

## CMX-S

Central Mechanical Extract Ventilation (cMEV) appliance

### Installation Instructions

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#### 1.0 SAFETY INFORMATION

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- **DO NOT SWITCH OFF THE UNIT** – it is designed to run continuously. If the unit is switched off, indoor pollutants and moisture levels may increase which could endanger your health or damage your home. It is important to follow the advice in this manual and correctly maintain the system to ensure a healthy indoor environment.
- All wiring must be in accordance with prevailing national regulations, for example the current IEE Wiring Regulations BS7671. The electrical installation should be inspected and tested by a suitably qualified person after completion.
- The installer is responsible for the installation and electrical connection of this system on site. It is the responsibility of the installer to ensure that the equipment is safely and securely installed and left only when electrically and mechanically safe.
- When installing the appliance, care should be taken not to damage any hidden utilities.
- Ensure that the mains supply (Voltage and Frequency) complies with the rating label.
- Isolate from power supply before removing any covers. During installation / maintenance ensure all covers are fitted before switching on the mains supply.
- The appliance should be provided with a local double pole fused spur fitted with a 3 Amp fuse and a minimum contact separation of at least 3mm.
- This unit must be earthed.
- Ducting must be securely fixed with screws to the spigot to prevent access to live parts. Duct runs terminating close to the fan must be adequately protected by suitable guards.
- All regulations and requirements must be strictly followed to prevent hazards to life and property, both during and after installation and any subsequent servicing or maintenance.
- This appliance should not be used by children or persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge, unless they have been given supervision or instruction concerning the safe use of the appliance by a person responsible for their safety. Children shall not play with the appliance. Cleaning and user maintenance shall not be carried out by children.

- In dwellings where it is intended to install open-flue appliances and extract ventilation, the combustion appliance should be able to operate safely, whether or not the fans are running. A way of showing compliance with The Building Regulations in these circumstances would be to follow the installation guidance shown below, and to show by tests that combustion appliances operate safely, whether or not the fans are running.

**A.** For gas appliances: where a room contains an open-flue appliance, the extract rate should not exceed 20l/s (72m<sup>3</sup>/h).

**B.** For oil appliances: where a room contains an open-flue appliance, the extract rate should be limited to 40l/s (144m<sup>3</sup>/h) for an appliance with a pressure jet burner and 20l/s (72m<sup>3</sup>/h) for an appliance with a vaporising burner.

**C.** For solid fuel appliances: avoid installing extract ventilation in the same room.

Further reference should be made to Approved Document J of The Building Regulations.

- Do not install this appliance in areas where the following may be present or occur:
  - Excessive oil or a grease laden atmosphere.
  - Corrosive or flammable gases, liquids or vapours.
  - Be subject to direct water spray.
  - Ambient temperatures higher than 50°C and lower than -25°C.
  - Possible obstructions that may hinder access or removal of the unit.
- This appliance should not be directly connected to a tumble dryer or cooker hood.
- A supply of fresh replacement air must be drawn from the exterior of the property. Further reference should be made to Approved Document F of The Building Regulations.
- The extracted air must be expelled to the exterior of the property.
- Extract ceiling valves should be positioned at least 300mm from internal walls to allow airflow measuring equipment to fit correctly over the valves.
- Ducting should be insulated where it passes through unheated spaces and voids (e.g. loft spaces) to reduce the possibility of condensation forming.

### 1.1 Hazard Symbols

#### REFER TO INSTRUCTION MANUAL



Read and understand the installation and maintenance manual before installing, operating or maintaining this product.

### 1.2 Important Information

This manual contains important information on the safe and appropriate assembly, transport, commissioning, operation, maintenance, disassembly and simple troubleshooting of the product.

While the product has been manufactured according to the accepted rules of current technology, there is still a danger of personal injury or damage to equipment if the following general safety instructions and the warnings contained in these instructions are not complied with.

- **Read these instructions completely and thoroughly before working with the product.**
- **Keep these instructions in a location where they are accessible to all users at all times.**
- **Always include the operating instructions when you pass the product on to third parties.**

### 1.3 Personal Protective Equipment

The following minimum Personal Protective Equipment (PPE) is recommended when interacting with this product:

- **Protective Steel Toed Shoes** - when handling heavy objects.
- **Full Finger Gloves (Marigold PU800 or Equivalent)** - when handling sheet metal components.
- **Semi Fingerless Gloves (Marigold PU3000 3DO or Equivalent)** - when conducting light work on the unit requiring tactile dexterity.
- **Safety Glasses** - when conducting any cleaning/cutting operation or exchanging filters.
- **Reusable Half Mask Respirators** - when replacing filters which have been in contact with normal room or environmental air.

We would always recommend a site specific risk assessment by a competent person to determine if any additional PPE is required.

## 2.0 GENERAL DESCRIPTION

The **CMX-S** appliance is a key part of a whole house ventilation system specifically designed to improve indoor air quality in dwellings. The system is designed to remove polluted, stale air from all bathing, cooking and washing areas at a constant gentle rate. Fresh replacement air is supplied through background ventilators installed in all living areas (supplied separately, Section 2.1).

A manual boost switch can be used to increase the ventilation rate, e.g. when cooking or showering thereby maintaining a comfortable indoor environment (supplied separately, Section 2.2).

The boost facility can also be triggered from a lighting circuit or by a range of sensors, including humidity control and PIR movement detection (supplied separately, Section 2.3).

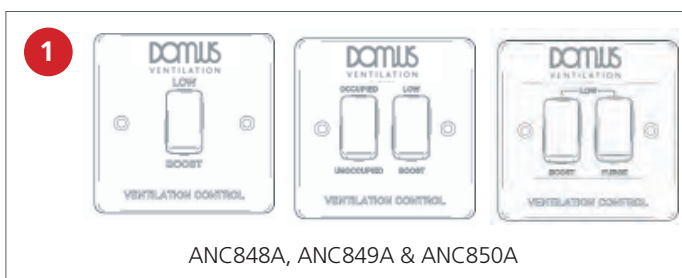
This product is listed in the Products Characteristics Database (PCDB), therefore part of the installation process requires that an installation checklist is completed and submitted to the Building Control Body (BCB). Blank checklists are available at [www.ncm-pcdb.org.uk/SAP](http://www.ncm-pcdb.org.uk/SAP). The NCM (SAP) identifier for this product is Domus CMX.

### 2.1 Ancillary Items Required

- 220mm x 90mm rectangular or Ø150mm round rigid duct system (adaptor required) (Section 3.1).
- CMX-ASK1 or 2404 air supply kits with filter.

### 2.2 Control Switch Options (Supplied Separately, Wiring Section 4.2)

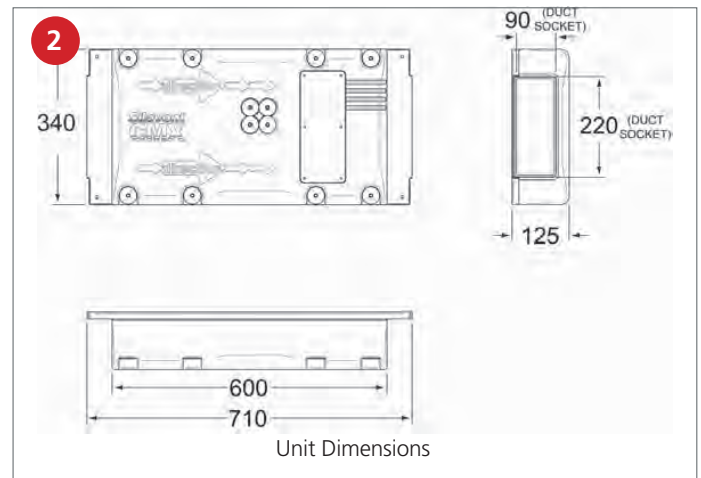
- **Manual LOW/BOOST switch, code ANC848A** - Manual BOOST selection switch. LOW speed is engaged upon connection of mains supply. Both speeds are manually adjustable at the wiring centre to facilitate Building Regulation commissioning speeds.
- **Manual OCCUPIED/UNOCCUPIED - LOW/BOOST switch, code ANC849A** - Manual BOOST and UNOCCUPIED selection switches. OCCUPIED/LOW speed is engaged upon connection of mains supply. UNOCCUPIED speed is intended to be lower than the OCCUPIED/LOW Building Regulation commissioning speed and should only be selected when the property is vacant for extended periods such as holidays in order to save energy but keep the property 'fresh'. There is no requirement or value in the Building Regulations for this speed, so it should be set to suit the individual client's requirement. All three speeds are manually adjustable at the wiring centre to facilitate Building Regulation commissioning speeds.
- **Manual LOW/BOOST/PURGE switch, code ANC850A** - Manual BOOST and PURGE selection switches. LOW speed is engaged upon connection of mains supply. PURGE speed is intended to be higher than the BOOST Building Regulation commissioning speed and should be selected during periods when exceptional levels of indoor pollution are encountered such overcooked food or paint fumes. The Building Regulations recommend a 4ach (air change per hour) air flow rate for this speed but should be set to suit the individual client's requirement. All three speeds are manually adjustable at the wiring centre to facilitate Building Regulation commissioning speeds.



### 2.3 Remote / Automatic Control Options (Supplied Separately, Wiring Section 5)

- Adjustable overrun timer, code ANC108A.
- Humidity control with adjustable overrun timer, code ANC802A.
- Humidity control with adjustable overrun timer and remote sensor, code ANC846A.
- Humidity control with adjustable overrun timer and manual override with neon indicator, code ANC808A.
- PIR movement control with adjustable overrun timer, code ANC813A.
- 6-Switched live backfeed protected junction box, code ELE150R.

### 2.4 Physical Specification



Net weight 3.25kg

## 3.0 INSTALLATION

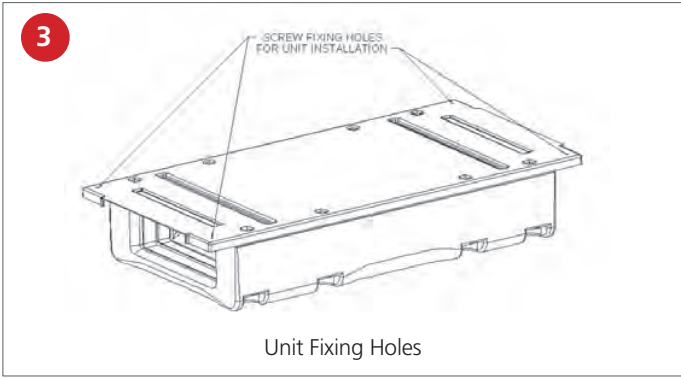
The following instructions are intended to help prevent hazards. Installation should only be carried out by a qualified electrician and competent persons in clean, dry conditions where dust and humidity are at minimum levels. **We advise installers to fix all mains, switch and sensor wiring (in accordance with the latest edition of the Wiring Regulations) prior to fixing the CMX-S appliance in position.**

When accepting delivery of the CMX-S appliance, inspect for transit damage. If in doubt, call our Customer Service team on 03443 715523.

The CMX-S appliance can be fitted directly to a ceiling, wall or suitable timber support (if loft mounting). It can also be fitted within small ceiling voids and between joists above 400mm spacing.

Appropriate screw fixings to suit the support medium will need to be supplied by the installer. The support plate is pre-drilled to suit 4 x 4mm (No.8) round/pan-head screws and flat washers.

Ensure that there is sufficient space for carrying out any future maintenance on the appliance.



### 3.1 Ducting Guidelines

Please refer to the dwelling's design drawings for the proposed ducting layout.

Two 220mm x 90mm sockets are provided for connecting the ducting. Domus rigid ductwork should be securely connected to the sockets using **DDSEAL** acrylic sealant; failure to do this will cause unnecessary air leakage and impair performance. **Using the arrows moulded into the body of the CMX-S appliance as a guide, ensure that the direction of airflow is from the 'wet rooms' to the outside.**

Ducting attached to the appliance must be supported adjacent to the appliance using **922** Support clips. This is important for major maintenance or end of life replacement to ensure that the ducting is adequately supported if the CMX-S body is removed.

Where ducting passes through unheated areas and voids (e.g. loft spaces) it must be insulated in order to comply with Approved Document F of The Building Regulations.

When passing through a fire-stopping wall or fire-compartment wall, **FireBrake** intumescent duct connectors should be used in order to comply with Approved Document B of The Building Regulations.

Alternative proprietary fire-stopping methods may be employed provided they comply with Approved Document B of The Building Regulations.

The stale extract air must be expelled to the exterior of the property. If expelled through a wall, a **905** airbrick should be fitted. If expelled through the roof a **4411** universal roof terminal should be fitted or a proprietary roof terminal designed for mechanical ventilation with a free area of at least 15175mm<sup>2</sup>.

Further details regarding installation can be found in the 2010 Domestic Ventilation Compliance Guide.

#### 3.1.1 Rigid Ducting

Install using the least number of fittings to minimise resistance to airflow. All duct runs should be as short and as straight as possible for maximum performance.

#### 3.1.2 Semi-Rigid (Radial) Ducting

Instructions available on request or available to download at [www.domusventilation.co.uk](http://www.domusventilation.co.uk).

## 4.0 ELECTRICAL

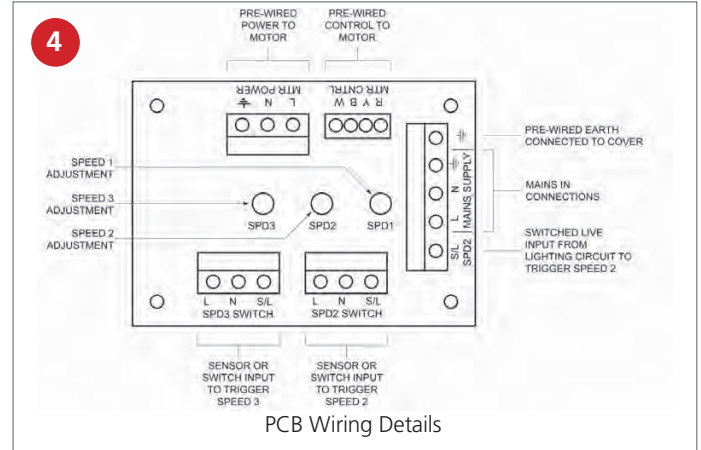
**WARNING: This appliance must be earthed. All wiring must be carried out by a qualified electrician and conform to the prevailing national regulations, for example the latest edition of BS7671: IEE Wiring Regulations.**

This appliance is suitable for 230V 50Hz single phase supply only, fused at 3 Amps. A double-pole switch having a minimum contact separation of 3mm must be used to provide isolation for the appliance.

Sensor diagrams are shown on page 9. External wiring (1.5mm<sup>2</sup> max.) and isolators to be supplied by others.

### 4.1 Wiring

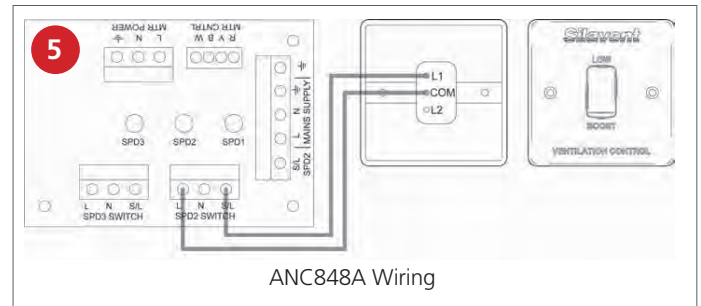
- Remove the cover of the wiring centre by removing the six retaining screws while taking care not to dislodge any of the pre-wired cables.
- Make the wiring connections (Figure 4)
- Refit the wiring centre cover.



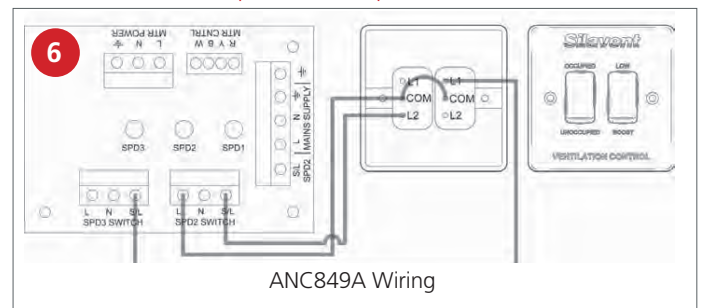
### 4.2 Remote Switch Wiring Diagrams

Connections to these terminals must have clearly labelled isolators situated adjacent to the wiring centre.

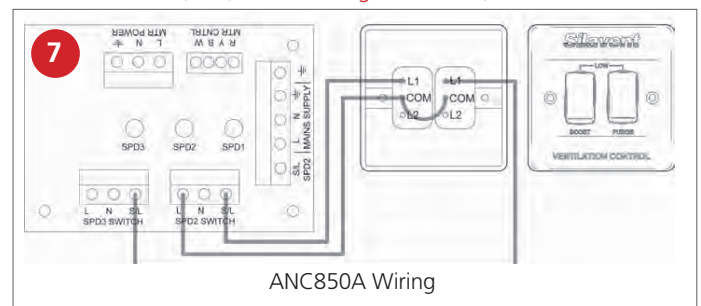
#### 4.2.1 ANC848A (Low & Boost Functions)



#### 4.2.2 ANC849A (Occupied / Unoccupied, Low & Boost Functions)

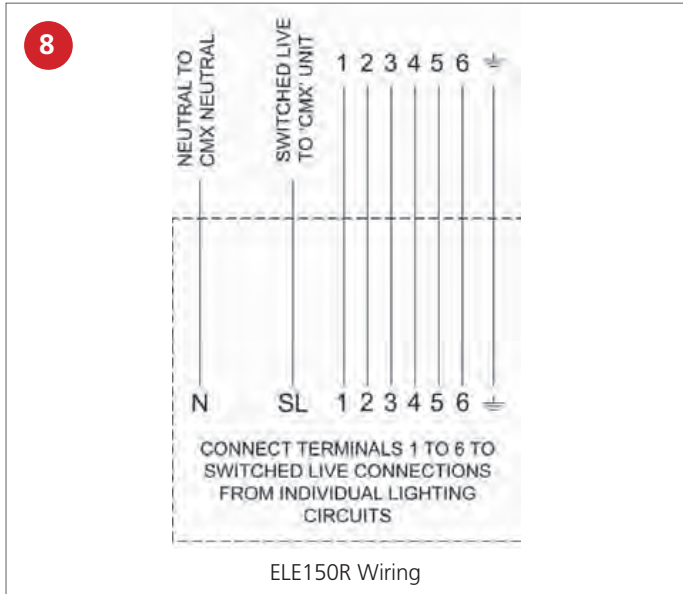


#### 4.2.3 ANC850A (Low, Boost & Purge Functions)

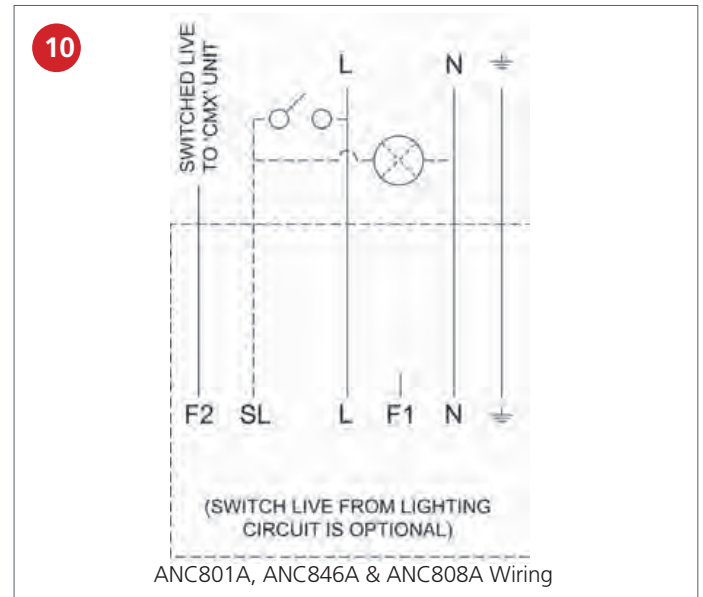


## 5.0 REMOTE / AUTOMATIC CONTROL WIRING

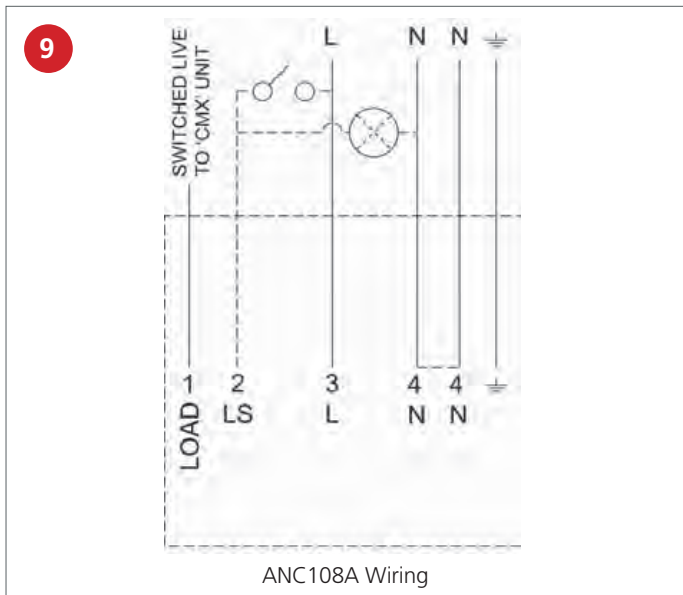
### 5.1 ELE150R (Switched Live Extension Board)



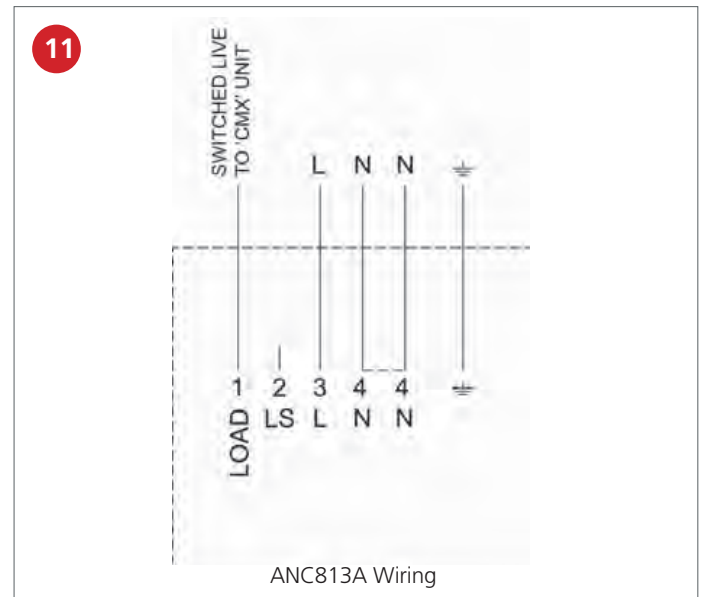
### 5.3 ANC802A (Humidistat With Timer), ANC846A (Humidistat With Timer And Remote Sensor), ANC808A - Humidistat With Pull Cord



### 5.2 ANC108A (Overrun Timer)



### 5.4 ANC813A (PIR With Overrun Timer)



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## 6.0 COMMISSIONING

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When the wiring connections have been checked, switch on the mains supply and check that the system is operating correctly. The appliance should switch between low and boost speeds using the chosen manual boost switch (Section 2.2). Check other switch and sensor functions are operating correctly.

To balance the system, airflow rates will need to be set at each room's air valve in accordance with the 2010 Domestic Ventilation Compliance Guide. Airflow measurements should be performed using a calibrated airflow measuring device and the results recorded in litres per second (l/s) onto the Inspection Checklist and Airflow Measurement Test Sheet contained within the 2010 Domestic Ventilation Compliance Guide. The most common method uses a vane anemometer, or similar, placed in a hood which completely covers the air valve to measure the extract or supply airflow rate. The instrument should be calibrated annually by returning the instrument to a UKAS accredited calibration centre and be capable of achieving an accuracy of  $\pm 5\%$ . We recommend using a Domus CM01 vane anemometer. Please call our Customer Service team on 03443 715523 for more information.

Each room airflow rate will need to be recorded on the Inspection Checklist and Airflow Measurement Test Sheet. A completed copy must accompany these instructions and be handed over to the dwelling's owner upon completion of the installation.

### 6.1 System Balancing

- Fully open all of the air valves.
- Switch the system to boost.
- Close all internal and external doors and windows.
- Measure the total air volume of the extract valves (wet rooms).
- Remove the rubber tamper-deterrent cap and using a small screwdriver, adjust the 'boost' control on the wiring centre to achieve the whole dwelling extract ventilation rate.
- Adjust individual room air valves to achieve the individual room boost extract rates.
- Switch the system to low.
- Measure the total air volume of the valves.
- Remove the rubber tamper-deterrent cap and using a small screwdriver, adjust the 'low' control on the wiring centre to achieve the whole dwelling ventilation rate.
- Using the lock nuts fitted to the air valves, lock in position.
- Refit the rubber tamper deterrent caps to the lid of the wiring centre.

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## 7.0 MAINTENANCE

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The CMX-S appliance is essentially maintenance free; however, if necessary the main body can be removed from the ducting for periodic cleaning as follows:

- Isolate and disconnect the power supply.
- Remove the 8 x M8 dome nuts and mudguard washers and remove the body from the retained bolts and ducting.
- Clean out the body using a brush, dry cloth or vacuum cleaner.
- Reassemble and reconnect to the power supply.

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## 8.0 WARRANTY

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The 2 year warranty starts from the day of delivery and includes first year parts and labour, remaining year parts only. This warranty is void if the equipment is modified without authorisation, is incorrectly applied, misused, disassembled, or not installed, commissioned and maintained in accordance with the details contained in this manual and general good practice.

The above warranty does not apply to nor cover the repair of any problem or fault with the product which arises as a result of: (a) failure to install, operate, maintain and/or repair the product or any associated parts and components (including any ducting) using reasonable skill and care and in accordance with the instructions provided with it (unless the original installation, maintenance or repair which gave rise to the problem or fault was carried out by or on the behalf of Domus Ventilation in which case this exclusion will not apply); (b) use of the product for any purposes other than those for which it is designed; (c) modifications made to the product by anyone other than Domus Ventilation or its approved contractors; (d) deliberate damage; and/or (e) damage caused by fire, flood or other water damage, explosions, rust or corrosion. Domus Ventilation may carry out the repair or replacement of the product itself or using an approved sub-contractor but will always remain liable to you for the acts or omissions of any such sub-contractor as if those were the acts or omissions of Domus Ventilation itself. Where you have purchased the product acting in your capacity as a consumer then the above warranty is offered by Domus Ventilation in addition to and is not intended to affect or lessen those statutory rights which you became entitled to as a consumer when you purchased the product. In the UK you can find out more about your rights as a consumer by visiting the website of the Citizen's Advice Bureau ([www.adviceguide.org.uk/england/consumer\\_e.htm](http://www.adviceguide.org.uk/england/consumer_e.htm)).

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## 9.0 END-OF-LIFE AND RECYCLING

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Where possible components which can be largely recycled when the product reaches its end-of-life have been used:

- Fans, motors, controls, actuators, cabling and other electrical components can be segregated into WEEE recycling streams.
- Sheet metal parts, aluminium extrusion, heating/cooling coils and other metallic items can be segregated and fully recycled.
- EPP, plastic ducting, nylon corner pieces, plastic heat exchangers, packaging material and other plastic components can be segregated into mixed plastic and widely recycled.
- Cardboard packaging, wood, and other paper components can be largely recycled or fully processed in energy from waste centres.
- Filter Disposal: Cardboard framed filters should be fully processed in energy from waste centres, contact your local civic amenity site / household waste recycling centre regarding metal / wire framed filters.
- Remaining Items can be further segregated and processed in accordance with the zero waste hierarchy. Please call After Sales Support for further information on items not listed above.

**Ensure that this product is made safe from any electrical / water / refrigerant supplies before dismantling commences. This work should only be undertaken by a qualified person in accordance with local authority regulations and guidelines, taking into account all site based risks.**

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## 10.0 AFTER SALES AND REPLACEMENT PARTS

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For technical assistance or further product information, including spare parts and replacement components, please contact the After Sales Department.

If ordering spares please quote the serial number of the unit together with the part number, if the part number is not known please give a full description of the part required. The serial number will be found on the identification plate attached to the unit casing.



**Telephone 03443 715 523**  
**[vent.technical@domusventilation.co.uk](mailto:vent.technical@domusventilation.co.uk)**

### **Installer Contact Details:**

**Company Name:**

**Contact:**

**Tel:**

**Email:**

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.

## **Domus Ventilation**

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