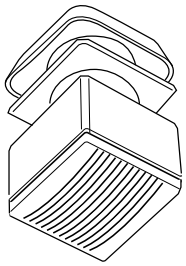


XS Fan Module 50 / 60Hz
Supply / Extract
Installation and Maintenance

The EMC Directive 2014/30/EU
The Low Voltage Directive 2014/35/EU

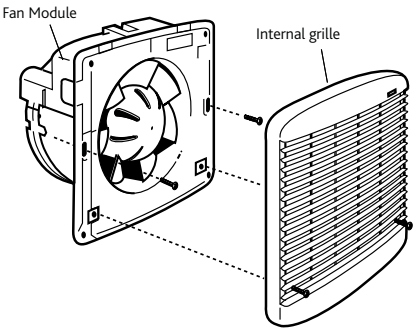
1.0 Safety Information

IMPORTANT: Installation or replacement of units or spare parts must be carried out by a qualified or Nuaire approved service engineer/ electrician and in accordance with IEE or local national wiring regulations.

2.0 Introduction

The Nuaire XS Fan Module is available in 6, 9 and 12 inch impeller sizes suitable for supply or extract.
An internal grille assembly is included for use if required. Ensure adequate air replacement for the fan and any fuel burning appliance in the room.

Figure 1. Fan module and internal grille.



2.1 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.

2.2 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.

2.3 General

The external rotor motor makes for simple removal of the push-on impeller for easy cleaning. 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 Removing the Grille

The Fan Module is supplied complete with an inlet grille.
To remove the grille, remove the two lower grille fixings. The grille can now be lifted upwards to clear the top lip retainer and removed.
Re-fitting the grille is the reverse of this procedure.

2.1.1 Coding For Fan Modules

Description	Code (50 Hz)	Code* (60 Hz)
6" Flat Roof Fan Kit Complete	XS6	XS6H
9" Flat Roof Fan Kit Complete	XS9	XS9H
12" Flat Roof Fan Kit Complete	XS12	XS12H

2.2.1 Coding For Refurb Kits

Description	Code (50 Hz)	Code* (60 Hz)
6" Pitched Roof Fan Kit Complete	XS6RE	XS6REH
9" Pitched Roof Fan Kit Complete	XS9RE	XS9REH
12" Pitched Roof Fan Kit Complete	XS12RE	XS12REH

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

2.5 General Applications

The Nuaire XS Fan Module can be used as a direct replace-ment spare for any of the XS Fan Installation Kits available from Nuaire. Remember to specify fan size 6, 9 or 12inch.

The XS Fan Installation Kits available are as follows:

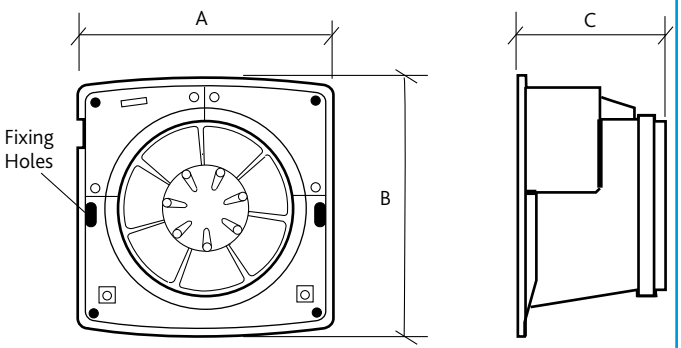
XS Window Kit	Leaflet 671050
XS Wall Fan Kit	Leaflet 671051
XS Ceiling Fan Kit	Leaflet 671052
XS Roof Fan Kit	Leaflet 671053

3.1 Other Applications

- **In Line Installation:** Using Duct Kit from Nuaire Code: XS-IDK (see page 7).
- **Plate Installation:** For fixing the Fan Module face direct to a wall.
- **Retro Fit:** For fitting in an existing wall aperture/outlet louvre (see page 5).

3.0 Dimensions

Figure 2. Fan Module dimensions.

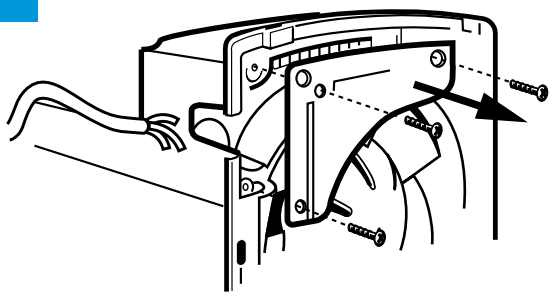


Unit	A	B	C
XS6 Fan Module	269	272	140
XS9 Fan Module	342	342	150
XS12 Fan Module	420	420	170

4.0 Electrical Installation

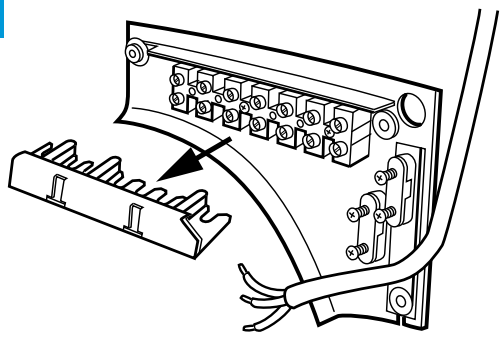
Electrical work should be undertaken by a qualified electrician in accordance with the wiring regulations.

1



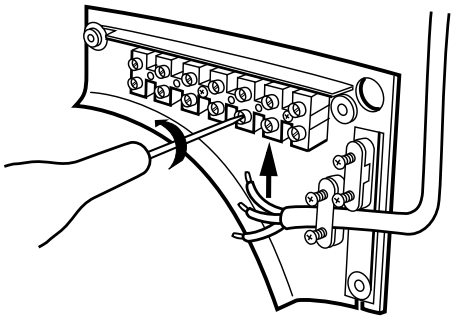
Release the electrical panel from the fan plate.

2



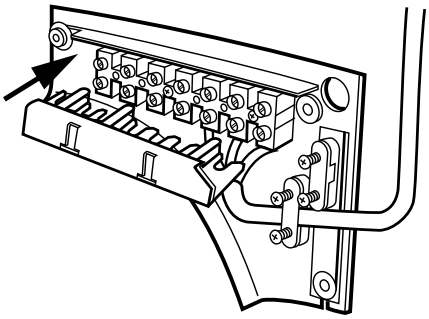
Remove the terminal cover.

3



Clamp the cable and complete the connections.

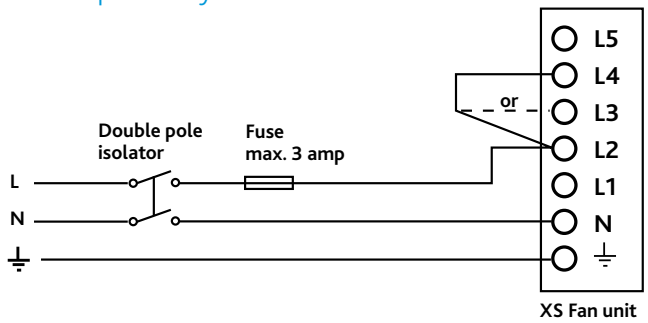
4



Refit terminal cover before replacing the electrical panel.

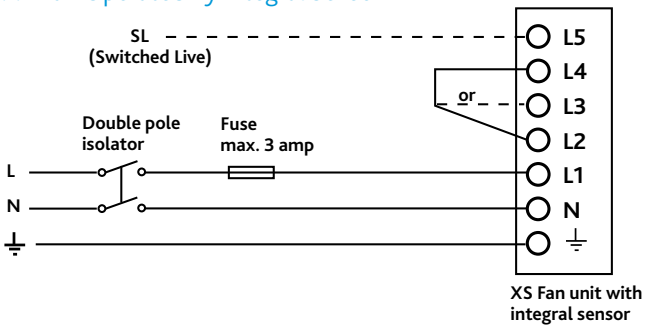
4.1 Wiring

4.1.1 Fan Operated By On / Off Switch



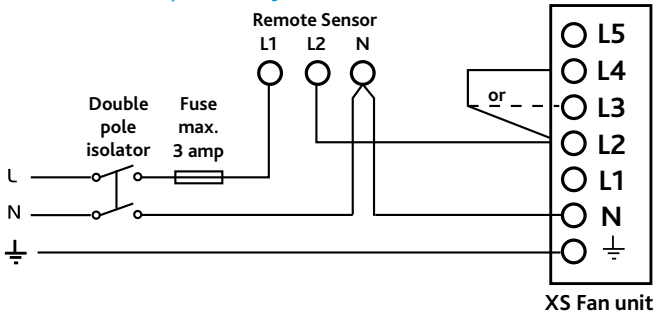
Connect link wire between L2 & L4 for extract OR connect link wire between L2 & L3 for supply.

4.1.2 Fan Operated By 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.

4.1.3 Basic Fan Operated By Remote Sensor



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

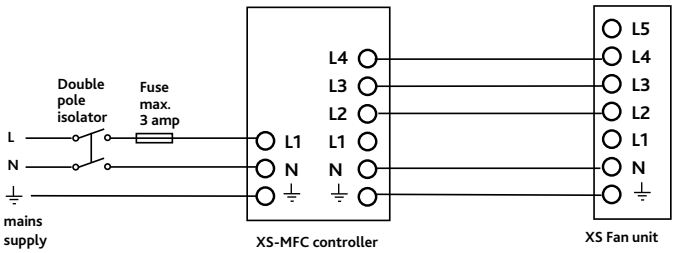
IMPORTANT

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

IMPORTANT

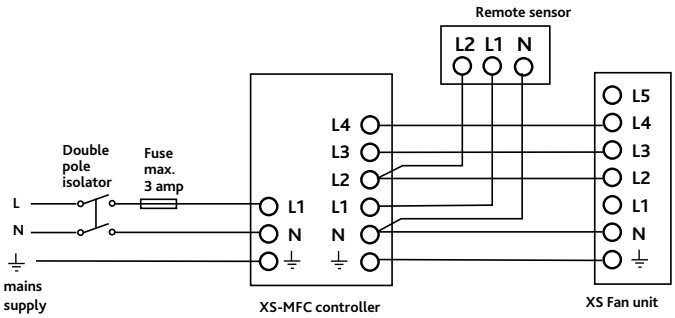
(Shutter Operation XS fans)
There will be a short delay on startup and shutdown of approximately 40 seconds. This is normal.

4.1.4 Supply / Extract Fan Operated via remote XS-MFC Control



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

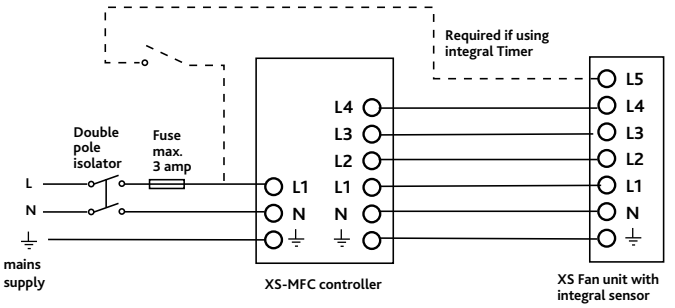
4.1.5 Supply / Extract Fan Operated via remote XS-MFC Control and Remote Sensor(s)



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

4.1.6 Supply / Extract Fan Operated via remote XS-MFC Control and an Integral Sensor



Remote switch may be set: On/Off, Forward/Reverse, Economy/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.

4.2 Unit Consumption & Weight

Model	Input Power (W)		Weight (kg)
	Max.	Economy	
XS6 supply & extract	38	20	4.1
XS9 supply & extract	50	37	5.7
XS12 supply & extract	100	70	8.6

Note figures are for extract only at 50hz.

4.3 Electrical Specification

230V ~ 50Hz / 220V ~ 60Hz Class I. Motor thermally protected by overload device. Cable: 1mm max. or min. 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.

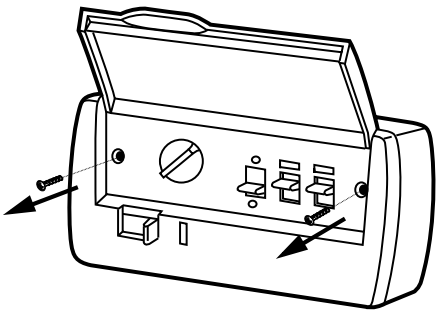
Always confirm airflow direction before commissioning.

4.4 Fitting Remote Controller XS-MFC 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.

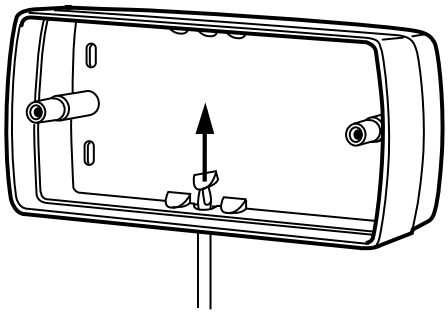
Note:
Up to 5 fans (size 6 / 9 inch) can be controlled by one XS-MFC.
Up to 2 fans (size 12 inch) can be controlled by one XS-MFC.
Do not mix different fan sizes on the same controller.

1



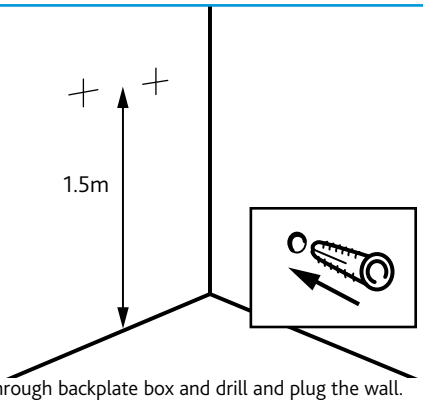
Lift up panel and remove two screws to dismantle unit.

2



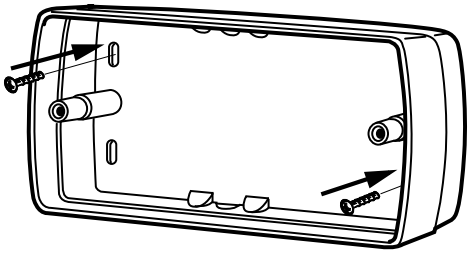
Push out backplate box cable entry using a screwdriver.

3



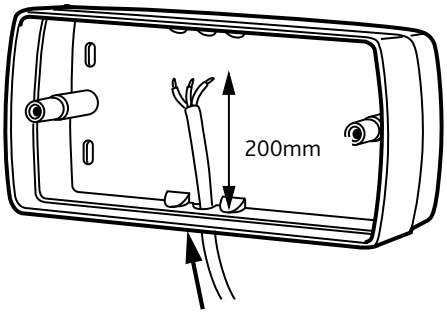
Spot through backplate box and drill and plug the wall.

4



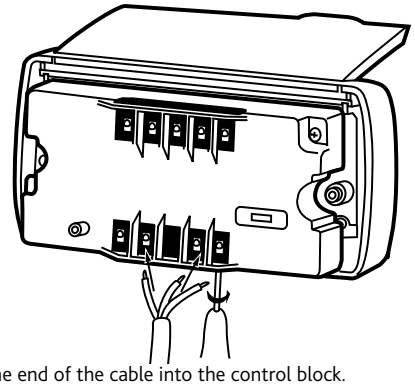
Fix backplate box to the prepared wall.

5



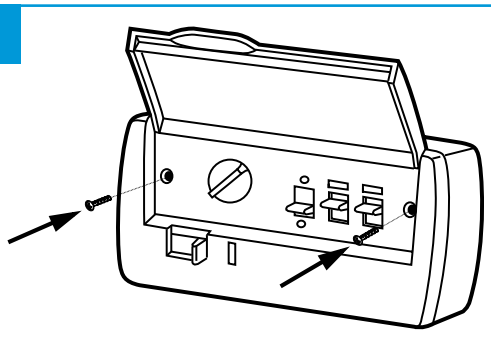
Feed approx. 200mm of supply cable into the box.

6



Connect the end of the cable into the control block.

7

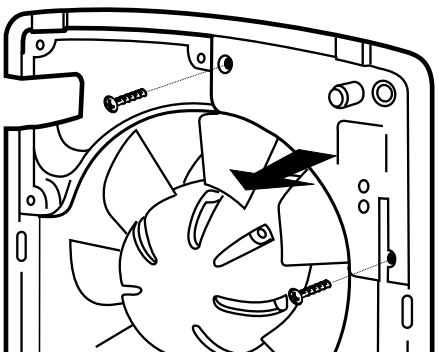


Fit the control into the backplate box and secure.
Test the installation.

4.5 Fitting Integral Sensors (Optional)

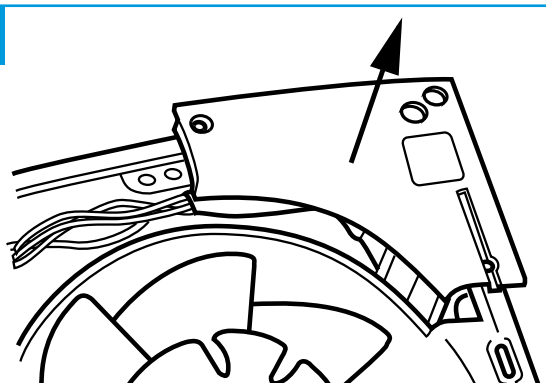
Note: Before following the pictorial sequence shown, first remove the fans front cover grille (2 screws). Release the four main corner screws and lift out the motor/fan plate assembly. Remove the electrical cover plate opposite the sensor plate. Follow the pictorial sequence on this page.

1



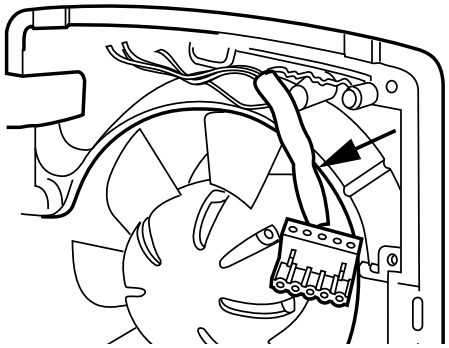
Unscrew the module plate from motor plate assembly.

2



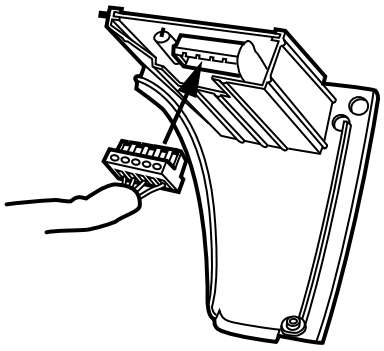
Remove the module plate.

3



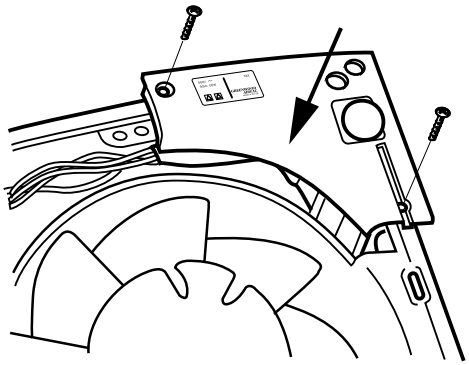
Lift out the sensor module wiring connector.

4



Plug the connector into the required sensor module.

5

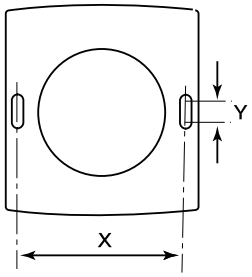


Screw the sensor module into position.

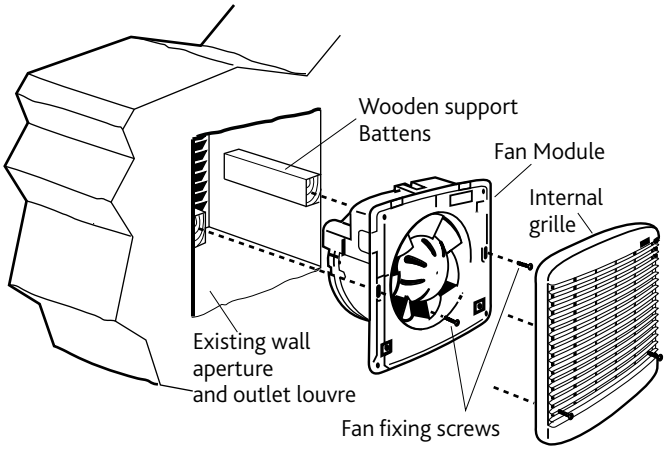
4.6 Typical Application

This shows an XS Fan Module being retrofitted into an existing wall aperture. The two internal wall battens are used to support the fan and should be arranged to match the fan fixing centres as listed in the table.

Unit	X	Y
XS6	237	8
XS9	310	8
XS12	390	8



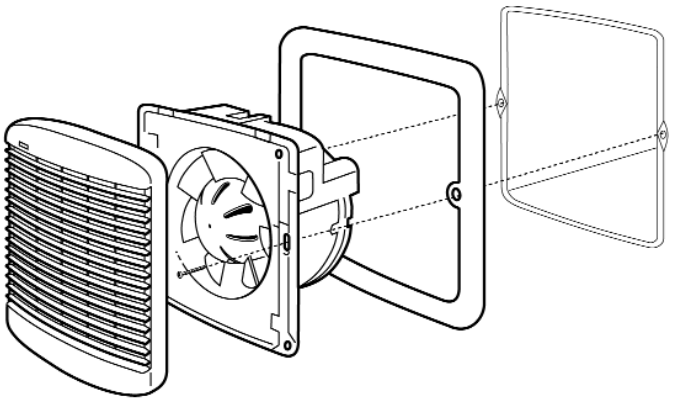
Fan fixing slots. Arrange support battens to suit.



5.0 Refurbishment Installation: Complete Kits XS12RE, XS9RE and XS6RE

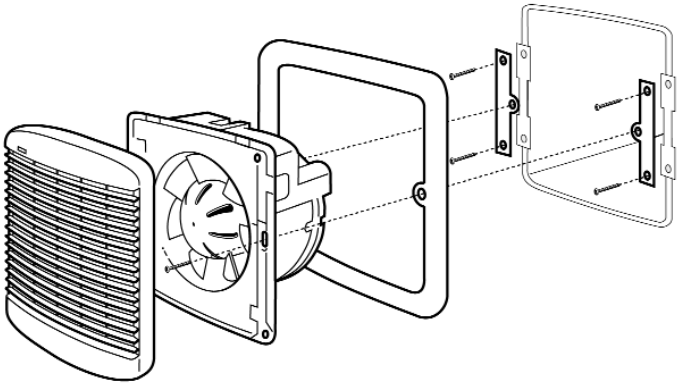
5.1 Replacing existing Nuaire XS Fans

The fan is fixed as the previous fan into the existing channels on the wall liner. The picture frame can be used if desired, however the metal brackets are not required.



5.2 Replacing existing T-Series Fans

The brackets supplied with the kit can be aligned with the screw fixing holes of the previous fan. This then positions the receiving nut on the bracket in the correct location to allow fixing of the Nuaire refurbishment
fan.



5.3 Wiring Details T-Series Fans

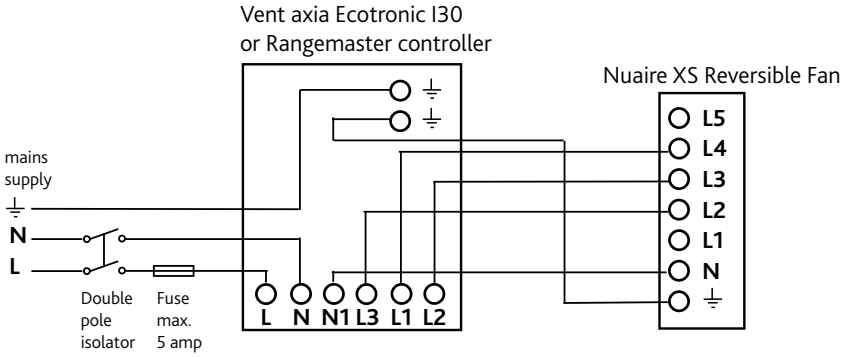
A Nuaire XS fan can be used to replace a Vent Axia 'T' Series fan, retaining the original controller, providing the controller is of the 'Ecotronic 130', 'Rangemaster' or 'T' Series Controller type.

This arrangement will give the following operating features:

- Adjustable speed
- Adjustable minimum speed
- Extract / intake
- Fan off – shutter open
- Fan off – shutter closed

Limitations are:

- Control of single fan only
- Integral sensors not possible
- Automatic ECO setting not available



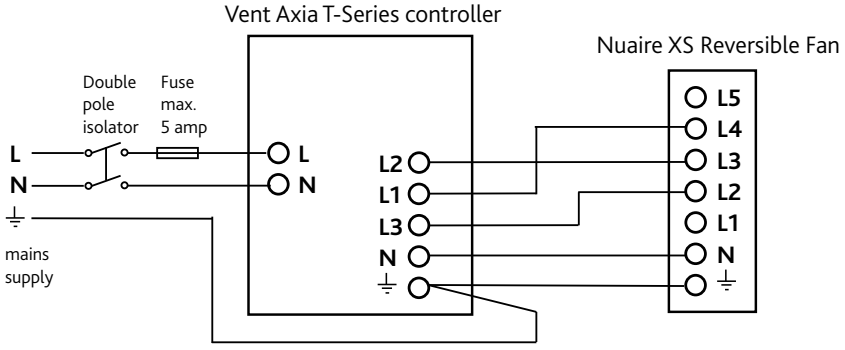
This arrangement will give the following operating features:

- Single speed
- Extract / intake
- On / Off
- Fan off – shutter closed

Limitations are:

- Control of single fan only
- Integral sensors not possible
- Automatic ECO setting not available

Fans should be installed in line with the IEE wiring regulations.



6.0 Ancillaries

In Duct Kit

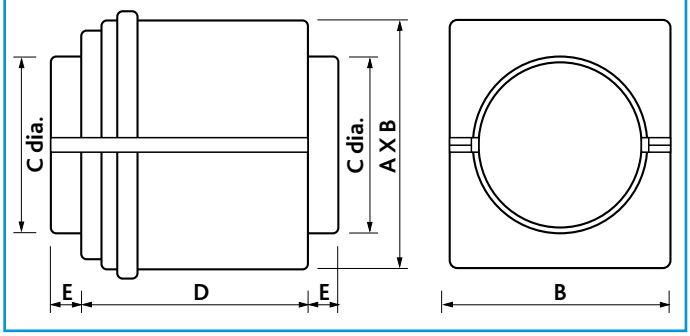
Used in In Duct applications in conjunction with flexible ducting systems and comprises of one In Duct kit.

The Fan is mounted within the two halves of the housing and the ducting is connected both sides.

Manufactured from HIPS material.

Order Code: XS-IDK6 For use with 6 inch fans.
Order Code: XS-IDK9 For use with 9 inch fans.
Order Code: XS-IDK12 For use with 12 inch fans.

Figure 3. In Duct Kit Dimensions



Dimension	XS-IDK6	XS-IDK9	XS-IDK12
A	268	348	420
B	268	348	420
C	197	247	347
D	240	250	268
E	25	25	25

7.0 Maintenance

Periodically, at least once a year or more frequently in case of heavy use, remove the dirt and encrustation from the grille(s) fan impeller and motor casing. Ensure the impeller is not cracked or deformed and is able to rotate freely and without oscillation.

Do not use any solvents to clean this product.

8.0 Replacement Of Parts

As a manufacturer Nuaire is aware that time is important. In the event of a breakdown of this equipment, it should be adequately packaged and returned to Nuaire.

Please telephone Nuaire before posting your unit. A returns number will be issued to identify your package.

We will endeavour to repair or replace it within five working days of receipt. See our warranty terms.

9.0 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.

Installation or replacement of units or spare parts must be carried out by a qualified or Nuaire approved service engineer/ electrician and in accordance with IEE or local national wiring regulations.

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.

A unit returned to Nuaire should be suitably protectively packaged and clearly marked with the 'returns number' obtained from Nuaire prior to posting.

10.0 After Sales Enquiries

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