

COOKERXBOX

Whole Home Ventilation Unit

Installation and Maintenance

1.0 Introduction

Nuaire's COOKERXBOX units are designed to provide whole home ventilation with heat exchange heat recovery.

A typical installation could be in the kitchen area, providing the most effective extract performance and taking advantage of the recoverable heat from cooking etc. In addition subsidiary extract from a bathroom or utility rooms can be configured.

The case is constructed in pre-painted galvanised steel.

The unit shall incorporate two backward curved centrifugal impeller fan units for:

- 1). Continuous central input with optional boost (see 4.2).
- 2). Continuous multiple extract from "wet" areas with automatic boost from internal thermostat and/or optional remote switches (see 4.0).

There are four ducting connections to be made from the sides of the unit. The four ducting positions on the top of the unit can be employed for other installation options.

- 1) Fresh air input to unit (100mm dia).
- 2) Exhaust air to outside (100mm dia).
- 3) Fresh air supply to dwelling (100mm dia). This duct should terminate via a discharge diffuser located centrally within the dwelling.
- 4) Extract air from bathroom/en-suite (100mm dia).

Figure 1a. Side spigot functions

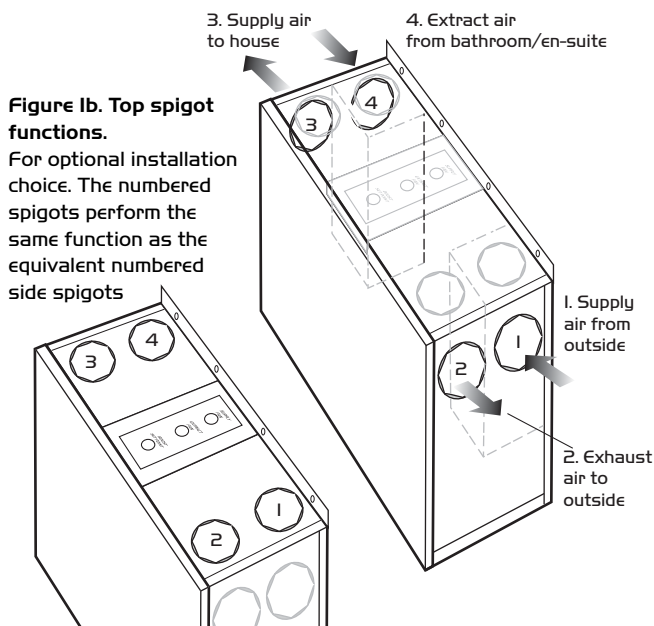


Figure 1b. Top spigot functions.

For optional installation choice. The numbered spigots perform the same function as the equivalent numbered side spigots

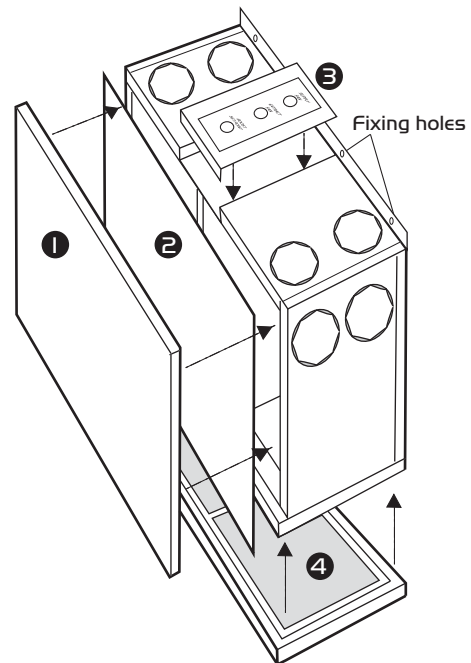
2.0 Installation

Installation should be carried out by competent personnel in accordance with the appropriate authority and conforming to all statutory and governing regulations.

2.1 Access panels

In order to make connections for the condensate drain and electrical supply the access panels shown in figure 2 should be removed, starting with No.1. All panels should be stored safely to avoid damage.

Figure 2. Removable panels.



2.2 Handling

Viewed from the front, the supply air to the dwelling is to the left hand side of the unit, and the exhaust air to outside is to the right hand side (see fig 1a). If the unit is to be installed the opposite way, please see 3.0 converting to opposite hand.

2.3 Duct connections

Duct connections can be made from either the sides of the unit or the top. The side connections are used to enable the ducting to run across the top of the wall units.

Note: the distance between the underside of the unit and the supporting surface for the cooking vessel must be at least 650mm. If using the side connections prevents this dimension being met then either the wall units should be raised, or the top connections should be used.

IMPORTANT

Isolation - Before commencing work make sure that the unit, and Nuair control are electrically isolated from the mains supply.

2.4 Hanging the unit

Using the dimensions shown in figure 6 mark out the fixing surface and drill / plug as required. If using rear condensate, mark and drill 25mm diameter. Note the position of the electrical supply cable entry and chase out wall to suite. Secure the COOKERXBOX to the wall using suitable fixings, (not supplied).

2.5 Condensate connections

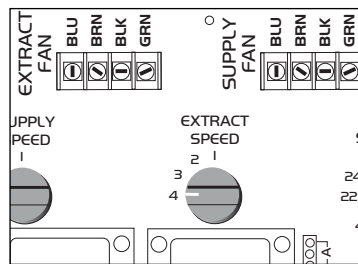
Referring to figure 4, the condensate connection can be found below the drip tray 6. The condensate connection should be made using standard 21.5mm diameter overflow

3.0 Converting to opposite hand

Please study the following procedure and figure 4 before converting the unit to opposite hand.

a) Circuit board connections.

Remove the control panel cover on top of the unit (1, fig 4.) and swap the position of supply/extract motor wires.



b) Supply fan 2, fig 4 (as supplied).

c) Heat exchanger 3, fig 4.

d) Extract fan 4, fig 4 (as supplied).

e) Metal grease filters.

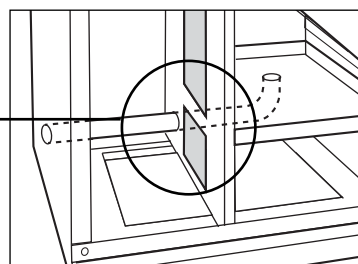
Remove the metal grease filters 7/8 fig 4 from lower panel 9.

f) Lower panel.

Remove screws from panel 9, fig 4 and detach from the unit.

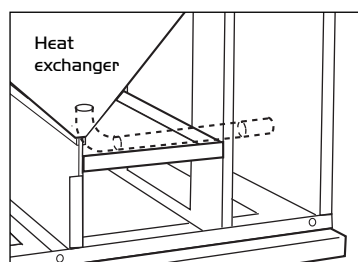
g) Fresh air filter.

Remove the filter from its position 5, in fig 4. and refit in new position on the left of the heat exchanger.



h) Drip tray.

Remove the drip tray, the 21.5mm condensate pipe and the 90° bend 6, fig 4 to its new position on the right of the heat exchanger (shown below). Note: the overflow piping can be arranged to exit the unit either from the holes in the sides or the back of the unit.



Unused holes can be blanked using the supplied grommets.

j) Turn the lower panel 9, fig 4 through 180° then refit the grease filters.

piping along with a 90° Bend (ref: Marley product code OB903XR). These parts are not supplied but are available from all plumbing merchants or DIY chains.

Discharge from the unit can be either left or right or from the rear of the unit.

The drain pipe must have a continuous fall of at least 6mm every 1m and must terminate outside the dwelling to the nearest drain / gutter.

Any holes not used must be blanked using the supplied grommets.

2.6 Wiring

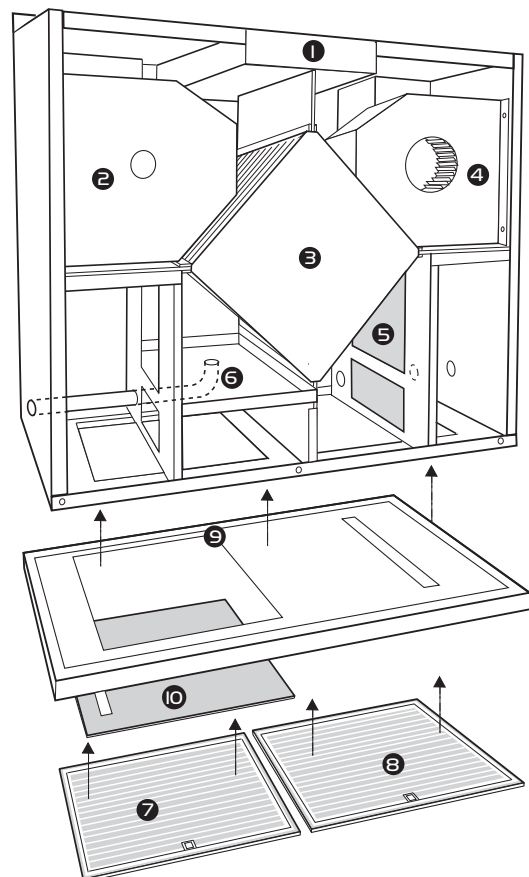
Connect mains wiring as per 4.0.

2.7 Refit panels previously removed

Ensure bottom panel is fitted so as to give access to the internal fresh air filter.

k) If the unit is being used for kitchen extract only the damper plate 10, must be removed. Access to the damper is via grease filter 7 position in the lower panel.

Figure 4. Unit as supplied.



l) If extracting from kitchen and wet room damper plate needs to be adjusted to achieve required air flow duties.

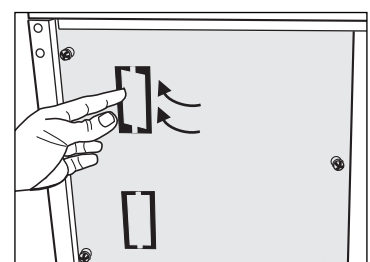


Figure 5a. Typical application installation.

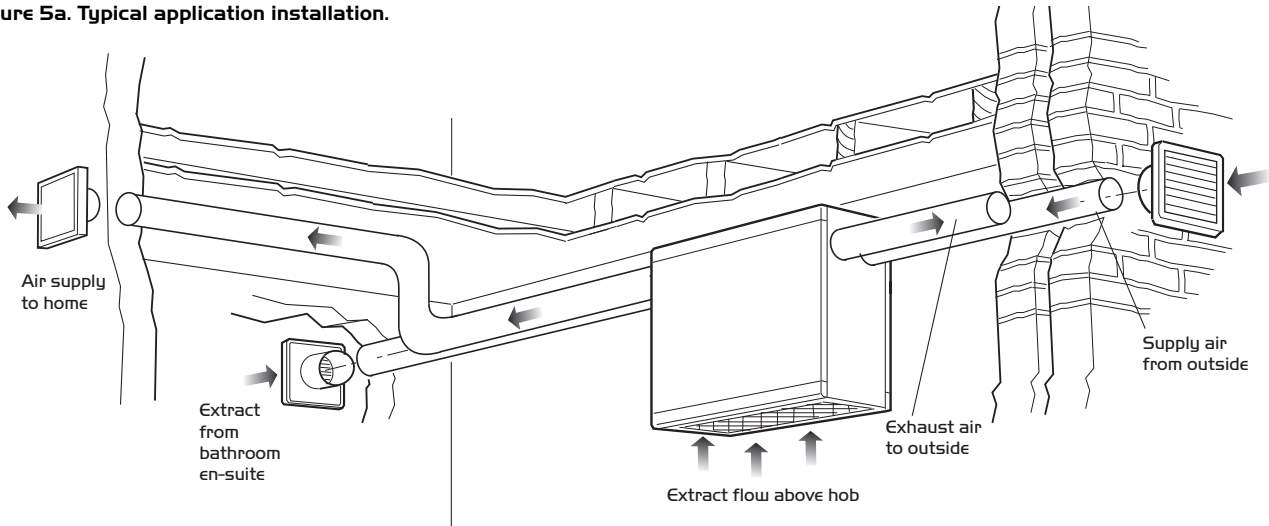


Figure 5b. Typical application installation opposite handed.

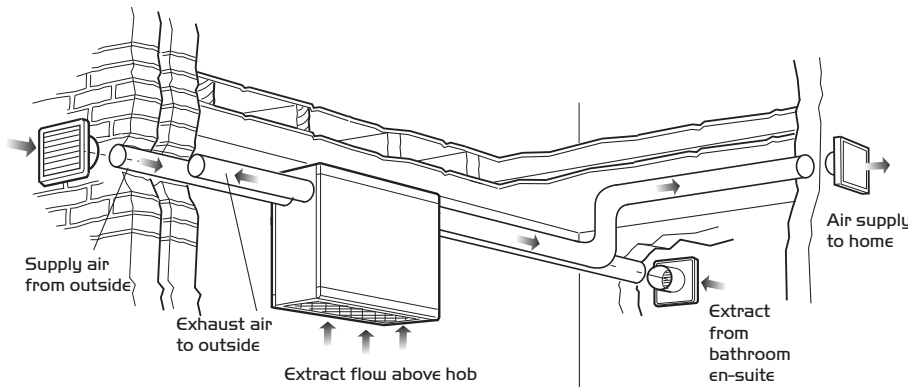
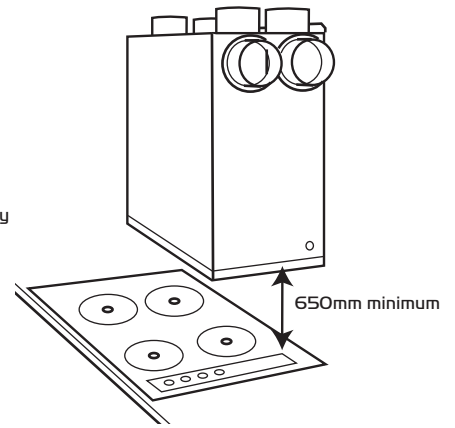


Figure 5c. Important installation feature.



Note: the distance between the underside of the COOKERXBOX unit and the supporting surface for the cooking vessel must be at least 650mm.

IMPORTANT

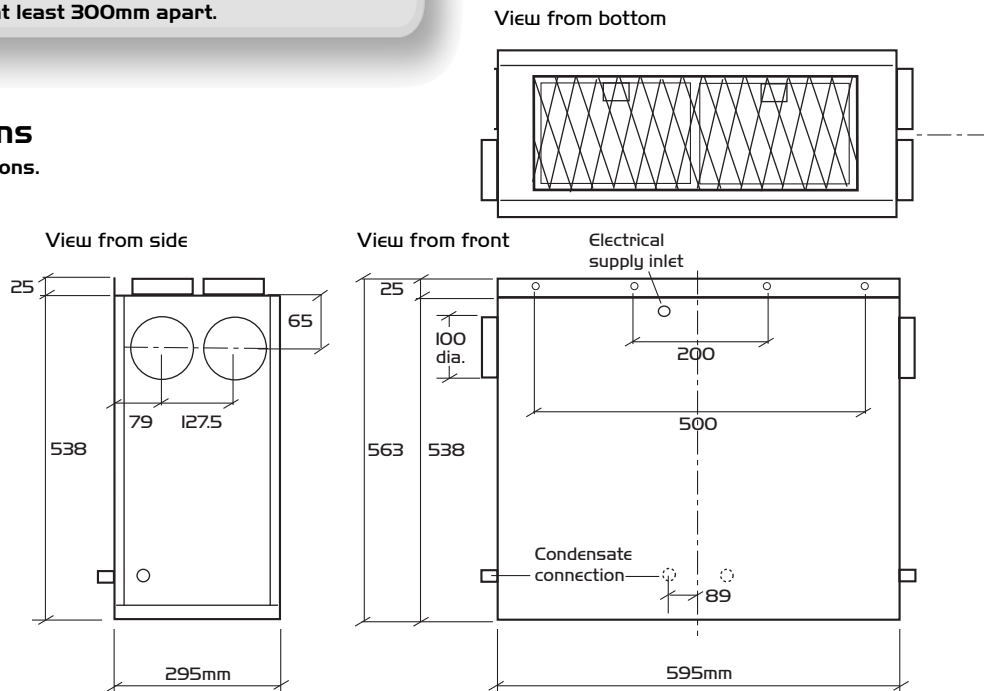
Any air intake terminal **MUST** be installed in accordance with the appropriate regulation.

As a guide, the BS5440 series of British Standards deals with this issue and currently states that an air intake must be at a minimum distance of 300mm from a gas boiler balanced flue. Installers are advised to be aware of the requirements of this standard when installing 'through the wall' supply air ducting.

Similarly, supply and extract air grilles should be at least 300mm apart.

4.0 Dimensions

Figure 6. Unit dimensions.



5.0 Fitting of the alternative front cover

A front panel of the customer's choice may be fitted to the front of the unit.

The panel is held in place by four fixings (not supplied), located onto four brackets which can be secured to the unit. First remove the white front cover, which can be manually removed from the unit.

To secure the brackets remove the four top M5 screws (two each side) on the upper surface of the cooker box. Place two of the brackets into position on the top surface and secure with the M5 screws, adjusting the brackets to suit the installation.

Secure the two remaining brackets to the lower surface of the unit with the M5 screws supplied. The unsupplied panel can be fixed to the bracket with a secure, safe fixing arrangement, with the following dimensions.

Figure 7. Fixing brackets in position on top and bottom surfaces.

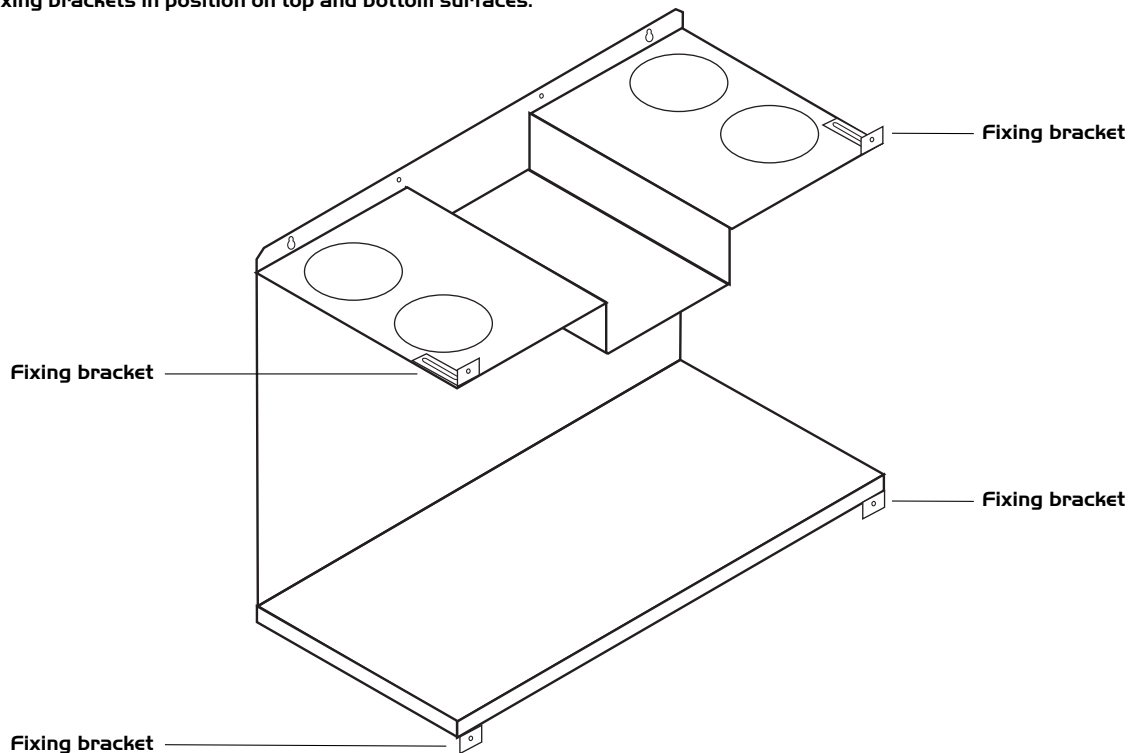
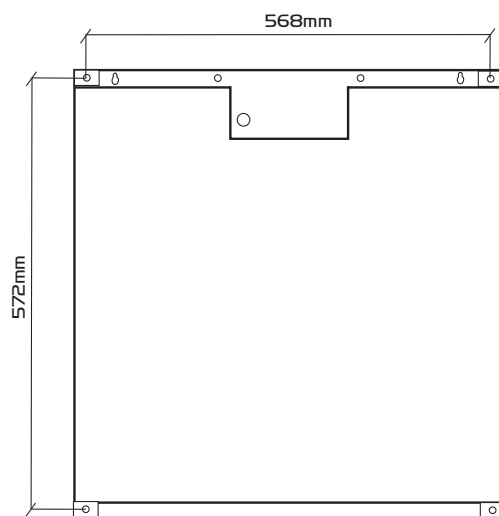


Figure 8. Position of hole centres for the securing of the front panel.

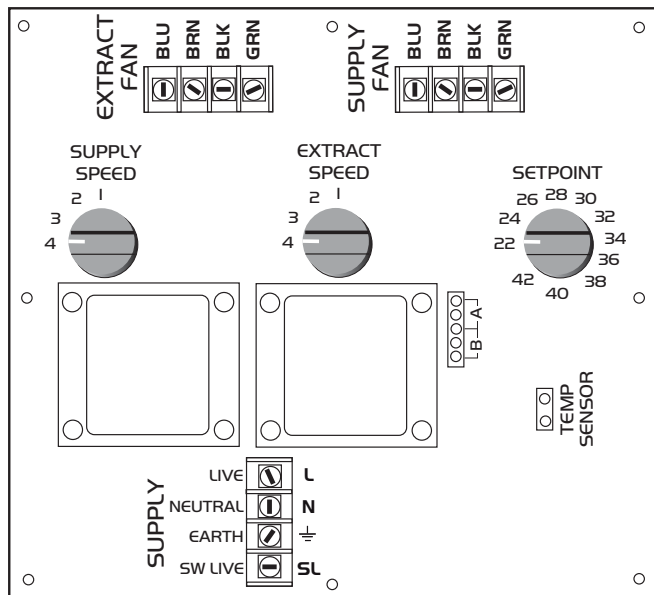


6.0 Operation and Electrical Wiring

IMPORTANT

Isolation - Before commencing work make sure that the unit, and Nuair control are electrically isolated from the mains supply.

Figure 9. Circuit Board Connections.



IMPORTANT

Unit must not be switched off, product is designed to run continuously.

6.1 Operation

The unit is designed to continuously supply and extract air. The unit contains a thermostat to sense the extract air temperature. When the temperature exceeds the boost set point (figure 10) the extract fan boosts to full speed. Boost speed may also be activated by remote switch/es. **Ensure that supply/extract motor wires are swapped over if opposite hand is required.**

6.2 Boost Fan/s Selection

By default only the extract fan boosts to full speed. To change this to boost the supply fan as well as the extract fan, move link to position B (figure 10).



6.3 Fan Speeds

Unless onsite conditions dictate otherwise both supply and extract fans should be set on the lowest setting (No. 1).

6.4 Boost Set Point

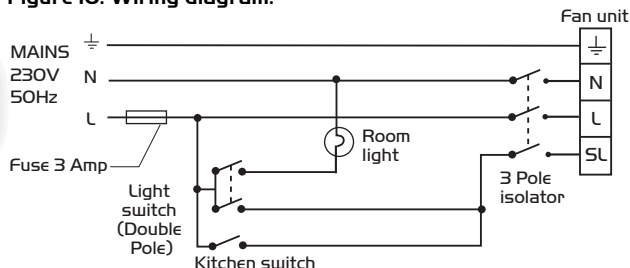
Boost should be triggered whilst cooking. It is suggested the set point should be set to 32°C although this may need changing depending on the user lifestyle.

6.5 Connecting Auxillary Switches

It is possible to provide additional control of the unit by means of up to two auxilliary switches connected to the switched live. These switches may be operated manually or by additional Thermostats, Humidistats and PIR Detectors.

6.6 Wiring

Figure 10. Wiring diagram.



IMPORTANT

Do not flambé under the unit.

7.0 Maintenance

Maintenance of the unit is restricted to cleaning of the filters and the heat exchanger block. The outside case of the unit should be cleaned periodically using a damp cloth only. Note that no other cleaning agents should be used as this may result in damage to the paint and plastic finishes.

To gain access to the heat exchanger block, remove the front panel as previously described. Withdraw the heat exchanger noting its location. The heat exchanger should be immersed in warm (hand hot) water and left to soak before being vigorously agitated.

The extract filters are contained within the top/bottom panel and are of the aluminium grease filter type. Remove the panels and wash in a warm, mild, detergent solution or place in dishwasher.

The input air filter is located behind the aluminium extract filters. The filter may be cleaned by vacuuming and/or washing by hand. Ensure all components are completely dry before replacement.

It is recommended that the unit be cleaned/maintained every 12 months.

8.0 Replacement of Parts

Should any component need replacing Nuair keep extensive stocks for quick delivery.

When ordering spare parts, please quote the serial number of the unit and the ARC number of the purchase if possible. **(This information will be available on the fan label).**

9.0 Warranty

COOKERXBOX has a 5 year warranty. The warranty starts from the day of delivery and includes parts and labour for the first year. The remaining period covers replacement parts only. This warranty is conditional on planned maintenance being undertaken.

10.0 Service Enquiries

Nuair can assist you in all aspects of service. Our service department will be happy to provide any assistance required, initially by telephone and if necessary arrange for an engineer to call.

Telephone 029 2085 8585
Fax 029 2085 8586



DECLARATION OF INCORPORATION AND INFORMATION FOR SAFE INSTALLATION, OPERATION AND MAINTENANCE

We declare that the machinery named below is intended to be assembled with other components to constitute a system of machinery. All parts except for moving parts requiring the correct installation of safety guards comply with the essential requirements of the Machinery Directive. The machinery shall not be put into service until the system has been declared to be in conformity with the provisions of the EC Machinery Directive.

Designation of machinery: COOKERXBOX
Machinery Types: Ventilation with heat exchange heat recovery
Relevant EC Council Directives: 2006/42/EC (Machinery Directive)
Applied Harmonised Standards: BS EN ISO 12100-1, BS EN ISO 12100-2, EN60204-1, BS EN ISO 9001, BS EN ISO 13857
Applied National Standards: BS848 Parts 1, 2.2 and 5

Note: All standards used were current and valid at the date of signature.

Signature of manufacture representatives:

Name:	Position:	Date:
1) C. Biggs	 Technical Director	28. 02. 12
2) A. Jones	 Manufacturing Director	28. 02. 12

INFORMATION FOR SAFE INSTALLATION, OPERATION AND MAINTENANCE OF NUAIRE VENTILATION EQUIPMENT

To comply with EC Council Directives 98/37/EC Machinery Directive and 2004/108/EC (EMC).

To be read in conjunction with the relevant Product Documentation (see 2.1)

1.0 GENERAL

1.1 The equipment referred to in this Declaration of Incorporation is supplied by Nuair to be assembled into a ventilation system which may or may not include additional components.

The entire system must be considered for safety purposes and it is the responsibility of the installer to ensure that all of the equipment is installed in compliance with the manufacturers recommendations and with due regard to current legislation and codes of practice.

2.0 INFORMATION SUPPLIED WITH THE EQUIPMENT

2.1 Each item of equipment is supplied with a set of documentation which provides the information required for the safe installation and maintenance of the equipment. This may be in the form of a Data sheet and/or Installation and Maintenance instruction.

2.2 Each unit has a rating plate attached to its outer casing. The rating plate provides essential data relating to the equipment such as serial number, unit code and electrical data. Any further data that may be required will be found in the documentation. If any item is unclear or more information is required, contact Nuair.

2.3 Where warning labels or notices are attached to the unit the instructions given must be adhered to.

3.0 TRANSPORTATION, HANDLING AND STORAGE

3.1 Care must be taken at all times to prevent damage to the equipment. Note that shock to the unit may result in the balance of the impeller being affected.

3.2 When handling the equipment, care should be taken with corners and edges and that the weight distribution within the unit is considered. Lifting gear such as slings or ropes must be arranged so as not to bear on the casing.

3.3 Equipment stored on site prior to installation should be protected from the weather and steps taken to prevent ingress of contaminants.

4.0 OPERATIONAL LIMITS

4.1 It is important that the specified operational limits for the equipment are adhered to e.g. operational air temperature, air borne contaminants and unit orientation.

4.2 Where installation accessories are supplied with the specified equipment eg. wall mounting brackets. They are to be used to support the equipment only. Other system components must have separate provision for support.

4.3 Flanges and connection spigots are provided for the purpose of joining to duct work systems. They must not be used to support the ductwork.

5.0 INSTALLATION REQUIREMENTS

In addition to the particular requirements given for the individual product, the following general requirements should be noted.

5.1 Where access to any part of equipment which moves, or can become electrically live are not prevented by the equipment panels or by fixed installation detail (eg ducting), then guarding to the appropriate standard must be fitted.

5.2 The electrical installation of the equipment must comply with the requirements of the relevant local electrical safety regulations.

5.3 For EMC all control and sensor cables should not be placed within 50mm or on the same metal cable tray as 230V switched live, lighting or power cables and any cables not intended for use with this product.

6.0 COMMISSIONING REQUIREMENTS

6.1 General pre-commissioning checks relevant to safe operation consist of the following:

Ensure that no foreign bodies are present within the fan or casing.

Check electrical safety. e.g. Insulation and earthing.

Check guarding of system.

Check operation of Isolators/Controls.

Check fastenings for security.

6.2 Other commissioning requirements are given in the relevant product documentation.

7.0 OPERATIONAL REQUIREMENTS

7.1 Equipment access panels must be in place at all times during operation of the unit, and must be secured with the original fastenings.

7.2 If failure of the equipment occurs or is suspected then it should be taken out of service until a competent person can effect repair or examination. (Note that certain ranges of equipment are designed to detect and compensate for fan failure).

8.0 MAINTENANCE REQUIREMENTS

8.1 Specific maintenance requirements are given in the relevant product documentation.

8.2 It is important that the correct tools are used for the various tasks required.

8.3 If the access panels are to be removed for any reason the electrical supply to the unit must be isolated.

8.4 A minimum period of two minutes should be allowed after electrical disconnection before access panels are removed. This will allow the impeller to come to rest.

NB: Care should still be taken however since airflow generated at some other point in the system can cause the impeller to "windmill" even when power is not present.

8.5 Care should be taken when removing and storing access panels in windy conditions.

Technical or commercial considerations may, from time to time, make it necessary to alter the design, performance and dimensions of equipment and the right is reserved to make such changes without prior notice.