



## 1.0 IMPORTANT SAFETY INFORMATION

- 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.
- 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.
- 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.
- Maximum ambient temperature should not exceed 25°C for continuous operation or 35°C occasionally.

### 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 Nuair 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.

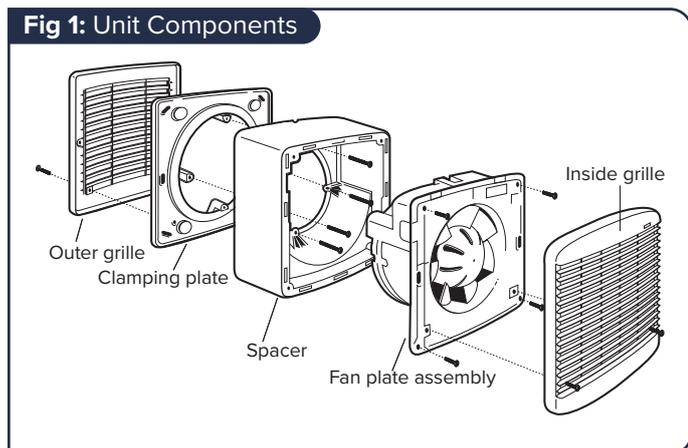
Nuair would always recommend a site specific risk assessment by a competent person to determine if any additional PPE is required.

### 2.0 INTRODUCTION

The Nuair XS Window 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.

Fig 1: Unit Components



### 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

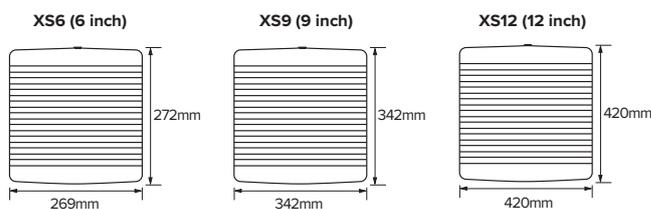
Code	Description
XS6GL	6" Window Fan Kit - 50Hz
XS9GL	9" Window Fan Kit - 50Hz
XS12GL	12" Window Fan Kit - 50Hz
XS6GLH	6" Window Fan Kit - 60Hz
XS9GLH	9" Window Fan Kit - 60Hz
XS12GLH	12" Window Fan Kit - 60Hz

\*H indicates 220V 60Hz 1ph

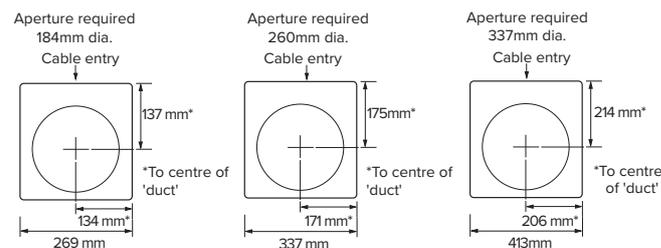
Window Fan Kits are supplied as a complete package with all window installation parts included and are suitable for glazing thickness of up to 32mm and wall/panels of 360mm.

Fig 2: Dimensions

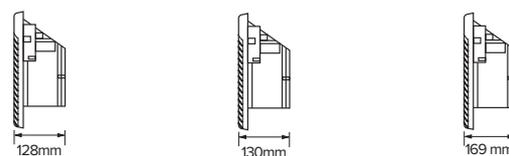
#### Front view



#### Rear view

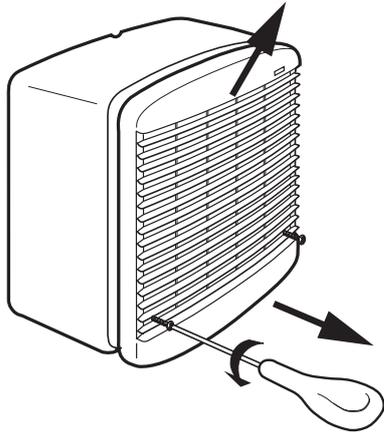


#### Side view

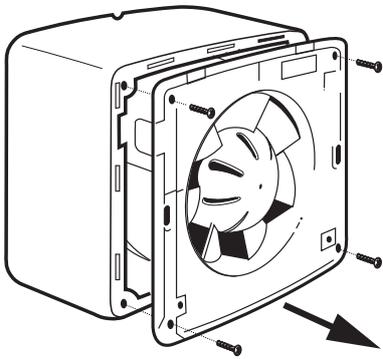


### 3.0 MECHANICAL INSTALLATION

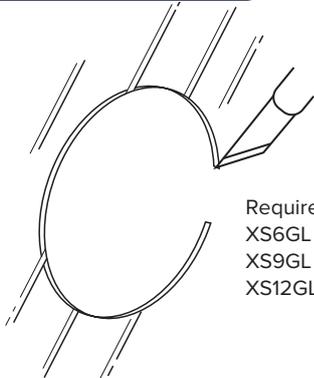
**Fig 3:** Remove front grille. Release 2 screws. Lift grille upwards



**Fig 4:** Remove fan plate

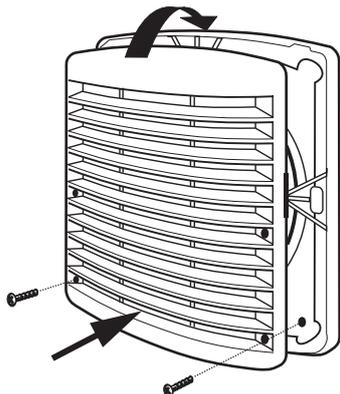


**Fig 5:** Prepare the window

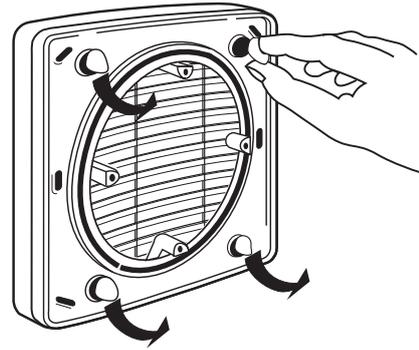


Required Glass Aperture	
XS6GL	184 dia
XS9GL	260 dia
XS12GL	337 dia

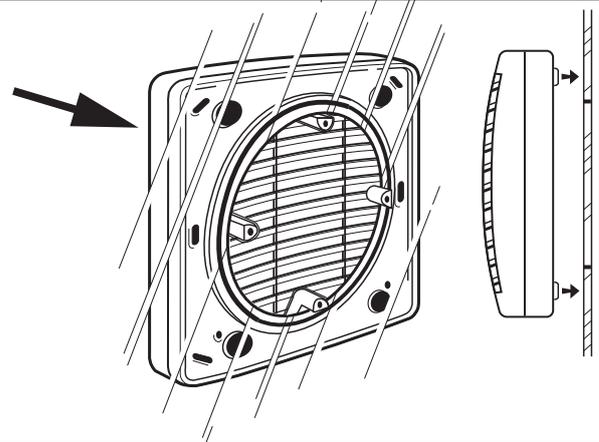
**Fig 6:** Fix outer grille to spigot plate. Check plate orientation is vertical. Note: Grille locates over top lugs on spigot plate



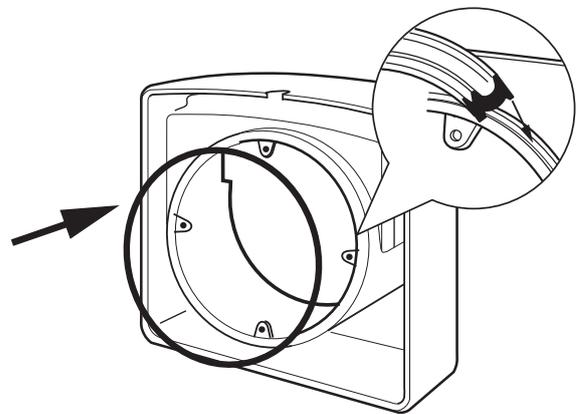
**Fig 7:** Remove the adhesive pad covers



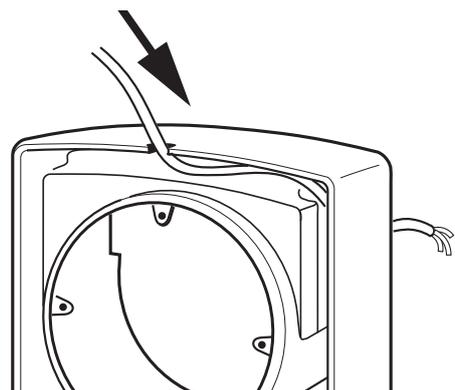
**Fig 8:** Clean the window glass and affix the outer grille assembly over the window aperture



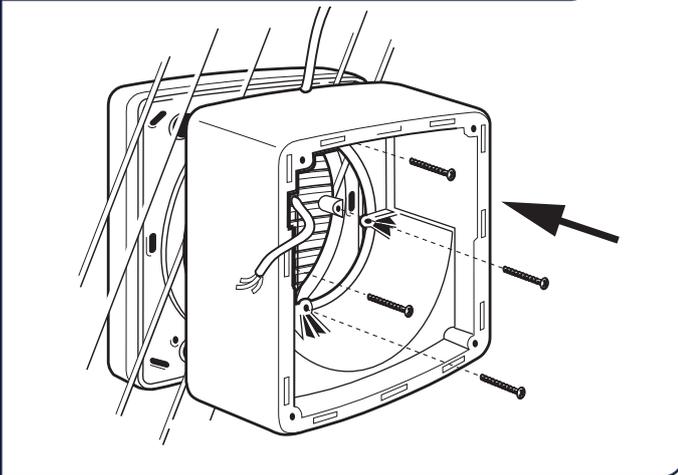
**Fig 9:** Ensure the rubber seal is located into the case spigot



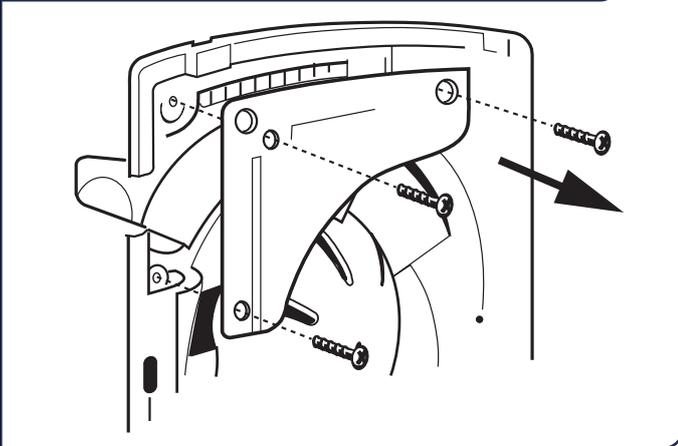
**Fig 10:** Feed the supply cable into the case



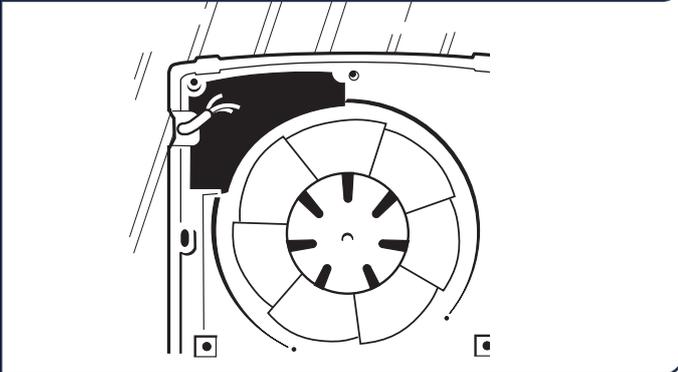
**Fig 11:** Screw the case/grille assembly together



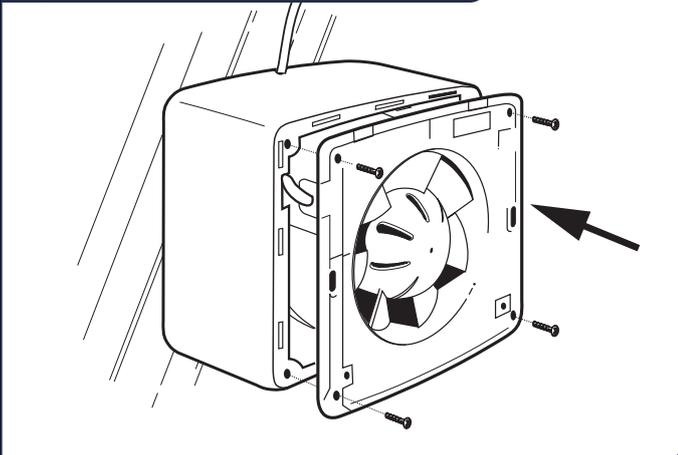
**Fig 12:** Release the electrical cover from the plate



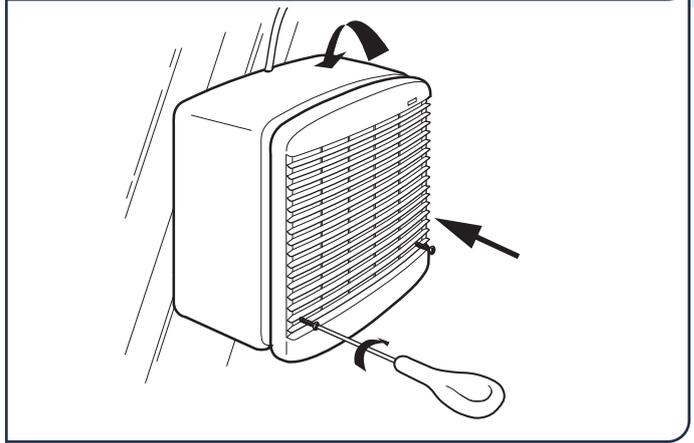
**Fig 13:** For various wiring options see section 4.3 on page 6



**Fig 14:** Screw the fan plate to the case



**Fig 15:** Fit the inside grille, locating it over the top lip before engaging the screws



**IMPORTANT**

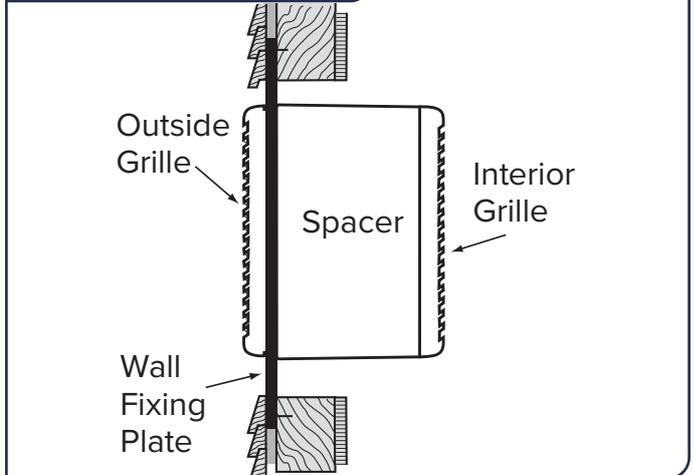
During shutter operation of XS fans there will be a short delay on start-up and shut down of approximately 40 seconds, this is normal.

**3.1 INSTALLING ANCILLARIES**

**3.1.1 THIN WALL INSTALLATION**

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

**Fig 16:** Thin Wall Installation

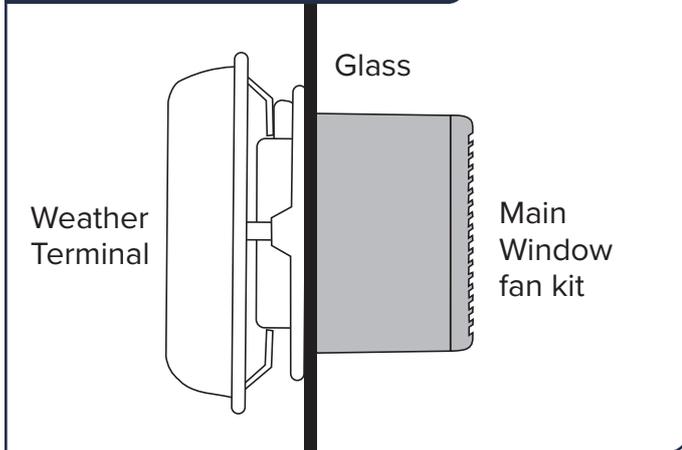


### 3.1.2 WEATHER TERMINAL

The optional Weather Terminal is offered for use in exposed site conditions.

The illustration shows the Weather Terminal installed replacing the Outside Grille assembly. Terminal is held in position using the same fixings as the Outside Grille assembly. The base of the Terminal incorporates a foam strip which is designed to adhere to the glass surface assisting fitting and also as a seal for the joint when assembled together with the fan unit.

**Fig 17: Weather Terminal Installation**



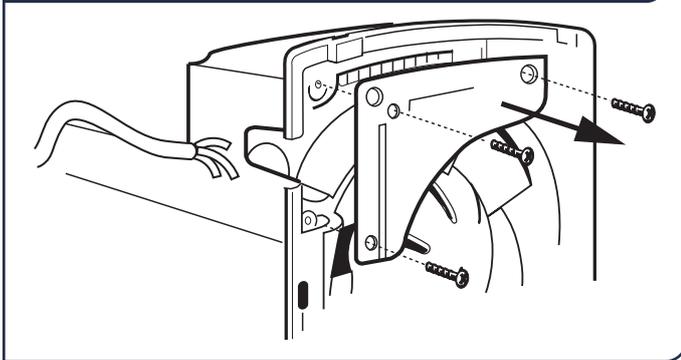
## 4.0 ELECTRICAL INSTALLATION

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

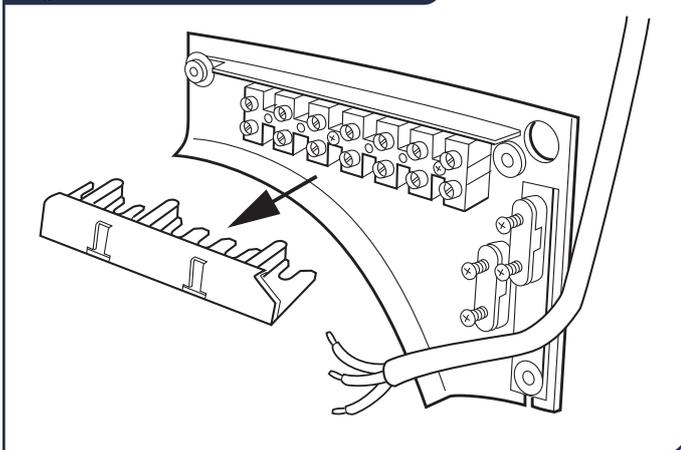
### ISOLATION

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

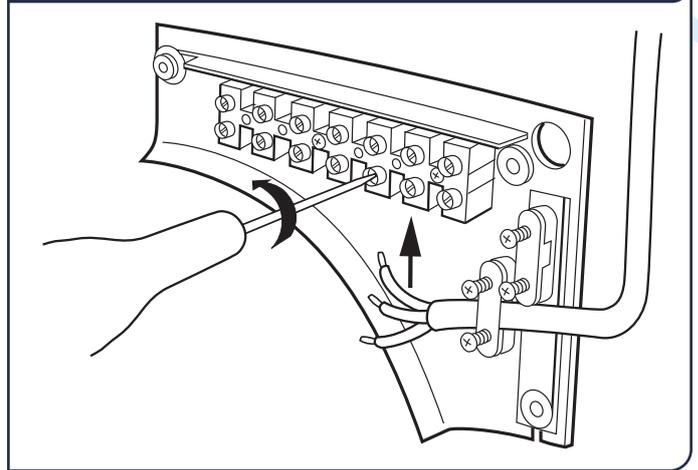
**Fig 18: Release the electrical panel from the fan plate**



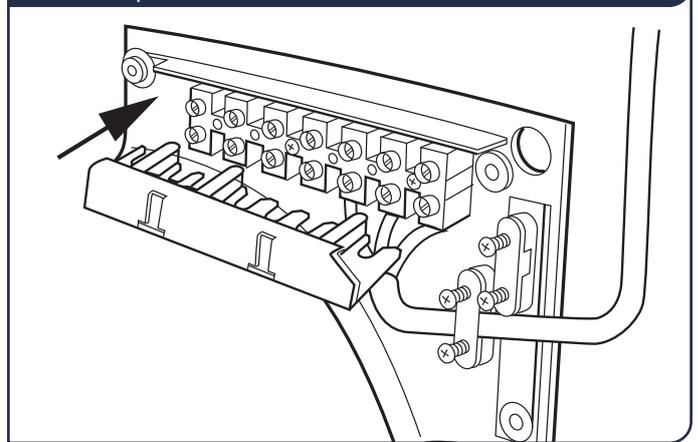
**Fig 19: Remove the terminal cover**



**Fig 20: Clamp the cable and complete the connections**



**Fig 21: Refit the terminal cover before replacing the electrical panel**



## 4.1 ELECTRICAL CONSUMPTION & WEIGHTS

Code	Input Power* (W)		Weight (kg)
	Max	Economy	
XS6GL	38	20	4.1
XS9GL	50	37	5.7
XS12GL	100	70	8.6

\*Values are for extract only at 50hz.

## 4.2 ELECTRICAL SPECIFICATION

230V ~ 50Hz / 220V ~ 60Hz Class I. Motor thermally protected by overload device. Cable: 1mm<sup>2</sup> min/max. Fuse: 2A, BS1362 required for each single fan if used without XS-MFC control. 3A, BS1362 fuse for multiple fans via XS-MFC speed control. Use of an RCD is recommended.

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).

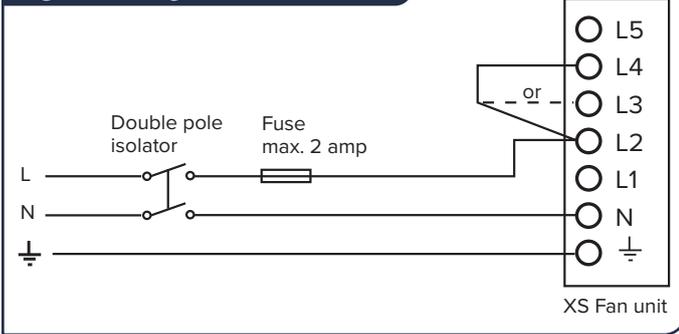
Adequate make-up air provision sufficient to provide ventilation in accordance with building regulations is required in all rooms. This should be checked during commissioning with all fans in the same room running together in all possible configurations.

The automatic shutters, motor bearings should be frequently inspected and maintained to ensure they open fully/operate satisfactorily.

Always confirm airflow direction before commissioning.

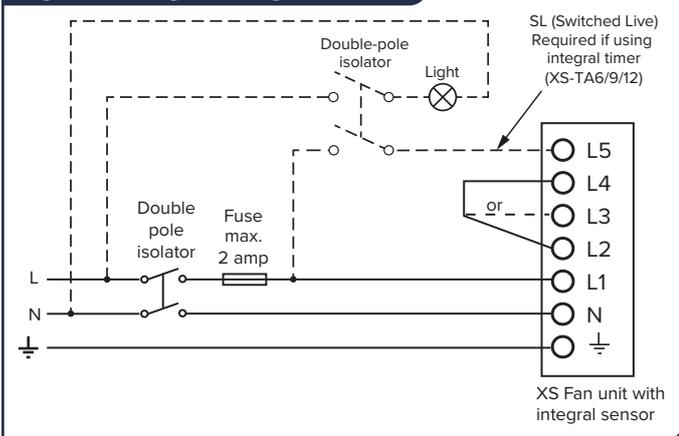
4.3 WIRING DIAGRAMS

Fig 22: Wiring an On/Off Switch



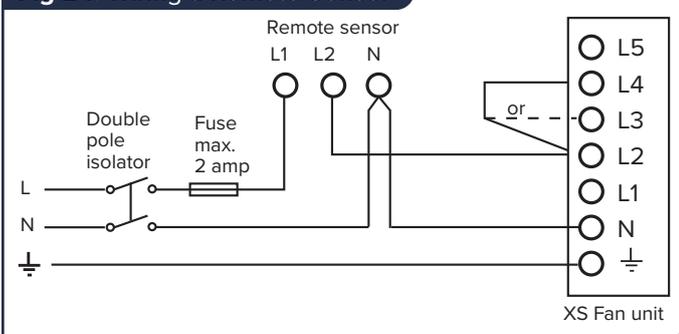
Connect link wire between L2 & L4 for extract or  
Connect link wire between L2 & L3 for supply.

Fig 23: Wiring an Integral Sensor



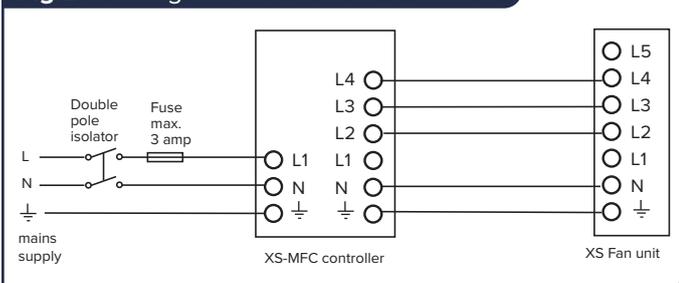
Connect link wire between L2 & L4 for extract or  
Connect link wire between L2 & L3 for Supply.  
Connect switched live signal to L5 for integral sensor.

Fig 24: Wiring a Remote Sensor



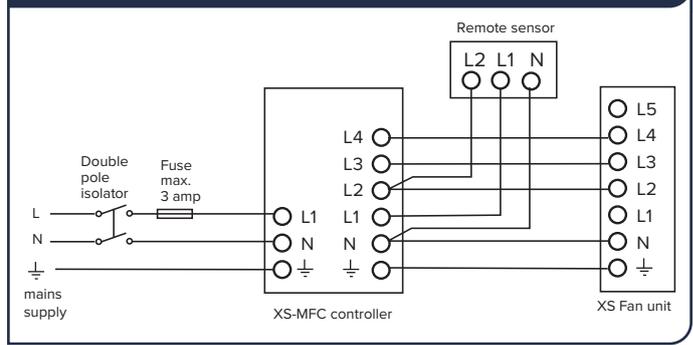
Connect link wire between L2 & L4 for extract or  
Connect link wire between L2 & L3 for supply.

Fig 25: Wiring a Remote XS-MFC Control



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

Fig 26: Wiring a Remote XS-MFC Control with a Remote Sensor

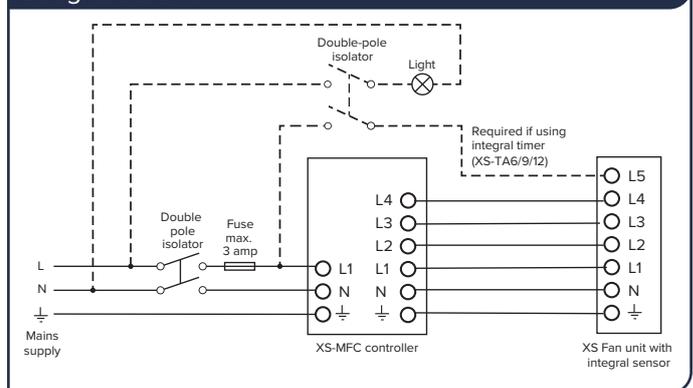


Remote switch may be set: On/Off, Forward/Reverse, Economy/  
Std. (variable speed), Auto/manual.

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

Fig 27: Wiring a Remote XS-MFC Control with a 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.

- 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 Control.

**Note: Multi-Fan Options:**

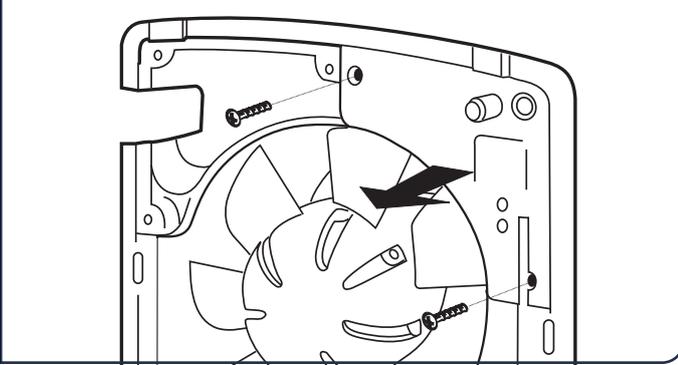
Up to 5 fans (size 6 or 9) can be controlled by one XS-MFC.  
Up to 2 fans (size 12) can be controlled by one XS-MFC.

**Do not mix different fan sizes on the same XS-MFC control.**

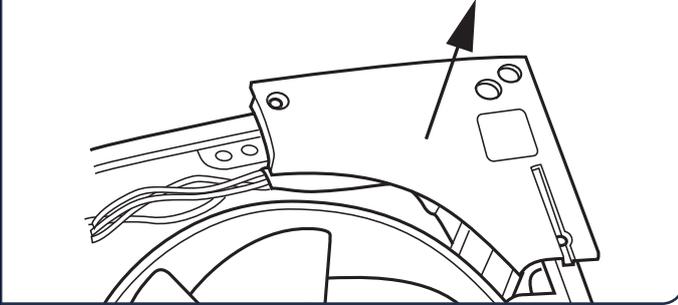
#### 4.4 FITTING INTEGRAL SENSORS (OPTIONAL)

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.

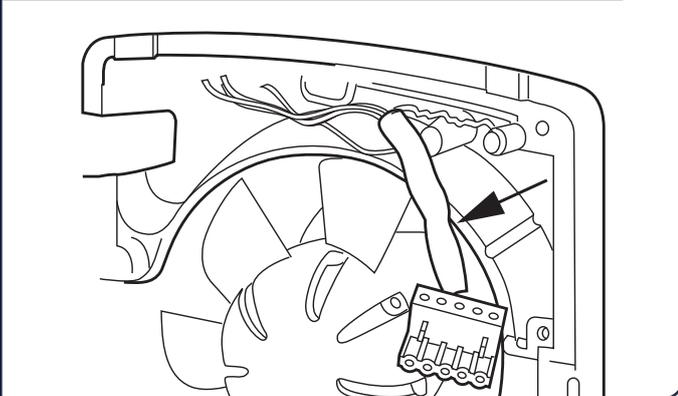
**Fig 28:** Unscrew the module plate from the motor plate assembly



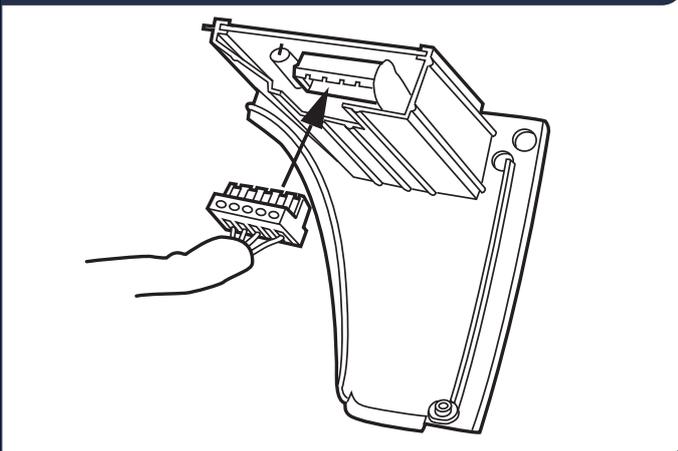
**Fig 29:** Remove the module plate



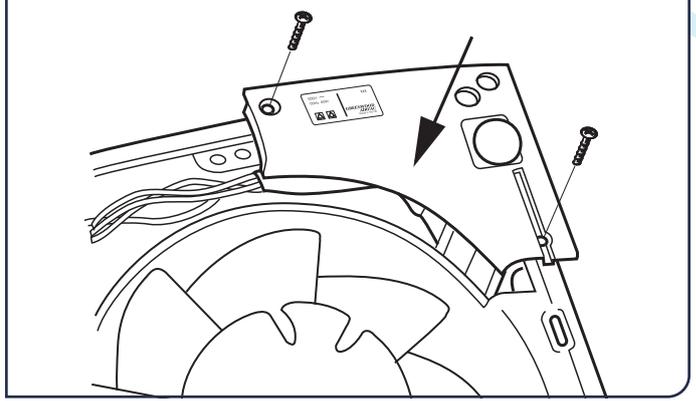
**Fig 30:** Lift out the sensor module wiring connector



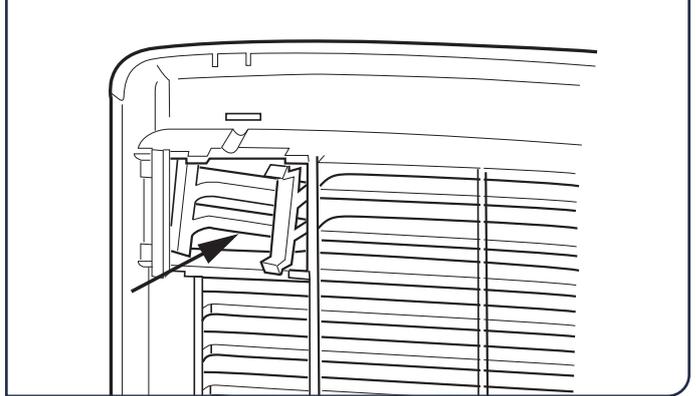
**Fig 31:** Plug the connector into the required sensor module



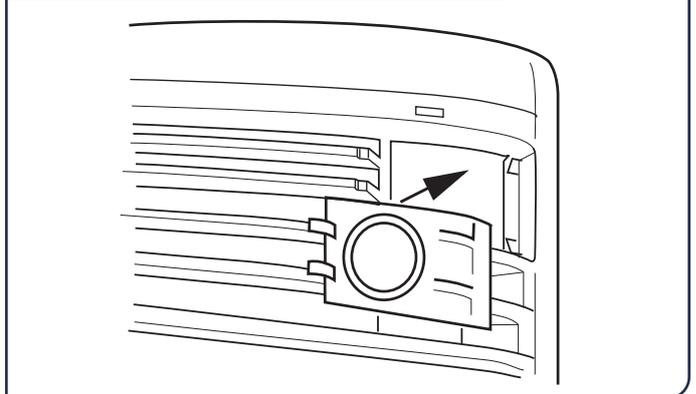
**Fig 32:** Screw the sensor module into position



**Fig 33:** Push out the sensor area cover from the grille



**Fig 34:** Fit the replacement sensor cover



#### 4.5 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.

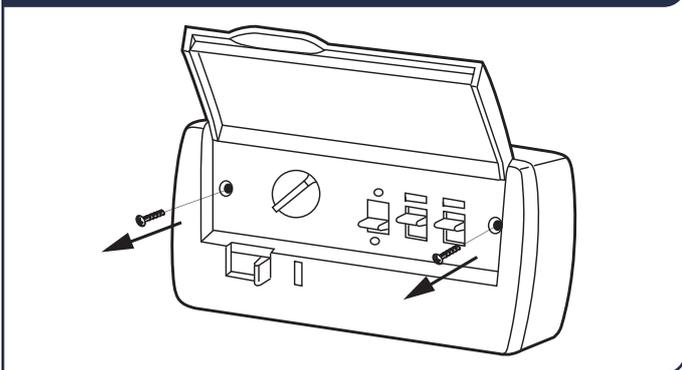
**Note: Multi-Fan Options:**

Up to 5 fans (size 6 or 9) can be controlled by one XS-MFC.

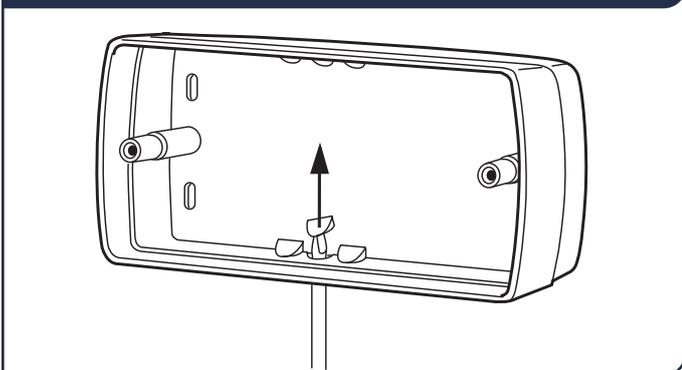
Up to 2 fans (size 12) can be controlled by one XS-MFC.

**Do not mix different fan sizes on the same XS-MFC control.**

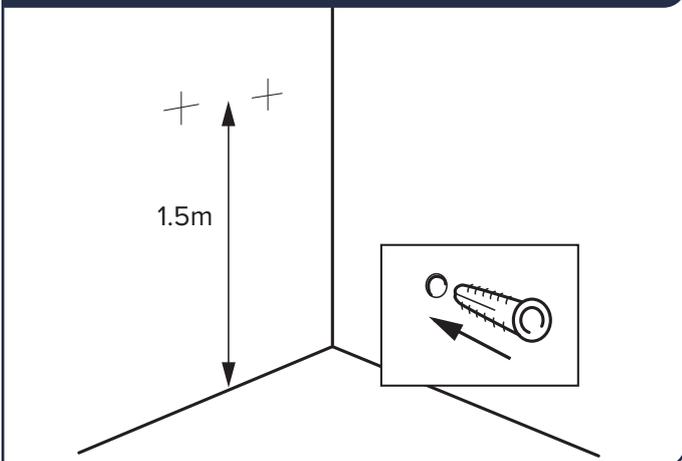
**Fig 35:** Lift up the panel and remove two screws to dismantle the unit



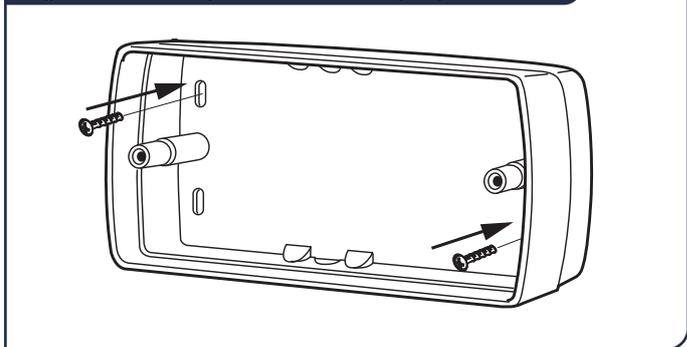
**Fig 36:** Push out the backplate box cable entry using a screwdriver



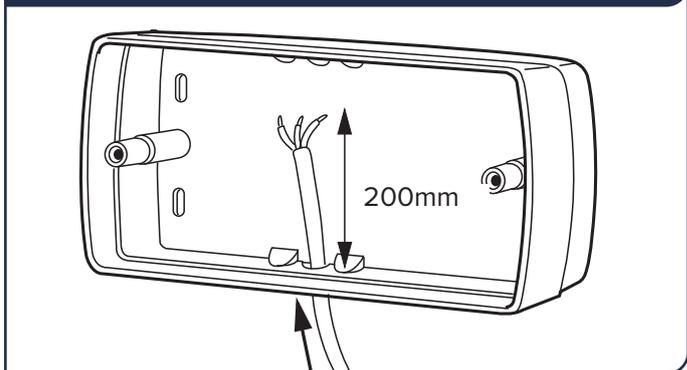
**Fig 37:** Spot through the backplate and drill and plug the wall



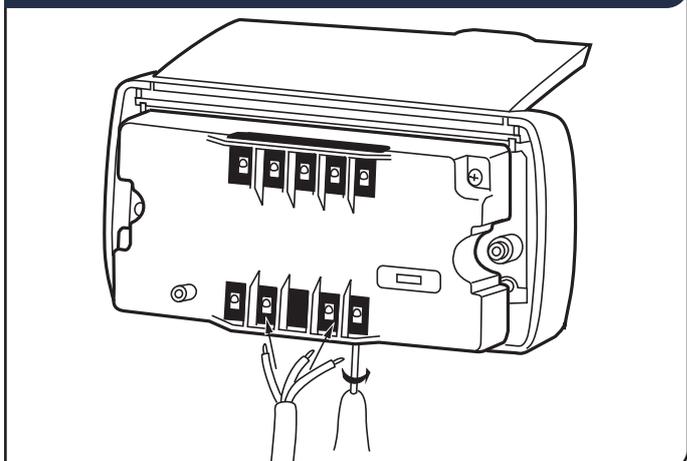
**Fig 38:** Fix backplate box to the prepared wall



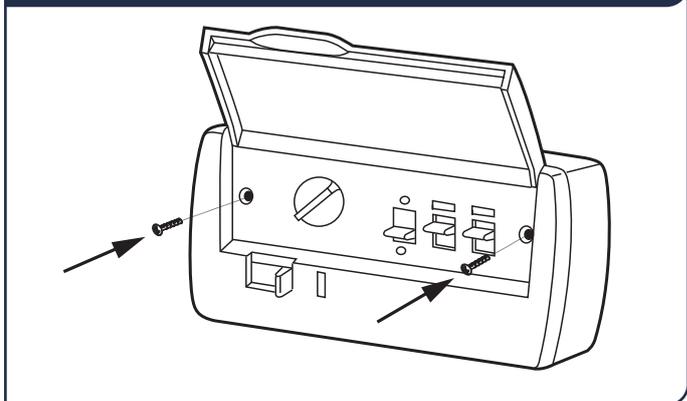
**Fig 39:** Feed approx. 200mm of supply cable into the box



**Fig 40:** Connect the end of the cable into the control block



**Fig 41:** 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.

**Fig 42: Weather Terminal**



### 5.2 WALL FIXING PLATE

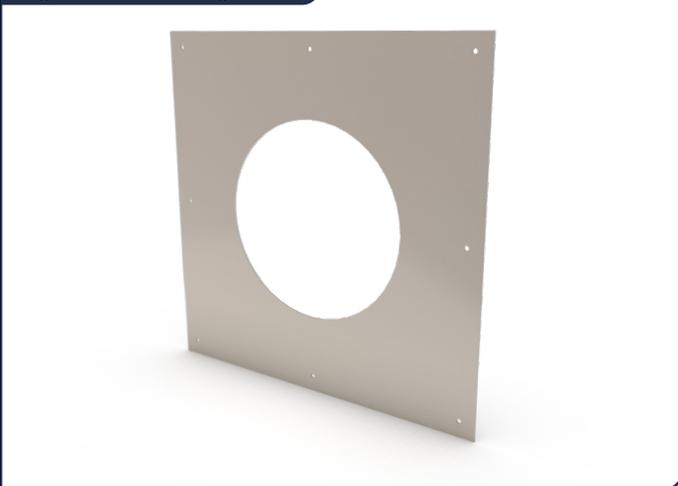
The Wall Fixing Plate is used for thin wall and above ceiling applications, to support the fan assembly.

Order Code: **XS-WFP6**

Order Code: **XS-WFP9**

Order Code: **XS-WFP12**

**Fig 43: Wall Fixing Plate**



## 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.**





