

INSTALLATION, OPERATION AND  
MAINTENANCE INSTRUCTIONS



**SPC**

# AIRDOOR ELITE

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# 1. GENERAL DESCRIPTION

The AIRDOR ELITE range of over-door air curtains is designed for visible or concealed installation. They provide protection against air ingress through open doorways and also add heat to the internal space. The units can provide warm air via a low pressure hot water heat exchanger or via electric heating elements.

# 2. RECEIPT AND PREPARATION

The units are packaged and display the SPC works order number, model reference, site reference(where appropriate) and site details.

On receipt check that all details are correct to the customer schedules prior to opening the packaging. Damages should be reported to the carrier and to the SPC Sales Office immediately. It is recommended that the packaging is kept in place and the units stored in a safe area until the necessary service are complete in order to avoid the possibility of site damage.

# 3. INSTALLATION

Please be aware that there are two styles of visible unit - to accommodate ceiling or wall mounting options and four styles of concealed units - to accommodate T-bar and plasterboard ceilings. The installation of all these products is covered in the following pages.

NOTE: The AIRDOR ELITE range must be installed at least 1.8 m above floor level. The maximum recommended mounting height is 3.5m.

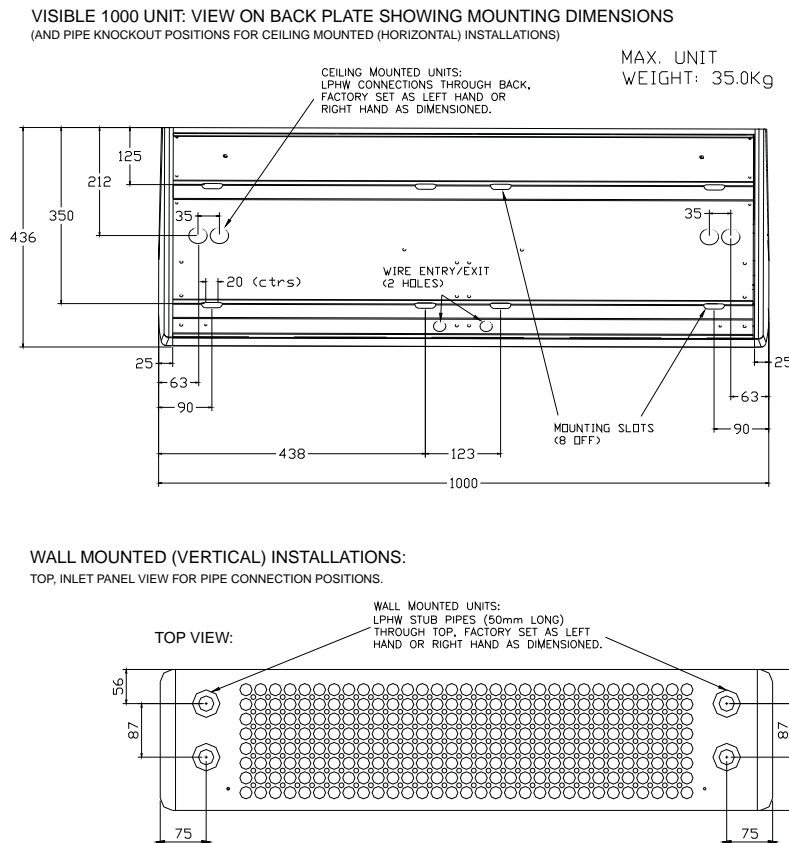
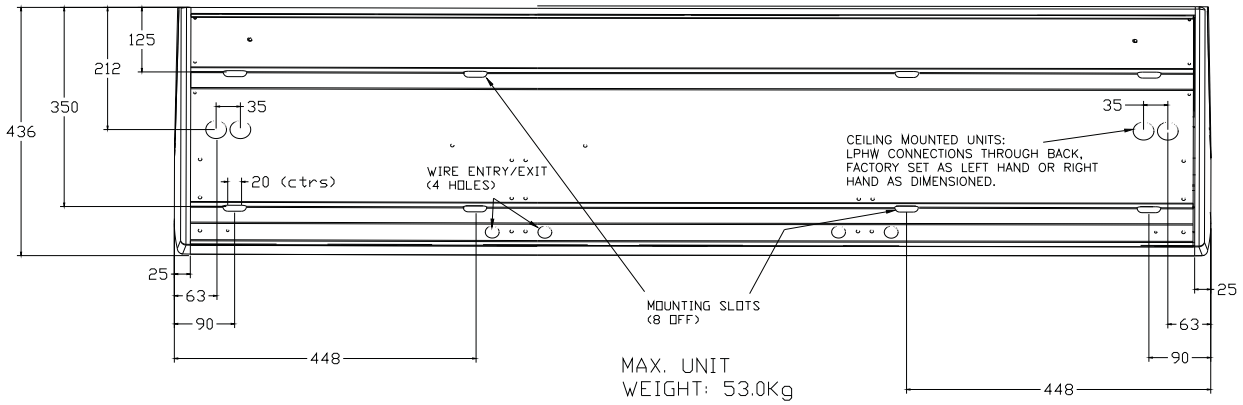
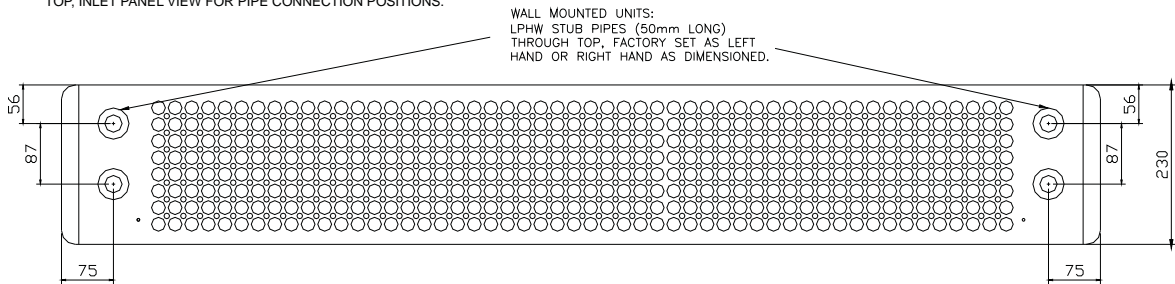


FIGURE 1.

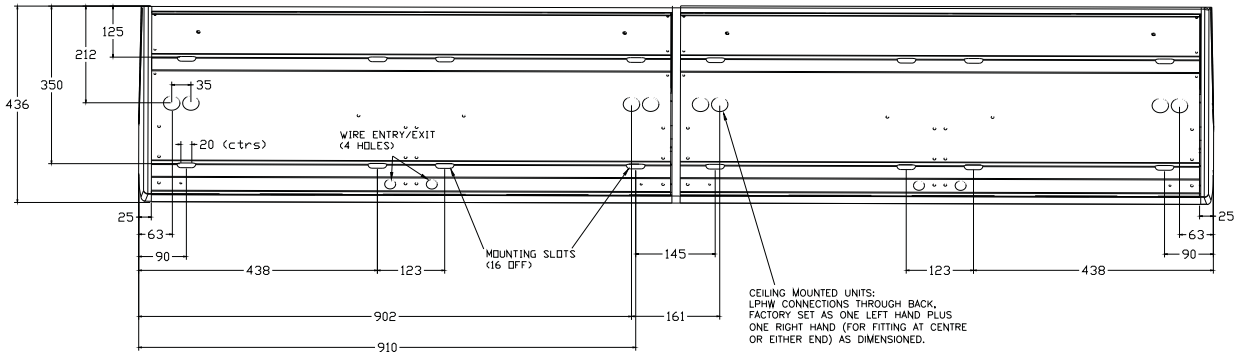
**VISIBLE 1500 UNIT: VIEW ON BACK PLATE SHOWING MOUNTING DIMENSIONS**  
 (AND PIPE KNOCKOUT POSITIONS FOR CEILING MOUNTED (HORIZONTAL) INSTALLATIONS)



**WALL MOUNTED (VERTICAL) INSTALLATIONS:**  
 TOP, INLET PANEL VIEW FOR PIPE CONNECTION POSITIONS.



**VISIBLE 2000 UNIT: VIEW ON BACK PLATE SHOWING MOUNTING DIMENSIONS**  
 (AND PIPE KNOCKOUT POSITIONS FOR CEILING MOUNTED (HORIZONTAL) INSTALLATIONS)



**WALL MOUNTED (VERTICAL) INSTALLATIONS:**  
 TOP, INLET PANEL VIEW FOR PIPE CONNECTION POSITIONS.

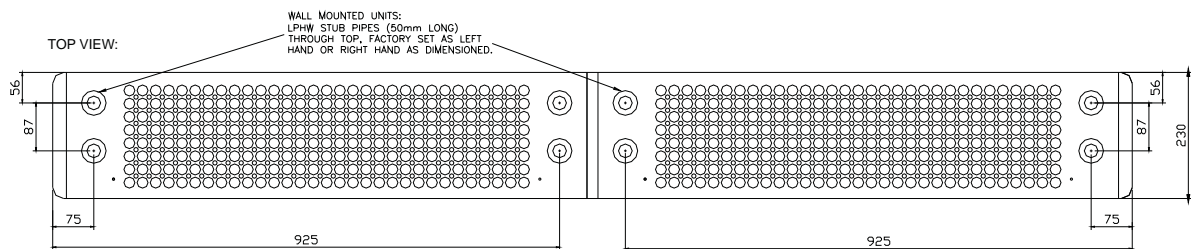


FIGURE 1. Continued

## 3.1. VISIBLE INSTALLATION OPTIONS

### 3.1.1. HORIZONTAL INSTALLATION

Installation requires a minimum of 4 suspension rods on 1000 units (6 on 1500 units) mounted securely to points in the roof space to match the mounting slot positions as in figure 1.

The front access panel is held in place by tamper-proof fasteners and requires a suitably sized Allen key to un-latch (supplied). The panel will also require the internal earth connection removing before the part will drop fully away from the unit. Note once unlatched the front panel is unstable and should be supported until placed on a suitable surface.

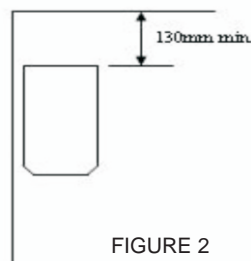
Connections will have been ordered as either left hand or right hand with 22mm diameter stubs inside the unit corresponding to knock-outs in the back panel (see figure 1). Two 90 deg compression elbow fittings will be required to connect supply and return lines to the unit. 2000 sized units will be supplied with a left handed and a right handed coil, for connections to be made either in the middle, or at the ends of the product (four elbows will therefore be required).

If necessary the plastic side panels can be removed to aid access to the pipework. This is done from inside the unit and requires one M5 hex-head bolt to be undone from the centre area of the side panel. When removed the side panel can be carefully pulled clear from the main unit body to release the bullet spring latches that secure this plastic part in place. Replacing the panel is the reverse process but check the location tabs are fitting inside the main body metalwork to ensure a flush and tidy fit.

### 3.1.2. VERTICAL INSTALLATION

Installation requires a minimum of 4 wall mounting bolts on 1000 units (6 on 1500 units) using 8.0mm diameter bolts (min). Bolts must be securely attached to load bearing joists / structure within the wall that match the mounting slot positions as in figure 1.

Note: a minimum clearance of 130.0mm must be maintained between the top, air inlet panel and any obstruction (such as the ceiling) – see figure 2.



Front and side panel access will be as described in 3.2.

Connections will have been ordered as either left hand or right hand with 22mm diameter stubs exiting through the top, air inlet panel (see figure 1). Standard compression joints will be required to connect supply and return lines to the unit. 2000 sized units will be supplied with a left handed and a right handed coil, for connections to be made either in the middle, or at the ends of the

## 3.2. CONCEALED INSTALLATION OPTIONS

### 3.2.1. T-BAR CONCEALED (VOID AND ROOM INLET INSTALLATION)

Key sizes, dimensions and weight data is shown in Figure 3.

Installation requires a minimum of 4 suspension rods mounted securely to points in the roof space to match the mounting slot positions as in figure 3.

1200 sized units require 2 ceiling tiles to be removed plus the centre cross-brace.

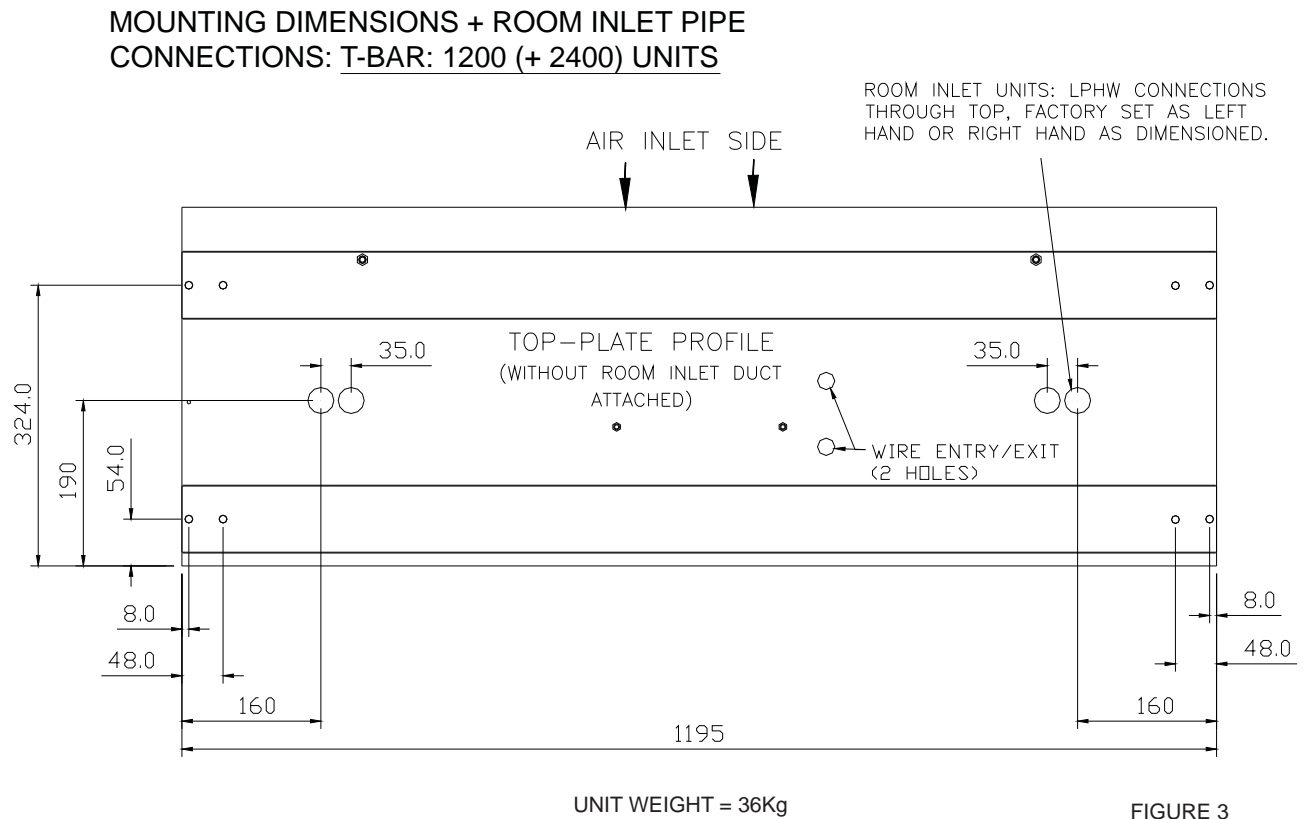
1800 sized units require 3 ceiling tiles to be removed plus the 2 centre cross-braces.

2400 sized units are installed as two 1200 units side by side with the centre cross brace left in place.

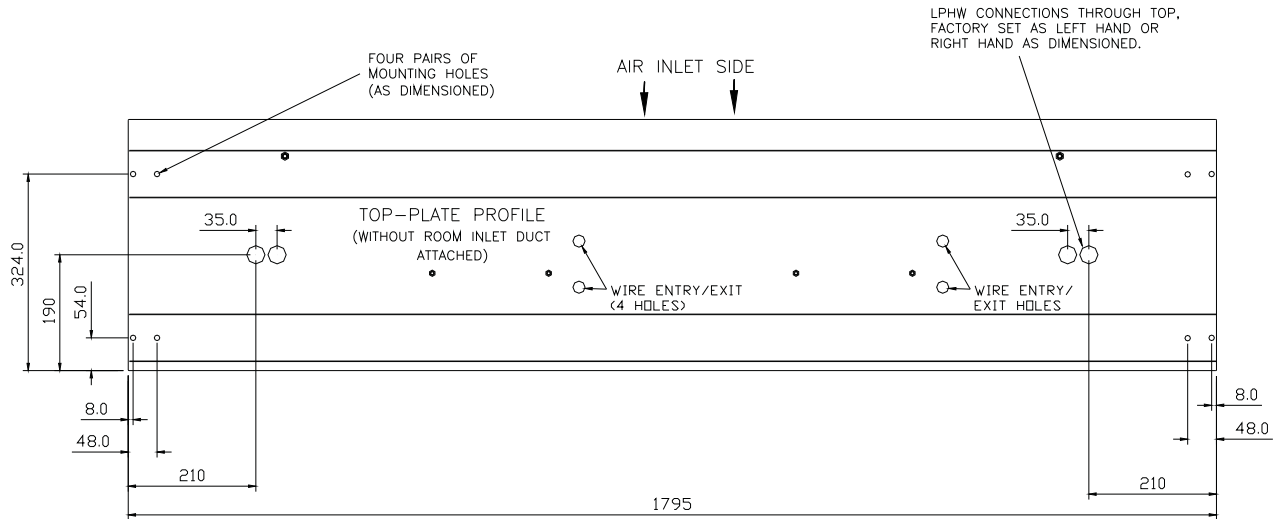
Installation is best completed from within the ceiling void and requires adjusting the suspension rods such that the sides of the product rest on the inside edges of the T-bar profile (see figure 3).

The front access panel is held in place by tamper-proof fasteners and requires a suitably sized Allan key to un-latch (supplied). The panel then will drop away from the unit. Note once unlatched the front panel is unstable and should be supported until placed on a suitable surface.

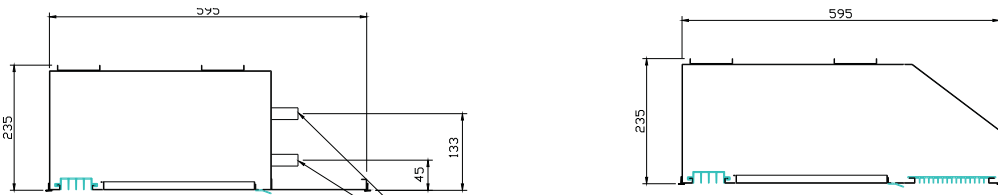
Connections will have been ordered as either left hand or right hand. Void inlet units will be supplied as 22mm diameter stubs exposed through the inlet panel (see figure 3). Room inlet units will be supplied with 22mm diameter connections inside the unit corresponding to knock-outs in the back panel (see figure 3). 2400 sized units will be supplied with a left handed and a right handed coil, for connections to be made either in the middle, or at the ends of the product.



**MOUNTING DIMENSIONS AND ROOM INLET  
PIPE CONNECTIONS: T-BAR: 1800 UNITS**

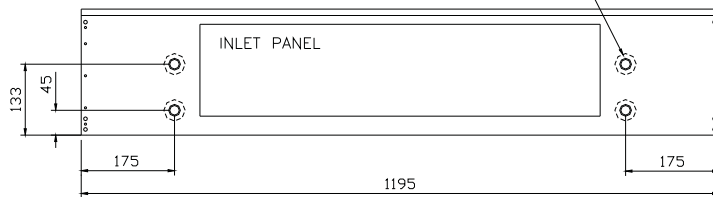


UNIT WEIGHT = 55Kg

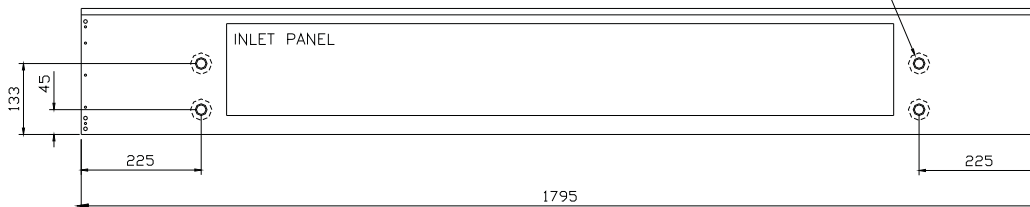


VOID INLET UNITS: LPHW PIPE STUBS (22mm DIA.) POKE THROUGH INLET PANEL AS SHOWN. FACTORY SET AS LEFT HAND OR RIGHT HAND AS DIMENSIONED.

T-BAR: VOID INLET - 1200 (+ 2400) UNITS



T-BAR: VOID INLET - 1800 UNITS



VOID INLET UNITS: LPHW PIPE STUBS (22mm DIA.) POKE THROUGH INLET PANEL AS SHOWN. FACTORY SET AS LEFT HAND OR RIGHT HAND AS DIMENSIONED.

FIGURE 3. Continued

### 3.2.2. PLASTERBOARD CONCEALED (VOID AND ROOM INLET INSTALLATION)

Key sizes, dimensions and weight data is shown in Figure 4.

Installation requires a minimum of 4 suspension rods mounted securely to points in the roof space to match the mounting slot positions as in figure 4. A single (for void inlet) or double cut-out (for room inlet) is required in the plasterboard ceiling for the inlet and outlet grilles. If the grilles have been supplied by SPC then the following diagram (see figure 4) - details the cut-out size. If the grilles are not supplied then work from the centre positions detailed in figure 4. Installation has to be completed from within the ceiling void and requires adjusting the suspension cables such that the bottom edges of the outlet (and inlet with the room inlet units) sit inside the grilles with a 5 - 10mm clearance.

The front access panel is held in place by tamper-proof fasteners and requires a suitably sized Allen key to un-latch (supplied). On plasterboard units this is only accessible from inside the ceiling void.

Connections will have been ordered as either left hand or right hand. Void inlet units will be supplied as 22mm dia stubs exposed through the inlet panel (see figure 5). Room inlet units will be supplied with 22mm dia connections inside the unit corresponding to knock-outs in the back panel. 2400 sized units will be supplied with a left handed and a right handed coil, for connections to be made either in the middle, or at the ends of the product.

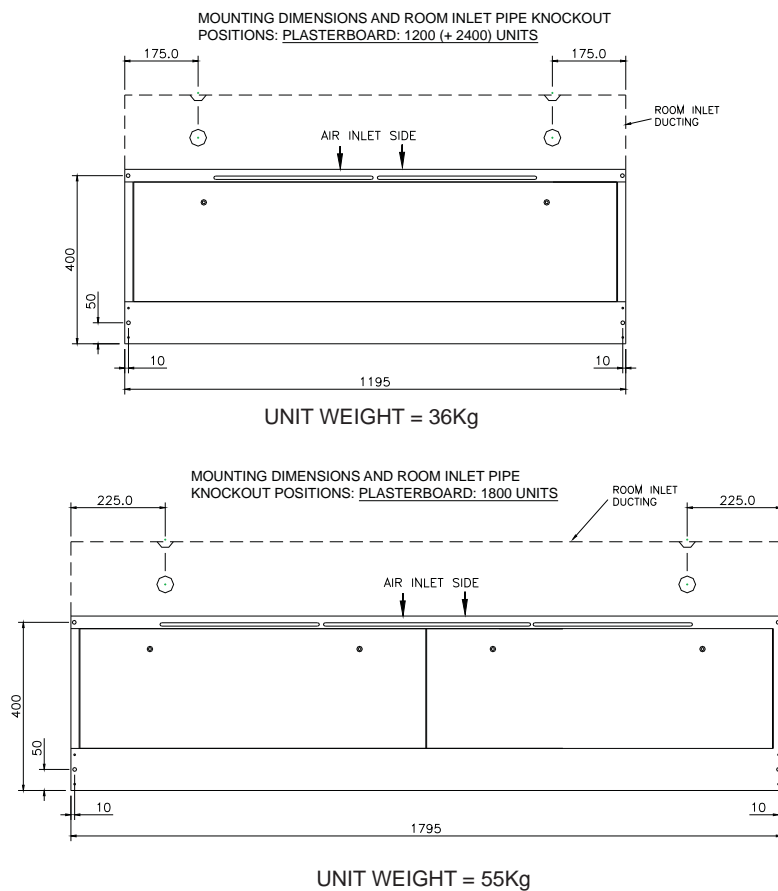
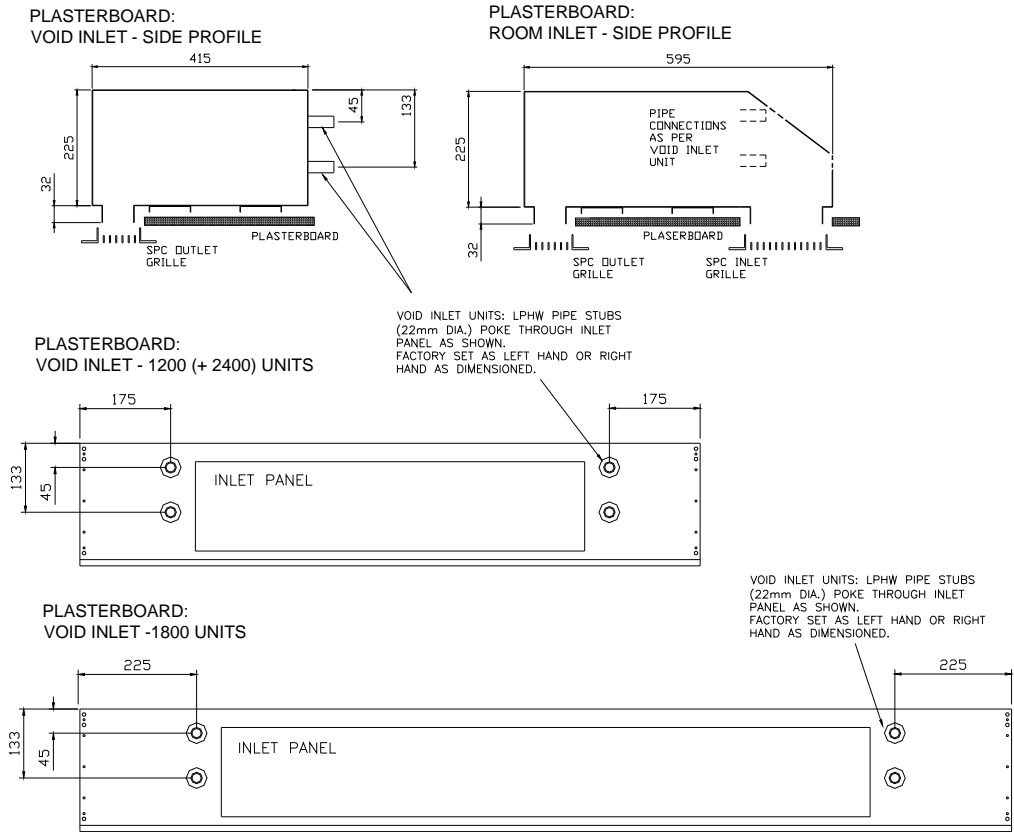


FIGURE 4.





**PLASTERBOARD GRILLE APERTURE DIMENSIONS:**

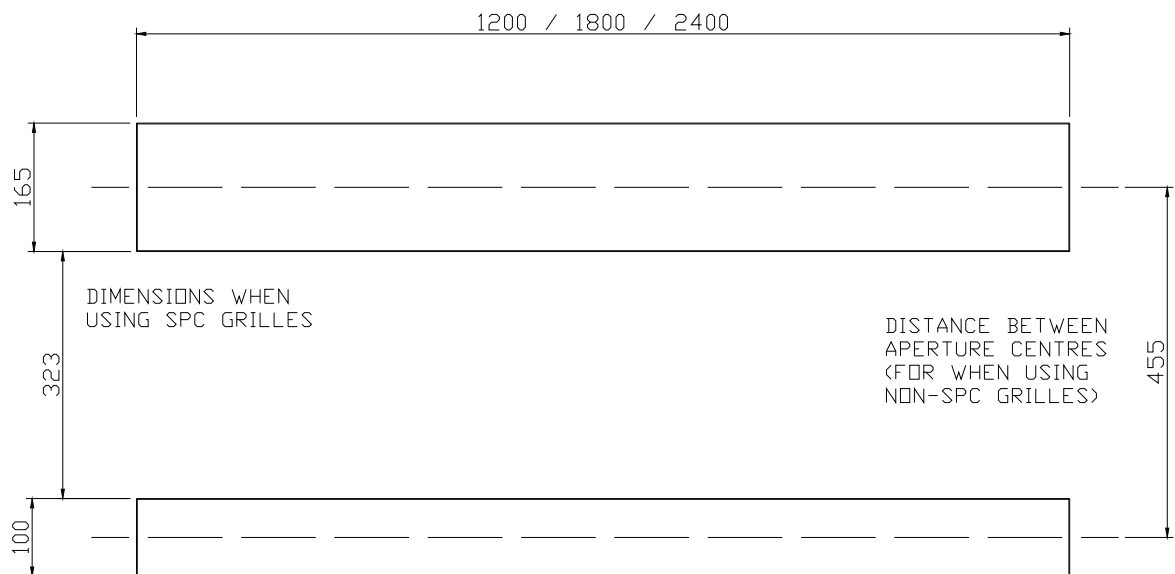


FIGURE 4. Continued

## 4. ELECTRICAL CONNECTIONS

### 4.1. LPHW UNITS

All electrical work shall be carried out in accordance with current I.E.E. Regulations. Unit motors operate on single phase 240V/50Hz supply. Electrical connection is made to the mains terminal block located on the transformer plate between the fans (knock-outs in the back plate are present for cable entry – see figure 1). The supply should be wired through a suitable means of isolation such as a fused spur box close to the unit. Recommended fuse for the LPHW unit is 5A. A 3 core cable must be used to supply mains electricity, with the earth line connected as per the supplied wiring diagram.

### 4.2. ELECTRIC UNITS

All electrical work shall be carried out in accordance with current I.E.E. Regulations. Electric elements operate on 415V/50Hz three phase supply (can be 240V/50Hz single phase on 6kW units). Unit motors operate on single tapping from three phase supply (as per supplied wiring diagram). Electrical connection is made direct to the switch contractors and heating element terminals as per the supplied wiring diagram (knock-outs in the back plate are present for cable entry). The supply should be wired through a suitable means of isolation close to the unit.

## 5.0. CONTROL DATA

### 5.1. CONTROL WIRING

A wiring diagram showing customer connections is included with each unit. For wiring other than with the standard, available options the SPC Technical Department should be contacted.

### 5.2. FAN SPEED SELECTION - LPHW UNITS

The standard installation on LPHW units has a change speed fan switch behind the front panel. Should the speed of the unit require adjusting during installation this can be done by removing the front panel and altering the switch position.

### 5.3. CONTROL OPTIONS - LPHW UNITS

An air filter, 3-speed fan switch and low water temperature cutout come as standard water options.

LPHW OPTIONS		
Energy saving thermostatic controls	RT 1	ON/OFF thermostat with fascia dial (remote)
	TL X	ON/OFF thermostat with tamper-proof dial (remote)
	AL TC	Adjustable low water-temperature cutout (remote)
Switches	RS 1B	ON/OFF rocker switch (integral)
	RS 1R	ON/OFF rocker switch (remote)
	RS 2B	Summer/winter LTC override (integral)
	RS 2R	Summer/winter LTC override (remote)
	RS 3R	3-speed control (remote)
	combinations	RS12R, RS13R, RS123R etc.
Electrical connections/Coil Connections	FS B	Fused spur box for electrical connection
	ISV	Isolating valves for flow/return pipes

## 5.4. CONTROL OPTIONS - ELECTRIC HEATED UNITS

A high-temperature cutout and single, preset fan speed come as standard electric options.

ELECTRIC OPTIONS		
Energy saving thermostatic controls	RT 1	ON/OFF thermostat with fascia dial (remote)
	TL X	ON/OFF thermostat with tamper-proof dial (remote)
Switches	RS 1R	ON/OFF rocker switch (remote)
	RS 2R	Summer/winter fan only control (remote)
	RS 3R	2-heat control (remote)
	combinations	RS12R, RS13R, RS123R etc.

## 6. OPERATION AND MAINTENANCE

### WARNING! ELECTRICALLY ISOLATE THE UNIT PRIOR TO COMMENCING WORK

#### 6.1. FILTER - LPHW UNITS ONLY

Filters should be cleaned regularly in order to maintain unit performance. The filters are located directly behind the air inlet panel fitted behind the plastic clip. Remove by pushing the angled edge towards the unit to release the clip and then pulling the filter clip clear. To refit the filter push filter and clip home into the front panel metalwork until flush with the unit.



FIGURE 5.

#### 6.2. COIL - LPHW UNITS ONLY

To periodically clean the coil the front panel has to be removed.

#### 6.3. FAN SET

The fan/motor set has sealed for life bearings which should not require any user operation.

## **6.4. FUSING**

Fan motor fuses = anti-surge 20mm x 5mm to BS 4265/IEC127.  
2A rating for 1000 sized units.  
5A rating for 1500 and 2000 sized units

## **7. SPARES**

2A fuse 33/114  
5A fuse 33/115  
Standard filter SK4142  
Centre Filter (1500 + 1800 units only) SK4143  
Fan/motor set 400/146

## **8. CONTACT INFORMATION**

S & P Coil Products Limited  
SPC House, Evington Valley Road, Leicester, LE5 5LU  
Tel: +44 (0)116 249 0044 Fax: +44 (0)116 249 0033  
Email: [spc@scoils.co.uk](mailto:spc@scoils.co.uk) Website: [www.spc coils.co.uk](http://www.spc coils.co.uk)