

Vent-Axia®

DUCT AIR HEATER WITH BUILT-IN CONTROLS

Installation & User Instructions



Stock Ref.

105 31 100 T1

105 31 125 T1

105 31 150 T1

105 31 200 T1

105 31 250 T1

105 31 315 T1

Stock Ref.

105 31 315 T3

105 31 400 T3

105 31 500 T3

AIRTRAK

*READ INSTRUCTIONS IN CONJUNCTION WITH ILLUSTRATIONS
READ AND SAVE THESE INSTRUCTIONS*



THIS SECTION RELATES TO THE FOLLOWING DUCT HEATERS:-

105 31 100 T1 105 31 125 T1
105 31 150 T1 105 31 200 T1

Specifically designed to mount onto a Vent-Axia 220/240V electric heater and provide fan and heater control. The heater must NOT exceed a maximum of 19A (4.5kW).

Supply and extract fan outputs are provided for 220/240V single phase fans up to a maximum of 3.5A FLC complete with fuses.

The supply fan output has a built-in off delay timer* which is activated when Time clock / Switch terminal contact is opened. This allows the heater to cool before the airflow is turned off. *The off delay timer is adjustable 1 to 2 minutes via a pot on the PCB.

Terminals are provided for an airflow switch or electronic airflow sensor.

N.B. If not used the airflow terminals must be linked.

The air temperature can be controlled accurately as it flows along the duct with the thyristor control provided. We would recommend a duct sensor be used (supplied), however it is possible to sense the room condition with a wall mounted sensor (optional).

The power supply should come from a local isolator which should be sized according to the size of the heater i.e. if the heater is at its maximum 4.5kW a 30A isolator would be required.

To wire the unit is simple, you need only to connect Neutral and incoming Phase (Live) to the terminals provided on the PCB. A 6mm earth bolt is provided for the earth connection (crimp eyelets are recommended). All wiring should be carried out by qualified personnel and should meet the current IEE regulations.

To run the unit you only need to connect the sensor (room or duct), the airflow switch (or link) and the Time clock / Switch. N.B. If no Time clock / Switch is used i.e. the unit is running 24 hours the terminals must be linked in order for the unit to run. The thyristor control will now operate. Set the temperature with a terminal screwdriver on the front of the panel (0 - 35°C). The heater LED will indicate pulsing of the heater. If you want to control fans and or a damper motor connect to the appropriate terminals as shown on the wiring diagram (fig 1). We would recommend using the supply fan off delay function.

IMPORTANT MAIN ON/OFF SWITCH

Do not be tempted to turn the unit off via your Main isolator feed to the unit. Use the switch/time clock function terminals provided and allow for the unit to cool before isolating the main supply feed. If you intend to use a speed controller on the supply fan you must not turn off the fan via the speed controller ON/OFF switch. This could cause the heater cut-out to trip or cause heat damage to insulation or wiring. Many speed controllers can be modified to disable the ON/OFF switch, this is recommended although selecting the correct size for the duty required is the best solution and will give a longer fan life.

Properly installed this unit should give a long and trouble free service. Make sure all filters in the ventilation system are checked and changed regularly and the airflow switch functions reliably.

SPECIFICATION

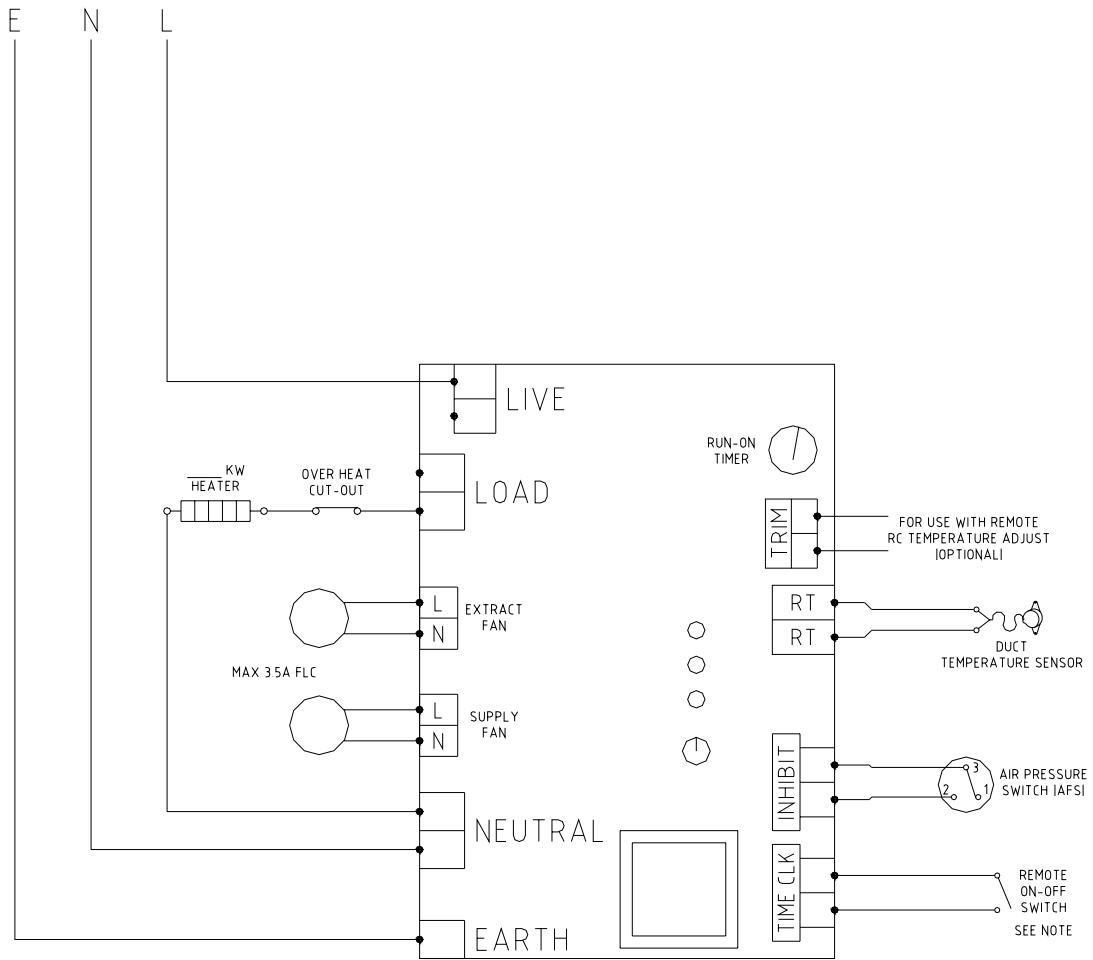
Supply voltage	240Vac 50/60Hz. +/-10%
Output current	19A @40°C (HEATER MAX.)
Temperature sensor	4.7k thermistor.
Temperature control range	0 to 35°C.
Fan & Damper outputs	switch on when Time contact made.
Supply & Extract fan outputs	3.5A max. each
Run on timer	adjustable from 1 to 2 minutes.
Indicators	Power On – Yellow Supply Fan On – Green Extract Fan On – Green Heater On – Red

WIRING DETAILS FOR FOLLOWING DUCT HEATERS:-

- 105 31 100 T1 105 31 125 T1
- 105 31 150 T1 105 31 200 T1

FIG 1

220/240V SINGLE PHASE
 AMP FUSED SUPPLY
 FROM LOCAL ISOLATOR



* IMPORTANT* THE TIME CLOCK/SWITCH TERMINALS
 MUST BE CLOSED [NO VOLTAGE] FOR THE CONTROLS TO BE ENABLED AND BROKEN
 FOR THE RUN-ON TIMER TO OPERATE.

THIS SECTION RELATES TO THE FOLLOWING DUCT HEATERS:-

105 31 250 T1

105 31 315 T1

Specifically designed to mount onto a Vent-Axia 220/240V electric heater and provide fan and heater control. The heater must be split into two equal parts, a maximum of 19A (4.5kW) per phase.

Supply and extract fan outputs are provided for 220/240V single phase fans up to a maximum of 5A FLC complete with overloads and RUN and TRIP LED indication. The supply fan output has a built-in off delay timer* which is activated when the Time Clock / Switch Terminal Contact is opened. This allows the heater to cool before the airflow is turned off*. The off delay time is adjustable 1 to 3 minutes via a pot on the PCB.

A damper motor output is also provided which can be used with 220/240V drive open spring return inlet damper. Volt free relay contacts are provided to signal the units ON/OFF status to a BMS system.

Terminals are provided for an airflow switch or electronic airflow sensor. N.B. If not used the airflow terminals must be linked. Spare 240V terminals are also provided but these must only be used for control purposes max. 2A.

The air temperature can be controlled accurately as it flows along the duct with the thyristor control provided. We would recommend a duct sensor be used, however it is possible to sense the room condition with a wall mounted sensor (optional).

The power supply should come from a local isolator which should be sized according to the size of the heater i.e. if the heater is at its maximum 9kW, a 45A isolator would be required.

To wire the unit is simple, you need only to connect Neutral and incoming Phase (Live) to the pillars provided on the PCB. A 6mm earth bolt is provided for the earth connection (crimp eyelets are recommended). All wiring should be carried out by qualified personnel and should meet the current IEE regulations.

To run the unit you only need to connect the sensor (room or duct), the airflow switch (or link) and the Time Clock / Switch. N.B. If no Time Clock or Switch is used i.e. the unit is running 24 hours the terminals must be linked in order for the unit to run. The thyristor control will now operate. Set the temperature with a terminal screwdriver on the front of the panel (0 - 35°C). The heater LED will indicate pulsing of the heater. If you want to control fans and or a damper motor connect to the appropriate terminals as shown on the wiring diagram (fig 2). We would recommend using the supply fan off delay function.

IMPORTANT MAIN ON/OFF SWITCH

Do not be tempted to turn the unit off via your main isolator feed to the unit. Use the switch/time clock function terminals provided and allow for the unit to cool before isolating the main supply feed. If you intend to use a speed controller on the supply fan you must not turn off the fan via the speed controller ON/OFF switch. This could cause the heater cut-out to trip or cause heat damage to insulation or wiring. Many speed controllers can be modified to disable the ON/OFF switch, this is recommended although selecting the correct size for the duty required is the best solution and will give a longer fan life.

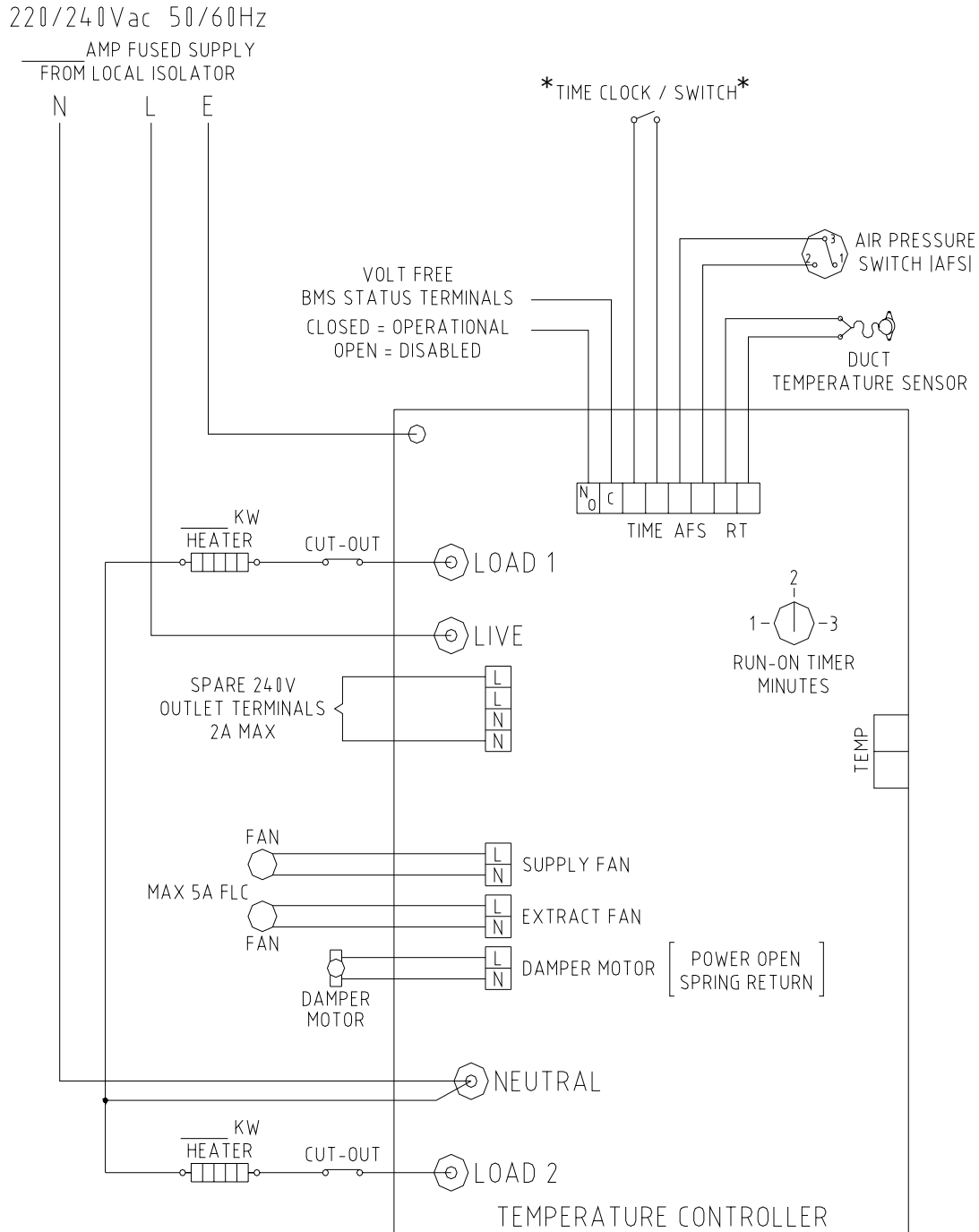
Properly installed this unit should give a long and trouble free service. Make sure all filters in the ventilation system are checked and changed regularly and the airflow switch functions reliably.

SPECIFICATION

Supply voltage	240Vac 50/60Hz. +/-10%
Output current	19A/phase @40°C for each of the two output channels.
Temperature sensor	4K7 thermistor.
Temperature control range	0 to 35°C.
Fan & Damper outputs	switch on when both AFS and Time contacts closed.
Supply fan output	240Vac, 5A max.
Extract fan output	240Vac, 5A max.
Damper supply	240Vac, 2A max.
Run on timer	adjustable from 1 to 3 minutes.
Control on/off	both AFS and Time contacts close to switch on; any one of the contacts open to switch off.
Start relay contacts output	2A @ 240Vac
Indicators	Power On – Yellow Supply Fan On – Green Extract Fan On – Green Heater On – Red

WIRING DETAILS FOR THE FOLLOWING DUCT HEATERS:-
105 31 250 T1 105 31 315 T1

FIG 2



*** IMPORTANT *** THE CONTROLS MUST BE SWITCHED OFF VIA THE TIME CLOCK/SWITCH TERMINALS IN ORDER FOR THE FAN RUN-ON TIMER TO OPERATE.

THIS SECTION RELATES TO THE FOLLOWING DUCT HEATERS:-

105 31 315 T3

105 31 400 T3

105 31 500 T3

Specifically designed to mount onto a Vent-Axia 380/420V electric heater and provide fan and heater control. The heater must be 1 step 3 phase, a maximum of 19A (4.5kW) per phase.

Supply and extract fan outputs are provided for 220/240V single phase fans up to a maximum of 5A FLC complete with overloads and RUN and TRIP LED indication. The supply fan output has a built-in off delay timer* which is activated when the Time Clock / Switch Terminal Contact is opened. This allows the heater to cool before the airflow is turned off*. The off delay time is adjustable 1 to 3 minutes via a pot on the PCB.

A damper motor output is also provided which can be used with 220/240V drive open spring return inlet damper. Volt free relay contacts are provided to signal the units ON/OFF status to a BMS system.

Terminals are provided for an airflow switch or electronic airflow sensor. N.B. If not used the airflow terminals must be linked. Spare 240V terminals are also provided but these must only be used for control purposes max. 2A.

The air temperature can be controlled accurately as it flows along the duct with the thyristor control provided. We would recommend a duct sensor be used, however it is possible to sense the room condition with a wall mounted sensor (optional).

The power supply should come from a local isolator which should be sized according to the size of the heater i.e. if the heater is at its maximum 4.5kW, a 32A isolator would be required.

To wire the unit is simple, you need only to connect Neutral and incoming Phase (Live) to the pillars provided on the PCB. A 6mm earth bolt is provided for the earth connection (crimp eyelets are recommended). All wiring should be carried out by qualified personnel and should meet the current IEE regulations.

To run the unit you only need to connect the sensor (room or duct), the airflow switch (or link) and the Time Clock / Switch. N.B. If no Time Clock or Switch is used i.e. the unit is running 24 hours the terminals must be linked in order for the unit to run. The thyristor control will now operate. Set the temperature with a terminal screwdriver on the front of the panel (0 - 35°C). The heater LED will indicate pulsing of the heater. If you want to control fans and or a damper motor connect to the appropriate terminals as shown on the wiring diagram (fig 3). We would recommend using the supply fan off delay function.

IMPORTANT MAIN ON/OFF SWITCH

Do not be tempted to turn the unit off via your main isolator feed to the unit. Use the switch/time clock function terminals provided and allow for the unit to cool before isolating the main supply feed. If you intend to use a speed controller on the supply fan you must not turn off the fan via the speed controller ON/OFF switch. This could cause the heater cut-out to trip or cause heat damage to insulation or wiring. Many speed controllers can be modified to disable the ON/OFF switch, this is recommended although selecting the correct size for the duty required is the best solution and will give a longer fan life.

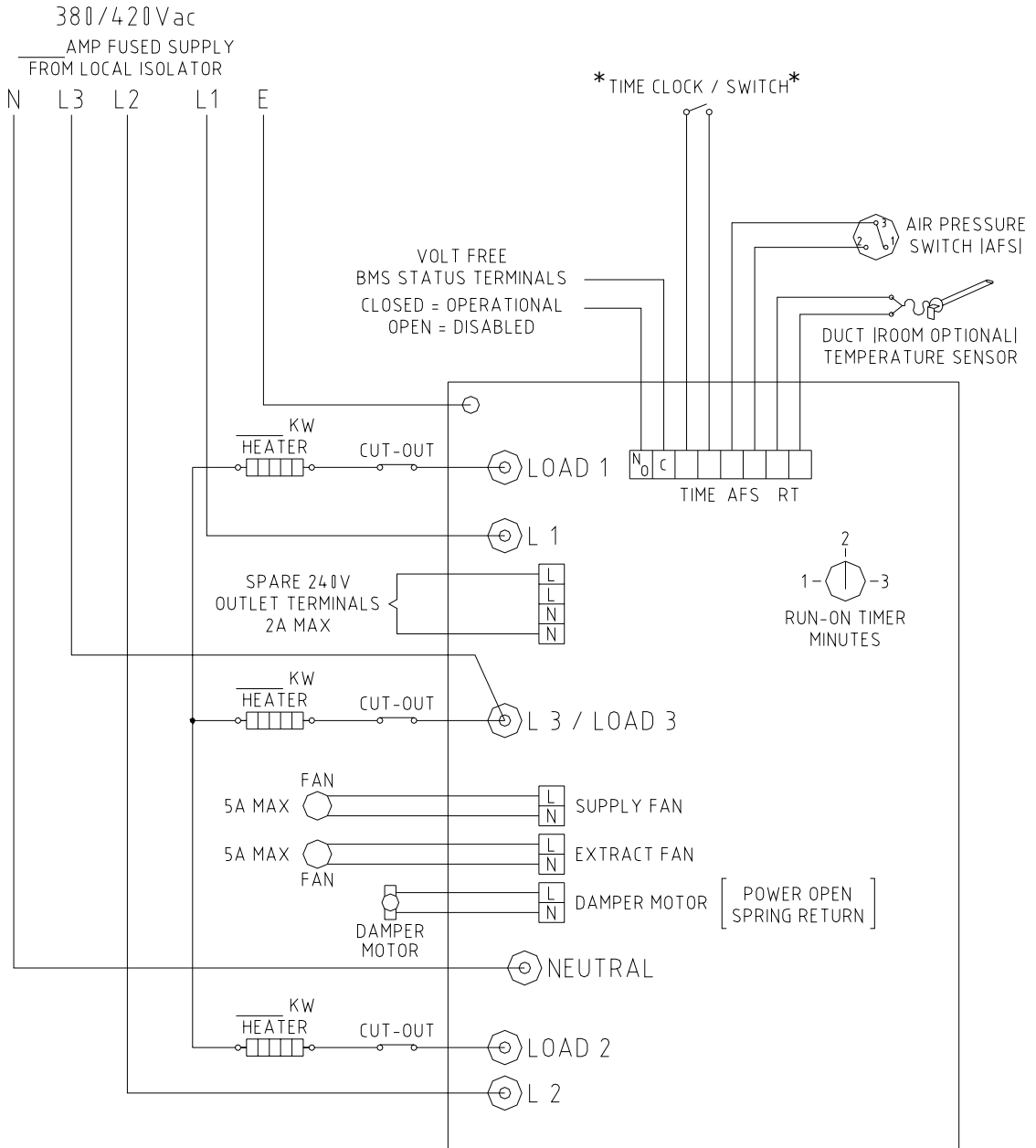
Properly installed this unit should give a long and trouble free service. Make sure all filters in the ventilation system are checked and changed regularly and the airflow switch functions reliably.

SPECIFICATION

Supply voltage	3 phase neutral and earth, 380/420Vac 50/60Hz.
Output current	19A/phase @40°C for each load output channel.
Heater MCBs	30A @ 25°C, 25A @ 40°C.
Temperature sensor	4K7 thermistor.
Temperature control range	0 to 35°C.
Fan outputs	5A max. FLC
Fan MCBs	8A @ 40°C.
Damper output	Max. relay contact 3A @ 240Vac.
Run on timer	1 to 3 minute setting range.

WIRING DETAILS FOR THE FOLLOWING DUCT HEATERS:-
105 31 315 T3 105 31 400 T3
105 31 500 T3

FIG 3



*** IMPORTANT*** THE CONTROLS MUST BE SWITCHED OFF VIA THE TIME CLOCK/SWITCH TERMINALS IN ORDER FOR THE FAN RUN-ON TIMER TO OPERATE.

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Did you find these instructions easy to use?

We value your comments, contact us via :

Email: info@vent-axia.com

The Vent-Axia Guarantee

Applicable only to products installed and used in the United Kingdom. For details of the Guarantee outside of the United Kingdom contact your local supplier.

Vent-Axia guarantees this product for one year from the 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 discretion the product will be replaced without charge, provided that the product.

1. has been installed and used in accordance with the instructions given with each unit.
2. 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.)
3. has not been subjected to misuse, neglect or damage.
4. has not been modified or repaired by any person not authorized 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®

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