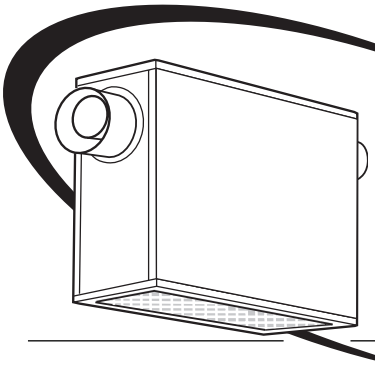


FLAT-X

Whole Home Home Ventilation Unit

Installation and Maintenance

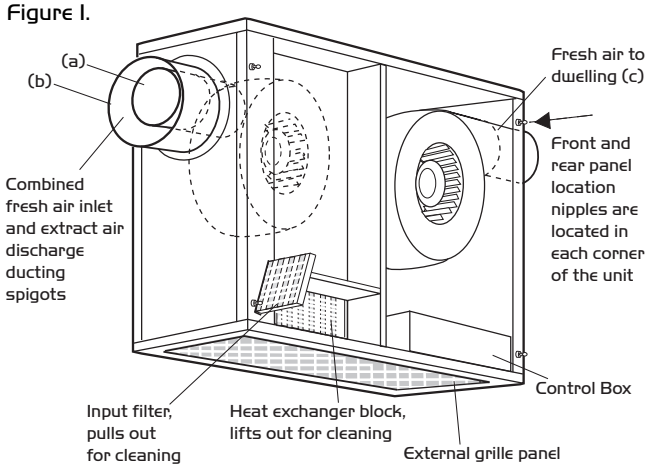
ecosmart energy saving control

1.0 Introduction

Nuaire's FLAT-X 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 steel. Internal faces of the casing are acoustically lined with flame retardant foam.

Figure 1.



The unit shall incorporate two forward 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 three ducting connections which must be made from the sides of the unit.

a) Fresh air input to unit (100mm dia).

b) Extract air from the unit (150mm dia).

c) Fresh air supply to dwelling (100mm dia). This duct should terminate via a discharge diffuser located centrally within the ducting.

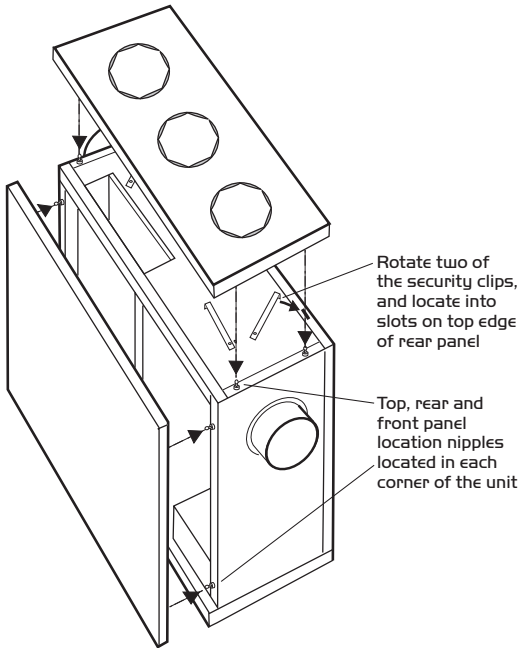
Note: duct (a) runs inside duct (b) and the combined duct terminates on an outside wall.

The unit is sized to fit within a typical 600mm domestic kitchen wall cupboard and the ducting may be run in the space above the other cupboards.

2.0 Installation

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

Access to the unit is via the front and rear panels. figure 2. First, remove the top panel secured by four nipples, by inserting a coin or similar tool between the panel at a corner position and gently twisting, you may then remove the lid. Rotate the two security clips away from the slots in top edge of the back panel and remove the front and rear panels with the help of a coin.



To refit, first replace the front and rear panels. Align panel with the four nipples, and tap smartly with the palm of the hand. Locate the security clips into the slots on the top edge of the rear panel, then replace the lid.

Prior to installation, decide whether to employ the extract grille on the unit top or bottom. If the unit is installed directly over a cooker (600mm vertical clearance), then the bottom grille position should be selected.

However, if this is not possible the unit should be configured for the top grille position where air will be extracted from the room at high level.

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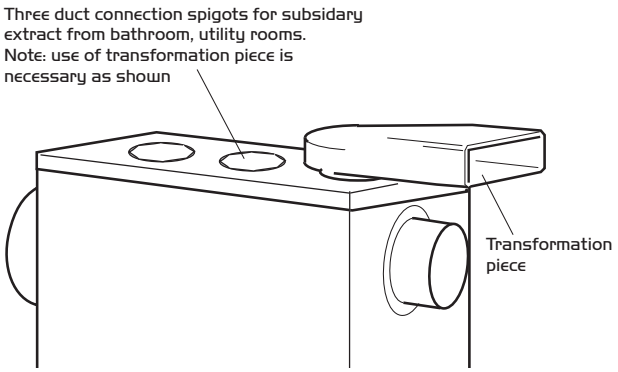
Leaflet Number 671302 May 2005

IMPORTANT

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

Where subsidiary extract from a bathroom or utility room is required, the three duct connection spigots can be used with a transformation piece (not supplied) See figure 3.

Figure 3.



A minimum clearance of 50mm between the top of the unit and the ceiling must be allowed (rear panel top approximately 80mm from ceiling for periodic maintenance).

Having decided the mounting position of the unit, it will be necessary to align the position for the ducting aperture in the outside wall of the dwelling as follows:

Fix the back panel to the wall. Slots are provided to allow some vertical adjustment with a third location hole.

When fixing, pierce the fan insulation with the screws, rather than attempt to remove it, so that seal is retained. Ensure that the panel is levelled by packing under the screws if necessary. See figure 5. for mounting position.

Figure 4. Typical application installation.

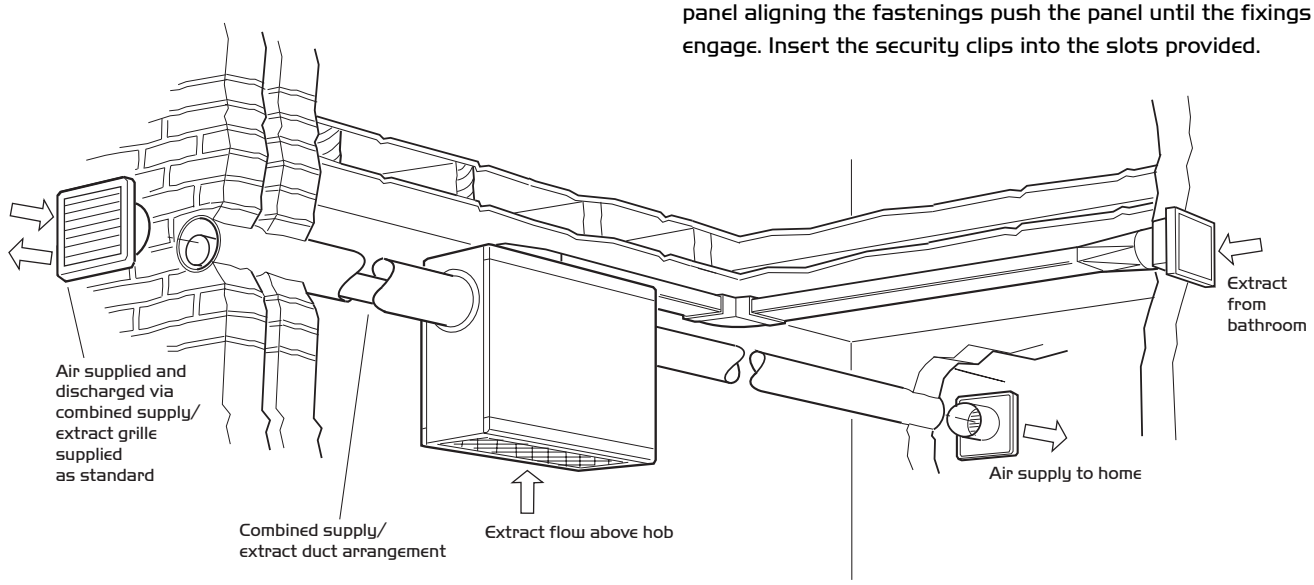
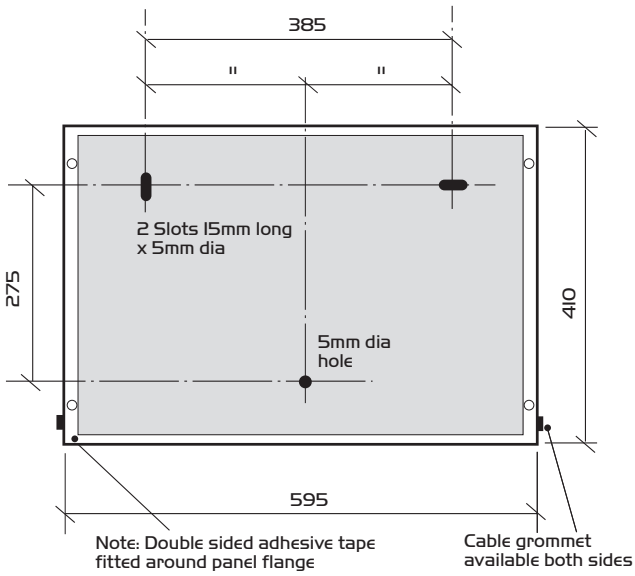


Figure 4. View inside back panel showing fixing positions.



To make the 150mm aperture through the wall, we advise the use of a suitable core drill. When using a core drill the the hole must be made perpendicular to the wall (the aperture can marked on the inside and outside faces as a guide).

Cut the hole as cleanly as possible to reduce the amount of making good required.

Before offering the unit up to the back panel mounted on the wall ensure that the withdrawal clips for the heat exchanger block and input filter will be facing into the room.

Remove one of the back panel rubber grommets and feed the electrical cable through the grommet and then the hole in the panel edge. Re-seat the cable grommet in the panel edge.

Remove the backing paper from the double sided adhesive tape on the back panel.

Taking care not to trap the cable, offer the unit up to the panel aligning the fastenings push the panel until the fixings engage. Insert the security clips into the slots provided.

3.0 Dimensions

Figure 6. Unit dimensions.

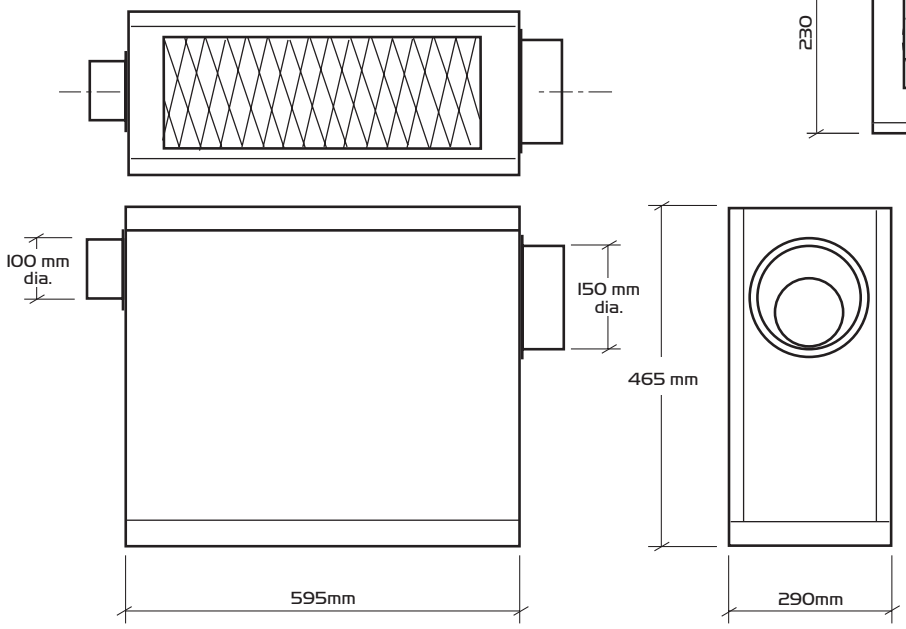
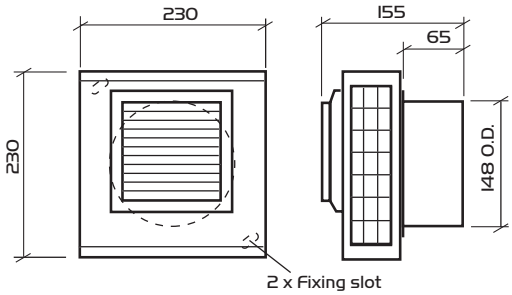


Figure 7. Supply/extract grille dimensions.

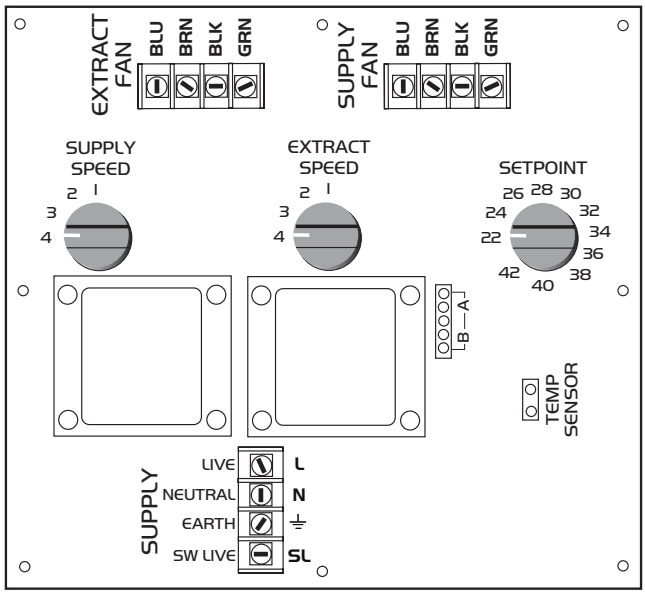


4.0 Operation and Electrical Wiring

IMPORTANT

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

Figure 6. Circuit Board Connections.



4.1 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 6) the extract fan boosts to full speed. Boost speed may also be activated by remote switch/es.

4.2 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 6).

4.3 Fan Speeds

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

4.4 Boost Set Point

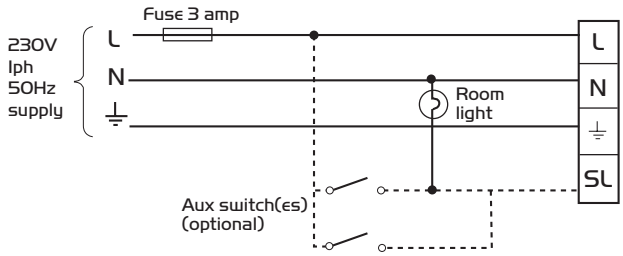
Boost should be triggered whilst cooking. It is suggested the set point should be set to 32°C although this may need changing depending on the user lifestyle.

4.5 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.

4.6 Wiring

Figure 7. Wiring diagram



6.0 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 he used as this may result in damage to the paint and plastic finishes.
To gain access to the input air filter and heat exchanger block, remove the front panel as previously described. Withdraw the filter and heat exchanger noting their location. The filter may be cleaned by vacuuming and/or washing. The heat exchanger should he immersed in warm (hand hot) water and left to soak before being vigorously agitated. Both components should be completely dry before replacement.
The extract filter is contained within the top/bottom panel and is of the aluminium grease filter type. Remove the panel and wash it in a warm, mild, detergent solution. Ensure the component is completely dry before replacement.
It is recommended that the unit be cleaned/maintained every 12 months.

7.0 Replacement of Parts

Should any component need replacing Nuaire keep extensive stocks for quick delivery. Ensure that the unit is electrically isolated, before carrying out any work.
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).**

8.0 Warranty

The 3 year warranty starts from the day of delivery and includes parts and labour. This warranty is conditional on planned maintenance being undertaken.

10.0 Service Enquiries

Nuaire 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.

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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. The machinery shall not be put into service until the system has been declared to be in conformity with the provisions of the EC Council Machinery Directive.

Designation of machinery:	FLAT-X
Machinery Types:	Whole home ventilation with heat exchange heat recovery
Relevant EC Council Directives:	98/37/EC (Machinery Directive)
Applied Harmonised Standards:	EN292-1, EN292-2, EN294, EN29001
Applied National Standards:	BS848 Parts One, Two and Five

Signature of manufacture representatives:

Name:		Position:	Date:
1) C. Biggs		Technical Director	26. 01. 05
2) W. Glover		Manufacturing Director	26. 01. 05

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CE DECLARATION OF CONFORMITY

We declare that the machine named below conforms to the requirements of EC Council Directives relating to Electromagnetic Compatibility and Safety of Electrical Equipment.

Designation of machinery:	FLAT-X
Machinery Types:	Whole home ventilation with heat exchange heat recovery
Relevant EC Council Directives:	89/336/EEC, 92/31/EEC (EMC) 73/23/EEC, 93/68/EEC (Low Voltage Directive)
Applied Harmonised Standards:	EN55014-1, EN55014-2, EN60204-1 EN60335-2-80
Basis of Self Attestation:	Quality Assurance to BS EN ISO 9001 BSI Registered Firm Certificate No. FM 149

Signature of manufacture representatives:

Name:		Position:	Date:
1) C. Biggs		Technical Director	26. 01. 05
2) W. Glover		Manufacturing Director	26. 01. 05

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

To comply with EC Council Directives 98/37/EC Machinery Directive

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 Nuaire 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, please contact Nuaire.

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 in particular 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 ductwork 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.

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 minium 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.