



# **SCREENZONE RECESSED WARM AIR CURTAIN**

**CATALOGUE NUMBER RAC6000EW - 6000W**

## **INSTALLATION AND OPERATING MANUAL**

<b>INDEX</b>	<b>Section</b>
General information -----	1
Dimensions -----	2
Installation Details -----	3
Electrical Connections -----	4
Servicing & Maintenance -----	5

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# General Information

## 1.1 Introduction

This instruction manual describes the ScreenZone Recessed Air curtain RAC6000EW.

The heater is designed for discreet positioning in a suspended ceiling or bulkhead in the doorways of retail or commercial premises. Overall energy saving is likely when the heater is sited above a frequently opened external door as the airstream can prevent heat loss. Will fit a recess as shallow as 210mm.

## 1.2 General

All installations must be in accordance with the regulations in force in the country of use.

These instructions must be handed to the user on completion of the installation.

Installers and service engineers must be able to demonstrate competence and be suitably qualified in accordance with the regulations in force in the country of use.

To ensure continued and safe operation it is recommended that the appliance is serviced annually.

The air curtain outlet / inlet slots must not be obstructed during use.

## 1.3 Electrical Supply.

Electrical supply is either 230V 1 phase or 415V 3 phase, Neutral and Earth. Max cable inlet size is 4mm<sup>2</sup> for 1 - 4 terminals and 6mm<sup>2</sup> for L and N terminals.

It is recommended that the electrical supply to the base unit in the air curtain is via an appropriate switched isolator in accordance with the regulations in force in the country of use and must be via a fused isolator having a contact separation of greater than 3mm on all poles.

BMS control, time switches, room thermostats and door interlocks can be installed at the discretion and responsibility of the installer.

All units must be wired in accordance with I.E.E regulations for the Electrical Equipment of Buildings and the installer should ensure that a suitable isolating switch is connected in the mains supply.

## 1.3.1 Controller

The heater is supplied without a controller. The heater can be controlled remotely via BMS or any controls with contact rated for 2A. Controls are wired to the base unit via 0.5mm<sup>2</sup>.

## 1.4 Location.

All units should be installed horizontally directly over the door opening. It is recommended that the air curtain is installed on the inside of the building, within the ceiling void or roof space.

Care must be taken to allow complete free air movement into the inlet grilles of the unit to ensure correct working operation of the air curtain. The discharge opening should be as close to the top of the door as possible and to cover the entire door width.

Units can be mounted adjacent to each other to cover the full door opening across wider entrances.

## 1.5 Clearance distances

It is recommended that a minimum clearance of 100mm is allowed around the case and 55mm above sizes detailed on the page 3. The clearance allows for cable entry and prevents combustible surfaces overheating.

The minimum mounting height (floor to grille) is 2m. The recommended mounting height is 3m.

## 1.6 Health and Safety

Sole liability rests with the installer to ensure that all site safety procedures are adhered to during installation.

Sole liability rests with the installer to ensure that protective safety wear such as hand, eye, ear and head protection is used during installation of the product.

Do not rest anything especially ladders against the product.

## 1.7 Standards

Units conform to the European electrical standard BS EN 60335-2-30

## 2. Dimensions.

### 2.1 Air curtain dimensions

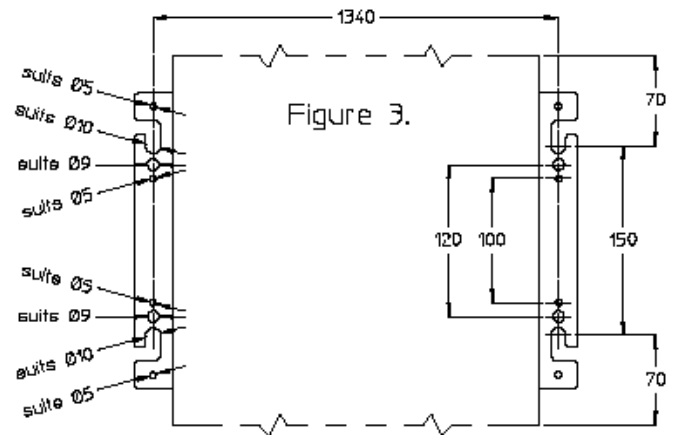
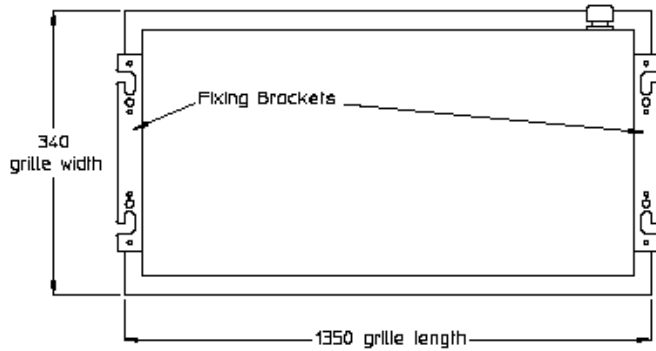
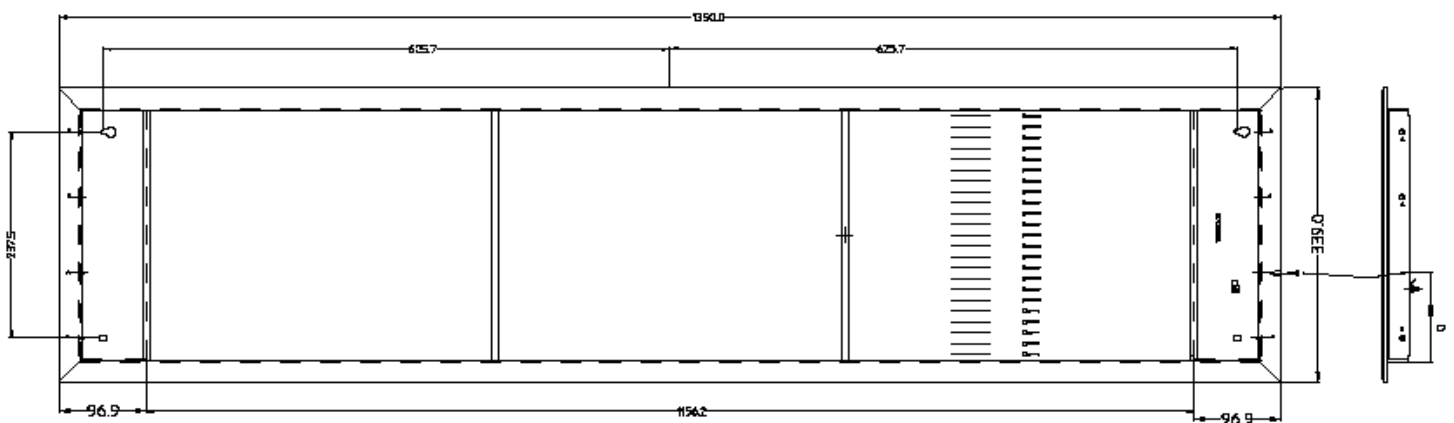
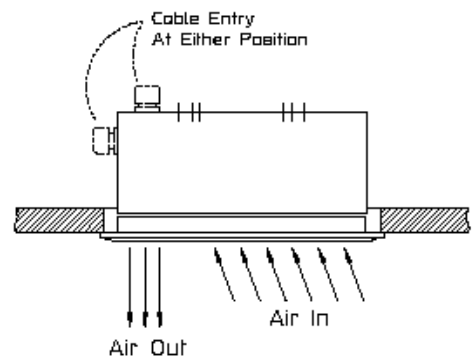
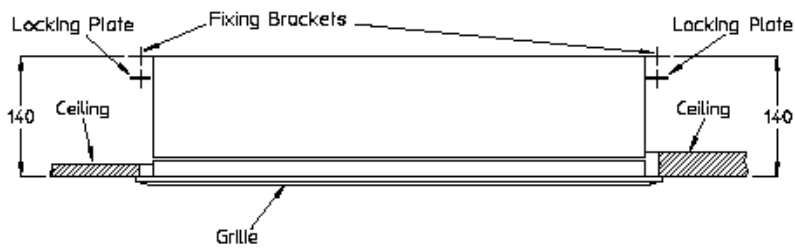


Figure 4.



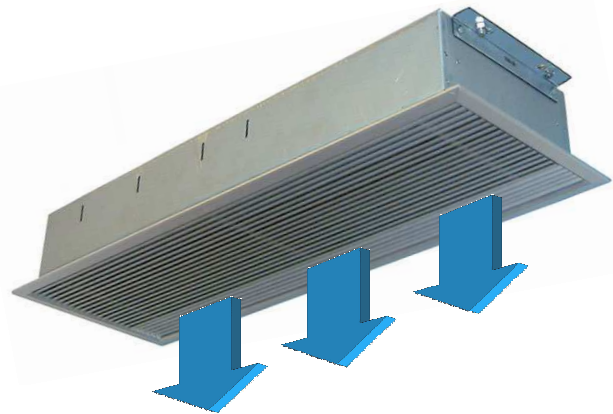
## 3. Installation Details.

### 3.1 Mounting

All units should be installed horizontally directly over the door opening. It is recommended that the air curtain is installed on the inside of the building, within the open room space against a wall or ceiling.

Care must be taken to allow complete free air movement into the inlet grilles of the unit to ensure correct working operation of the air curtain. The discharge opening should be as close to the top of the door as possible and to cover the entire door width.

Units can be mounted adjacent to each other to cover the full door opening across wider entrances.



**ENSURE AIR OUTLET LOUVRES ARE NEAREST TO DOOR APPERTURE.**

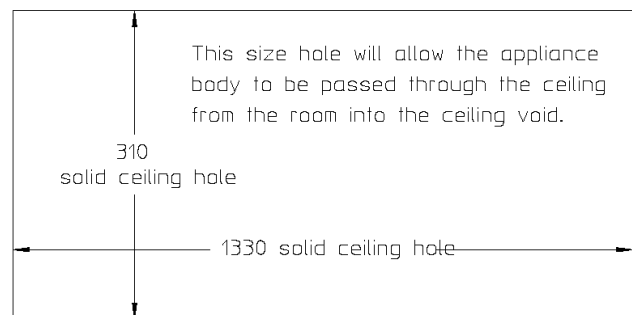
### 3.2 Electrical Connections.

These units are suitable for connection to a 415 Volt, 50Hz 3 phase and neutral supply or 230/240 Volt 50 Hz single phase supply.

The appliance shall be connected to the supply via an appropriate switched fused double pole isolator having a contact separation of greater than 3mm. Test for correct operation and refit the cover.

For connection to the mains supply it will be necessary to remove the lid from the unit.. It will be necessary to connect the mains supply and the lead from the controls prior to refitting the cover. Wire in accordance to wiring diagrams.

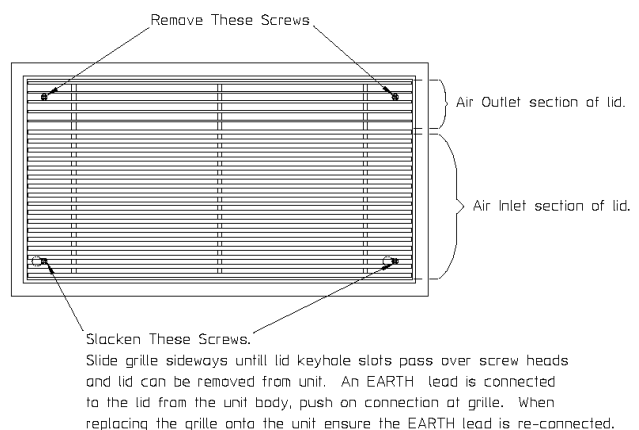
For safety reasons, a sound earth connection must always be made to the unit before it is put to use. The unit should be wired in accordance with IEE Regulations for the Electrical Equipment of Buildings.



### 3.3 Installation.

! It is the sole responsibility of the installer to ensure that the points of attachment to the building are sound. Consultation with the consultant/architect or owner of the building is recommended to ensure that a sound, mechanically stable installation is achieved.

Before fitting or wiring the air curtain, ensure casing faces as on the picture and see general installation guidance notes.



Using a pozidrive screwdriver slacken the two M5 screws in the corners near inlet side and remove the two M5 screws in opposite corner near the outlet. Slide lid sideways until keyhole slots pass over the screw heads. The lid assembly can now be removed from the case.

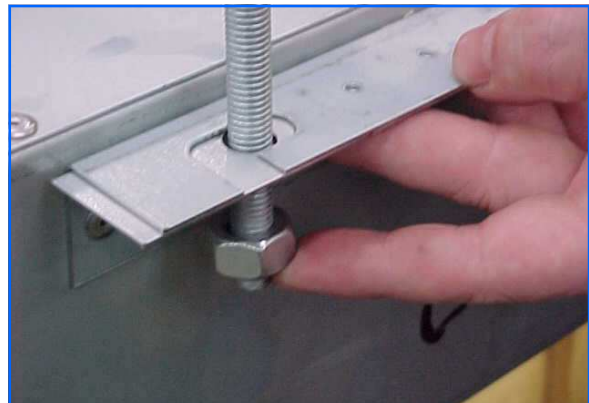
Each unit has 2 fixing brackets from which it is suspended. The brackets may be removed to assist in passing the air curtain through the recess then reattached when in-situ.

Either drop rods or catenary wire can be used to fasten the air curtain to the ceiling support structure.

The height between the ceiling face and the top of the air curtain case needs to be adjusted to circa 140mm (See fig.4) to enable the grille assembly to fit flush with the ceiling. Adjust accordingly.

After fitting the product in the ceiling recess and adjusting the height to ensure that the grille sits flush to the ceiling (when re-fitted) take the grille assembly and refit using the screws removed.

Before finally replacing the grille, ensure the protective film is removed.



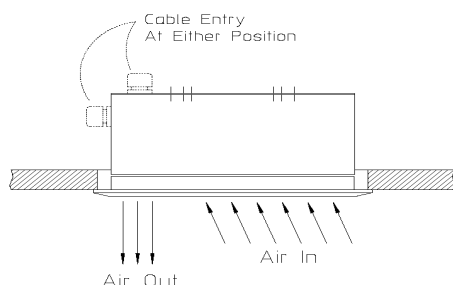
## 4. Electrical Connections.

### 4.1 Installation wiring

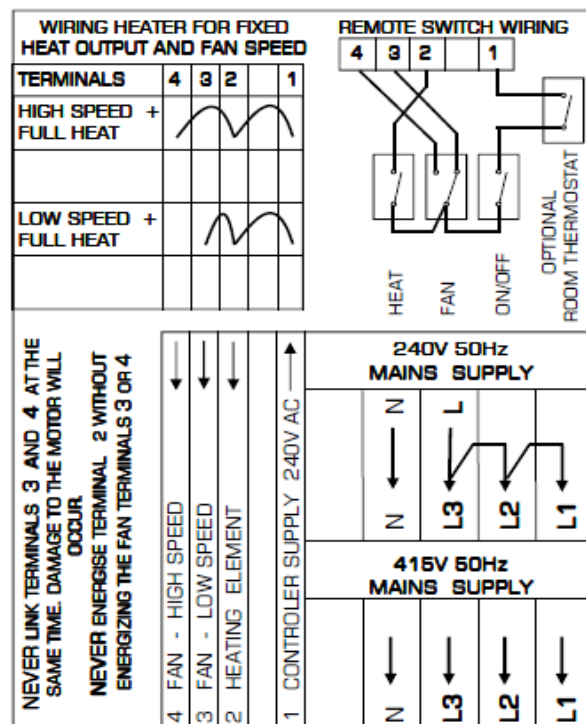
With case removed, connect the electrical supply and controls wiring to the appropriate terminals (See relevant wiring diagram section)

The unit has four holes for the cable entry, two on the top and two on the side. Cable entry may be moved to alternative position if desired. (See drawing below)

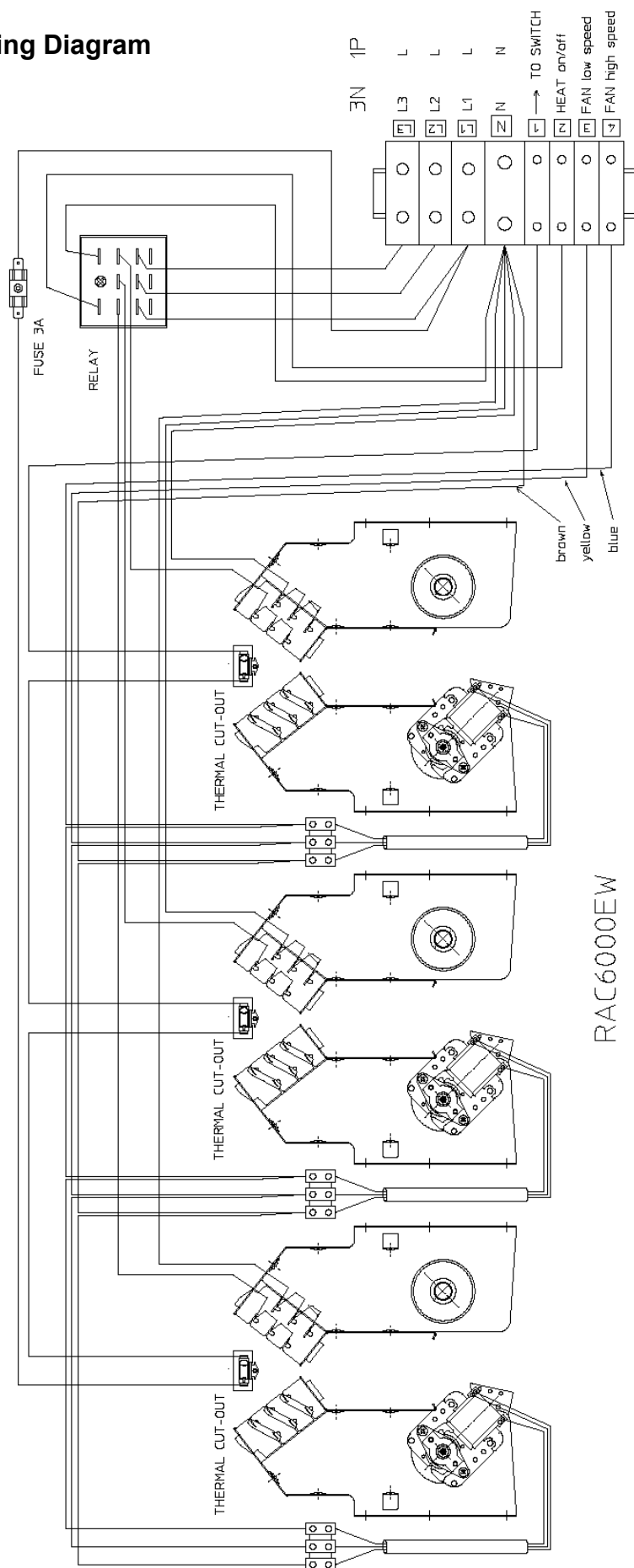
An EARTH lead is connected to the lid from the unit body, push on connection at grille. When replacing the grille onto the unit ensure the EARTH lead is re-connected.



### 4.2 Terminals Label

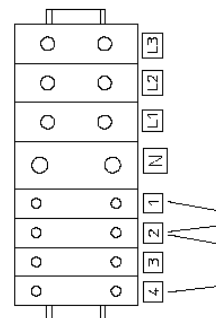


## 4.3 Wiring Diagram

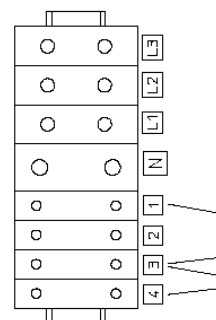


RAC6000EW

WIRING HEATER FOR FIXED HEAT OUTPUT AND SPEED

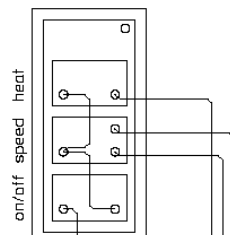
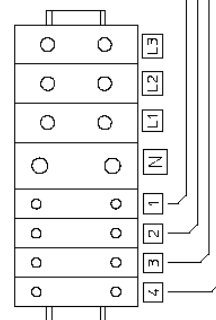


MAXIMUM HEAT AND HIGH SPEED



MAXIMUM HEAT AND LOW SPEED

REMOTE SWITCH WIRING



NEVER LINK TERMINALS 3 AND 4 AT THE SAME TIME  
DAMAGE TO THE MOTOR CAN OCCURE

NEVER ENERGISE TERMINAL 2 WITHOUT ENERGIZING  
THE FAN TERMINALS 3 OR 4

## 5. Servicing & Maintenance.

### 5.1 Maintenance

 **ALWAYS ENSURE THAT THE MAIN EXTERNAL ELECTRICITY SUPPLY IS SWITCHED OFF BEFORE COMMENCING ANY MAINTENANCE ON THIS HEATER.**

To obtain the best results from the heater, it is essential to avoid the accumulation of dust and dirt within the unit on the air inlet and discharge grilles. For this reason regular cleaning is necessary, paying particular attention to the removal of dirt build up on the rotor blades.

Cleaning of the fan is best carried out with a soft brush.

The product should be serviced annually.

Servicing shall be undertaken by a competent person.

### 5.2 General

If the air curtain does not operate after switching on, then a suitably competent service engineer should be called to identify the nature of the fault.

*Note The manufacturer operates a service function from the address provided in these instructions.*

All Air Curtains are fitted with fuse protection and motor thermal protection.

Other faults in relation to the element, motor and wiring should be identified using conventional fault finding techniques.

In the event that electrical components are replaced, please ensure that electrical safety checks in accordance with the regulations in force in the country of use are undertaken.

### 5.3 Thermal cut-out

The units are protected from overheating in the event of fan failure or an obstruction of the free airflow, by a thermal cut outs. If this happens the thermal cut outs effectively switches off the appliance. The appliance will not operate until the heater is disconnected from the mains supply and it has cooled down. If this fault re-occurs again, refer to 'fault conditions'.

### 5.4 Fault Finding

If the heater will not operate, disconnect it from the mains and arrange for a certified electrician to attend to investigate the reason.

### 5.5 Replacing Fan Heater Assembly

Remove the lid.

Disconnect the internal wiring from the main terminal block. Remove the four nuts and washers fixing the fan heater assembly to the back of the case. The fan heater assembly can now be eased forward and removed from the heater case. Fit replacement fan heater and reassemble in reverse order.

### 5.6 Spares

It is essential when ordering spares or replacement parts to state the model number and the serial number on the rating plate fixed to the top of the unit.

In the interest of progress the Company reserve the right to vary specifications from time to time without notice. The material listed is offered subject to the Company's General Conditions of Sale, a copy of which can be obtained on request.

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