

OPUS100/150-M

Duct Mounted Extract Fan

Installation Manual



1.0 SAFETY INFORMATION

- The provision of the electrical supply and the connection of the unit to the electrical supply must be carried out by a qualified electrician.
- Isolate from power supply before removing any covers. During installation / maintenance ensure all covers are fitted before switching on the mains supply.
- All-pole disconnection from the mains as shown in the wiring diagram must be incorporated within the fixed wiring and shall have a minimum contact separation of 3mm in accordance with latest edition of the wiring regulations.
- 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.
- 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.

1.1 Symbols



GENERAL WARNING

Signifies a general warning regarding hazard specified by supplementary information.



ELECTRIC SHOCK

This unit must be completely electrically isolated before any panels are removed. Check mains supply and control connections.



ROTATING PARTS

This unit contains fast moving rotational parts which may start automatically. It is the sole responsibility of the installer to adequately guard these components.



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 Nuaire 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.

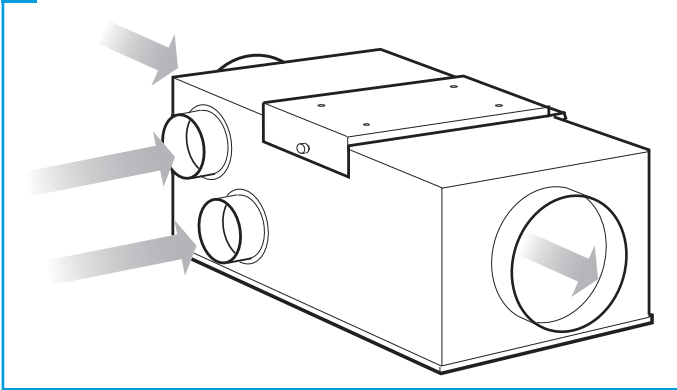
Nuaire would always recommend a site specific risk assessment by a competent person to determine if any additional PPE is required.

2.0 INTRODUCTION

Manufactured in galvanised steel, the unit is designed to serve toilets, storerooms, small offices, restaurants, smoking areas etc. and for duct mounting applications usually in the ceiling or service voids above the areas served. For full specification, dimensions and weights etc. refer to catalogue.

For EMC the ambient temperature limit for the Opus plus range is 24°C (or 25°C if the speed pot is restricted to ¼ turn above minimum).

1 Unit Airflow

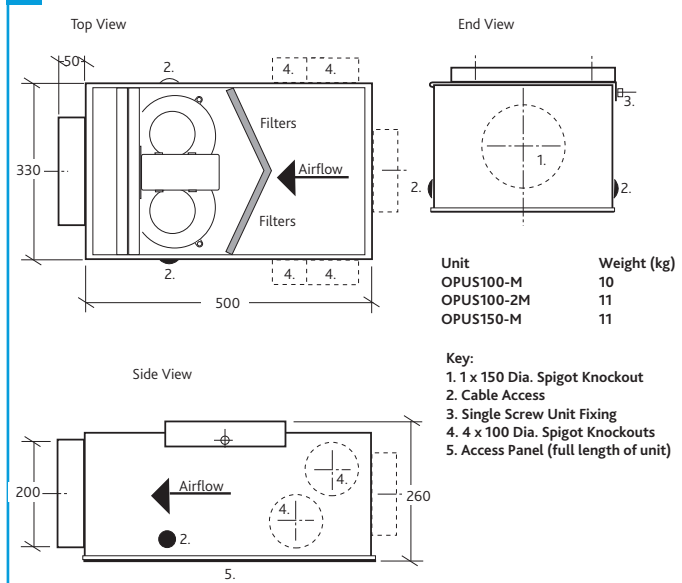


2.1 Opus Fan Range

Code	Description	Power / FLC at Full Speed
OPUS100-M	Single Fan Unit	100 W / 0.39 A
OPUS100-2M	Twin Fan Unit (Run / Standby Auto Duty Share)	100 W / 0.39 A
OPUS150-M	Dual Fan Unit (Both Motors Running Simultaneously)	200 W / 0.78 A

3.0 Dimensions (mm) & Weights

2 Dimensions (mm) & Weights



4.0 MECHANICAL INSTALLATION

Installation must be completed by competent persons, in accordance with good industry practice and should conform to all governing and statutory bodies i.e. IEE, CIBSE, etc.

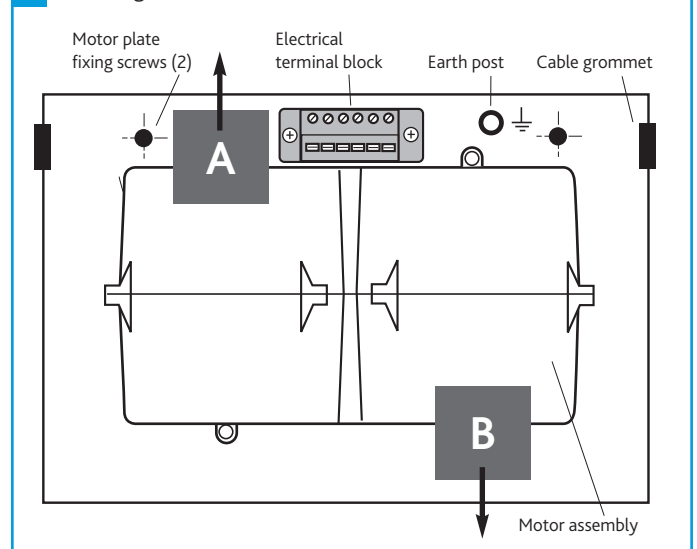
The unit comprises a full-length access cover, to reveal filter and fans and is supplied with outlet spigot fitted and 'knockouts' to be removed at the chosen inlet positions.

Prepare the unit for installation by removing the access cover, all internal packaging and the fan assembly (supplied loose in the box). Replace the unit cover and knock out the chosen inlet spigot points and fit the matching spigots.

Ensure that all electrical and ducting services are compatible to the installation and the desired control function.

Ensure transit packing pieces A & B are removed before applying power to unit.

3 Removing Transit Pieces

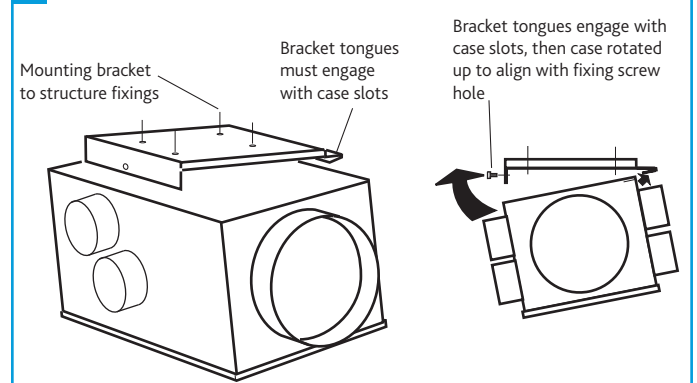


4.1 Unit Mounting Bracket

Select a solid non-reverberant mounting position, remove the unit support bracket and fix the bracket to the chosen structure with appropriate anchor bolts or screws.

The fan can be installed using the integral mounting bracket supplied (Figure 4). Offer the unit to the bracket as shown and secure into position with the one point-fixing bolt. Connect inlet and outlet ducting.

4 Unit Mounting Bracket



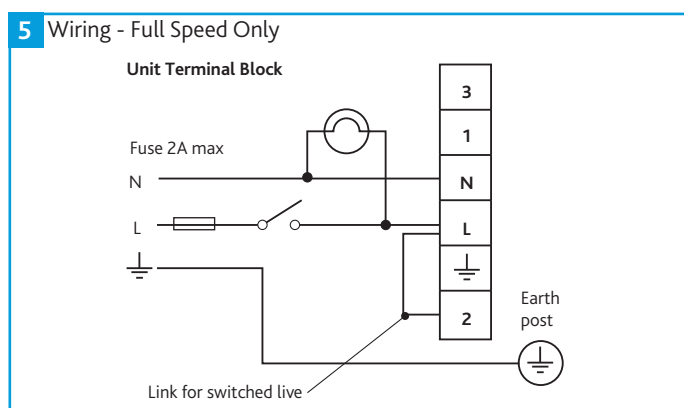
5.0 ELECTRICAL INSTALLATION

Offer the single phase supply wiring, 230V switched live wire and the wires of any externally installed sensors or controls via the case side grommets.

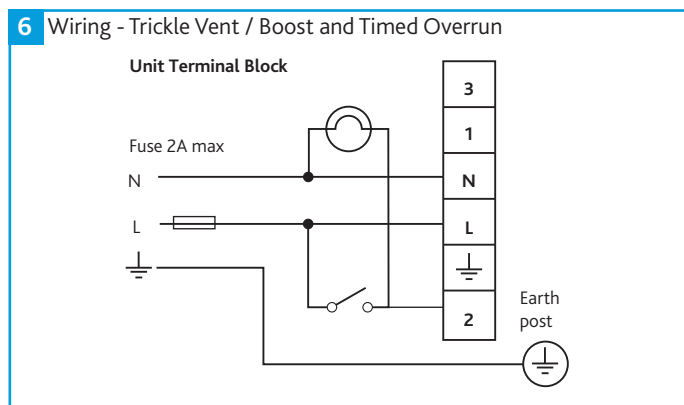
- To ease electrical connection, remove the six-way termination block.
- The mains wiring must be from a fixed wiring installation and both mains and switched live must be connected via a common local isolator.
- The earth wire must be connected to the earth post provided and not to the six-way termination block.
- Refer to remote sensor data sheets for their installation and connection.

5.1 Wiring Diagrams

5.1.1 Full Speed Only



5.1.2 Trickle Vent / Boost and Timed Overrun



5.2 Motor Plate Assembly Replacement

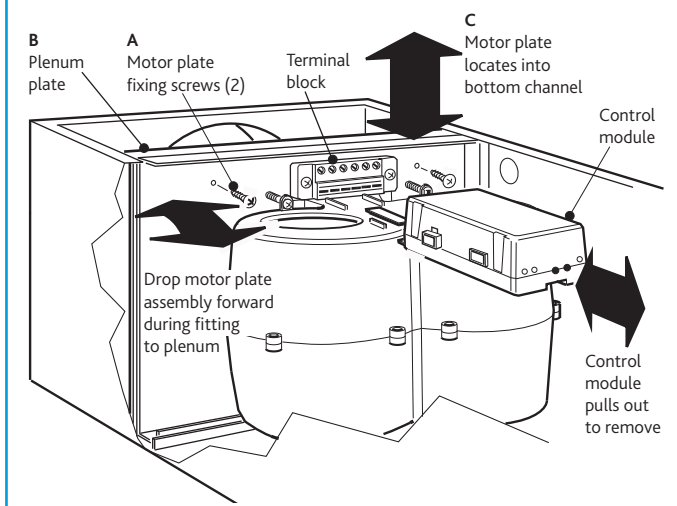
Remove the cover and withdraw the 'V' shape filter from the case. Lift out the loose blower assembly, remove the two motor retaining screws (A) which will be used to fix the motor plate into position.

Tilting the top of the mounting plate forwards, locate the bottom of the plate into the channel provided in the case (C). Swing up the motor flush with the plenum (B) and secure with the two fixing screws (A). Expand 'V' shape filter and fit into case.

Finally locate the control module into the blowers' moulded guides and push the module in to the terminal block, ensuring that spade connections are engaged. Connect the motor plugs and remote status indicators (if used) to the sockets in the control module.

Turn on mains power and test run the unit.

7 Motor Plate Assembly Replacement



6.0 CONTROLS

All the control functions and adjustments are located on the electronic control module. An adjusting tool is provided clipped to the blower casing.

6.1 Run-On Timer (A)

The overrun feature is only active when the fan is connected to a switched live as in wiring diagram 4 on page 2. The overrun time is factory set at zero, fully anti clockwise and can be adjusted up to thirty minutes by turning the adjustment clockwise. Test by activating/deactivating the switched live circuit.

6.2 Full (MAX) Speed (B)

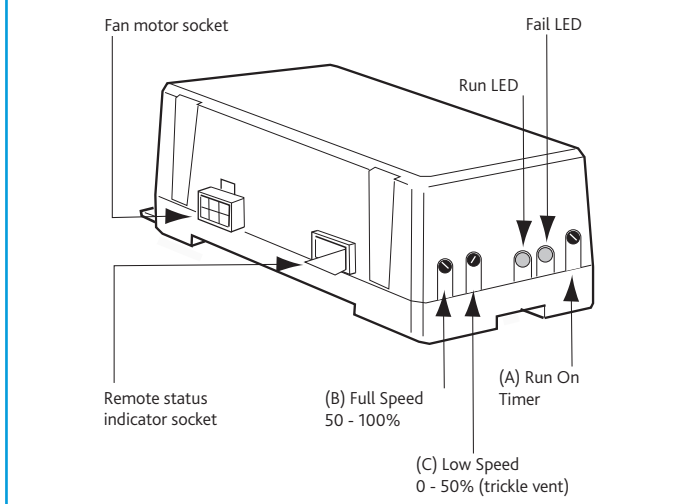
The full/MAX speed is factory set at 100%, fully clockwise and can be adjusted down to 50% (fully anti clockwise) by adjusting the setting screw anti clockwise with the setting tool supplied.

6.3 Low (MIN or Trickle) Speed (B)

The low or trickle speed is factory set at zero, fully anti clockwise and can be adjusted upwards to a maximum of 50% speed by turning the adjusting screw clockwise with the setting tool supplied.

The fan must be wired as diagram 5 on page 2 and activated via the switched live for the trickle (low speed) to boost (max speed) to be operative.

8 Control Module Adjustments



6.4 Optional External Sensors and Controls

Device	Code	Document Ref
PIR Sensor	230-PIRNT	670610
Thermostat	OPUS+TSTAT	670988
Humidistat	OPUS+HUMISEN	670987
Volt Free Status Indicator	OPUS100/150VF	671197

7.0 MAINTENANCE

Before removing covers ensure that all electrical services (including the switched live) are fully isolated from the mains supply.

It is important that maintenance checks are recorded and that the schedule is always adhered to, in all cases, the previous report should be referred to.

Maintenance should only be completed by competent persons in accordance with good industry practice and should conform to all governing and statutory bodies i.e. IEE, CIBSE, COHSE, HVCA etc.

The fan should be examined three months after commissioning and, dependent on the level of contamination present, at six monthly intervals thereafter.

Remove the filter and wash in tepid water with a mild detergent added, shake out excess water and allow to dry naturally. Do not replace until dry.

Remove the blower assembly as Figure 7. Inspect all parts and take care to retain all control settings, with a brush or dry cloth remove all dirt and debris from the fan plate and case, lightly brush away all dirt and debris from the fan assembly. Reassemble the unit and test/run.

8.0 WARRANTY

The 3 year warranty starts from the day of delivery and includes parts and labour for the first year. The remaining period covers replacement 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 product warranty applies to the UK mainland and in accordance with Clause 14 of our Conditions of Sale. Customers purchasing from outside of the UK should contact Nuaire International Sales office for further details.

Failure to maintain the unit as recommended will invalidate the warranty.

9.0 END-OF-LIFE AND RECYCLING

Ensure that Nuaire 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.

Where possible Nuaire use components which can be largely recycled when the product reaches its end-of-life:

- 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, used filters and other paper components can be largely recycled or fully processed in energy from waste centres.
- 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.

10.0 AFTER SALES AND REPLACEMENT PARTS

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 02920 858 400
aftersales@nuaire.co.uk

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.