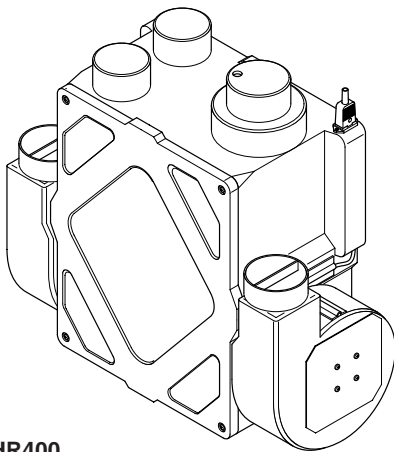


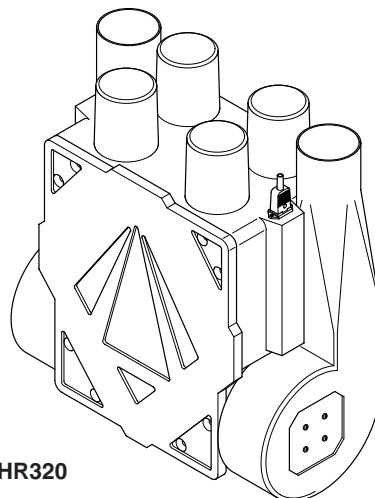
HR320 & HR400

**Whole House Ventilation System
With Heat Recovery**

**Installation and
Servicing Instructions**

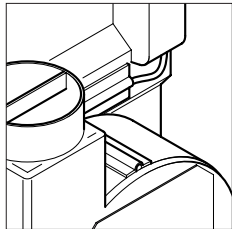
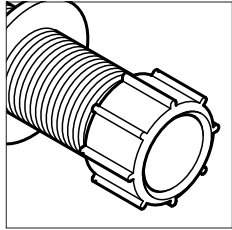
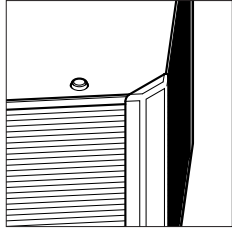


HR400



HR320

CE



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1.0 Introduction

1.1 Description

1. The HR320 and HR400 are a range of whole house ventilation units (Figs. 1 & 2).

The ventilation unit works in conjunction with a duct system enabling air to be transferred throughout the house.

The whole house system works by replacing the warm stale moist air from the house, with fresh air from outside. The fresh air passes through a highly efficient heat exchanger and is prewarmed by the heat which is recovered from the extracted air. The heat exchanger recovers up to 70% heat from the outgoing stale air.

1.2 Operation

1. The unit is designed to switch between trickle and boost settings to give optimum performance. This can be achieved manually through a switch or pull cord, or automatically using a remote humidity sensor.

Trickle is continuous low speed at which the air in the property is changed approximately once every two hours.

Boost increases the ventilation rate throughout the property for manual control. Under automatic control the unit changes to boost on increase in relative humidity above a set point. It reverts to trickle when the relative humidity drops below the set point.

NOTE: The system is audible when operating at boost speed.

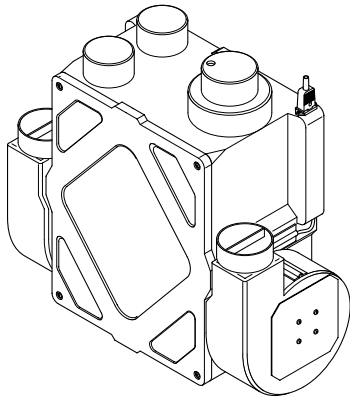
2. Speed control of the unit is via a separate transformer (VCON77) which is capable of giving a range of six speeds (Fig. 3). Any two speeds can be selected on installation to give trickle and boost settings most appropriate to the system.

With the units operating on boost setting the electrical power consumption is;

HR320 - 200W

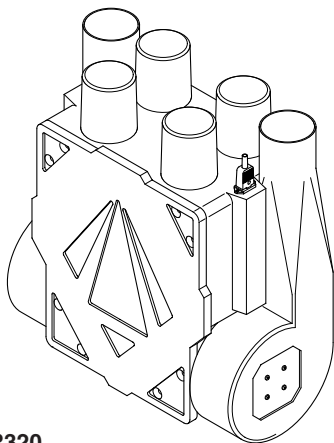
HR400 - 305W

NOTE: Refer to the VCON77 instructions for information on installation and speed selection.



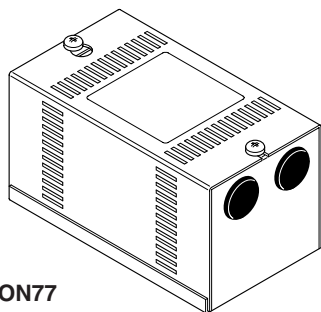
HR400

Fig. 1



HR320

Fig. 2



VCON77

Fig. 3

2.0 Site Requirements

2.1 Information

1. The fan unit is to be permanently connected to the mains electrical supply and must be installed by a suitably qualified person.
 2. The fan unit must be sited and connected in accordance with UK Building and IEE Wiring Regulations (BS 7671) or regulations and /or standards appropriate to the country of use.
 3. Wiring to the fan unit in the UK must be via a 3 Amp fused and switched connection unit incorporating a double pole switch having a contact separation not less than 3mm and conforming to BS 5733 or BS 1363 Part 4. The connection must be located outside of a fixed bath, shower or wash hand basin. The wiring should be suitably (BASEC or HAR) approved cable of appropriate current carrying capacity.
 4. The fan unit is Class 1 and must therefore be earthed.
 5. The fan unit must be connected to a trapped drainage system to allow condensate to be freely drained from the unit to the chosen discharge point.
 6. If the fan is installed in an unheated roof void, or similar location, it should be insulated together with any associated ducting within this space.
 7. The fan unit must be sited away from direct sources of heat in excess of 40°C.
 8. Do not position an internal extract valve/grille in the vicinity of excessive levels of airborne oil or grease i.e. above or close to a cooker.
 9. If it is intended to fit an extract terminal/grille in a room containing a fuel burning appliance, the installer must ensure that provision for air replacement is adequate for both appliances and is in compliance with the requirements of Part F of the current edition of the Building Regulations.
-

2.0 Site Requirements

2.1 Information (cont)

10. The external grilles/terminals for the system must be sited at least 1m away from the flue of a fuel burning appliance, in compliance with the requirements of Local Authority, Building Regulations and any other relevant Codes of Practice.

11. All safety regulations and requirements must be strictly followed to prevent hazards to life and property both during and after installation or servicing.

12. Ensure that the mains electrical supply is switched off before commencing installation, maintenance or servicing.

13. Fire compartmentation must be maintained to comply with the requirements of the current edition of the Building Regulations. Where applicable fire dampers complying with the recommendations of BS CP 5588: Part 9 will require to be installed in the ducting installation.

14. Do not locate fittings (QTET, QTB90, QTB45) closer than 2.5 diameters to each other or to supply/extract terminal (SV100/EV100).

15. Never locate tees (QTET) directly over or adjacent to a terminal housing otherwise noise will be generated.

3.0 Installation

3.1 Installing the Fan Unit

1. Check the diagrammatic ducting layout drawing to ensure that the proposed duct routes, fan unit and air terminal locations can be accommodated. If in doubt refer to the Technical Department.

2. The units are suitable for either vertical or horizontal mounting. After noting the positions of the electrical connector, duct spigots and drainage connection on the unit, choose a suitable installation site for the unit. The most desirable location for the unit, in single and two storey properties with a roof space, is in the roof space.

3. Never locate the unit over a sleeping area - above the landing or bathroom is always preferred. The selected site must allow adequate space around the unit for the removal of the access panel and heat exchanger for maintenance and servicing purposes.

Condensate Drainage

HR400

4. The condensate drain is supplied fitted to the unit as shown (Fig. 4).

HR320

5. The unit is supplied with a 22mm diameter condensate drain fitting, packed loose in the box. The WH unit casing is moulded with two 22mm diameter drainage spigots in the bottom corners. The casing of the unit can be set up for right hand or left hand drainage by cropping the domed end off either one of these spigots and pushing on the condensate drain fitting (Fig. 5).

6. The units must be positioned so that the condensate outlet can be trapped and the condensate conveyed properly with a continuous gradient to discharge through the gable or to the eaves gutter in the selected location. Parts ref. CP, CPC and CPE are included with the kit. Connect the drainage system using the parts provided, jointing the PVC pipework and fittings using PVC cement to form watertight joints.

NOTE: Trap should be charged/filled before operating the system and should be checked, especially in summer.

BEWARE: A blocked condensate outlet pipe due to insufficient pipe run (gradient) will quickly lead to water damage.

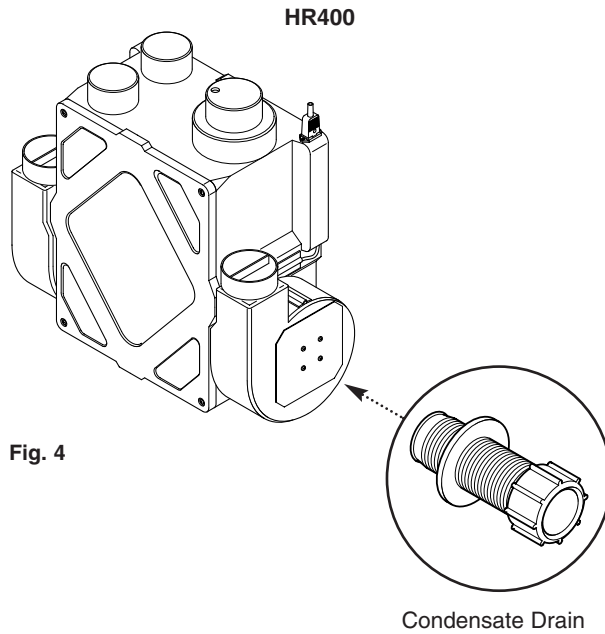


Fig. 4

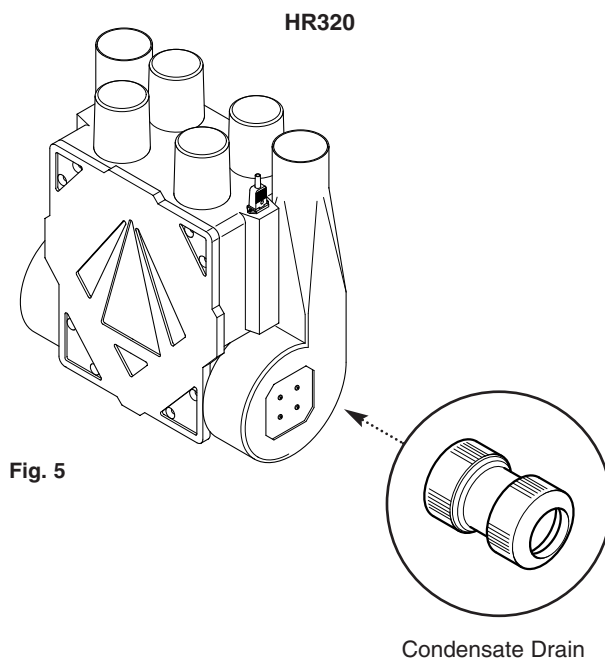


Fig. 5

3.0 Installation

3.1 Installing the Fan Unit (cont)

Horizontal Mounting (Fig. 7)

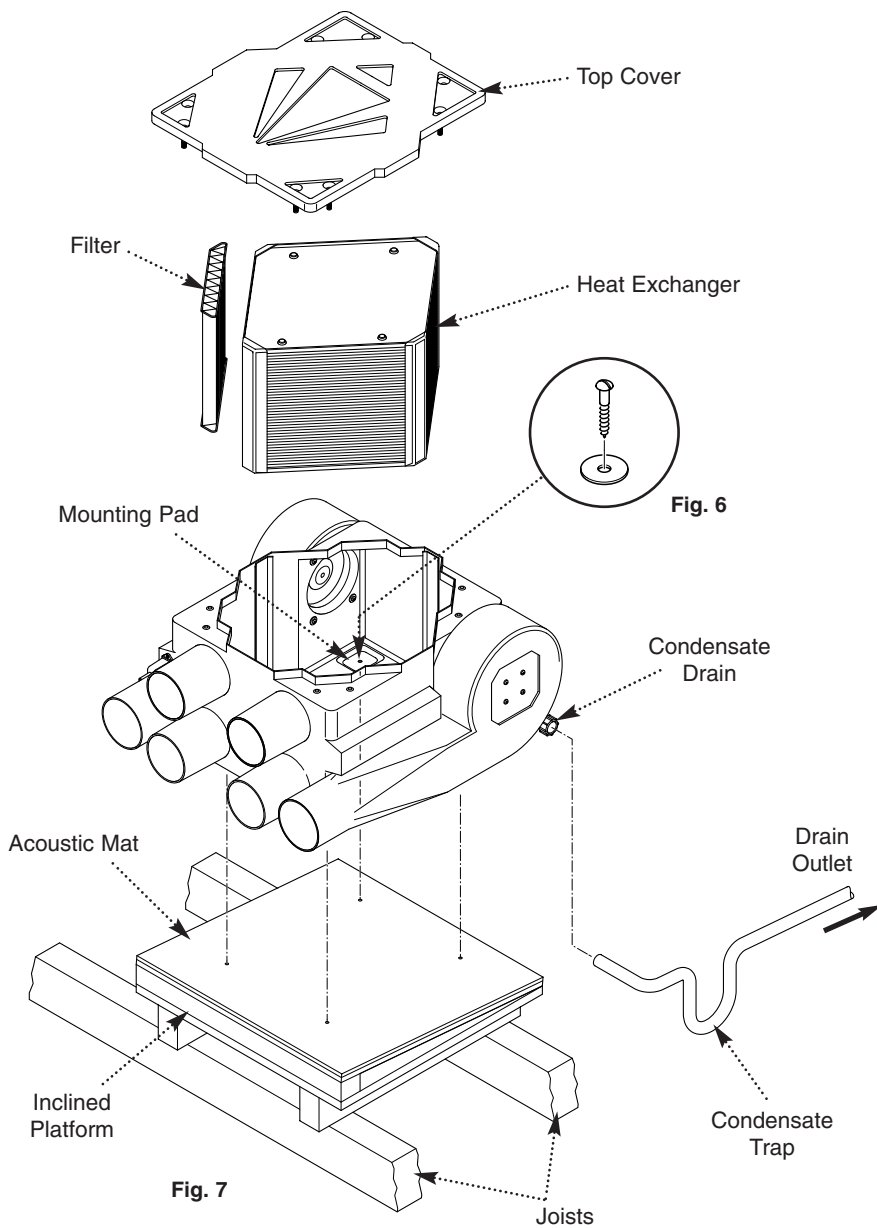
7. Before installation of the fan unit, a wooden platform must be provided to mount the unit on.

8. The platform should be constructed from 50mm x 100mm timber bearers with a 19mm block board deck.

9. The platform should incline the unit to ensure a fall to the drain outlet. An acoustic mat (ACMW/HOUSE) can be fitted on top of the board to minimise vibration.

10. Remove the top cover and withdraw the heat exchanger from the casing. Carefully drill four holes through the mounting pads.

11. Secure the casing to the platform deck using four No.8 round head screws and large pattern washers to dissipate the load (Fig. 6).



3.0 Installation

3.1 Installing the Fan Unit (cont)

Vertical Mounting HR400 (Fig. 8)

12. The HR400 can be mounted vertically by securing with plugs and screws through the casing (see horizontal mounting).

Vertical Mounting HR320

The HR320 is supplied with a wall mounting kit.

13. Hold the unit against the wall and mark the horizontal base line.

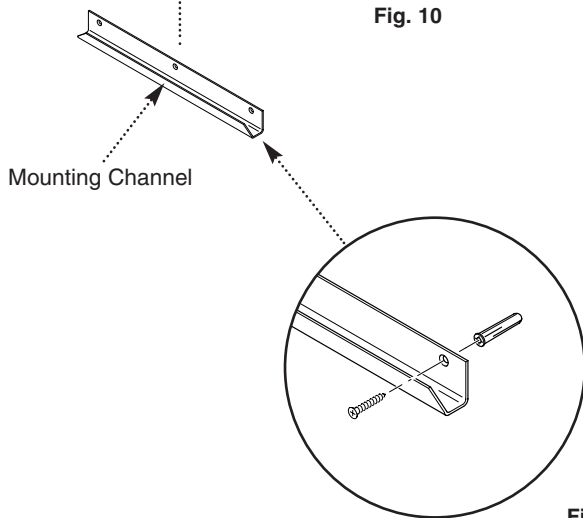
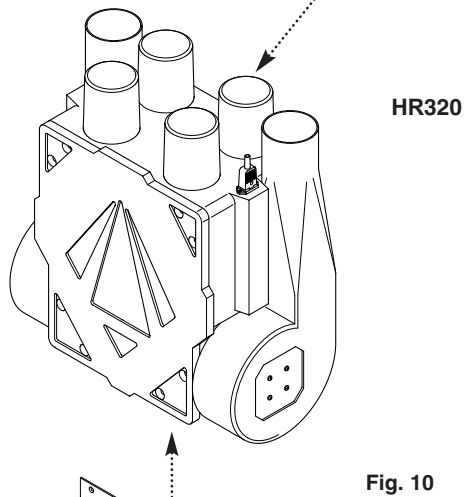
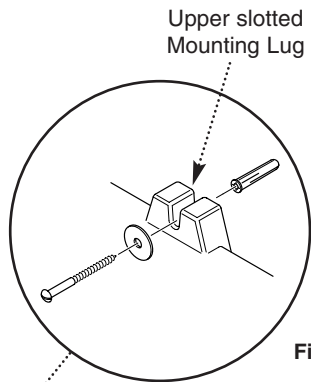
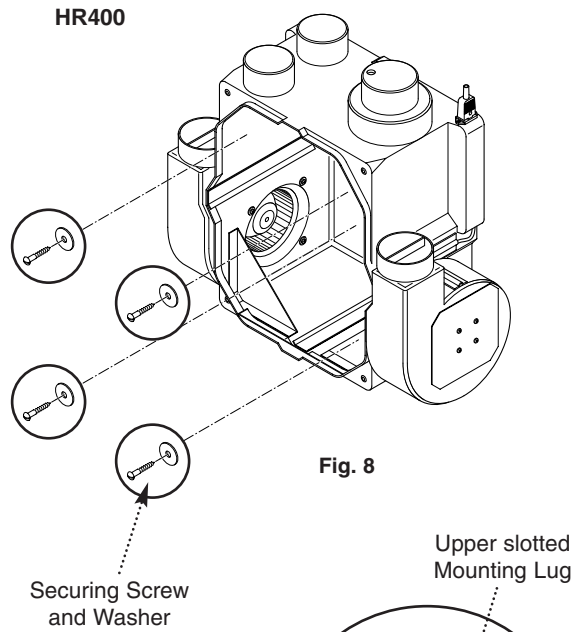
14. Remove the unit and position the mounting channel on the line.

15. Mark through the three holes and drill and plug them (Fig. 11).

16. Secure the mounting channel to the wall using the screws provided (Fig. 11).

17. Locate the unit's lower mounting rib in the channel and mark the position of the upper slotted mounting lug. Drill and plug the wall (Fig. 9).

18. Secure the unit to the wall ensuring a large pattern washer is used on the fixing lug (Fig. 9).



3.0 Installation

Supply and Extract Air Terminals SV100 / EV100

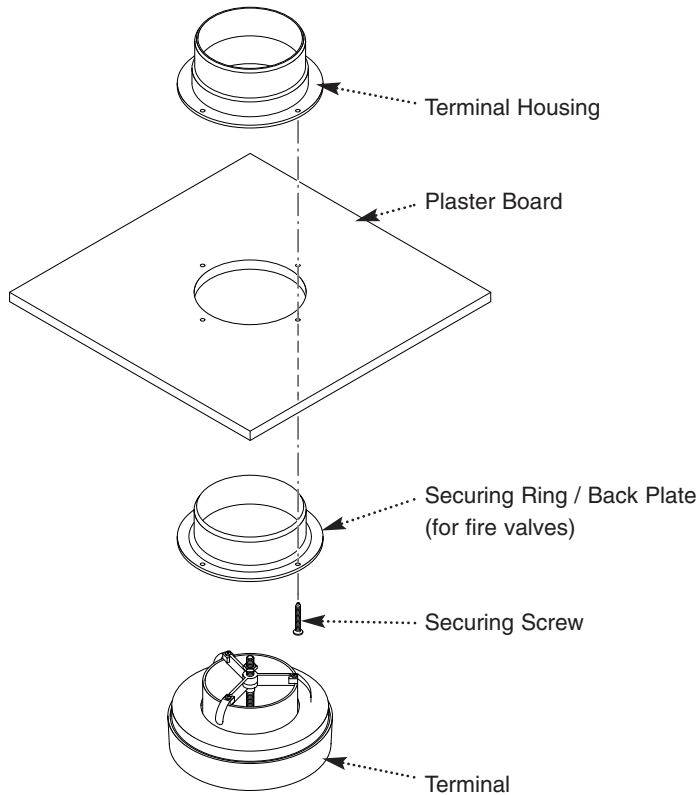


Fig. 12

Typical Installation

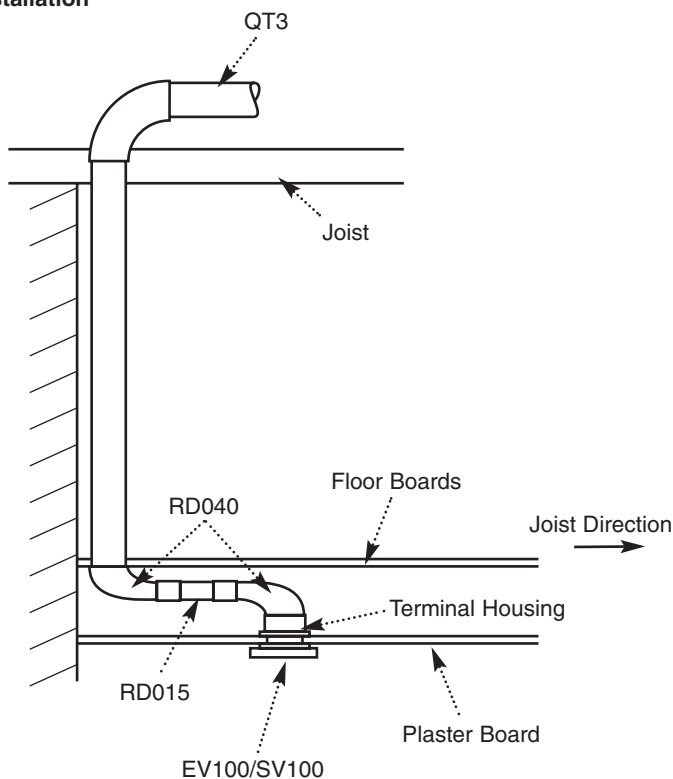


Fig. 13

3.2 Installing the Ducting System

1. Cut off the closed ends of the duct spigots that are to be connected to the duct system. Ensure that no cutting debris falls into, or remains in the unit as this could damage the balanced impellers and cause excessive noise and vibration.

2. A shell bit is recommended for drilling holes in the ceiling to accommodate the housings for supply and extract air terminals (SV100 and EV100). Make sure that you are not drilling into structural members, water or gas pipes or electrical cables and that there is room behind the plaster board for duct access and securing ring. Ceiling terminals should preferably be fitted equidistant from adjacent walls bearing in mind that coving may already be fitted or may be fitted at a later date.

3. Place the terminal housing in the hole in the ceiling and secure to the back ring with the four screws provided.

4. For two storey new build properties it is recommended that the ground floor terminal housings are secured in position in advance of the plasterboard panels being fixed, by obtaining a sheet of plasterboard of the type and thickness to be used. Cut a square of the sheet to just span two joists in the corner where the terminal is to be fitted. Remember that the edge of the sheet on the inner joist should only rest on half of the joist thickness. This allows a fixing surface for the next sheet of plasterboard to be secured to when it is fitted. Tack up the plasterboard in position on the ceiling and connect up and seal the duct and fittings (Fig 12).

5. For two storey existing properties it is necessary to lift the floor coverings at first floor level above the terminal positions to gain access to the terminal housings to secure and seal the duct and fittings.

6. Fix in position all vertical supply and extract air ducting being conveyed between ground floor ceiling level and the loft space (Fig 13).

3.0 Installation

3.2 Installing the Ducting System (cont)

7. The external grilles for intake and exhaust air should be positioned so that the exhaust air is not drawn in again.
 8. If the grilles are fitted in the same gable at the same height, a minimum of 1m between grilles is recommended.
 9. If the grilles are positioned above one another the distance apart should be at least 1m with the exhaust grille at the top.
 10. Roof ventilators placed on the same roof surface should be positioned at the same distances as the grilles.
 11. Always ensure that all exhaust grilles/roof ventilators are placed higher than the top edge of the highest window and at a distance of at least 1m from the nearest window.
 12. External grilles placed in the soffit should be positioned at the same distances as indicated for gables.
 13. The Quicktube Rigid UPVC duct system permits fast, easy assembly whilst ensuring pressure-proof system sealing.
 14. The ducts are delivered in lengths of 3m and are easily shortened as required with a duct saw or a similar fine toothed saw. We recommend that you file the edges of the ducts after shortening.
 15. Assemble the duct and fittings, following as closely as possible the diagrammatic ducting layout. Ensure that the duct is raised above joist level to allow for thermal insulation of the ducting.
 16. Each straight length of duct is assembled using a flexible connector (QTC) to join the two ends, whilst 90° and 45° diversions and branches are accomplished with flexible fittings (QTB90, QTB45 and QTET). The duct is a push fit into the socket of the connector and fittings.
 17. Once assembled the joints are secured with duct tape (DT30) to provide an airtight seal. Ensure that the tape is secured over the complete joint area to provide an airtight seal.
-

3.0 Installation

3.2 Installing the Ducting System (cont)

18. The quantity and location of flexible silencers (FS100), if required, will depend upon total airflow rate. If in doubt check with the Technical Department. These should be installed between the unit and the first supply/extract terminal on the duct system, to reduce the noise from the unit, which would otherwise be transmitted through the duct system and into the home.

19. If the loft space is unheated the unit and ducting will require to be thermally insulated to preclude condensation occurring and to minimise heat loss. This requirement must be observed in the planning and routing of the duct system.

20. The insulation recommended comprises of 3mm thick polyethylene bubble sheet laminated on the external surface with aluminium foil protected by a thin polythene film. The product is CFC and HFC free and has a surface spread of flame of Class 1 tested to BS476 Part 7/971. It should, however, be protected from open flames or sparks and stored apart from highly flammable materials.

21. The material provides resistance to heat loss from the distribution ducting and a highly effective vapour barrier when all joints are sealed with metallised tape. It is light but robust, not easily damaged in storage or during construction and is rot proof, water and vapour resistant, durable and can be expected to remain an effective insulant for the normal life span of a building.

22. The insulation is supplied in 1.5m long preformed sections for application to the ducting at the time of installation. All joints should be secured using the metalised tape (DTA30) provided to ensure that a continuous vapour seal is maintained.

23. A purpose made insulating jacket is provided to enclose the heat recovery unit. Simply cut out the material for ducting connections to ensure a snug fit.

24. The use of flexible ducting should be limited to an absolute minimum. If used it should be fully stretched in order to minimise pressure loss.

3.0 Installation

3.2 Installing the Ducting System (cont)

25. A pack of pre-insulated flexible ducting (IFD100) is included with the kit together with worm drive clips (FC180). The flexible ducting is intended for use in making the final connection between the rigid ducting and the external wall/soffit grilles or roof ventilators.

26. Remove the controller (VCON77) from the packaging, unscrew the cover retaining screws and remove the cover.

27. Offer the base assembly to the selected mounting surface and mark the fixing hole positions. Fix the base assembly to the mounting surface using suitable woodscrews and if required, wall plugs.

28. Install the manual control switch (NBSW and MBB), or pull cord switch (PCSW) in accordance with the instructions supplied with it. Alternatively install the automatic control option - a humidistat (HS6).

29. Before wiring the fan unit, controller and control switch, ensure that the mains electrical supply is switched off.

30. Cut to length, strip and connect suitable cables between the fan unit, controller and control switch in accordance with the wiring arrangements.

31. When using surface wiring, which is not contained in conduit, anchor the cables to the mounting surface along their length and particularly adjacent to the connection to the unit, controller and control switch.

32. Replace the controller cover and tighten the retaining screws while ensuring that no wiring is trapped between the base and the cover.

33. Locate the control switch on its mounting box and tighten its retaining screws (NBSW or PCSW).

34. Switch on the mains electrical supply and test for satisfactory operation of the fan unit and duct system. Operate the system with the manual control switch (NBSW or PCSW) set to boost speed, or with the humidistat (HS6) set at minimum and the cores of all the air valves removed. The system will be noisy, this is to be expected. Operate the unit and system at boost speed for approximately 15 minutes to ensure that any dust and debris which has accumulated during installation is ejected.

3.0 Installation

3.2 Installing the Ducting System (cont)

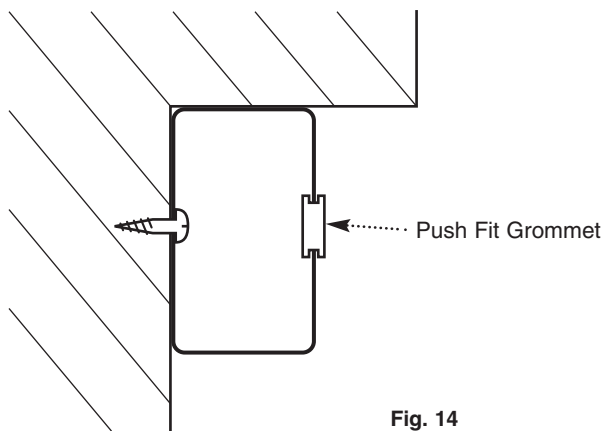


Fig. 14

35. The rectangular system of ducting, white rigid UPVC, permits fast, easy assembly and is normally used in flatted accomodation. This ducting can be surface mounted internally where a ceiling void is not available, fitted between ceiling and floor between joists, or when a ceiling void is not accessible or too small to work in.

36. The ducting (RD015), which has external dimensions of 54mm x 110mm x 1.5m long, can be mounted horizontally with the long side against the ceiling or vertically with the long side against a wall.

37. This is done by drilling a 25mm dia hole in the underside or exposed vertical side of the ducting and then drilling a pilot screw hole on the hidden side of the duct i.e. ceiling/wall side of the duct, through the 25mm dia hole. Corresponding fixing holes are drilled in the ceiling/wall and wall plugs fitted as required. Using a screwdriver through the 25mm hole fix the ducting with an appropriate size and length of screw through the pilot hole into the ceiling/wall. The 25mm dia hole is then sealed using an appropriate sized plug (PDPLUG) (Fig. 14).

38. A variety of push fit white rigid UPVC fittings are available.

39. Duct runs longer than 1.5m can be built up by the use of straight connector pieces (RD020), changes in direction horizontally by 90° bends (RD050) and vertically by 90° bends (RD060), branches are obtained by the use of tee pieces (RD080).

40. Changes in section from the rectangular to circular to accomodate the use of quicktube or flexible ducting (PFD100 etc.) can be obtained with bent adaptors i.e. 90° elbow joints (RD040), and straight adaptors (RD070). Note that the RD070 is an eccentric fitting which allows both the rectangular and circular ducting to be installed flush to the wall/ceiling.

41. As the fittings are push fit over the outside of the straight duct (RD015 - 110mm x 54mm) a small gap, 2mm wide, will occur at the wall/ceiling due to the thickness of the fitting. This can be filled by the use of a white silicon sealant.

3.0 Installation

3.2 Installing the Ducting System (cont)

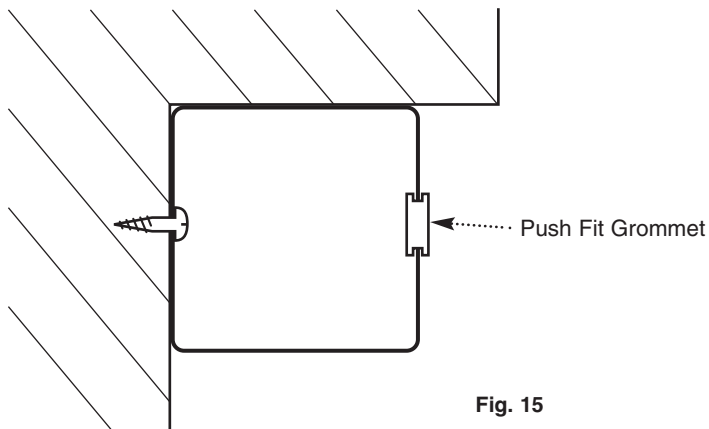


Fig. 15

42. Rectangular ducting can be concealed in a suspended ceiling having a minimum clearance of 76mm (double battening) between the ceiling and the plasterboard. This allows the use of ceiling mounted supply (SV100) and extract (EV100) valves utilising the 90° rectangular to circular elbow joint (RD040). The spigot of the RD040 may have to be trimmed to facilitate this.

43. The system can be used with a variety of wall louvres, grilles and terminals. The RD501 is an internal brick sized grille in white, 200mm x 55mm, and can be used in conjunction with an adaptor (RD077) to convert to 110mm x 54mm. This permits connection to rectangular ducting. The RD501 grille can be used directly onto the rectangular ducting either on the 54mm side or the 110mm. This is done by cutting a hole, 50mm x 100mm, in the duct, cutting off the sleeve at the rear of the RD501 to leave the grille which can then be attached to the hole in the duct by solvent or by a white silicon sealant.

44. Wall louvres such as the RD104 and the ESG100 can also be used by converting to circular with either a straight adaptor (RD070) or a bent adaptor (RD040). It is important to remember that the spigot on the RD104 is concentric, which is difficult to use if the rectangular ducting is hard against the ceiling or wall or both. In this use an ESG100 which has an eccentric spigot.

45. Squareduct 100 is designed to provide a smooth bore ducting system which can be surface mounted in areas where concealment or boxing-in is difficult or undesirable. The ducting (SD3) comes in 3m lengths or (SD1.5) in 1.5m lengths and with clean butt joints and concealed fixing, Squareduct can be fitted along the top of a wall providing a clean edge between wall and ceiling.

46. All fittings are supplied with a matching push fit grommet (PDPLUG) on one side. This is removable to allow the fitting to be drilled and screwed through the hidden duct wall to either ceiling or wall. Removal of the grommet provides a 25mm diameter hole for access. This procedure is very similar to that used for rectangular ducting. After fixing, the 25mm dia hole is then sealed using the grommet (PDPLUG) (Fig. 15).

3.0 Installation

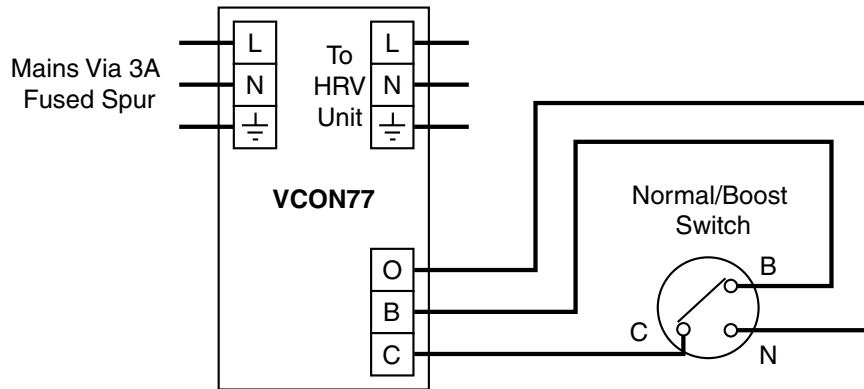
3.2 Installing the Ducting System (cont)

47. A variety of push fit white rigid UPVC fittings are available.

48. Integral grilles and louvres provide attractive extract and supply for low cost installations. Tube and fittings are manufactured in flame retardant plastics to DIN4102/B1.

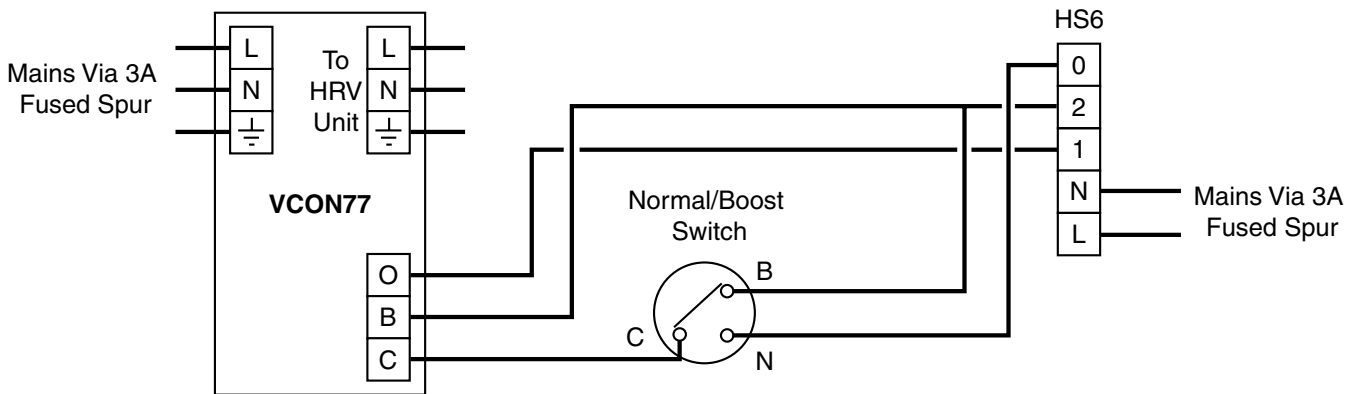
49. A square to round adaptor (AD100) allows for simple connection to the Quicktube (QT3) system and the use of all ancillary equipment. Wall louvres such as the RD104 and the ESG100 can be used by converting to circular with the straight adaptor (AD100). It is important to remember that the spigot on the RD104 is concentric which is difficult to use if the Squareduct is hard against the ceiling or wall or both. In this case use an ESG100 which has an eccentric spigot.

VCON7 and NBSW / VCON100 Manual Normal to Boost Speed Control



Select appropriate VCON7 tapping for NORMAL speed setting

VCON7 and HS6 Automatic Normal to Boost Speed Switching



Select appropriate VCON7 tapping for NORMAL speed setting

5.0 Commissioning

5.1 Commissioning the System

Before starting to commission the system check that the crossflow heat exchanger and the filter panel (if ordered) are properly and securely in place (Fig. 16). Check that all sockets are correctly engaged, that the wiring is secure and properly mounted and that the unit cover is secured.

The scope of the commissioning procedure comprises:

1. Balancing the two airflows to achieve maximum heat exchanger efficiency.
2. Adjusting the two airflows to obtain the overall airflow rates and the individual terminal air flow rates as specified on the air change schedule.
3. Adjusting the fan speed controller (VCON77) by increasing or decreasing the voltage setting to obtain the most economical running costs and the lowest noise levels attainable within the parameters of the design concept as specified on the air change schedule. The 230V tapping is for BOOST speed operation only. At this setting, the system will be audible.
4. An airflow meter must be used to set the correct airflows.
5. Check that there are air gaps under all internal doors to provide the transfer route of air from the "living" areas to the "wet" rooms. Close all windows, outside doors and all fresh air terminals in windows and walls except the necessary openings for gas oil heaters and stoves etc. Fit the cores of the air valves, ensuring that the correct type of supply and extract terminal device is used.

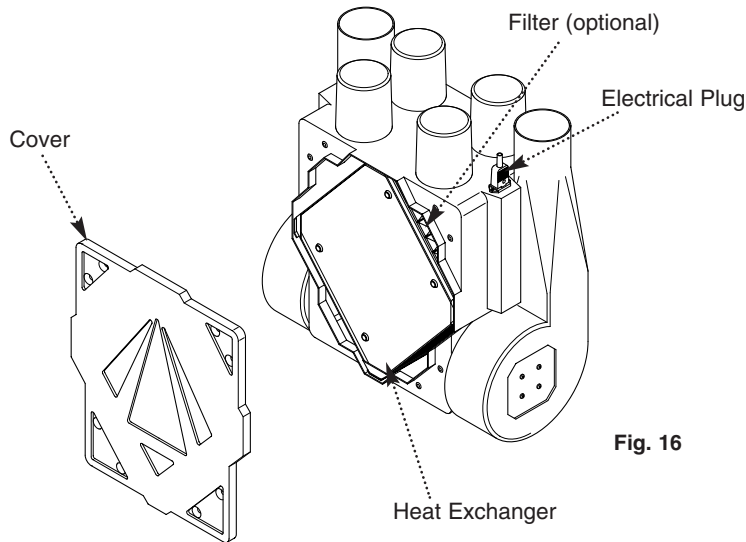
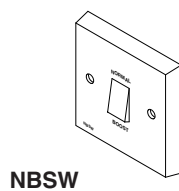
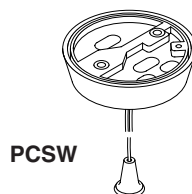


Fig. 16



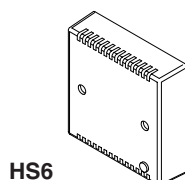
NBSW

Fig. 17



PCSW

Fig. 18



HS6

Fig. 19

NOTE: The supply air terminal device is directional and incorporates a deflector plate. Ensure that the deflector plate is correctly positioned so that the active part of the terminal device is discharging to the room.

6. Set the control switch (NBSW or PCSW) (Figs. 17 & 18) to normal speed or set the humidistat (HS6) (Fig. 19) at maximum and check that air is flowing in the correct direction at each terminal point. At this stage it will save time if all the terminals are fitted and opened to approximately half way.

7. Commence with the extract system at the terminal nearest to the fan unit. Adjust and measure until the airflow for that particular terminal is achieved at the value indicated on the air change schedule.

5.0 Commissioning

5.1 Commissioning the System (cont)

8. Standard ceiling terminals type EV100 and SV100 are adjusted by turning the central screw and are locked in the "set" position by the locknut.

9. Move to the next terminal down the line and adjust as before. Repeat until all extracts have been adjusted. Recheck the first terminal and adjust, followed by the second, third etc., until all individual extract air flow rates are within approximately +/-10% of the design air flow rates.

10. If each terminal has to be almost closed to achieve the air flow rates, it is likely that the VCON77 "normal" voltage setting is too high. Change to the next lowest voltage setting and remeasure the individual air flow rates.

11. Conversely, if the airflows cannot be achieved with the terminals fully open it will be necessary to increase the VCON77 "normal" voltage setting by one step and to remeasure the individual air flow rates.

12. When satisfied with all the extract air flow rates, repeat the procedure stated above for all supply air terminals. In this case it is important that excessively high air velocities do not create draughts and undue noise. It may be necessary to install a volume control damper in the main fresh air inlet ducting to increase system resistance and hence induce the fan to move down its curve (refer to the Technical Department should this circumstance prevail).

13. Louvered terminals type RD104 and RD501 are adjusted by restricting the airflow using acetate paper or similar, cut to the size required to achieve design air flow rates. If the internal louvered wall terminals (RD104 and RD501) are used for supply air then the terminals should be fitted at high level and the louvres should direct the air upwards. Ensure that the flyscreen is removed from the RD104 louvered wall terminal and that the non-return flap is removed from the RD501 wall terminal.

6.0 Servicing

6.1 Annual Servicing

1. As well as providing fresh pre-warmed air the system also removes odours, moisture, excessive heat and airborne impurities such as dust, dirt and grease. These impurities gradually build up and detract from the efficiency of the heat exchanger.

2. It is recommended that the system is serviced annually. Servicing must be carried out by a competent person.

3. Switch off the mains electrical supply to the unit.

4. Undo the captive retaining screws and remove the cover (Fig. 20).

5. Withdraw the heat exchanger (Fig. 21).

6. Wash the heat exchanger in warm water using a mild detergent and subsequently dry it thoroughly.

7. Remove filter, if fitted, and replace with new filter media (Fig. 21).

8. Clean the interior of the unit with a vacuum cleaner if necessary and lightly brush the fan impellers.

9. Disinfect the unit interior using a proprietary product, noting and observing the manufacturer's instructions.

10. Check the drainage system for integrity of joints and ensure that water flows freely and that the trap is charged.

11. Replace the heat exchanger.

12. Replace the access panel and tighten the captive retaining screws.

13. Switch on the mains electrical supply and check for satisfactory operation.

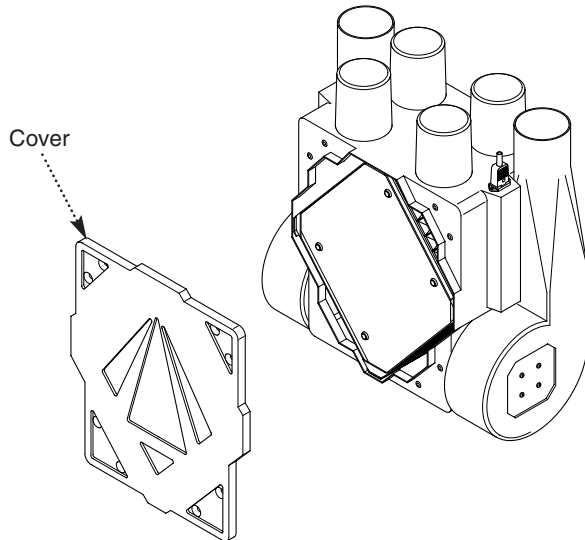


Fig. 20

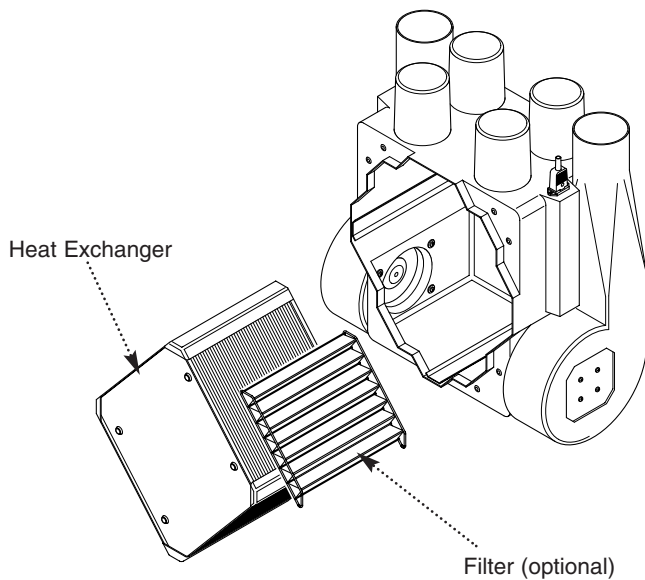


Fig. 21

7.0 Fault Finding

<p>Fault 1. Unit will not operate when switched on.</p>	<p>Cause Electrical Fault</p>	<p>Remedy Switch off the mains electrical supply to the unit and; a) check power supply to switched fused spur. or b) check fuse or c) check electrical connector at unit or d) check wiring to VCON77 controller or e) check wiring to control switch (NBSW, PCSW or HS6)</p>	<p>Fault 4. Low airflows at terminal devices</p>	<p>Cause 1) VCON77 controller set at incorrect voltage 2) Flexible silencer crushed or collapsed internally 3) Excess fouling of heat exchanger 4) Fresh air / exhaust air devices blocked 5) Filter (if fitted) blocked</p>	<p>Remedy 1) Increase voltage setting at VCON77 controller 2) Replace flexible silencer. 3) Service the unit 4) Disconnect ducting and remove debris 5) Replace filter media</p>
<p>2. Unit will only operate on boost</p>	<p>Transformer damaged or wiring fault</p>	<p>Switch off the mains electrical supply to the unit and; a) check wiring to control switch (NBSW, PCSW or HS6) or b) disconnect wiring to control switch and test operation of switch with Multitester. Replace switch if faulty or c) test output of VCON77 controller and replace if faulty.</p>	<p>5. Air flow failure</p>	<p>Fan / fans stopped</p>	<p>Switch off the mains electrical supply to the unit and a) remove access panel and heat exchanger b) check fans for free operation c) replace if seized</p>
<p>3. Unit trips out</p>	<p>Water build up in unit</p>	<p>a) check that unit is inclined to drain connection or b) check condensate pipework for blockage or c) check for earth fault on wiring to controller / control switch / unit or d) check for motor thermal fuse trip by switching off unit, allowing to stand for approx. 45 minutes then restarting unit</p>	<p>6. Noise at air terminal devices</p>	<p>1) excessive airflow 2) ducting components (QTET) connected directly over air valve 3) Fan / fans bearing failure</p>	<p>1) check airflow rate complies with commissioning data 2) modify ducting arrangement to relocate QTET a minimum of 2.5 diameters from air valve. 3) switch off the mains electrical supply and remove access panel and heat exchanger. Check fans individually for evidence of bearing noise, replace if considered excessive.</p>
			<p>7. Unit noisy</p>	<p>1) unit not located on acoustic mat 2) VCON77 controller set at incorrect voltage 3) Fan / fans bearing failure</p>	<p>1) Lift unit and fit acoustic mat 2) reduce voltage setting at VCON77 controller, ensuring compliance with commissioning data 3) repeat as 3 of previous remedy</p>

8.0 Guarantee

8.1 Guarantee

This guarantee is offered to you as an extra benefit and does not effect your legal rights.

The products are guaranteed for one year from date of purchase against faulty materials or workmanship. In the event of any part found to be defective, providing that:

1. The product has been installed and used in accordance with the instructions accompanying each unit.
 2. The product has not been connected to an unsuitable electricity supply.
 3. The product has not been subject to misuse, neglect or damage.
 4. The product has not been modified or repair by any other person not authorised by the company.
 5. If claiming under terms guarantee:
Please return the complete product, carriage paid, to the Company, or by post or in person, or in person by your representative.
 6. Please ensure that it is adequately packaged and accompanied by a letter clearly marked "guarantee claim", stating the nature of the fault and providing evidence of date and source of purchase.
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