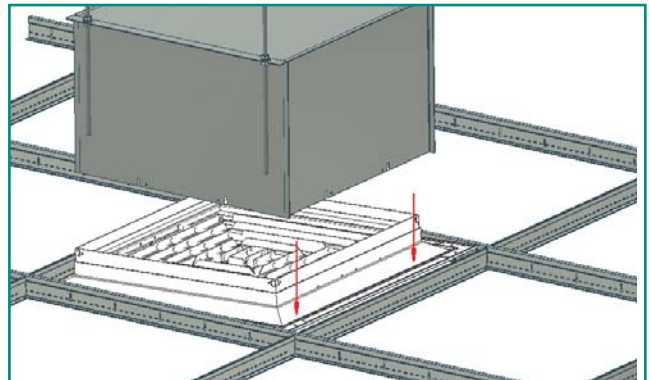


Figure 4: Drop diffuser into position

5- Lower the plenum box over the rear stack of the diffuser until it is seated on the rear face (**Figures 5**), whilst taking 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 6**).

Once you are happy with it's positioning, secure the plenum box using the lock nuts on the drop rods.

6- Using the rivet holes in the plenum walls as a guide, drill through the diffuser outer frame and rivet or screw the plenum box to the frame.

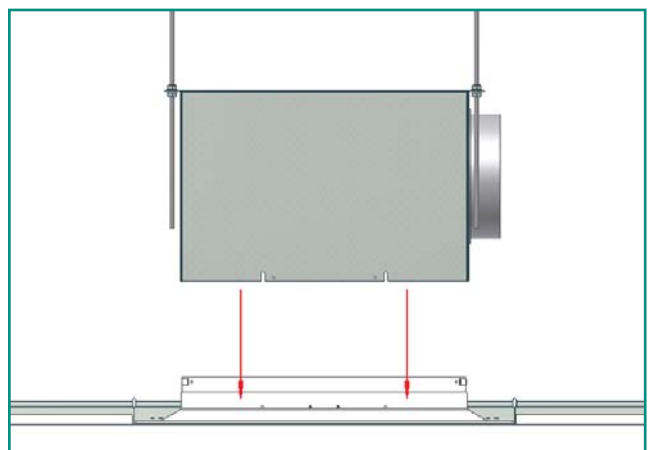


Figure 5: Lower plenum box

In some situations it is not possible to fix the diffuser to the plenum from the outside, so it will be necessary to remove the diffuser core and attach it from the interior of the diffuser frame.

Dependent on which variant of DF series 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 is as follows:

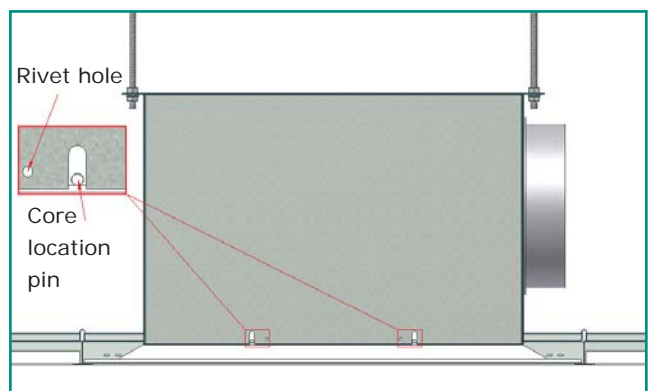


Figure 6: Locate on rear of diffuser

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

### Spring Loaded Core removal

a- Locate which side of the diffuser core has springs fitted to the location pins (**Figure 7**).

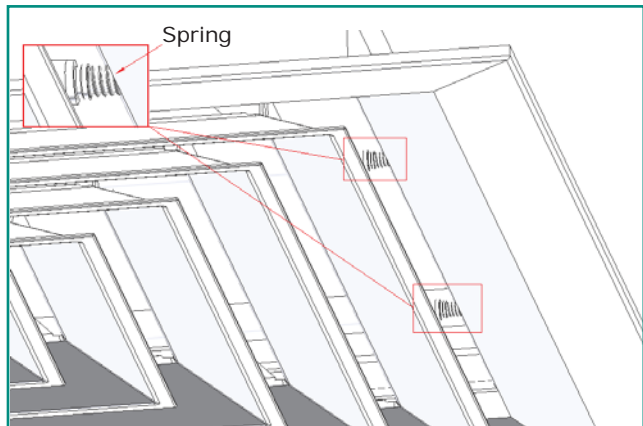


Figure 7: Locate springs

b- Place your hands on the core blade that opposes the spring position, and gently push towards the centre of the diffuser. This operation will compress the location pin springs and allow the pins on the opposing side to come free of their holes (**Figure 8**).

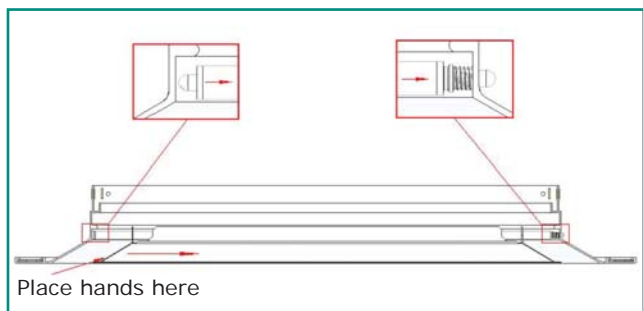


Figure 8: Push core towards the centre to compress springs

c- Whilst still compressing the springs, rotate the core downwards. The diffuser core may now be removed and stored away to prevent damage (**Figure 9**).

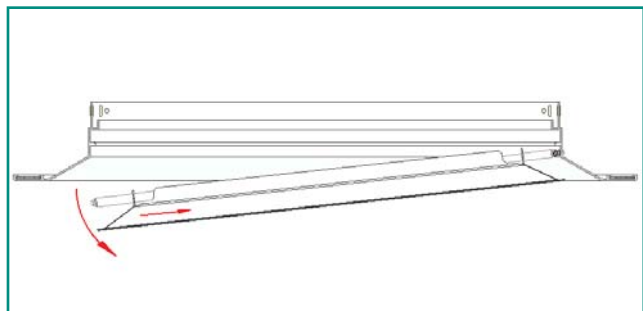


Figure 9: Rotate Core downwards to remove

d- To replace the core, simply reverse these 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.

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

### Bunny Ears" Core removal

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 10 & 10a**).

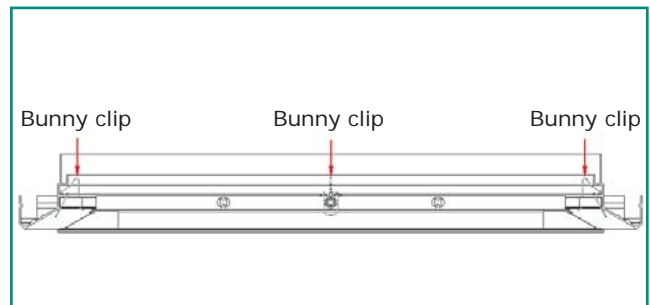


Figure 10: Locate bunny ear clips

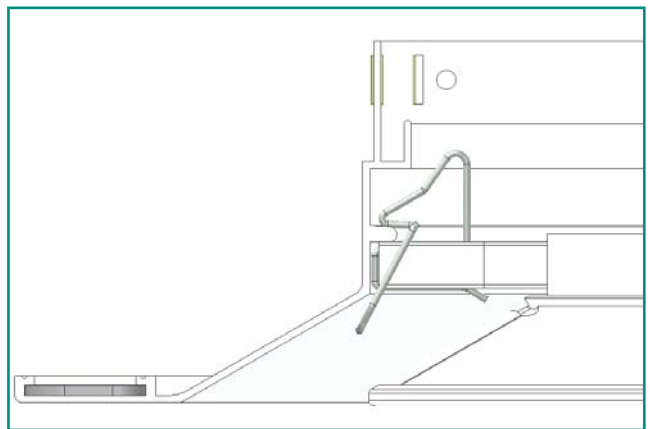


Figure 10a: Bunny clip detail

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 11**).

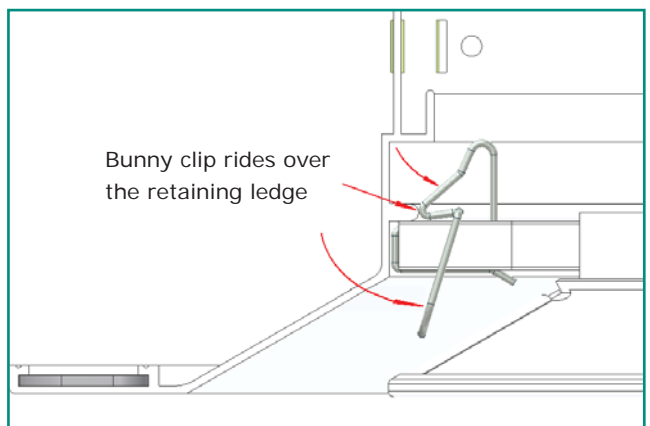


Figure 11: Push clip inwards to release

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 12**). Lower the core from the diffuser and store away to prevent damage.

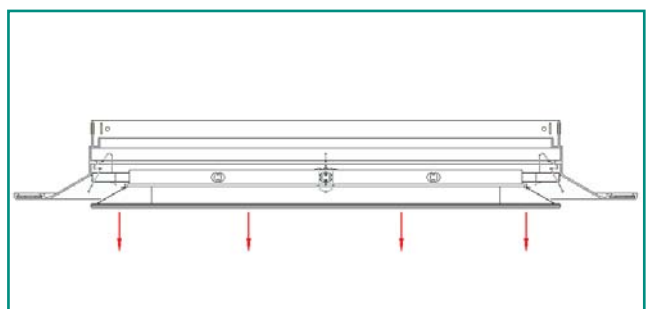


Figure 12: Lower core from diffuser frame

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

### Bunny Ears" Core removal

d- 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**).

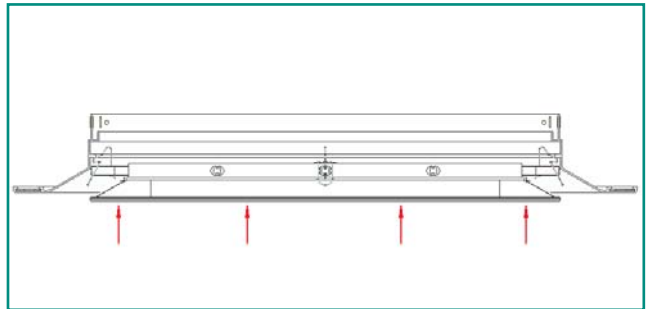


Figure 13: Locate core in diffuser opening

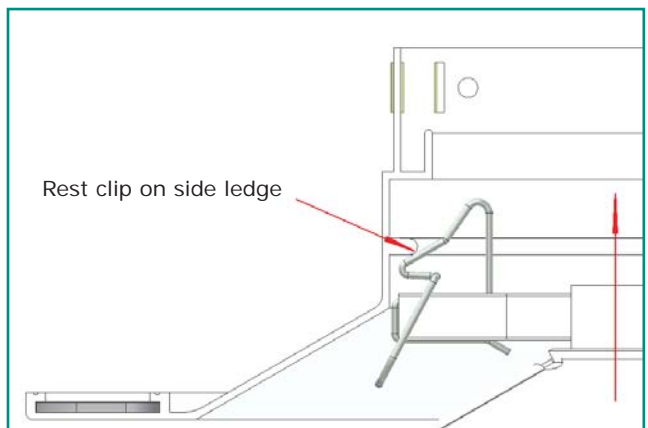


Figure 13a: Rest bunny clip on ledge

e- 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.

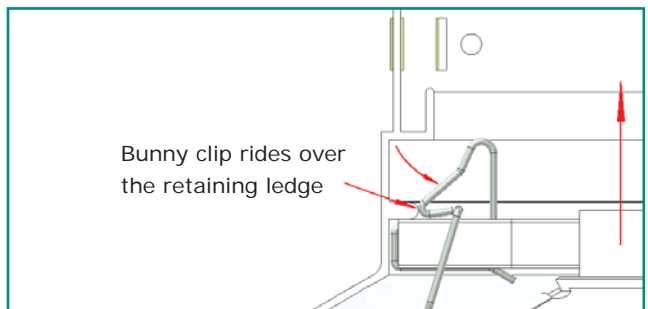


Figure 14: Clip rides over ledge

### 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.

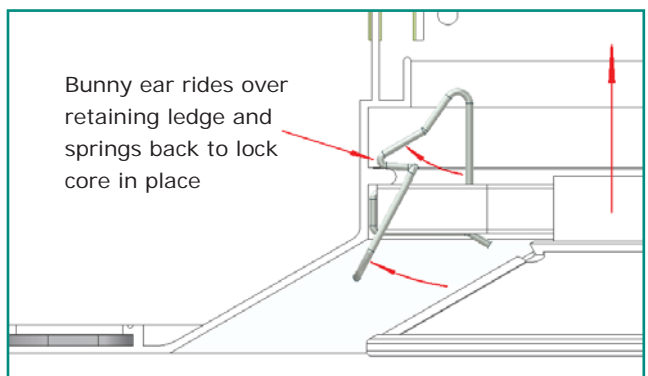


Figure 14a: Clip springs into position

## 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.



### AIR VOLUME CONTROL DAMPERS

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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### DISPLACEMENT

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