

## AB-2 RANGE AMBIENT AIR CURTAIN



These appliances meet the following EC Directives

DIR 2009/142/EC:GAD  
DIR 2014/30/EC:EMC  
DIR 2014/35/EC:LVD  
DIR 2006/42/EC:MD

**PLEASE READ THIS DOCUMENT CAREFULLY BEFORE COMMENCING THE INSTALLATION AND LEAVE IT WITH THE USER OR ATTACHED TO THE APPLIANCE OR GAS SERVICE METER AFTER INSTALLATION.**

### **WARNING**

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. All work must be carried out by appropriately qualified persons.

**The manufacturer does not take any responsibility in the event of non-observance of the regulations concerning the connection of the apparatus causing an evil operation possibly resulting in damage to the apparatus and/or environment in which the unit is installed.**

Subject to modifications

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## WARNINGS :

Improper installation, adjustment, alteration, service, or maintenance can cause property damage, injury, or death. Read the installation, operation, and maintenance instructions thoroughly before installing or servicing this equipment.

Appliances are not designed for use in hazardous atmospheres containing flammable vapors or combustible dust, in atmospheres containing chlorinated or halogenated hydrocarbons or in applications with airborne silicone substances.

Should overheating occur, or the gas supply fail to shut off, shut off the manual gas valve to the appliance before shutting off the electrical supply.

Do not use this appliance if any part has been immersed in water. Immediately call a qualified service technician to inspect the appliance and replace any gas control that has been immersed in water.

This appliance is not intended for use by persons (including children) with reduced sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instructions concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.



### WARNING:

THIS AIR CURTAIN SHOULD NOT BE INSTALLED WHERE THERE IS A CORROSIVE ATMOSPHERE.

# 1. General Information

Welcome to the new AB-2 Reznor air curtain models. Local regulations may vary in the country of use and it is the installers responsibility to ensure that such regulations are satisfied.

All installation, assembly, commissioning and service procedures must be carried out by suitably qualified competent persons to the statutory regulations in the country of use.

When installing, commissioning and servicing is undertaken on the air curtains specified in these instructions, due care and attention is required to ensure that working at height regulations are adhered to at the mounting heights specified.

All dimensions shown are in mm unless otherwise stated.

The manufacturer reserves the right to alter specifications without prior notice.

**PLEASE READ** this document prior to installation to familiarise yourself with the components and tools you require at the various stages.

The primary reason for installing air curtains is to prevent the influx of cold outside air through a door opening into a heated area.

Typical applications include large despatch bay doors in factories and warehouses, and internal doors between areas of different temperatures.

Wider door openings can be accommodated by bolting two or more units together.

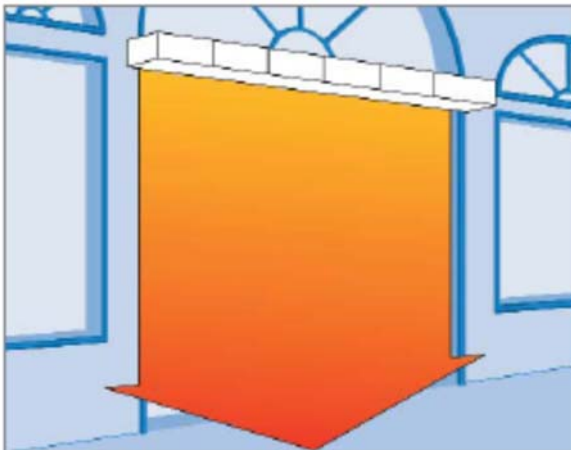
Air curtains control the internal climate by emitting an air stream with enough velocity to meet the floor so creating an air barrier in the door area. To prevent the ingress of outside draughts, the discharge louvre is angled outwards, so that the air leaving the building meets the wind trying to enter, thus deflecting it. (See diagrams below).

Reznor air curtains provide uniform air distribution across the full width of the door, keeping heated or conditioned air inside the building and stopping the ingress of cold air, draughts, and dust.

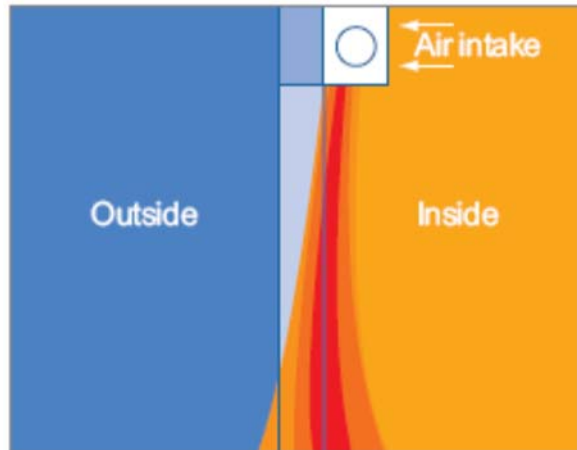
This manual provides detailed information on the installation of Reznor air curtains. It is essential that these products are installed in accordance with these manufacturers instructions.



Without air curtain



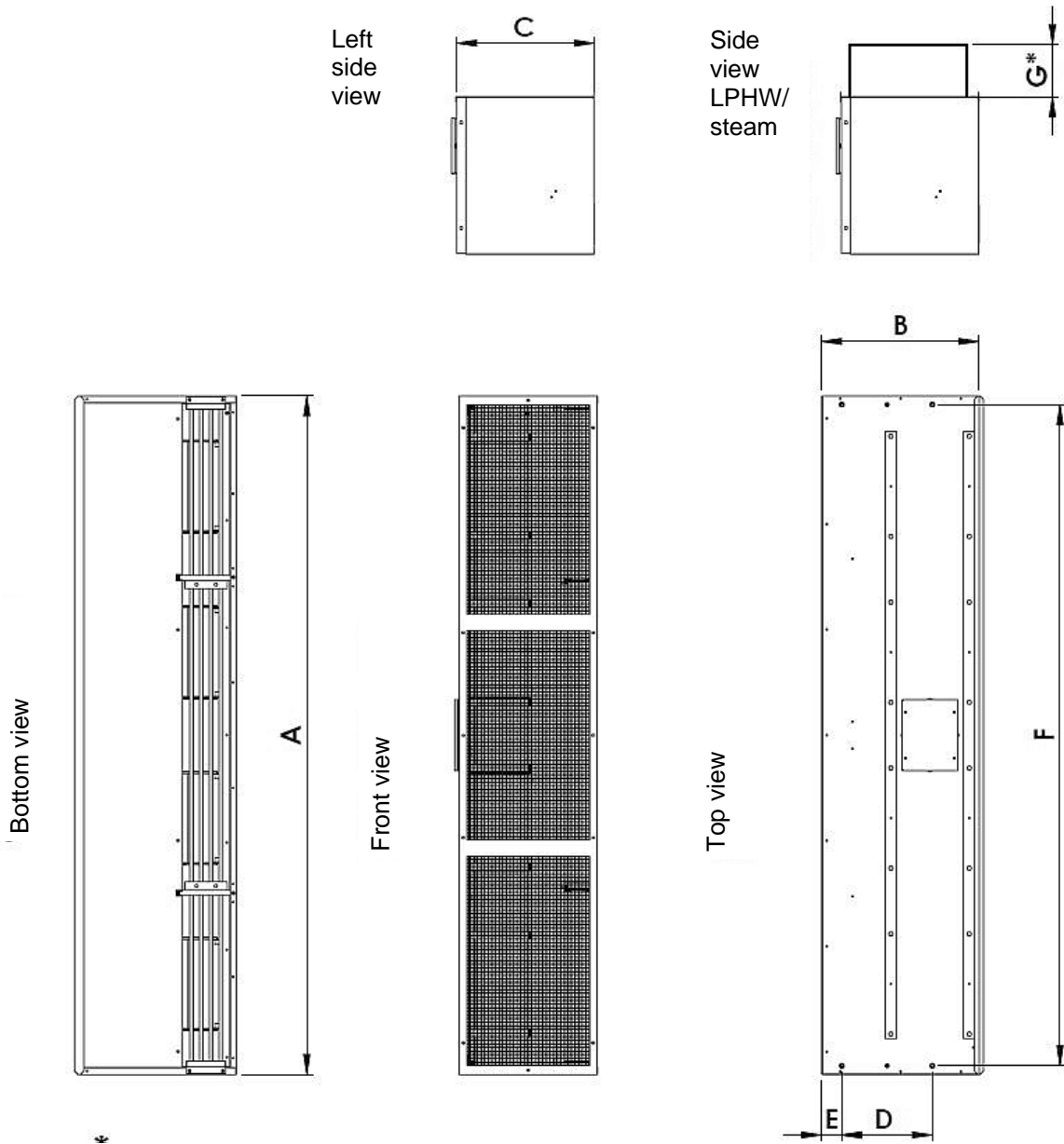
With air curtain



Pattern of airflow

## 2. Dimensions

Figure 1: Dimensions (tol.  $\pm 2\text{mm}$ )



\* Typical projection for LPHW/steam housing. LPHW/steam coils available to order (see contact details on rear cover of document)

| Mod.          | A    | B   | C   | D   | E  | F    | G   | Weight |
|---------------|------|-----|-----|-----|----|------|-----|--------|
|               | mm   | mm  | mm  | mm  | mm | mm   | mm  |        |
| <b>AB 150</b> | 1500 | 523 | 456 | 300 | 66 | 1442 | 201 | 80     |
| <b>AB 175</b> | 1750 | 523 | 456 | 300 | 66 | 1692 | 201 | 92     |
| <b>AB 225</b> | 2250 | 523 | 456 | 300 | 66 | 2192 | 201 | 114    |

### 3. Technische specificaties

|                                |  |                         |                         | <b>Air curtain model AB-2</b> |                |                |
|--------------------------------|--|-------------------------|-------------------------|-------------------------------|----------------|----------------|
|                                |  |                         |                         | <b>AB 150A</b>                | <b>AB 175A</b> | <b>AB 225A</b> |
| <b>Air distribution fans</b>   |  |                         |                         |                               |                |                |
| <b>Type</b>                    | Centrifugal (with integral thermal trip) |                         |                         |                               |                |                |
| <b>Speeds</b>                  | 3  |                         |                         |                               |                |                |
| <b>No. of fans</b>             | 2  | 3                       | 4                       |                               |                |                |
| <b>Maximum air volume</b>      | 6400m <sup>3</sup> /hr                   | 11000m <sup>3</sup> /hr | 13000m <sup>3</sup> /hr |                               |                |                |
| <b>Voltage</b>                 | 230V 1PH 50Hz                            |                         |                         |                               |                |                |
| <b>Power rating (per fan)</b>  | 1140 W                                   |                         |                         |                               |                |                |
| <b>Current (per fan)</b>       | 5.2A (FLC)                               |                         |                         |                               |                |                |
| <b>Start current (per fan)</b> | 12A                                      |                         |                         |                               |                |                |

#### Power

|   |        |        |        |
|---|--------|--------|--------|
| <b>Total electrical power consumption</b> | 2.28kW | 3.42kW | 4.56kW |
|---|--------|--------|--------|

#### Constitution\*

| <b>Model AB-2</b> | <b>AB150</b> | <b>AB175</b> | <b>AB225</b> |
|-------------------|--------------|--------------|--------------|
| AB150=            | x 1          |              |              |
| AB225=            |              |              | x 1          |
| AB300=            | x 2          |              |              |
| AB350=            |              | x 2          |              |
| AB400=            |              | x 1          | x 1          |
| AB450=            |              |              | x 2          |
| AB525=            |              | x 3          |              |
| AB575=            |              | x 2          | x 1          |
| AB625=            |              | x 1          | x 2          |
| AB675=            |              |              | x 3          |

\* table shows **full** range of models available and the modules that make up their construction. No other variants are available.



#### **WARNING:**

THIS AIR CURTAIN SHOULD NOT BE INSTALLED WHERE THERE IS A CORROSIVE ATMOSPHERE.

## 4. Installation details

### Health and safety

Reznor air curtains must be installed in accordance with the relevant national and international regulations and any other requirements by a qualified installer.

Isolate all electrical supplies to the heater & control panel before proceeding.

For your own safety we recommend the use of personal protective equipment when handling this air curtain.

Check the supporting structure to verify that it has sufficient load-carrying capacity to support the unit weight. Suspend the heater only from the threaded nut retainers or with a manufacturer provided kit.

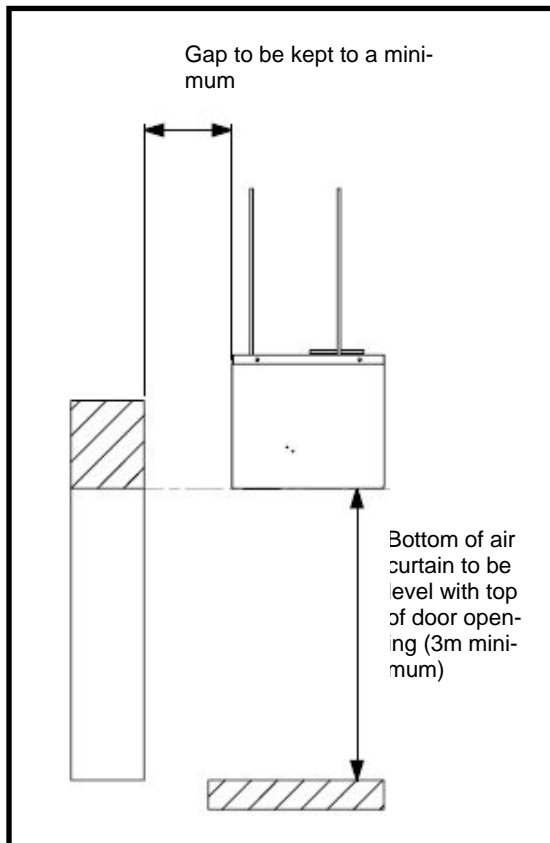
DO NOT suspend from the heater cabinet panels. Do not place or add additional weight to the suspended heater.

### 4.1 Mounting

Reznor air curtains are supplied with mounting brackets pre-fitted, either as single units, or in multiples, which can be bolted together to suit various door widths.

The minimum mounting height is 3 metres. Attention : the bottom of the air curtain to be level with top of door opening (minimum 3 metres).

Fig. 2



### 4.1.1

#### Suspension by means of threaded rods.

The air curtains can standard be suspended using threaded rods M10 and lock nuts.

Ensure that the structural elements which will be used to suspend the appliance are adequate to carry the weight of the appliance.

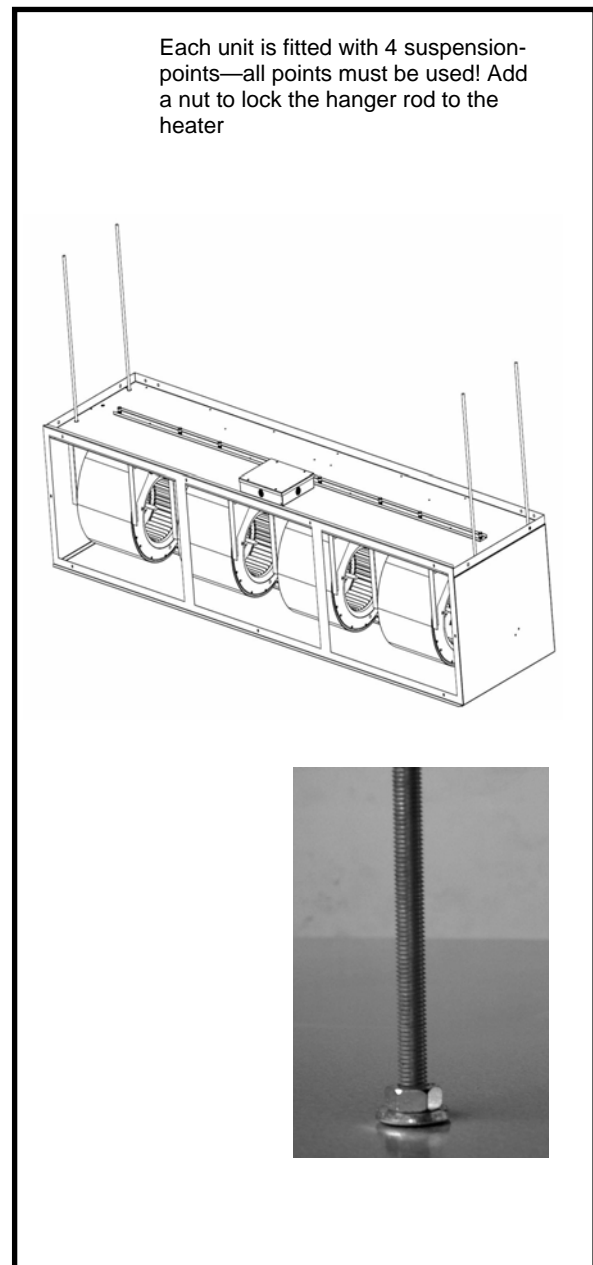
Leave the unit on the pallet. If the bottom of the unit is not supported or protected damage can occur.

The heater is supplied with 4 suspension points. All points must be used.

Ensure that threaded rods are lock nut secured to ensure against loosening.

Use a lock nut being carefully tightened in order not to damage the screw thread.

Fig. 3a



## 4. Installation details (cont)

It may be necessary to adjust the position of the air outlet louvres to provide the correct airflow across the door opening. This can be done by first loosening the locking pins (fig. 4), The louvres can now be moved to the desired position and the locking pins re-tightened.

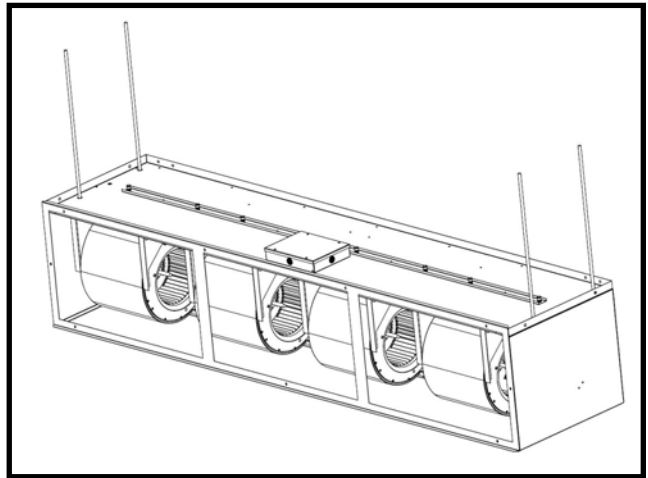
NOTE: The AB 225-2 model has two pairs of lock nuts, whereas the AB 175-2 model only has one pair.

Fig. 3b



Lock nut

**Fig. 4:**  
Mounting of one single air curtain



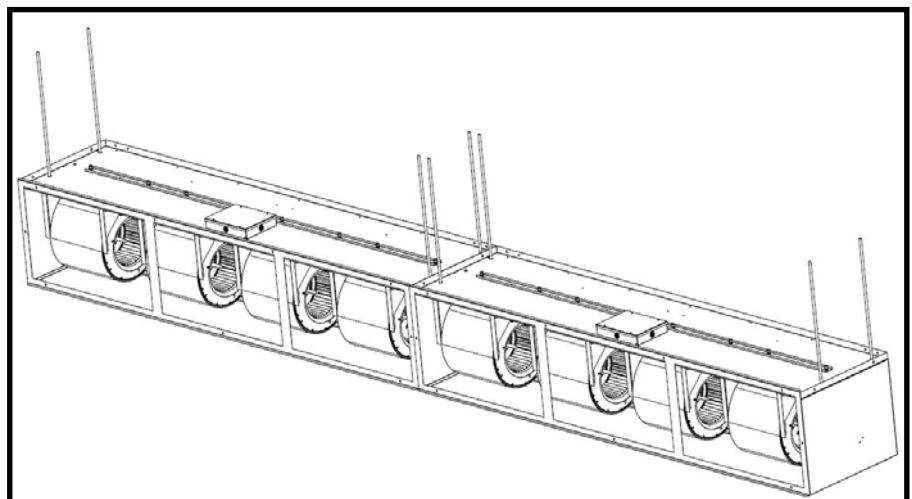
### 4.1.2 Multiple air curtains

Multiple air curtains must be fixed to the building structure by means of threaded rods as described in section 4.1.1.

Make sure that the multiple air curtains are level and in the same plane in order to avoid bending of the system.

Then, the air curtains must be fixed together by means of four M6 bolts, nuts and washers in the hereto provided holes in the side of the unit.

**Fig. 5:**  
Mounting of multiple air curtains



## 5. Wiring details

The electrical control panel incorporates the facility to interlock with the door opening mechanism and automatically switch the air curtain on and off as the door is opened and closed. A pair of volt free auxiliary contacts are required on the door open/close contactor which closes as the door opens. If this is not available then a suitably positioned limit switch and striker plate will need to be fitted to the door.

The panel incorporates an auto/off/manual selector switch, which, when in 'auto' mode operates the air curtain as the door opens and closes.

The 'manual' position overrides the door interlock, and the 'off' position turns the air curtain off.

The panel may also be fitted with optional low voltage (24V AC) relays for fire alarm/door contact interlocks. (Must be specified at time of ordering)

*Note:*

*A job specific control panel wiring diagram is supplied inside the control panel.*

## 6. Servicing

**These appliances should be serviced annually by a competent person to ensure safe and efficient operation. In exceptionally dusty or polluted conditions more frequent servicing may be required. The manufacturer offers a maintenance service. Details available on request. *Isolate electricity supplies before commencing any work.***

### 6.1 Tools required

The following tools & equipment are advisable to complete the tasks laid out in this manual. Suitable alternative tools may be used.



**Cross point screwdriver**



**Small fat head screwdriver**



**13 mm spanner**



**10 mm spanner**



**Adjustable spanner**



**Allen key**



**Soft brush**

### 6.2 Air outlet louvres.

The air outlet louvres should be cleaned with a soft brush. Check that the louvres are set to the required angle.

### 6.3 Air distribution fans.

The air distribution fans can be accessed by opening the fan access lid as described in section 7.1.

Clean off any dust or deposits with a soft brush paying particular attention to the impeller. Check that the impeller spins freely, and that there is no play in the fan bearings.

The fan(s) can be removed, if necessary, as described in section 7.1.

### 6.4 Electrical.

***Isolate electricity supplies before commencing any work.***

Check condition and tightness of all terminations in control panel.

Remove the fan terminal box cover located on top of the air curtain and repeat above procedure for the fan terminations.



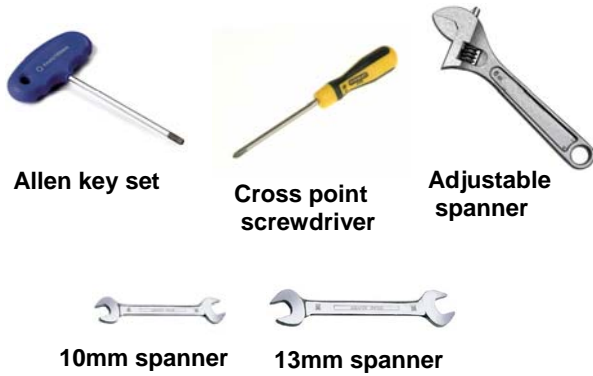
Check that the plug/socket connection to each fan (inside the unit) is tight and that the cable is in good condition. Switch control panel on and check air curtain operation in each selector switch position (auto/off/man, low/medium/high speed).



# 7. Parts replacement

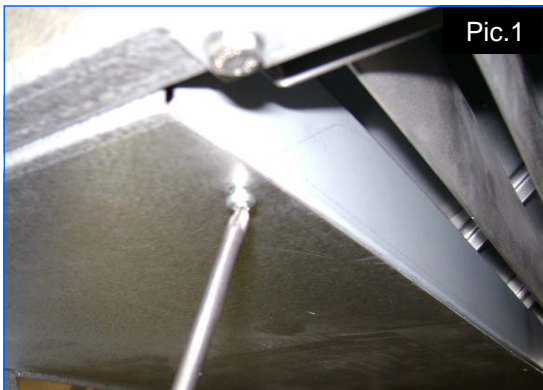
**!** All servicing/maintenance work on this air curtain should be carried out by suitably qualified and Corgi registered engineer. Before commencing any work please ensure that the electricity supplies are turned off.

## 7.0 Tools required



## 7.1 Air distribution fans

The air distribution fans can be accessed by removing the retaining screws securing the hinged lid on the underside of the air curtain (see pic 1).

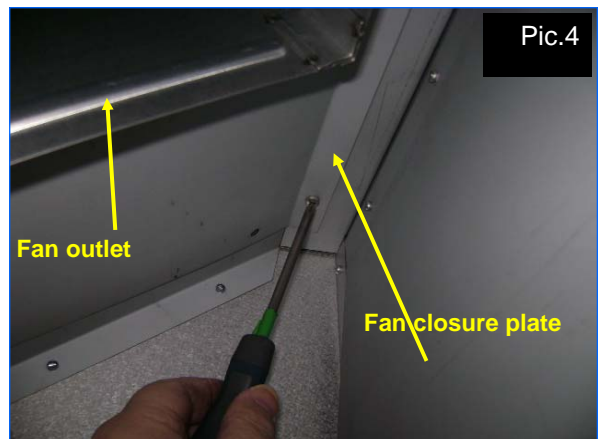
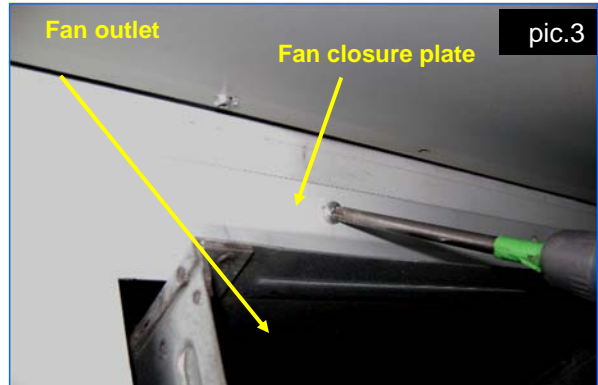


The lid can now be hinged down to access the fans as shown in picture 2.



## 7.1.1 Fan closure plate

Remove the retaining screws around the perimeter of the plate (see pic. 3 & 4). The plate can now be removed. It is now possible to remove the individual fans.



## 7.1.2 Fan removal

Identify the feed cable for the fan requiring removal and disconnect it from the terminal row located at the top of the unit. See pictures 5 & 6.



## 7. Parts replacement (cont)

The four bolts securing the fan can now be removed as shown in picture 6 and the fan removed from the air curtain downwards.



Picture 7 shows single air distribution fan in isolation for clarity.



## 8. Spare Parts.

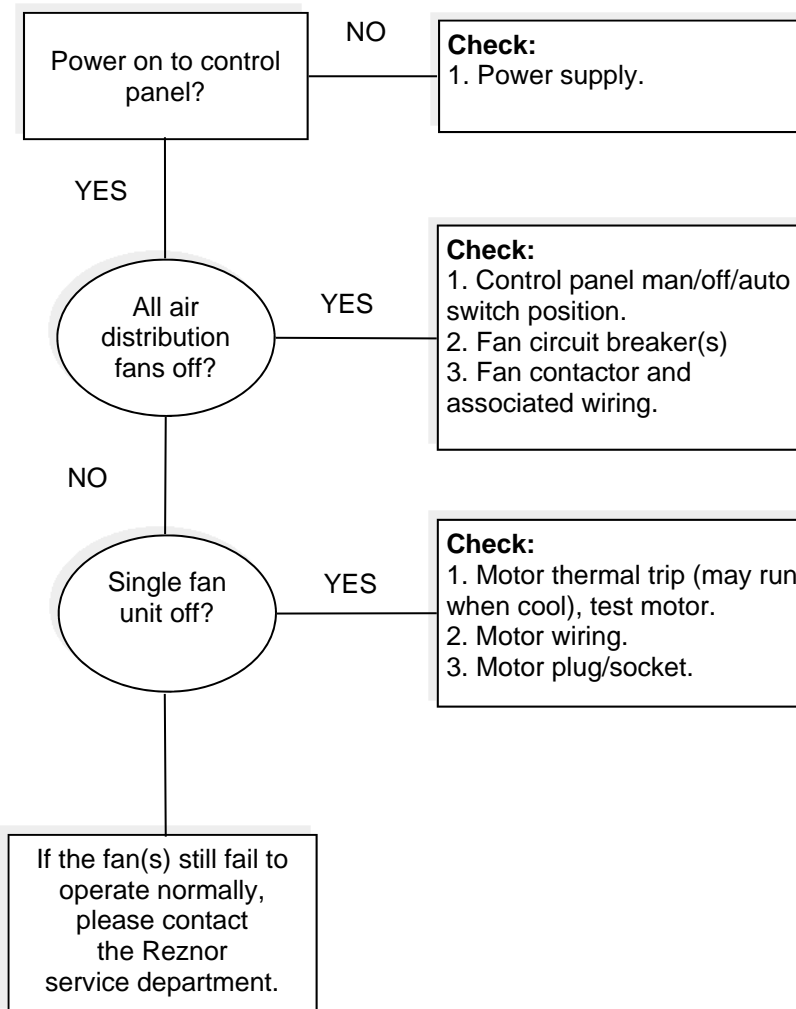
The air distribution fans are available as a spare part as detailed below.

*Note: Any spare parts or components used that are not approved by Nortek could invalidate the approval of the appliance and also the warranty.*

| Item  | Description                       | Part No. |
|---|-----------------------------------|----------|
|  | 3 speed air distribution fan unit | 01 27100 |

# 9. Fault Finding

## Air distribution fans



# 10. User Instructions

## 10.1 Important information

This appliance must only be installed by a competent person in accordance with the requirements of the codes of practice and the rules in force in the country of use.

**10.1.1** The appliance **must** be earthed.

**10.1.2** Never rest anything, especially ladders, against the air curtain.

## 10.2 To start the AB-2 air curtain (manual)

**10.2.1** Rotate the control panel auto/off/manual selector switch is in the manual position.

**10.2.2** Switch on electrical supply to the control panel. The panel live lamp will illuminate and the air distribution fans will start.

## 10.3 To start the AB-2 air curtain (auto)

**10.3.1** Rotate the control panel auto/off/manual selector switch is in the auto position.

**10.3.2** Switch on electrical supply to the control panel. The panel live lamp will illuminate and the air distribution fans will only start if the door is in the raised position.

## 10.4 To switch off the AB-2 air curtain

**10.4.1** Rotate the auto/off/manual control panel selector switch to the 'off' position. The air distribution fans will stop. Switch off the electrical supply to the control panel. The panel live lamp will extinguish.

## 10.6 Servicing

To ensure continued efficient and safe operation it is recommended that the air curtain is serviced regularly by a competent person, once a year in normal working conditions, but in exceptionally dusty or polluted conditions more frequent servicing may be required.

*The manufacturer offers a maintenance service, details of which are available on request.*

*For sales related queries please contact the address given below.*

NORTEK GLOBAL HVAC Belgium N.V  
J&M Sabbestraat 130/A000  
8930 Menen  
Belgium

Tel: +32(0)56 52 95 11  
Fax: +32(0)56 52 95 33

Info.reznor@nortek.com  
www.reznor.eu

