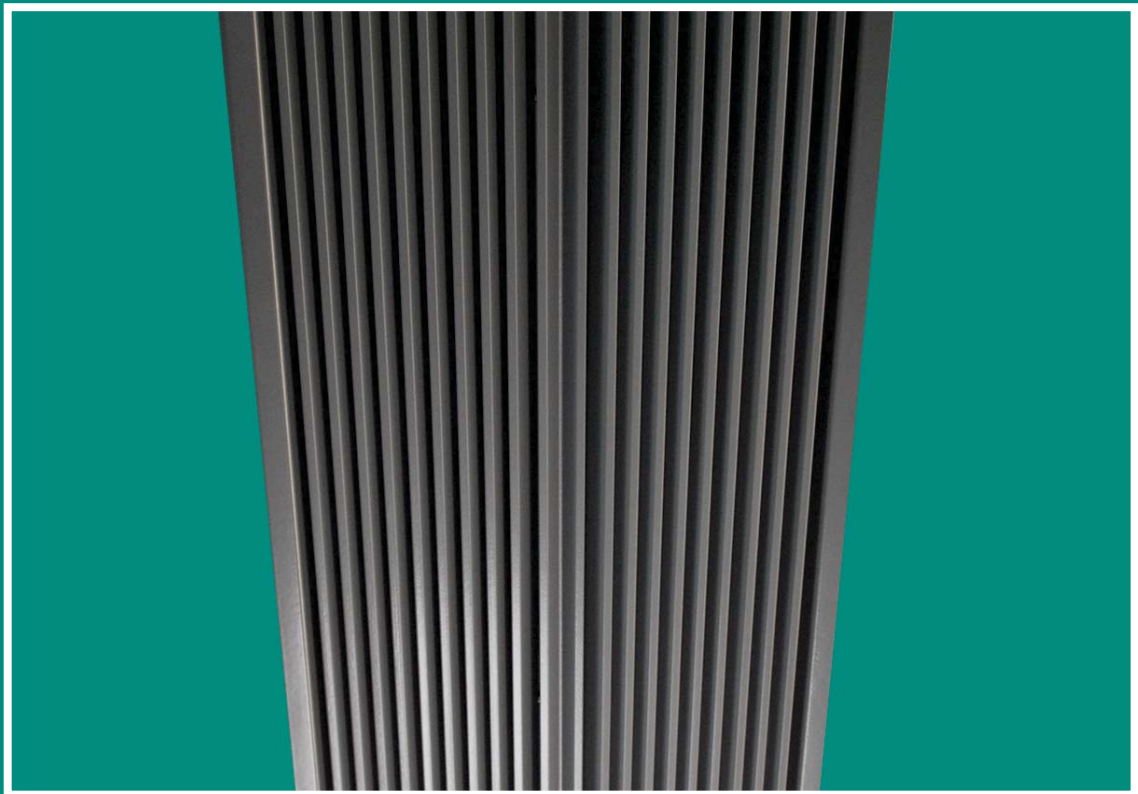


waterloo



# Operating and Maintenance

**FCD** Linear Slot Diffusers





## FCD Diffuser Installation

### Product Description

**FCD1** One way fan coil diffuser

**FCD2** Two way fan coil diffuser

### Tools Required

- 1 x Medium Cross Head Screwdriver

**Note:** Power tools are not recommended for this installation due to the risk of damage caused by the over-tightening of the hanging bracket screws.

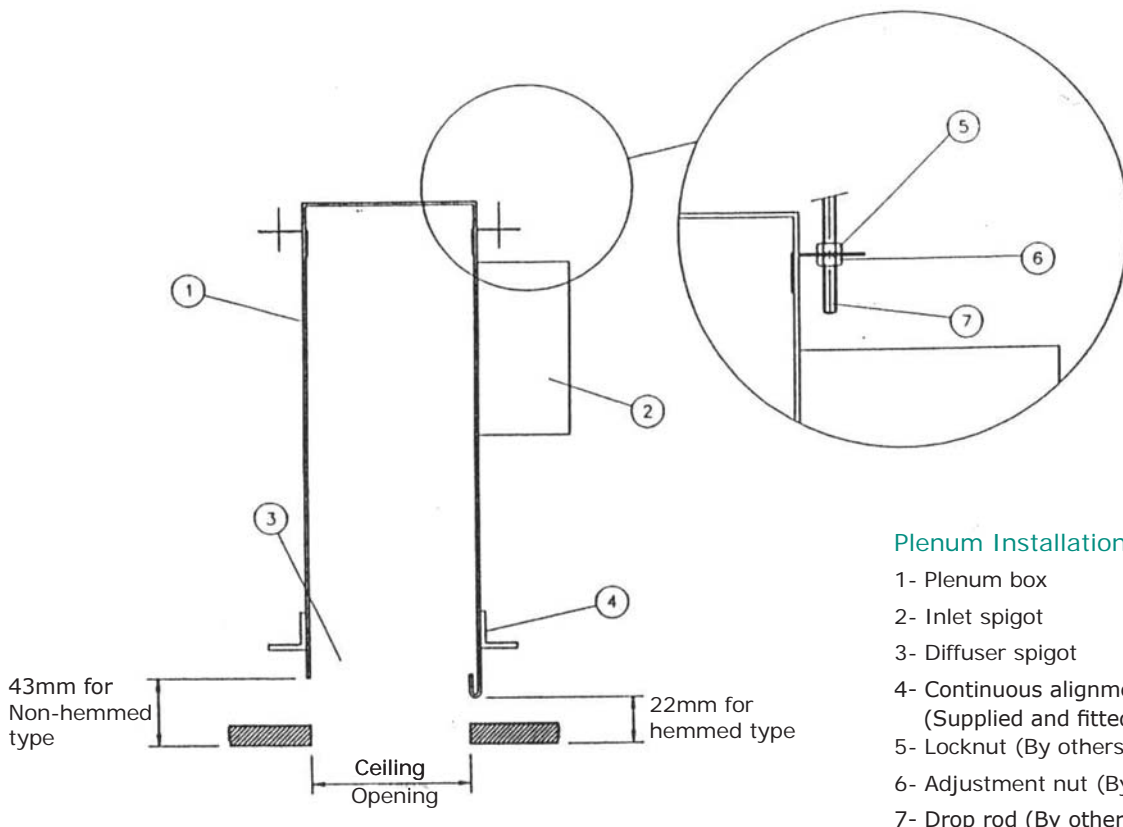
### Plenum Box Installation (1st fix hemmed plenum)

- 1- Commence installation by setting out and drilling drop rod positions from the soffit or suitable overhead structural supports. (**Figure 1**)
- 2- Having fitted suitable lengths of 8mm studding (7), offer the plenum box (1) up into position and locate the studding through the side hanging brackets ensuring the diffuser spigot (3) is located central to the ceiling aperture and that the bottom of the plenum hem is 22mm from the face of the ceiling. If using gripple wire, 4 No. lengths must be used to fix the plenum to individual fixings in the soffit, located vertically in line with the plenum mounting points.
- 3- Ensure the plenum chamber is firmly retained on the drop rods with the locknuts above and below (supplied by others) the hanging brackets (5) & (6).

**Note:** It is essential that all plenums are secured in the ceiling void before the final fix diffuser installation. We strongly recommend for continuous diffuser runs, longitudinal angles (4) (supplied by others) are attached to the sides of the plenum runs to ensure linear alignment.

### Plenum Box Installation (1st fix diffuser non hemmed type)

- 1- Non hemmed plenums are recommended when using individual (non continuous) units. Access to the ceiling void is essential when using this type of plenum.
- 2- The plenum is located into the diffuser side extrusion (see Figure 2/5) and riveted along its length.
- 3- Follow instructions described in 1 and 2 of the 1st fix hemmed plenum.



#### Plenum Installation

- 1- Plenum box
- 2- Inlet spigot
- 3- Diffuser spigot
- 4- Continuous alignment angles (Supplied and fitted by others)
- 5- Locknut (By others)
- 6- Adjustment nut (By others)
- 7- Drop rod (By others)

Figure 1- Plenum installation detail



## FCD Diffuser Installation

### DIFFUSER INSTALLATION (Figure 2)

- 1- Remove the diffuser core (2) by noting the position of the core retaining spring and at their location ease fingers between the blades and gently pull away from the frame (1). The spring (3) is designed to allow downward movement to a point where your hand is able to pinch the spring legs together to disengage from the frame. Gently pull the core away from the opposite frame and then release shock cords (8) allowing the core to be removed. Ensure that loose cores are stored safely.
- 2- Position 'mounting brackets' (6) within the plenum/duct return hem (4) to coincide with the diffuser cross stay centres.
- 3- Offer diffuser frame into ceiling opening and locate the 50mm screws through cross stays into mounting brackets, taking care not to dislodge the mounting brackets from the plenum hems during this procedure.
- 4- For continuous applications, with diffuser flange approximately 25mm below ceiling surface, fix alignment strips (9) into extruded tracks of the outer frame. Install adjoining diffuser sections, and slide alignment strips into adjacent section. These diffuser sections can, if necessary, be permanently joined by drilling and fixing the alignment strips to the outer frame.
- 5- Progressively tighten the hanging screws (2 off per bracket) until the diffuser section(s) is/are pulled up to the ceiling surface.
- 6- Replace core by firstly locating the shock cord clips (8) and then easing core tube pins (9) on the opposite side to the spring clips, into the frame locating holes. Pinch springs together and locate into the diffuser frame, release and gently push core into position.

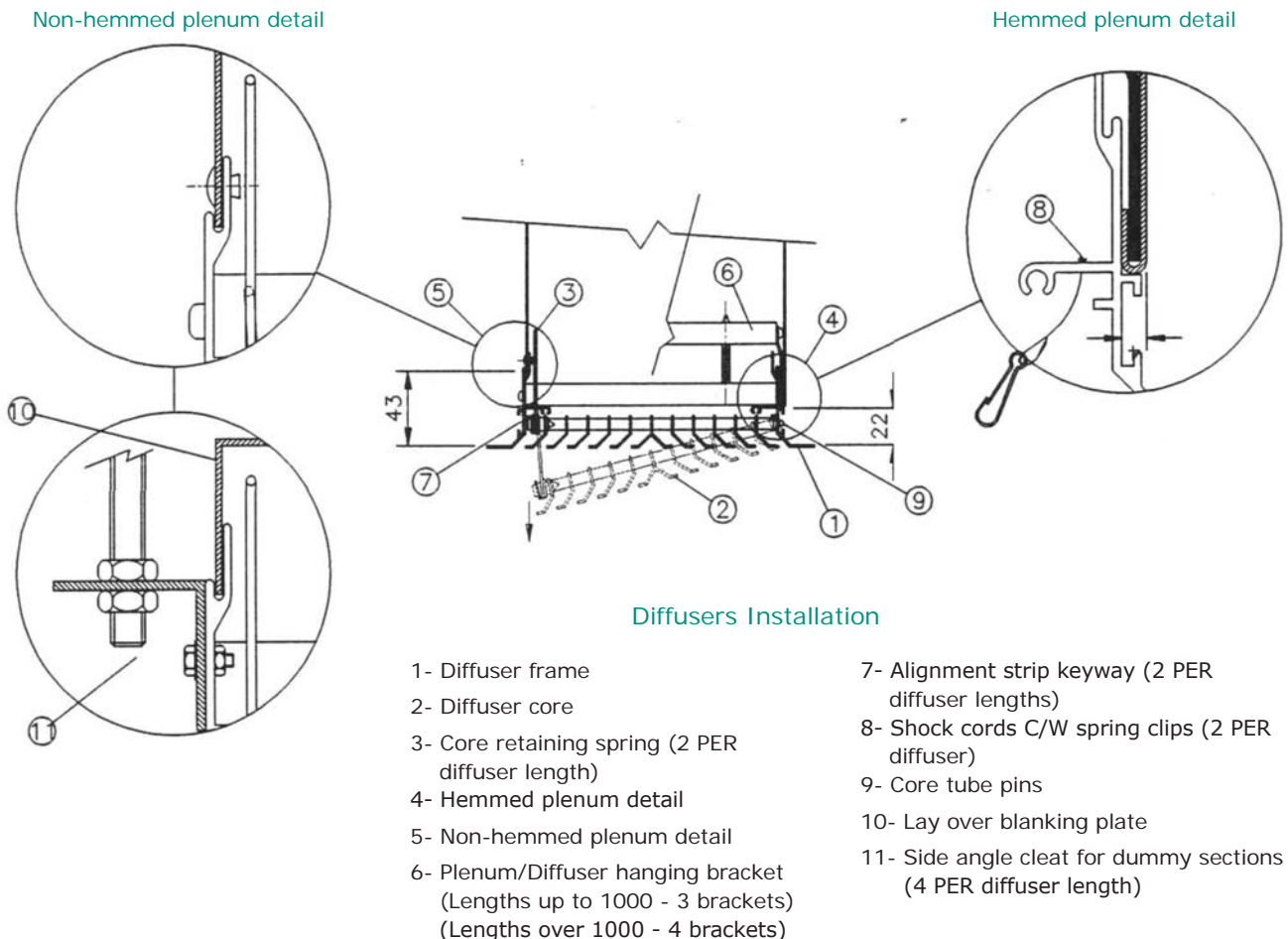


Figure 2- Plenum installation detail



## FCD Diffuser Installation

### **CONTROLS**

Type FDC (Cord operated flap damper) and type FDQ (Quadrant operated flap damper) are provided as optional extras and are situated in the inlet spigot of the plenum box. For commissioning purposes the FDC is adjusted by removing the diffuser core until it is held in the lower position by the spring legs. Locate cord in the plenum body and adjust as necessary. Tuck cord back into plenum and gently push back core into frame. The FDQ damper is adjusted by unscrewing the butterfly nut, adjusting, and tightening back into the required position. It is essential that when using type FDQ dampers that there is access to the ceiling void.

### **DUMMY SECTIONS**

Dummy sections are hung by using the side frame angle cleat supplied, bolted to the side of the diffuser (11) (by others). 8mm drop rod is used to hang the sections (by others). Follow plenum installation instructions with regard to alignment.

### **BLANKING PLATE**

Blanking plate can be provided for use on inactive sections. The 22swg mill finished material is supplied in 1000mm lengths for cutting on site by others. The blanking plate has return edges that lay in the diffuser outer frame locating into frame side extrusion (10).

### **MAINTENANCE**

FCD diffusers require no maintenance in service. Other than periodical cleaning of the diffuser face and internal surfaces using only warm water with mild detergent, applied with a soft cloth. Care must be taken to not damage the paint. Abrasive cleaners must not be used.



## 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

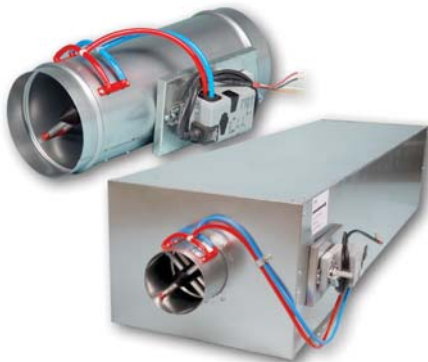
Designed to be installed in various ceiling systems, we have a complete range to suit both performance and aesthetic requirements. Most diffusers are made from aluminium and can be ordered with or without plenum boxes for easy duct work. Diffusers can be ordered in customer specified colours (PPM/G); 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.

The Constant Air Volume damper requires no power source as it is controlled via a mechanical device and calibrated before delivery. All volume dampers can be ordered with a single or double (insulation) skin.

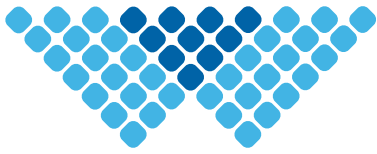
### EXTERNAL LOUVRES

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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