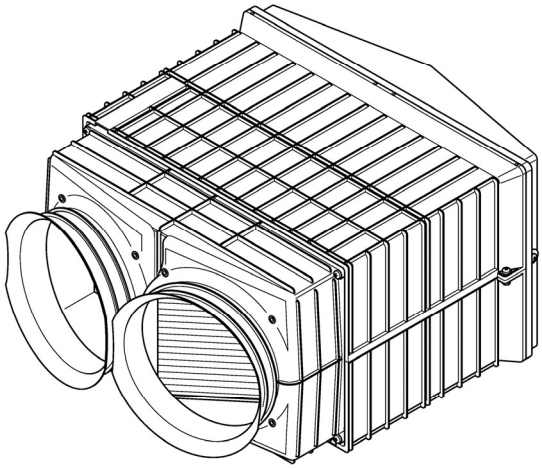
HR500D

Semi-Remote Wall Mounted Heat Recovery Unit with Spigot Connections & Integral Fans

Installation and Wiring Instructions



Stock Ref. N°
370450 - HR500D

Vent-Axia®

PLEASE RETAIN THESE INSTRUCTIONS WITH THE PRODUCT.

CE

IMPORTANT SAFETY INFORMATION

PLEASE READ THESE INSTRUCTIONS CAREFULLY BEFORE COMMENCING INSTALLATION.

1. Do not install this product in areas where the following may be present or occur:

- Excessive oil or a grease laden atmosphere.
- Corrosive or flammable gases, liquids or vapours.
- Subject to direct water spray from hoses.
- Ambient temperatures higher than 40°C.
- Possible obstructions that may hinder access to or removal of the unit.

2. All wiring must be in accordance with the current IEE wiring regulations BS7671, or appropriate standards of your country. Installation should be inspected and tested by a suitably qualified person after completion.

3. Ensure the mains supply (voltage, frequency and phase) complies with the rating label.

4. The power feed to the unit should be provided with a local double pole fused spur fitted with a 3A fuse having a contact separation of at least 3mm.

5. This unit must be earthed.

6. Precautions must be taken to avoid the back-flow of gases into the building from the open flue of gas or other fuel-burning appliances.

7. This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

8. Young children should be supervised to ensure that they do not play with the appliance.

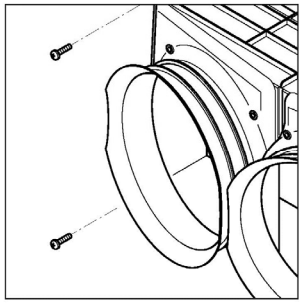
INSTALLATION GUIDANCE

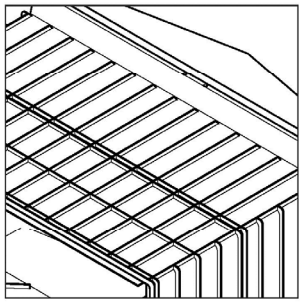
1. The installer is responsible for the installation and electrical connection of the system on site. It is the responsibility of the installer to ensure that the equipment is safely and securely installed and left only when mechanically and electrically safe.

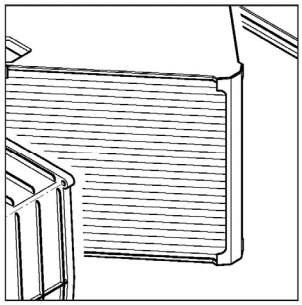
2. All regulations and requirements must be strictly followed to prevent hazards to life and property, both during and after installation, and during any subsequent servicing and maintenance.

Disposal

This product should not be disposed of with household waste. Please recycle where facilities exist. Check with your local authority for recycling advice.







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1.0 Introduction

1.1 Description

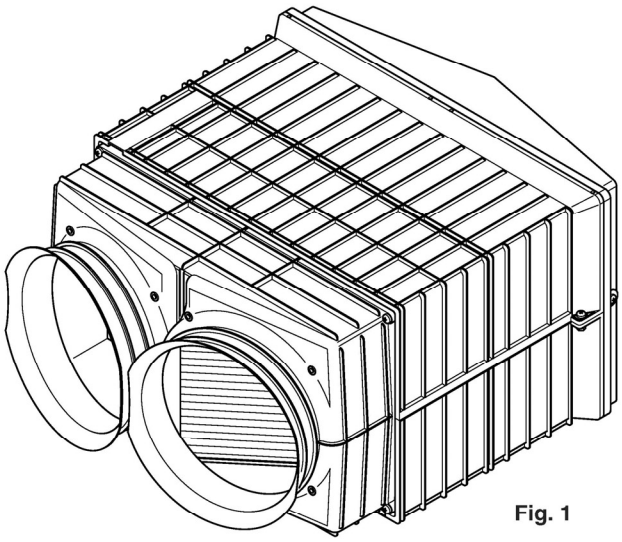


Fig. 1

1. The Vent-Axia HR500D unit is self contained, with integral extract and supply fans to provide balanced ventilation and heat recovery via supply diffusers and extraction grilles.
The unit is designed for installation in external walls and should be fitted to provide a 3° slope to outside to provide condensate drainage.

2. Spigots are designed to take standard 300mm diameter flexible ducting. Foam collar adaptors are available to convert these spigots to 315mm diameter compatibility.

3. The unit is fully speed controllable with the facility to reverse the supply air fan and provide 'double extraction' for periods when heat loss is desirable.

4. ON/OFF speed selection and fan reversal can be automatically controlled by simple sensors - see controller data sheet VCON33.

5. At 40 pa external static pressure the HR500D unit will deliver approximately 500m3/hr supply and extraction, or 750m³/hr extract only.

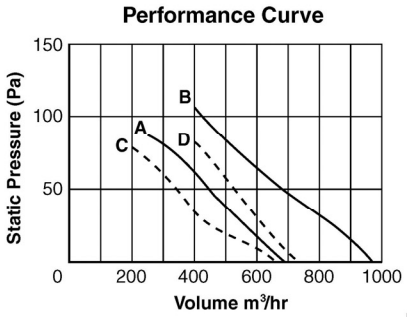


Fig. 2

A - Mean heat recovery performance

B - Double extract performance

C - Supply

D - Extract

1.2 Technical Data

Electrical
Supply Fan - 60 Watts
Extract Fan - 150 Watts
Wiring - 0.75mm², 4 core and earth
(N.B. Wiring must be approved to BASEC or HAR)

Fixing
Hole Opening - 610mm x 380mm
Unit Weight - 17kg

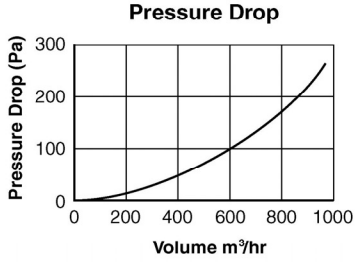


Fig. 3

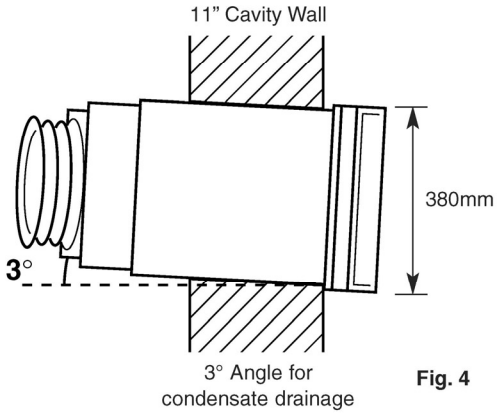


Fig. 4

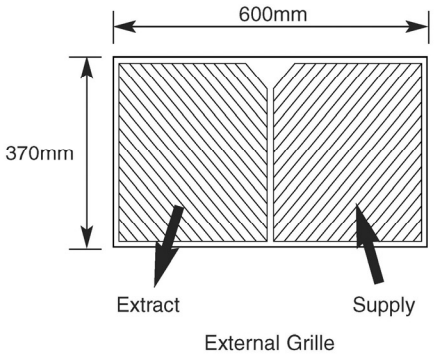


Fig. 5

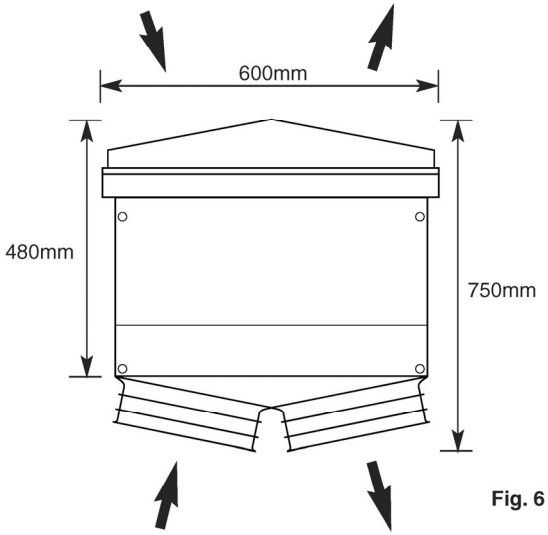


Fig. 6

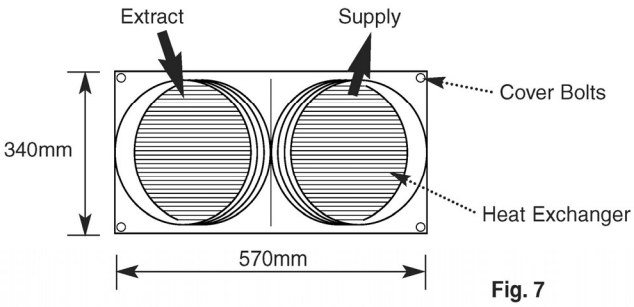


Fig. 7

2.0 Site Requirements

2.1 Information

1. The unit must be sited and connected in accordance with current I.E.E. Wiring Regulations (UK), and local building regulations. Outside the UK, the units must be installed in accordance with the appropriate standards applicable to your country.

2. The unit is suitable for use at a maximum ambient temperature of 45°C.

3. The HR500D unit should be placed as high as possible, in an exterior wall to a minimum distance of 125mm (5") from the ceiling.

4. The incoming air supply should not be directed at a wall or solid surface and areas adjacent to doors should be avoided if possible.

5. Care should be taken to avoid structural elements such as joists or beams.

6. Site away from direct sources of heat in excess of 40°C, and direct water spray.

7. Precautions must be taken to avoid the back flow of gases into the room from the open flue of Gas or other Open Flue appliances.

8. The installer must ensure that the air intake is located at a minimum distance of 500mm away from any flue outlet.

9. If the unit is installed within a room containing a fuel burning appliance, the installer must ensure that the air replacement is adequate for both the unit and the fuel burning appliance.

10. Wiring must be via a fused switched spur with a 3mm contact separation in each pole.

11. Before deciding on the final position of the unit, check that there are no buried cables, pipes or obstructions on the outside wall.

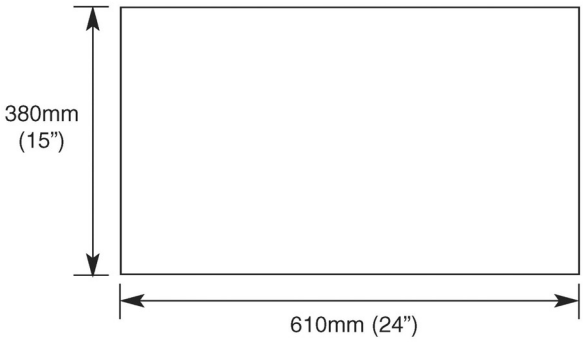


Fig. 8

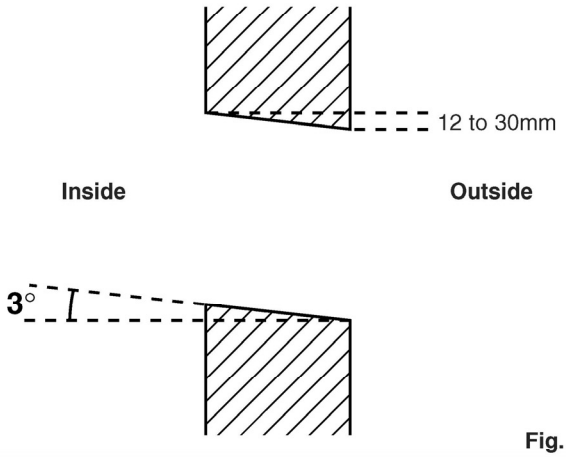


Fig. 9

3.0 Installation

3.1 Initial Preparation

1. Working from the inside, mark out the position of the hole to be cut. This should be 610mm (24") x 380mm (15") (Fig. 8).

2. Mark the centre of the cut-out by drawing diagonal lines from the four corners.

3. Drill horizontally through the wall at the marked centre point, using an appropriate long reach drill.

4. Estimating the wall thickness, move to the outside and mark the position of the hole to be cut in the outer wall, using the centre hole as a guide. Again, this should be 610mm (24") x 380mm (15") (Fig. 8). However, to allow for condensate drainage, the hole must be marked between 12mm-30mm (0.5"-1.25") LOWER than the inner hole (Fig. 9). This will produce a nominal 3° slope towards the outside (assumption of installation into wall thickness dimension between 230mm - 610mm (9"-24")).

5. Using the lines as a basis, carefully cut the holes in the inner and outer walls to form a suitable aperture to receive the unit.

NOTE: Bricks will cut more easily and accurately if a series of holes are drilled close together along the marked lines.

6. Choose a suitable site for the controller or switch box, and run a suitable length of cable (5 core, 0.75mm^2) to the unit for wiring through the left hand side.

Typical Installation

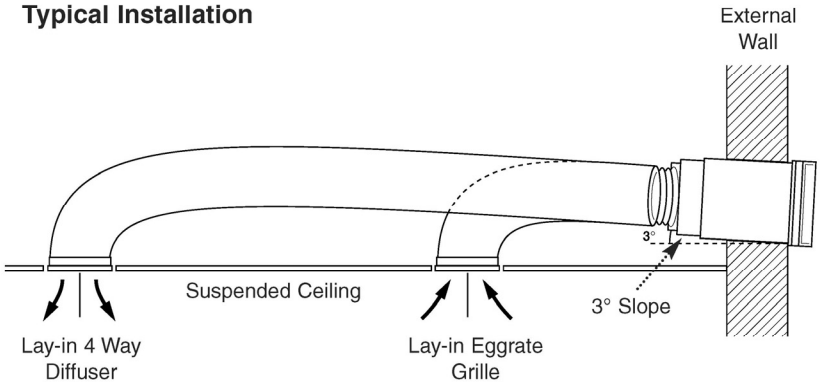


Fig. 10

3.0 Installation

3.2 Installing the Appliance

1. Carefully line up the unit into the wall aperture, ensuring that the wire is fed into the unit through the grommet as shown.

2. Position the unit in the wall aperture, ensuring that there is a 3° slope to the outside.

CAUTION: Care should be taken not to distort either inner or outer cases when fixing and making good.

3. Secure into position using appropriate plugs and screws, and make good around the casing.

4. Connect the wire into the controller box within the unit, ensuring that the cable restraint prevents the cable from becoming strained, twisted or forced.

5. Ensure that the product is wired in accordance with the details attached.

WARNING: Ensure that the unit is properly earthed.

6. Connect up the opposite end of the wire into respective controller, ensuring that the cable is routed between the unit and the controller box appropriately, and that the wire is not strained, twisted or forced.

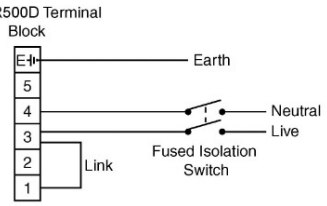
7. Make good the cable routing.

8. Connect up the mains supply via an appropriate fused switched spur, ensuring that a 5A fuse is correctly fitted.

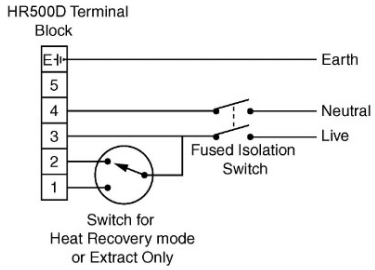
4.0 Electrical

4.1 Wiring Options

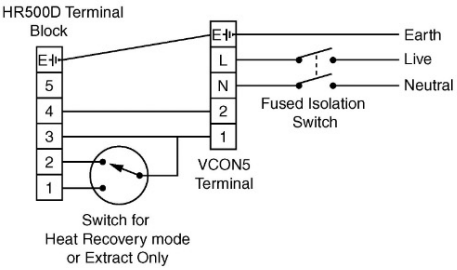
Direct to mains - Full speed only - Heat recovery mode



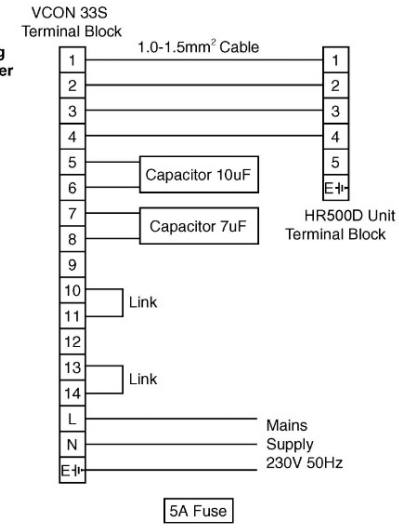
Direct to mains - Full speed only - Heat recovery mode and switching to extract only



Variable speed controller VCON5 - Heat Recovery mode and switching to Extract Only



Single HR500D unit wiring VCON 33S speed controller



Optional External Sensor Wiring

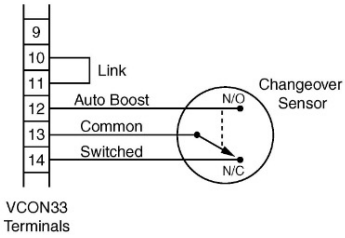
Sensors must be 'make and break' (changeover) type, mains voltage minimum 2.5A inductive load.

Automatic Extract Only Control

By removing the link between terminals 13 and 14, a changeover sensor can be connected to terminals 12, 13 and 14 to provide automatic supply fan reversal for extraction only mode of the HR500D unit. Example; a thermoswitch can be used to provide extract only and therefore heat loss at a preset temperature level.

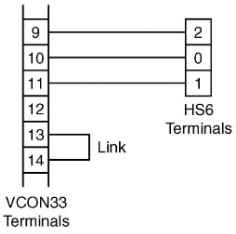
Automatic 'Extract Only' Wiring

NOTE: Remove link between terminals 13 & 14



Humidity Sensor HS6 Wiring Control of Boost Speed Switching

NOTE: The sensor arrangement can be used with single or dual unit control

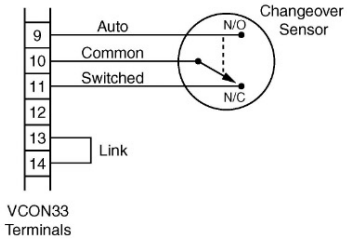


Automatic Boost Speed Switching

By removing the link between terminals 10 and 11, a changeover sensor can be connected to terminals 9, 10 and 11 to provide automatic switching to boost speeds as required.
Example; A humidistat can be used to switch the unit to boost when high humidity levels are reached, as would be experienced from activity in a swimming pool. The unit would automatically return to normal speed 1 or 2 once the humidity levels have been reduced.

Automatic 'Boost Speed' Wiring

NOTE: Remove link between terminals 10 & 11



For dual unit control using VCON 33S see Controller Data Sheet

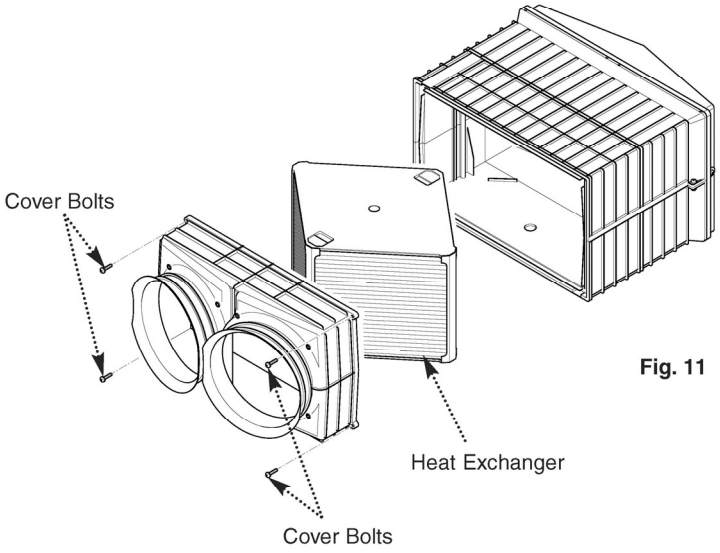


Fig. 11

5.0 Maintenance & Accessories

5.1 Cleaning the Unit

1. The heat exchanger will require occasional cleaning to remove build up of deposits.

2. The cassette is easily extracted by unscrewing the 4 x M6 cover bolts (Fig. 11).

3. Debris can be removed and cleaned by using a vacuum cleaner, or by washing in luke warm soapy water.

4. In heavily polluted and smoky environments, it is recommended that the heat exchanger unit is examined for cleaning puposes every 3 months.

5. Spare cassettes are available to enable immediate changeover of soiled units, which can be cleaned for later use.

5.2 Accessories

1. **Speed Controller VCON 33S**
Speed controller for surface mounting, 3 speed and fan reversal.

2. **Speed Controller VCON 5**
ON/OFF variable speed controller mounted on a standard one gang switch plate and supplied with a plastic surface mounting back box.

6.0 Notes

PRODUCT FICHE

For Residential Ventilation Units (Complying Commission Delegated Regulation (EU) No 1254/2014)

Name:	Vent-Axia
Model ID (Stock Ref.) :	HR 500 D - 370450
SEC Class	C
SEC Value ('Average')	-24.00
SEC Value ('Warm')	-2.84
SEC Value ('Cold')	-61.72
Label Required? (Yes/No=Out of scope)	Yes
Declared as: RVU or NRVU/UVU or BVU	RVU/BVU
Speed Drive	Variable Speed
Type HRS (Recuperative, Regenerative, None)	Variable Speed
Thermal Eff: [(%), NA(if none)]	Recuperative
Max. Flow Rate (m3/h)	626.40
Max. Power Input (W): (@Max.Flow Rate)	210.00
LWA: Sound Power Level (dB)	70.52
Ref. Flow Rate (m3/s)	0.12180
Ref. Pressure Diff. (Pa)	70.00
SPI [W/(m3/h)]	0.48
Control Factor & Control Typology: (CTRL/ Typology)	
Control Factor; CTRL	1.00
Control Typology	Manual Control
Declared: -Max Internal & External Leakage Rates(%) for BVUs or carry over (for regenerative heat exchangers only), - &Ext. Leakage Rates (%) for Ducted UVUs;	<5% Internal, <5% External
Mixing Rate of Non-Ducted BVUs not intended to be equipped with one duct connection on either supply or extract air side;	N/A
Position and description of visual filter warning for RVUs intended for use with filters, including text pointing out the importance of regular filter changes for performance and energy efficiency of the unit	N/A
For UVUs (Instructions Install Regulated Supply/Extract Grilles Façade)	N/A
Internet Address (for Disassembly Instructions)	www.vent-axia.com
Sensitivity p. Variation@+20/-20 Pa: (for Non-Ducted VUs)	N/A
Air Tightness-ID/OD-(m3/h) (for Non-Ducted VUs)	N/A
Annual Electricity Consumption: AEC (kWh/a)	6.45
Annual Heating Saved: AHS (kWh/a)	
AHS: Average	39.45
AHS: Warm	17.84
AHS: Cold	77.17

The Vent-Axia Guarantee

Applicable only to products installed and used in the United Kingdom.

For details of guarantee outside the United Kingdom contact your local supplier.

Vent-Axia guarantees its products for two years from date of purchase against faulty material or workmanship. In the event of any part being found to be defective, the product will be repaired, or at the Company's option replaced, without charge, provided that the product:

- Has been installed and used in accordance with the instructions given with each unit.
- Has not been connected to an unsuitable electricity supply. (The correct electricity supply voltage is shown on the product rating label attached to the unit).
- Has not been subjected to misuse, neglect or damage.
- Has not been modified or repaired by any person not authorised by the company.

IF CLAIMING UNDER TERMS OF GUARANTEE

Please return the complete product, carriage paid to your original supplier or nearest Vent-Axia Centre, by post or personal visit.

Please ensure that it is adequately packed and accompanied by a letter clearly marked "Guarantee Claim" stating the nature of the fault and providing evidence of date and source of purchase.

The guarantee is offered to you as an extra benefit, and does not affect your legal rights

Vent-Axia

Head Office: Fleming Way, Crawley, West Sussex, RH10 9YX.

UK NATIONAL CALL CENTRE, Newton Road, Crawley, West Sussex, RH10 9JA
SALES ENQUIRIES: Tel: 0344 8560590 Fax: 01293 565169
TECHNICAL SUPPORT Tel: 0344 8560594 Fax: 01293 532814

For details of the warranty and returns procedure please refer to www.vent-axia or write to Vent-Axia Ltd, Fleming Way, Crawley, RH10 9YX

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