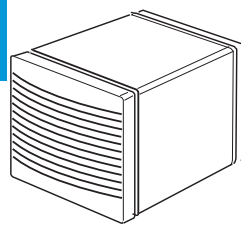


XS WA Wall Fan Kits 50 / 60Hz
Supply / Extract Units
Installation Manual

EMC Directive 2014/30/EU
LVD Directive 2014/35/EU

1.0 SAFETY INFORMATION

- The provision of the electrical supply and the connection of the unit to the mains 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.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- Precautions must be taken to avoid the back-flow of gases into the room from the open flue of gas or other fuel-burning appliances.
- 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 Hazard 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

The XS Wall Fan Kit is available in 6, 9 and 12 inch impeller sizes suitable for supply or extract and can be the heart of a room's automatic ventilation system.

Ensure adequate air replacement for the fan and any fuel burning appliance in the room.

2.1 Switching

Operated via a separately wired 3 amp fused spur (by others) or operated via the optional XS-MFC remote controller allowing supply or extract, variable speed and automatic or manual switching of several fans if desired.

2.2 Sensors

Sensors are available as remote units or integral 'plug in' units. They are able to control multiple fans, depending on sensor and fan types. Integral sensors are quick and easy to install and are aesthetically pleasing, whilst remote sensors give the benefit of location close to the pollutant source. Remote sensors can be fitted with an optional security strap to prevent unwanted tampering.

2.3 General

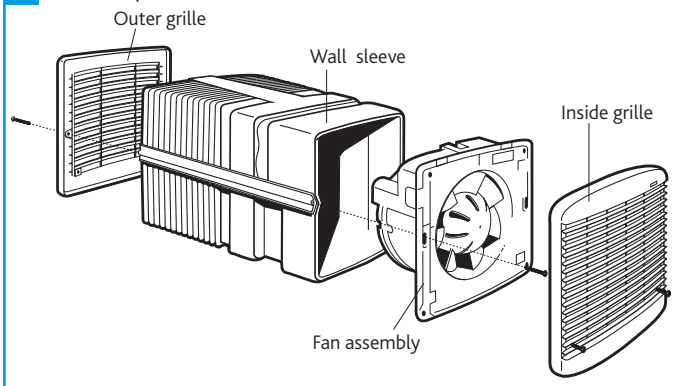
The removable interior grille provides easy access while the external rotor motor makes for simple removal of the push-on impeller for cleaning. Upward angled interior grille vanes shield workings from view and downward sloping external vanes throw off rain. The fan is IP24 splash proof approved with the motor rated at IP44. All external components are made in soft grey colours from ultra violet stable ABS material so they will blend with most decors and will not fade in sunlight.

2.4 Unit Codes

Unit Codes*	Operation Type
XS6WA	6" Wall Fan with External and Internal Grilles and Wall Sleeve. 230V 50Hz.
XS9WA	9" Wall Fan with External and Internal Grilles and Wall Sleeve. 230V 50Hz.
XS12WA	12" Wall Fan with External and Internal Grilles and Wall Sleeve. 230V 50Hz.
XS6WAH	6" Wall Fan with External and Internal Grilles and Wall Sleeve. 220V 60Hz.
XS9WAH	9" Wall Fan with External and Internal Grilles and Wall Sleeve. 220V 60Hz.
XS12WAH	12" Wall Fan with External and Internal Grilles and Wall Sleeve. 220V 60Hz.

***H indicates 220V 60Hz 1ph**
Wall Fan Kits are supplied as a complete package with all wall installation parts included.

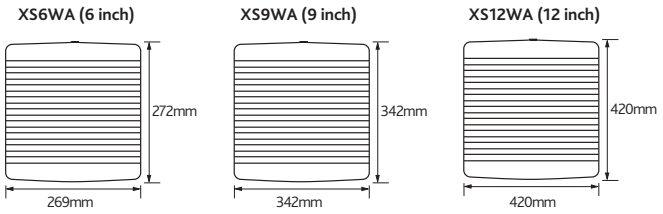
1 Unit Components



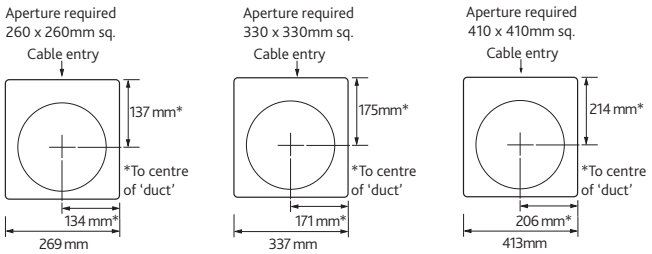
2.5 Dimensions (mm)

2 Unit Dimensions

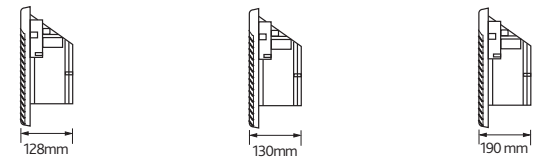
Front View



Rear View



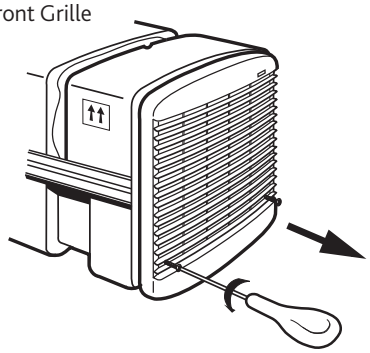
Side View



3.0 MECHANICAL INSTALLATION

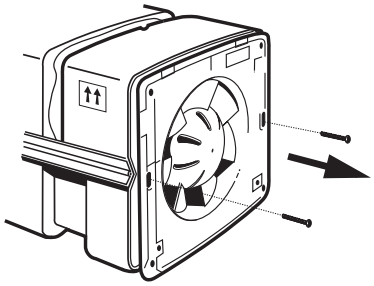
Installation must be completed by competent persons, in accordance with good industry practice and should conform to all governing and statutory bodies i.e. IEE, CIBSE, etc.

3 Removing Front Grille



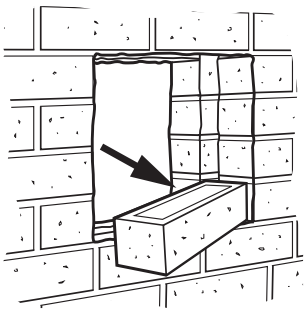
Remove front grille.
Release 2 screws. Lift grille upwards.

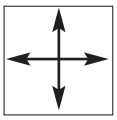
4 Removing Fan Plate



Remove fan plate.

5 Preparing Wall Aperture

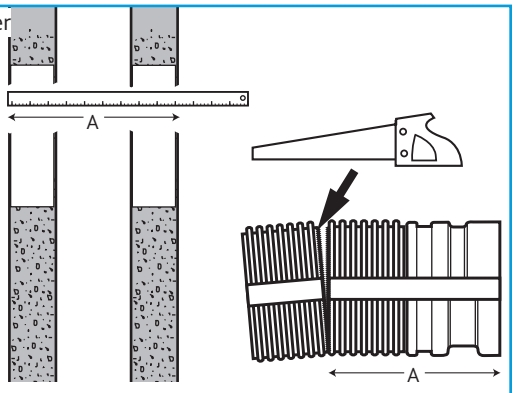




XS6WA 260mm sq.
XS9WA 330mm sq.
XS12WA 410mm sq.

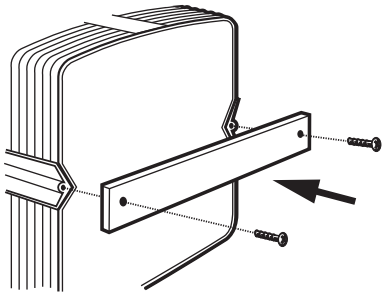
Prepare the wall aperture to dimensions shown.

6 Cutting Spacer



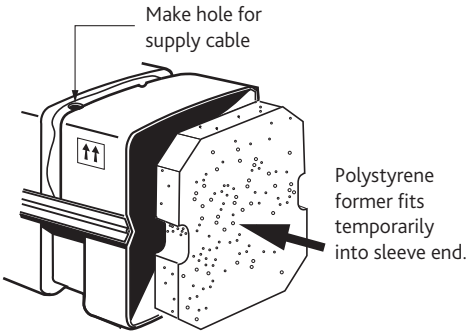
Cut the spacer to match the walls total thickness using a fine / medium cut woodsaw.

7 Fitting Temporary Cross Brace



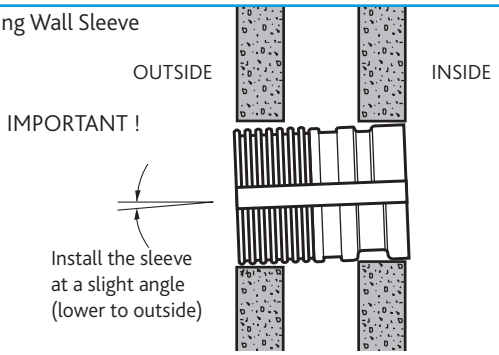
Fit the temporary cross brace across wall sleeve's outer end to support the sides during installation.

8 Fitting Polystyrene Former



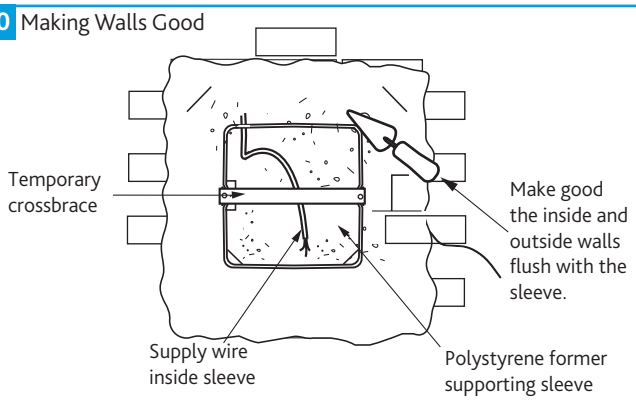
Locate the temporary plug to support the other end.

9 Fitting Wall Sleeve



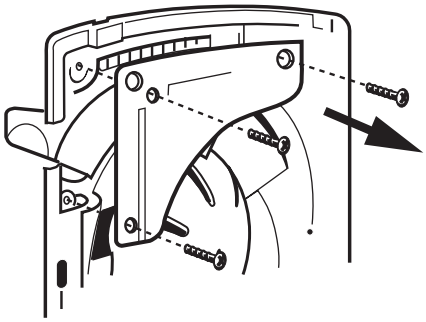
When fitting the sleeve, introduce a slight downward slope to the outside, to encourage any water to drain to outside.

10 Making Walls Good



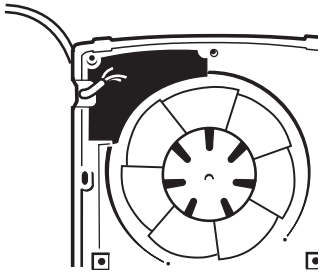
Make good around the wall sleeve.

11 Removing Electrical Cover



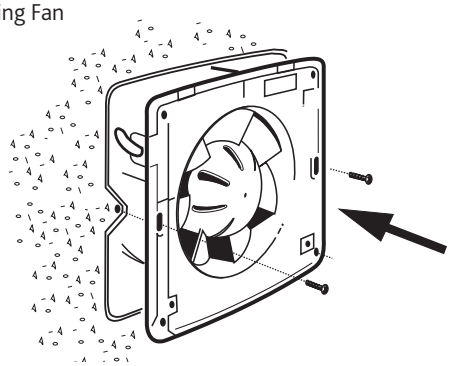
Release the electrical cover from the fan plate.

12 Bringing Cable Through Fan Plate



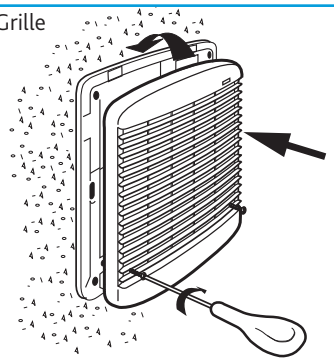
Bring the cable through the fan plate.

13 Assembling Fan



Assemble the fan plate to the inside sleeve.

14 Fitting Inner Grille

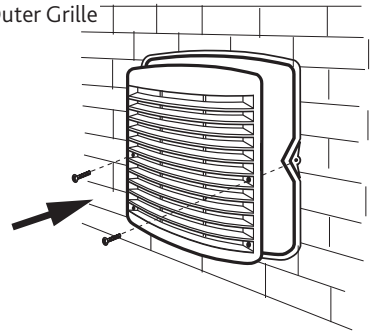


Fit the inside grille to the fanplate, locating grille over the top lip before engaging screws.

IMPORTANT

During shutter operation of XS fans there will be a short delay on start-up and shut down of approximately 40 seconds, this is normal.

15 Fitting Outer Grille



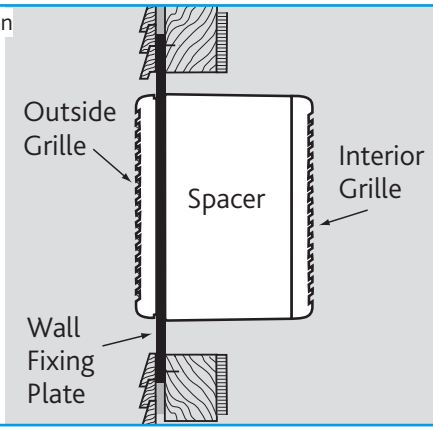
Remove temporary cross brace when cement has dried. Fit the outer grille (note grille blades sloping down to shed water).

3.1 Installing Ancillaries (Also see Section X)

3.1.1 Thin Wall

This thin wall application is best covered using a Window Kit. Drawing shows a Wall Fixing Plate fixed to the aperture by screws. The Window Kit clamps together either side of the Wall Fixing Plate.

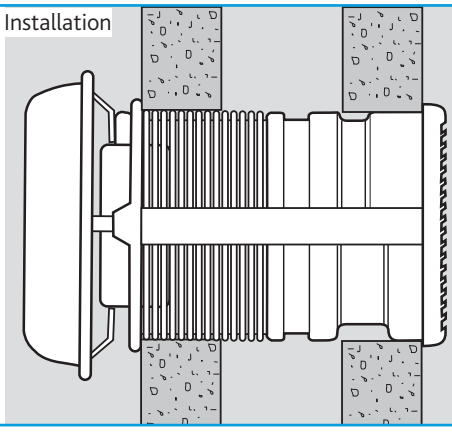
16 Thin Wall Installation



3.1.2 Weather Terminal

This thin wall application is best covered using a Window Kit. Drawing shows a Wall Fixing Plate fixed to the aperture by screws. The Window Kit clamps together either side of the Wall Fixing Plate.

17 Weather Terminal Installation



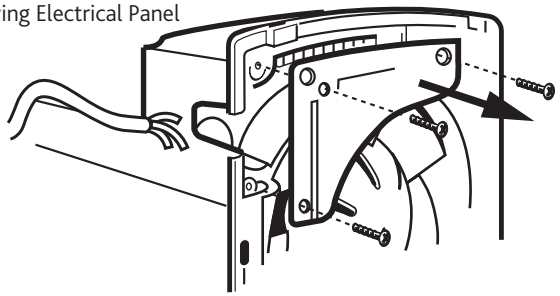
4.0 ELECTRICAL INSTALLATION

Electrical work should be undertaken by a qualified electrician in accordance with the wiring regulations.

IMPORTANT

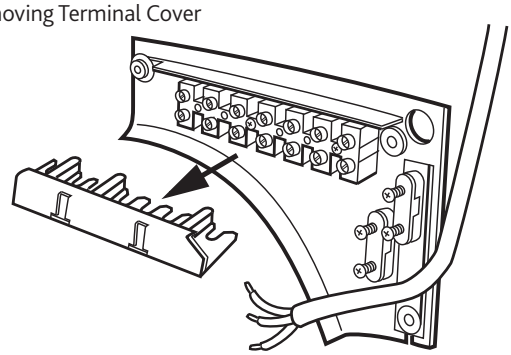
Isolation - Before commencing work, make sure that the unit is electrically isolated from the mains supply.

18 Removing Electrical Panel



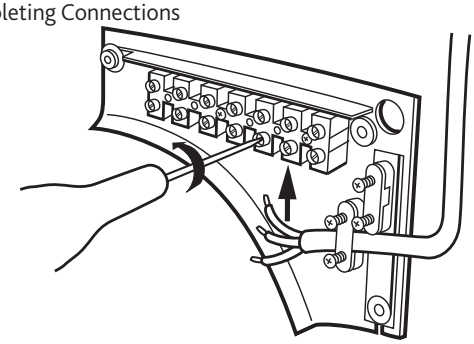
Release the electrical panel from the fan plate.

19 Removing Terminal Cover



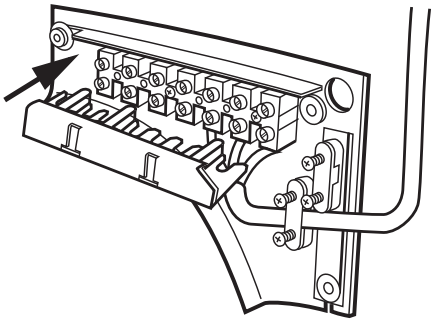
Remove the terminal cover.

20 Completing Connections



Clamp the cable and complete the connections.

21 Refitting Terminal Cover



Refit terminal cover before replacing the electrical panel.

4.1 Electrical Consumption & Weights

Model	Input Power* (W)		Weight (kg)
	Max.	Economy	
XS6WA supply & extract	38	20	4.7
XS9WA supply & extract	50	37	6.5
XS12WA supply & extract	100	70	9.4

*Values are for extract only at 50hz.

4.3 Electrical Specification

230V ~ 50Hz / 220V ~ 60Hz Class I. Motor thermally protected by overload device. Cable: 1mm maximum or minimum Fuse: 3 amp (if fan is supplied from a 5A lighting circuit, no local fuse is required).

Note: If 2 x 12 inch fans or 3 x 6 or 9 inch fans are used in the same operating mode in the same room they should all be controlled from the same MFC speed control. This avoids the possibility of one fan (if speed controlled at a lower flow rate) being stalled by the other fan(s).

Adequate make-up air provision sufficient to provide ventilation in accordance with building regulations is required in all rooms. This should be checked during commissioning with all fans in the same room running together in all possible configurations.

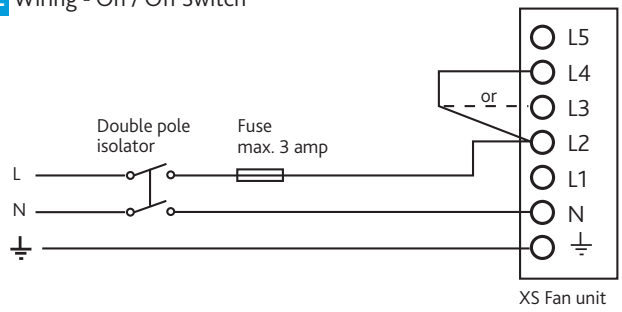
The automatic shutters, motor bearings should be frequently inspected and maintained to ensure they open fully/operate satisfactorily. Use of an RCD and fused spur with 1A, Bussmann TDC180, BS1362, fuse (Farnell order no: 1123029) for 1 fan or 2A, Bussmann TDC180, BS1362 fuse (Farnell order no: 1123032) for 2 or 3 fans is recommended.

Always confirm airflow direction before commissioning.

4.4 Wiring diagrams

4.4.1 On / Off Switch Operation

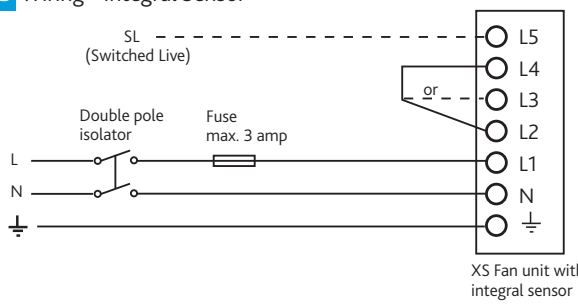
22 Wiring - On / Off Switch



Connect link wire between L2 & L4 for extract
or Connect link wire between L2 & L3 for supply.

4.4.2 Integral Sensor Operation

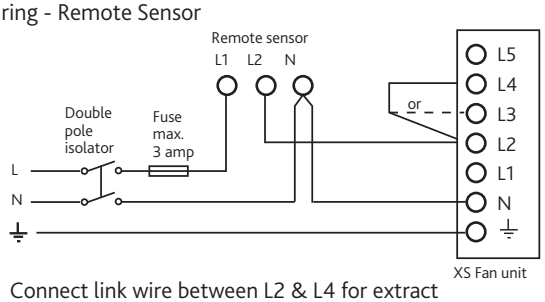
23 Wiring - Integral Sensor



Connect link wire between L2 & L4 for extract
or Connect link wire between L2 & L3 for supply.
Connect switched live signal to L5 for integral timer module.

4.4.3 Remote Sensor Operation

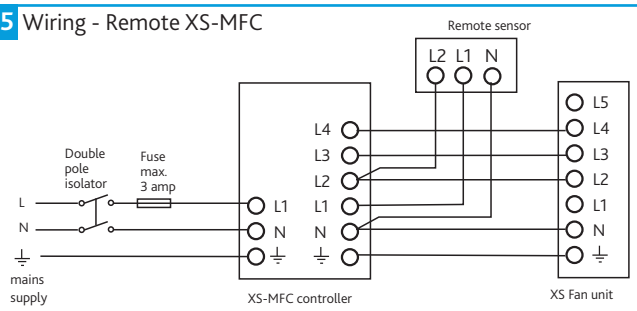
24 Wiring - Remote Sensor



Connect link wire between L2 & L4 for extract
or Connect link wire between L2 & L3 for supply.

4.4.4 Remote XS-MFC Controller Operation

25 Wiring - Remote XS-MFC

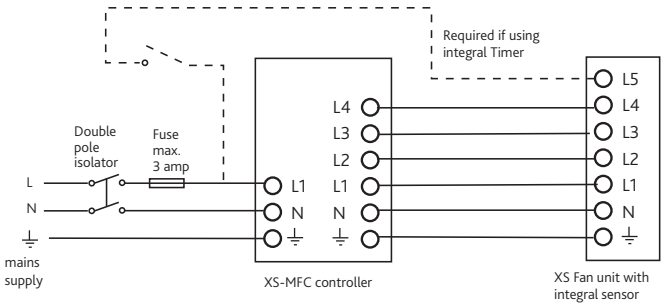


Remote switch may be set: On/Off, Forward/Reverse, Economy/Std. (variable speed), Auto/Manual.

One or more Remote Sensors may be wired in parallel to one XS-MFC Control.
Humidity Sensor: XS-HR, Air Quality Sensor: XS-AQR
Passive Infra Red Sensor: XS-PIRR.

4.4.5 Remote XS-MFC Controller with Integral Sensor Operation

26 Wiring - Remote XS-MFC



Remote switch may be set: On/Off, Forward/Reverse, Ecnomy/Std. (variable speed), Auto/Manual.

Maximum one Integral Sensor per fan 6/9/12 denotes unit size identity
Humidity Sensor: XS-H6/9/12, Air Quality Sensor: XS-AQ6/9/12.
Passive Infra Red Sensor: XS-PIR6/9/12
Temperature Sensor: XS-TH6/9/12
Run on Timer: XS-TA6/9/12

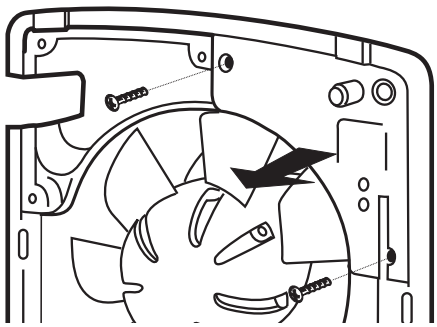
A single sensor will switch all fans if more than one fan is being operated by a single XS-MFC controller.

NOTE: Multi-fan options:
Up to 5 fans (size 6"/9") can be controlled by one XS-MFC.
Up to 2 fans (size 12") can be controlled by one XS-MFC.
Do not mix different fan sizes on the same controller.

4.5 Fitting Integral Sensors (Optional)

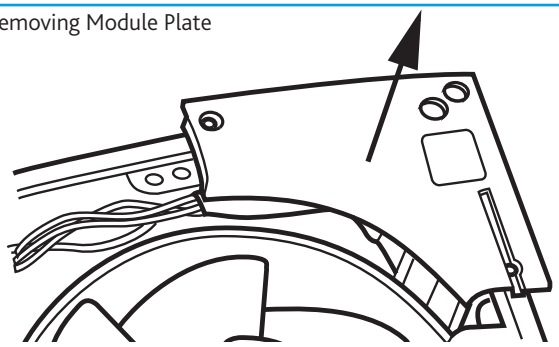
Before following the pictorial sequence shown, first remove the fans front cover grille (2 screws). Release the four main corner screws and lift out the motor/fan plate assembly. Remove the electrical cover plate opposite the sensor plate. Follow the pictorial sequence on this page.

27 Unscrewing Sensor Module Plate



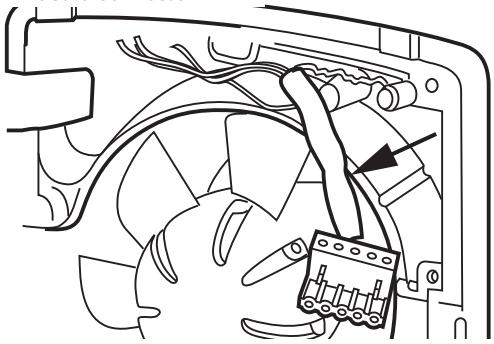
Unscrew the module plate from motor plate assy.

28 Removing Module Plate



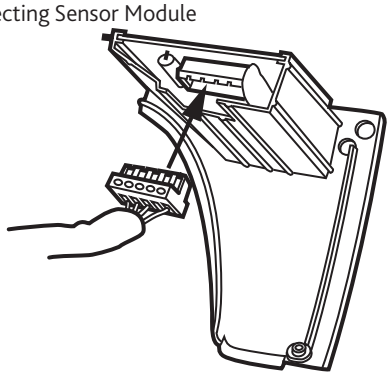
Remove the module plate.

29 Sensor Module Connector



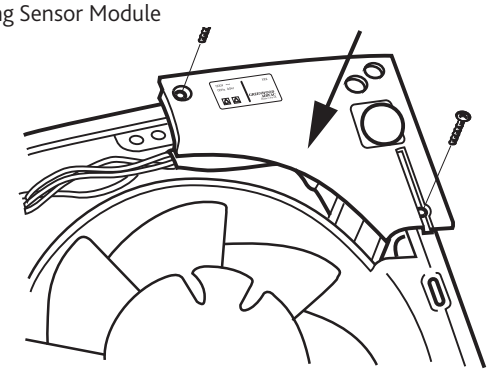
Lift out the sensor module wiring connector.

30 Connnecting Sensor Module



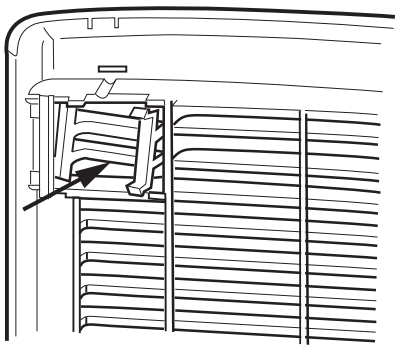
Plug the connector into the required sensor module.

31 Fitting Sensor Module



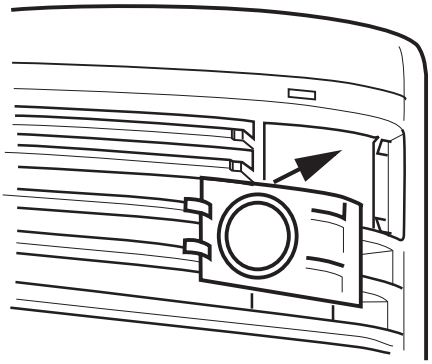
Screw the sensor module into position.

32 Removing Sensor Cover



Push out the sensor area cover from the grille.

33 Fitting Replacement Sensor Cover



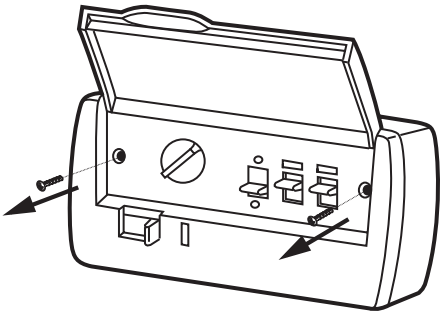
Push the replacement cover into the grille front.

4.6 Fitting XS-MFC Controller or Remote sensors (Optional)

The XS-MFC Multi Fan Control provides supply or extract, variable speed and automatic or manual switching of several fans if desired, (see note below). The control is best mounted approx 1.5m above the floor. Remote Sensors are available for Humidity, Air Quality and Passive Infra Red control. Remote Sensors should be positioned at least 1.5m above the floor and away from direct heat sources e.g. radiators.

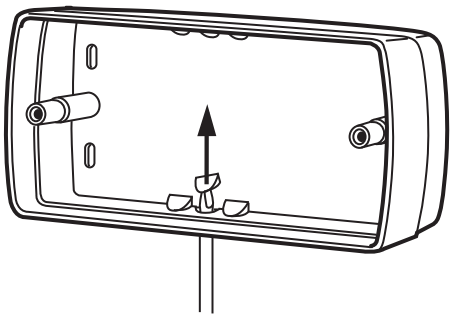
Note:
Up to 5 fans (size 6 / 9 inch) can be controlled by one XS-MFC.
Up to 2 fans (size 12 inch) can be controlled by one XS-MFC.
Do not mix different fan sizes on the same controller.

34 Dismantling XS-MFC



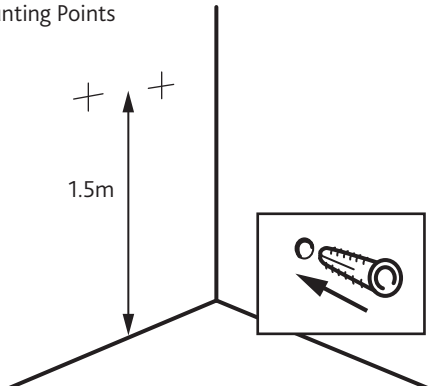
Lift up panel and remove two screws to dismantle unit.

35 Cable Entry Point



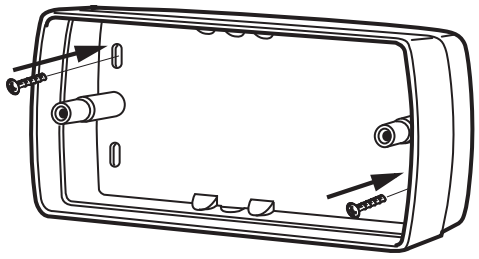
Push out backplate box cable entry using a screwdriver.

36 Wall Mounting Points



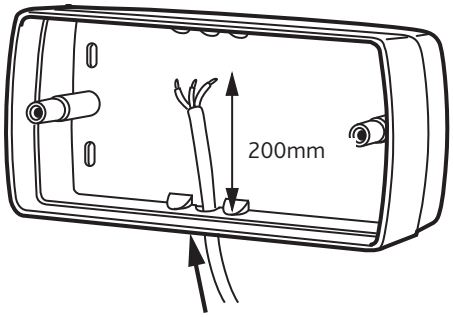
Spot through backplate box and drill and plug the wall.

37 Mounting Backplate



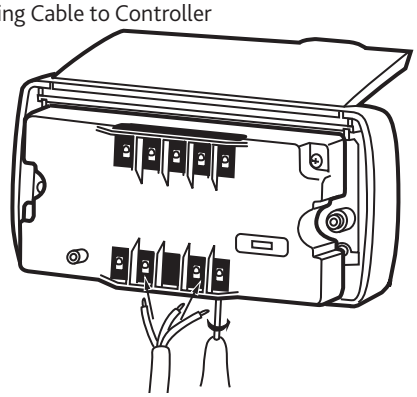
Fix backplate box to the prepared wall.

38 Feeding Electrical Cable



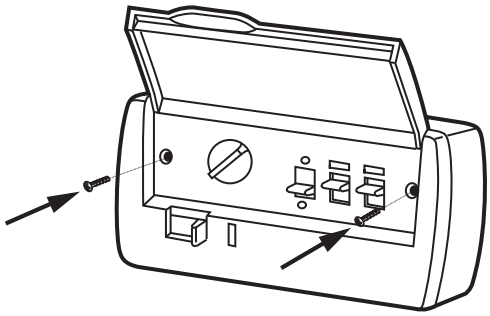
Feed approx. 200mm of supply cable into the box

39 Connecting Cable to Controller



Connect the end of the cable into the control block.

40 Fitting Sensor Module



Fit the control into the backplate box and secure.
Test the installation.

5.0 ANCILLARIES

5.1 Weather Terminal

Used for exposed site wall installations, comprising one weather terminal, manufactured from HIPS.

Order Code XS-WT6
Dimensions: 360 x 360 x 170mm

Order Code XS-WT9
Dimensions: 425 x 425 x 180mm

Order Code XS-WT12
Dimensions: 506 x 506 x 185mm

Unit replaces the outside grille and is supplied with installation details.

41 Weather Terminal

5.2 Picture Frame Adaptor

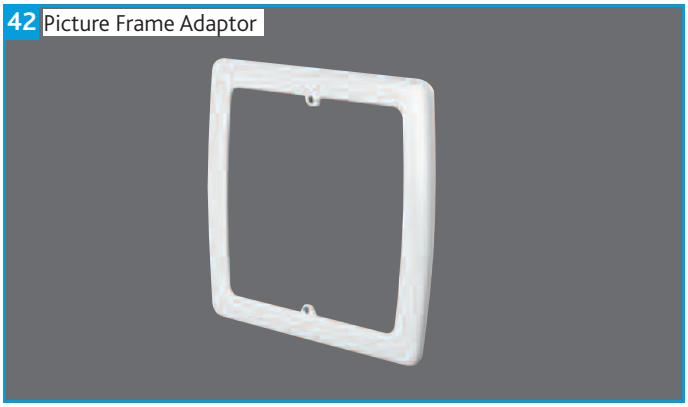
Used for exposed site wall installations, comprising one weather terminal, manufactured from HIPS.

Order Code XS-PFA6
Dimensions: 330 x 315 x 20mm

Order Code XS-PFA9
Dimensions: 405 x 425 x 20mm

Order Code XS-PFA12
Dimensions:495 x 510 x 25mm

42 Picture Frame Adaptor

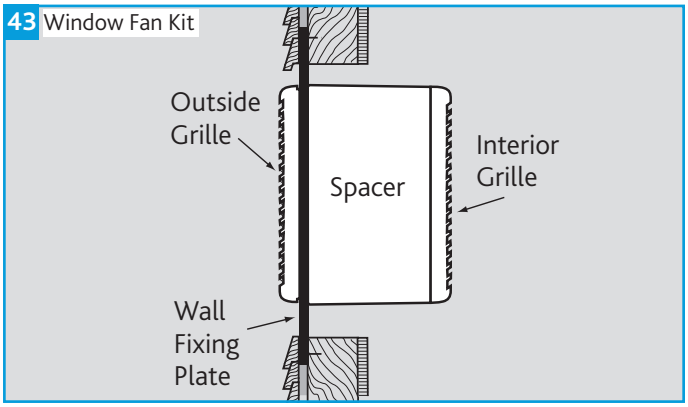


5.3 Thin Wall Applications

For thin wall applications we actually recommend the use of a **Window Fan Kit** used in conjunction with a Wall Fixing Plate.

This thin wall application shows a Wall Fixing Plate fixed to the aperture (4 screws).

The Window Fan Spacer and Outside Grille clamp together either side of the Wall Fixing Plate to support the Fan and Interior Grille.



6.0 MAINTENANCE

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.

6.1 Annually

- Thoroughly inspect the unit and its components for corrosion, acting immediately to treat/restore any damaged areas.
- All electrical terminals within the unit should be tightened.
- Check all earth connections.

7.0 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.

8.0 END-OF-LIFE AND RECYCLING

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.

IMPORTANT

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.

9.0 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

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