

FLATMASTER

Low Energy Positive Input Ventilation Unit Installation and Maintenance



1.0 INTRODUCTION

The Nuair Drimaster/Flatmaster range has been curing severe condensation problems for over 20 years in some of the worst affected properties throughout the world. Its successful operation depends entirely upon the unit being installed strictly in accordance with these instructions. We would, therefore, respectfully suggest that you read through this guide in its entirety before commencing installation and then go through this guide step by step to ensure a satisfactory completion.

IMPORTANT

Whilst the installation of the Flatmaster unit may be achieved by a suitable craftsman, the provision of the electrical supply and the connection of the unit to the mains must be carried out by a qualified electrician.

2.0 INSTALLATION

IMPORTANT

Where the systems are installed in flats, ensure all regulatory provisions are adhered to. Where the systems are installed in flats where these regulatory provisions do not apply, good installation practice should be observed.

For more information please refer to the Building Regulations, Approved Document B (Fire safety) – Volume 1: Dwelling houses (2006 Edition)

The unit is designed to take fresh air from outside, clean the air, and discharge it into the central hallway via a system of ducting supplied by the installer.

The dwelling supply grille is usually installed at high level in a central location within the hallway, although discharging the air down the length of the hallway (away from the front door) should also prove acceptable. Unit performance may be enhanced if an existing heat source can warm the discharged air e.g. by locating the discharge grille above a radiator.

Before commencing installation decide the best position for the unit and where the fresh air is to come from and be discharged to. The unit can be installed in many different configurations and is supplied with enough interchangeable spigots to enable it to be used with either round (100mm) or rectangular ducting (121mm x 60mm).

The unit can be turned through 180° to any angle if required.

2.1 Spigot inserts

The unit is designed to be used with rigid ducting only. Ensure that when the ducting is fitted it is secured in place using wall brackets and screws on the duct as close to the spigots as possible to prevent the spigot inserts (fig. 1) or rigid ducting from being removed or accidentally knocked off. If it is necessary to fit flexible ducting then the spigot inserts should be glued in place, using super glue Loctite 454 Gel, at the clip points 1, 2, 3 & 4 for all spigot inserts (see fig. 2).

Figure 1. Typical installations show unit with top discharge.

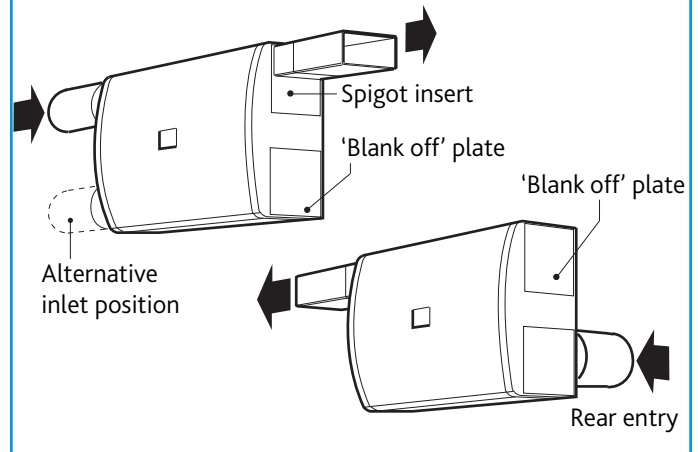
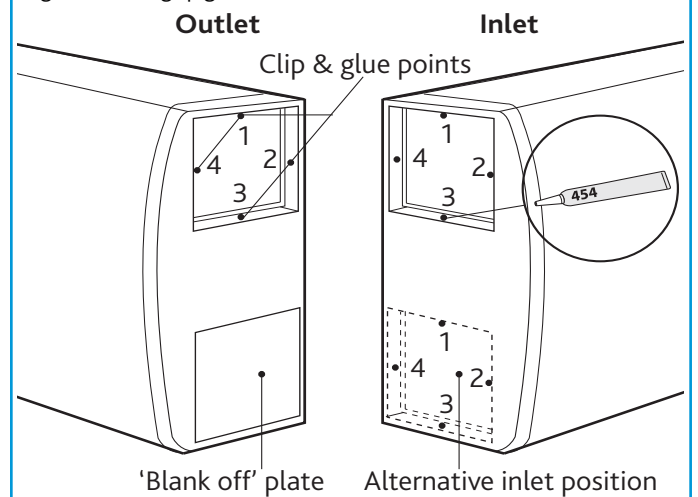


Figure 2. Fitting spigot inserts.

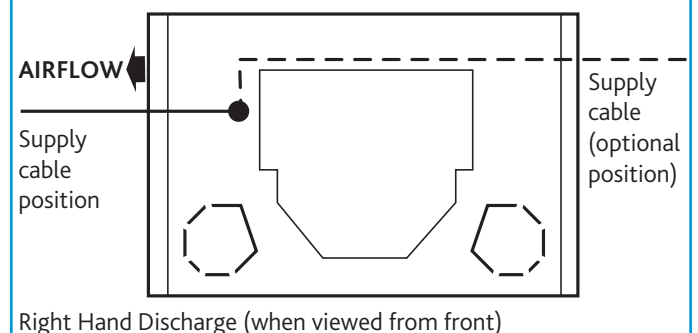


2.2 Fixing the unit to the wall

The unit has three mounting feet. Mark through these feet when the unit is in the correct position. Drill and plug wall with suitable fixings. Remove PCB cover and feed the electrical supply cable through the grommet hole (standard 1mm three core lighting cable is recommended) in the rear of the unit screw unit to wall (see fig. 3).

Installers must ensure the grommet provided or other suitable insulated grommet/bushing is used for cable entry.

Figure 3. Supply cable must be secured by passing RH or LH of unit to clamp cable to the wall (Rear view of unit shown).



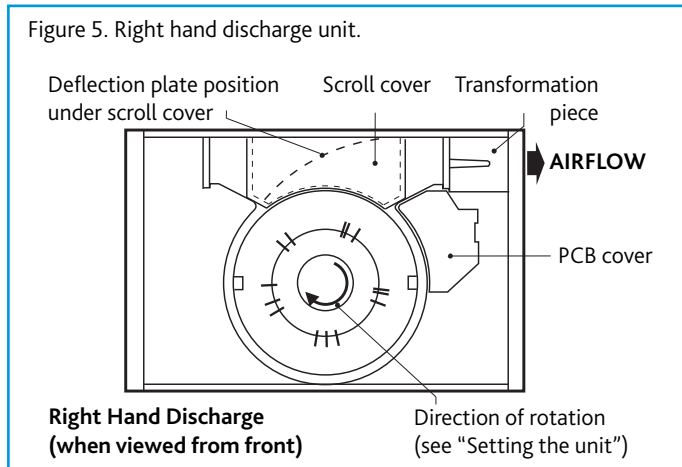
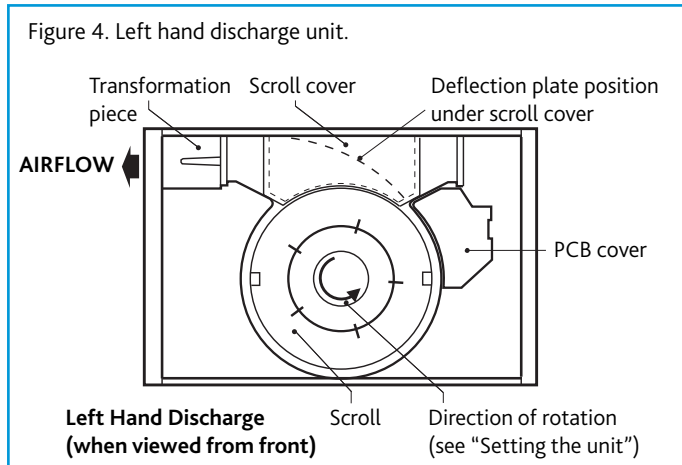
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2.2.1 Points to consider

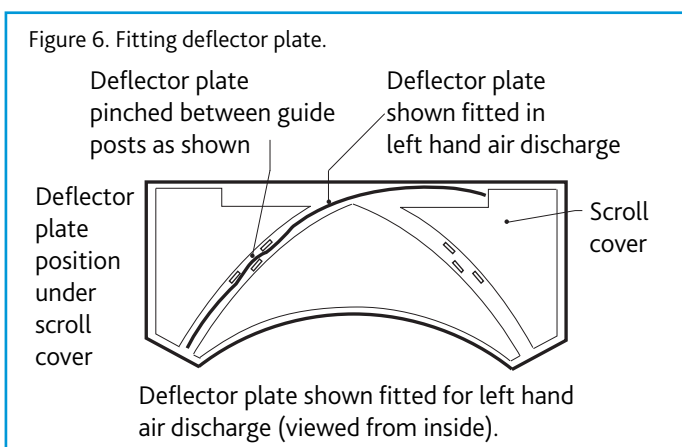
- The inlet ducting should be kept as short as possible to avoid condensation build up on the ducting surface (see fig. 5 and 6).
- Find the shortest, most direct route from outside of the unit and then to the discharge grille using the least number of bends (these bends increase the airflow resistance).
- Note the location of any joists, pipes, electrical cables etc.
- Allow adequate access to the front cover to allow filter cleaning.

2.3 Setting up the correct airflow direction



2.3.1 Fitting the deflector plate

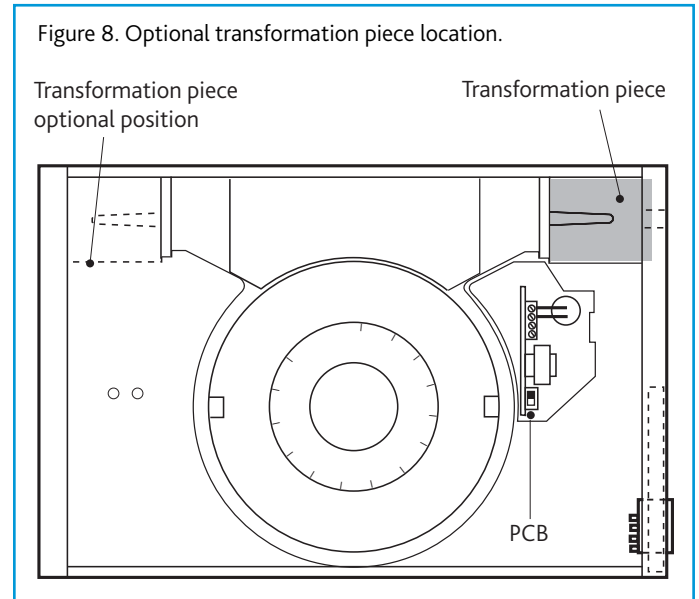
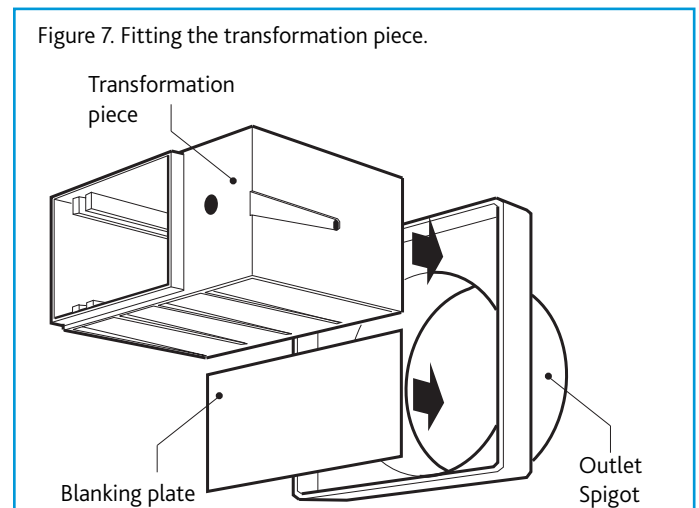
Fit deflector plate into scroll cover as shown below. Once fitted the assembly can be slotted into the scroll and clipped firmly in place.



2.3.2 Transformation Piece

This should be on the appropriate scroll outlet. The transformation piece should be fitted into the chosen outlet spigot insert, prior to fitting.

Note: If the round spigot is used as an outlet, the 115 x 55mm clear blanking plate will need to be fitted (as shown). This plate should be prevented from movement by the use of silicone sealant.



2.4 Fitting of ducts

To prevent access to live or moving parts ensure ducts are adequately secured to the spigots by fitting self tapping screws or by other means requiring a tool. If using duct tape ensure tape cannot be removed without the use of a tool by securing with tie wraps.

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2.5 Inlet/Outlet grille installation

If a fly screen is fitted it should be removed from both the internal and external grille.

NOTE: When installing the internal grille, the louvres **must slant upwards** to ensure the correct air circulation and the avoidance of unpleasant down draughts.

The outside wall input grille louvres **must slant downwards**.

Standard 100mm dia ducting or 121 x 60mm ducting is used to connect the Flatmaster to the input and discharge grilles.

2.5.1 Fixing all necessary ducting

A full range of ductwork and ductwork ancillaries are available. Please contact Nuaire for further details.

IMPORTANT

Any air intake terminal **MUST** be installed in accordance with the appropriate regulation.

As a guide, the BS5440 series of British Standards deals with this issue and currently states that an air intake must be at a minimum distance of 300mm from a gas boiler balanced flue. Installers are advised to be aware of the requirements of this standard when installing 'through the wall' supply air ducting. Similarly, supply and extract air grilles should be at least 300mm apart.

Figure 9. Side input installation.

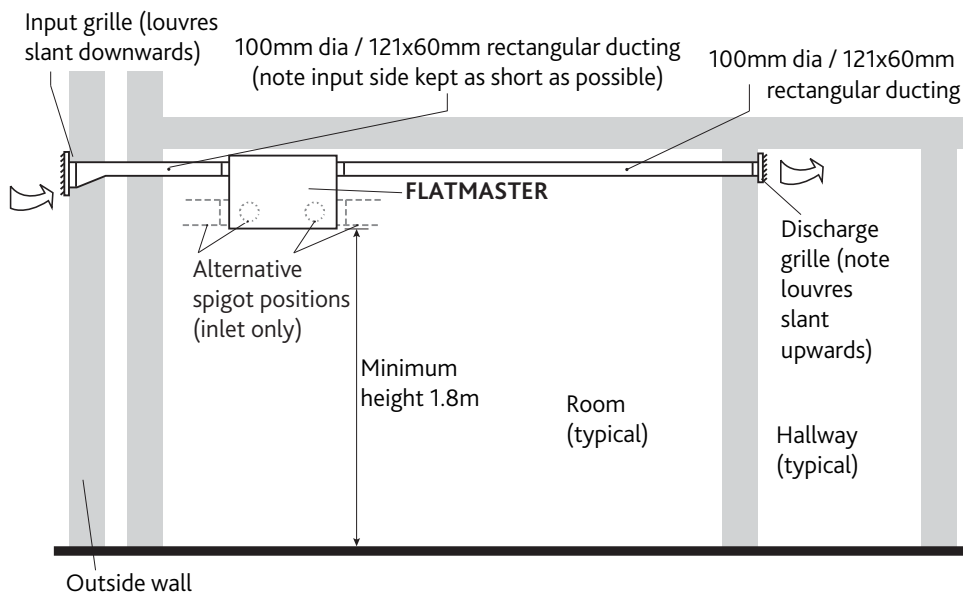
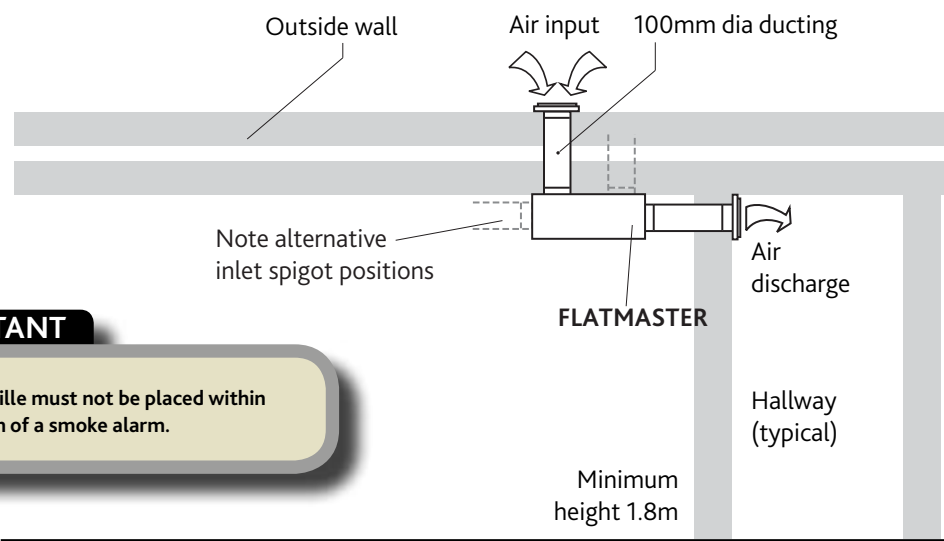


Figure 10. Rear input installation (view from above).



IMPORTANT

The internal grille must not be placed within 1.5m of a smoke alarm.

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3.0 DIMENSIONS(mm)

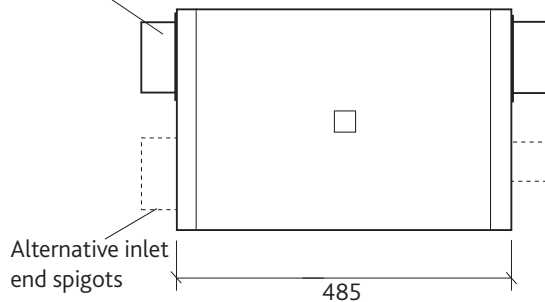
Dimensions for the space required can be determined from the dimensions shown in figure 10 below.

Allow an additional 32mm for the length of each end spigot and any additional room for installation and maintenance e.g. access to screws on top and bottom of unit for front cover.

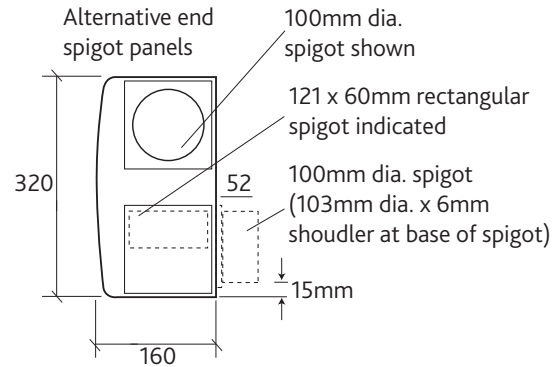
Figure 11. Flatmaster dimensions.

Front view

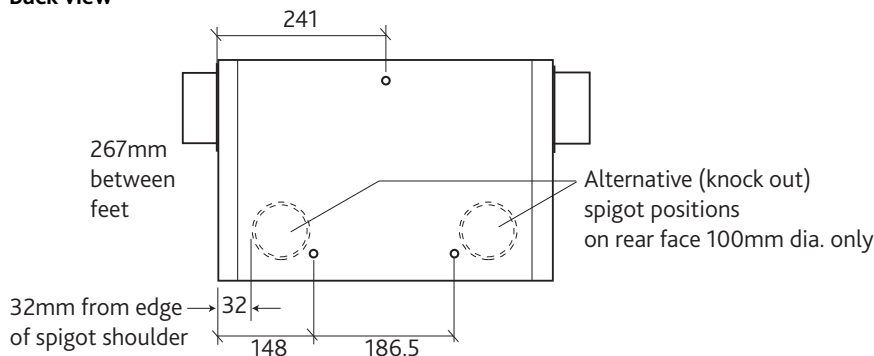
100mm dia. or 121 x 60mm interchangeable spigots supplied with unit



End view



Back view



4.0 ELECTRICAL DETAILS

Supply - 230V 1 phase 50Hz

Power Consumption	
Low Speed	8 W
Medium Speed	14 W
High Speed	22 W

It is necessary to allow all pole disconnection of the appliance from the supply by incorporating a switch in the fixed wiring in accordance with current IEE wiring regulations.

4.1 Electrical connection

Please note the electrical connections to the unit should be carried out by a qualified electrician. With the PCB cover removed (see figure 4) pull the PCB forward to gain access to earth post behind. Connect Earth cable to Earth post next to the grommet hole.

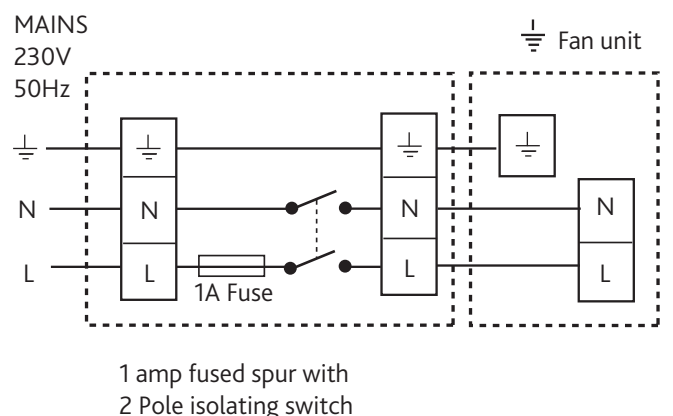
Slide PCB into slot and connect the mains supply L and N to the terminal block. Ensure the supply cable does not come into contact with the PCB transformer by tie wrapping to the slots in the PCB enclosure. Ensure that a 1 amp fused spur is fitted on the supply.

IMPORTANT

Warning: Ensure that the fan is isolated from the mains supply before removing cover.

4.2 Wiring Details

Figure 12. Wiring



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IMPORTANT

For good EMC engineering practice, any sensor cables or switched live cables should not be placed within 50mm of other cables or on the same metal cable tray as other cables.

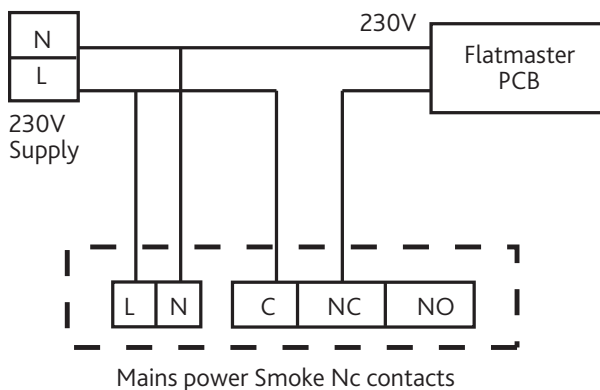
4.3 Smoke alarm automatic shut down

If the unit is required to switch off in the event of smoke detection, alarms are available with separate relay bases from companies such as:

Dicon Safety products – www.diconsafety.co.uk

Aico Ltd – www.aico.co.uk

Figure 13. Typical wiring (refer to manufactures specific instructions).

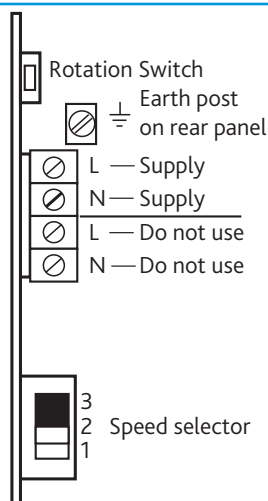


5.0 SETTING THE UNIT SPEED / ROTATION

The speed selector is located on the PCB (see figure 14). The unit has a choice of three speeds to suit the size of the dwelling and the moisture being generated. The unit is factory set at No. 3 - High Speed. We recommend that the unit is operated at this speed and the setting reduced if and when necessary in the future.

Replace PCB cover and test the unit. Check rotation of fan with diagrams under airflow direction. If direction is incorrect, isolate the unit, remove PCB cover and alter the rotation switch (mounted on the PCB). Replace PCB cover and re-check direction of fan. Replace filter and front cover.

Figure 14. PCB (viewed end on).



6.0 MAINTENANCE

The maintenance requirements for this product can be found in the "Product Safety – Essential Operational Checks" section, which is located in this document and includes the replacement of the filter (Our part number FLAT-FILTERKIT) every 12 months; this interval may need to be shortened, if the unit is operating under adverse environmental conditions.

7.0 WARRANTY

The unit has a 5 year warranty starting from the day of delivery and includes parts and labour for the first year. The remaining 4 years covers parts only. This warranty is conditional on the following:-

- That the unit is installed strictly in accordance with this guide.
- That the unit filters are removed and replaced at the recommended intervals.

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.

8.0 AFTER SALES

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

Telephone 02920 858 400
aftersales@nuaire.co.uk

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Product Safety - Essential Operational Checks

Project Address

Date Of Check

Unit Code

Unit Serial Number

- No action required
- Remedial action required
- Make safe and corrective action required



Product Condition

DATE OF LAST MAINTENANCE

- Within last 12 months
- 12-24 months ago
- More than 24 months ago
- Unknown

GENERAL CONDITION

- General condition
- Ductwork intact
- Casing damaged
- Ductwork damaged

GENERAL CLEANLINESS EXTERNAL

- Clean
- Light contamination
- Heavy contamination

GENERAL CLEANLINESS INTERNAL

- Clean
- Light contamination
- Heavy contamination

CONDITION OF FANS

- Operational
- Clean
- Light contamination
- Heavy contamination
- Non-operational

CONDITION OF FILTERS

- Clean
- Light contamination
- Missing
- Heavy Contamination
- Damaged/perforated

Installation



Figure 16. Schematic of spigot configurations.

Indicate Inlet Position (3, 4, 5 or 6)

Indicate Supply Outlet Position

Approx length of ductwork on inlet (600mm min.)

Approx length of ductwork on supply outlet (600mm min.)

Height of unit above floor level (1.8m min)

Fused spur fitted? (Y/N)

Fused rating fitted (Amp)