# CYFAN

## 230V/24V DC SELV Surface Mounted & Semi-Recessed Domestic Extract Fan

## Installation and Maintenance Manual




## 1.0 IMPORTANT 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 in accordance with latest edition of the wiring regulations.
- 24V fan units must be installed in accordance with these instructions and IEE Wiring Regulations BS7671 for SELV installations.
- In order to avoid a hazard due to inadvertent resetting of the thermal cut-out, this appliance must not be supplied through an external switching device, such as a timer, or connected to a circuit that is regularly switched on and off by the utility.
- Industry best practice in the event of a fire is to cut power to the unit.
- 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.
- Isolate from power supply before removing any covers. During installation / maintenance ensure all covers are fitted before switching on the mains supply.
- 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.

### 1.1 HAZARD SYMBOLS



**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 Toe Capped Footwear** - 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 Nuaire CYFAN centrifugal extract fan is a major advancement and has been designed to meet the flow rates for all wet room applications such as the bathroom, kitchen, utility and WC etc.**

The unit discharges air through a 100mm or 125mm diameter spigot which for surface and semi-recessed mounted units exits at the rear of the unit. The subsidiary spigot kit allows the fan to extract air through the side of the fan via a 50mm diameter spigot.

The motor is 24V brushless DC. Bearings are sealed, self-lubricating ball type with integral locked rotor protection. Units are supplied with a separate transformer enclosure if fans are required for SELV usage.

### 2.1 CODE DESCRIPTION

| Code | Description |
|---|---|
| CYFAN | Domestic extract fan with pull cord |
| CYFAN-NPC | Domestic extract fan with no pull cord |

## 2.2 UNIT OPERATION INCLUDES 230V TO 24V CONVERSION, CONTINUOUS OR INTERMITTENT

The fan can be converted to operate as a 24V DC SELV for zone 1 and 2 applications. The fan has the option to select continuous or intermittent operation up to an installed performance of 60 l/s.

## 2.3 MOUNTING OPTIONS

The CYFAN range can be:

- **Surface Mounted**
- **Semi-Recessed Mounted:** Using the optional extra Semi-Recessed mounting frame kit suitable for 100mm and 125mm diameter duct, consists of mounting plate and mounting flange.
- **Window Mounted:** Using the optional kit.
- **Surface Mounted With Side Spigot:** Using the optional kit (see section 2.4 for part numbers).

## 2.4 CYFAN ANCILLARIES

- **Wall Mounting Kit**

| Code | Colour |
|---|---|
| CYFAN-WALLKIT-WH | White |
| CYFAN-WALLKIT-BR | Brown |
| CYFAN-WALLKIT-COT | Cotswold |
| CYFAN-WALLKIT-TC | Terracotta |

- **Optional window mounting kit** - Part number: CYFAN-WKIT
- **Optional spigot kit for ventilation of adjacent bathroom/ separate toilet** - Part number: CYFAN-DKIT
- **Semi-recessed mounting kit** - Part number: CYFAN-RKIT
- **Optional filter available** - Part number: CYFAN-FILTERKIT

## 2.5 BOX CONTENTS

The following components are included:

### 2.5.1 FAN BODY

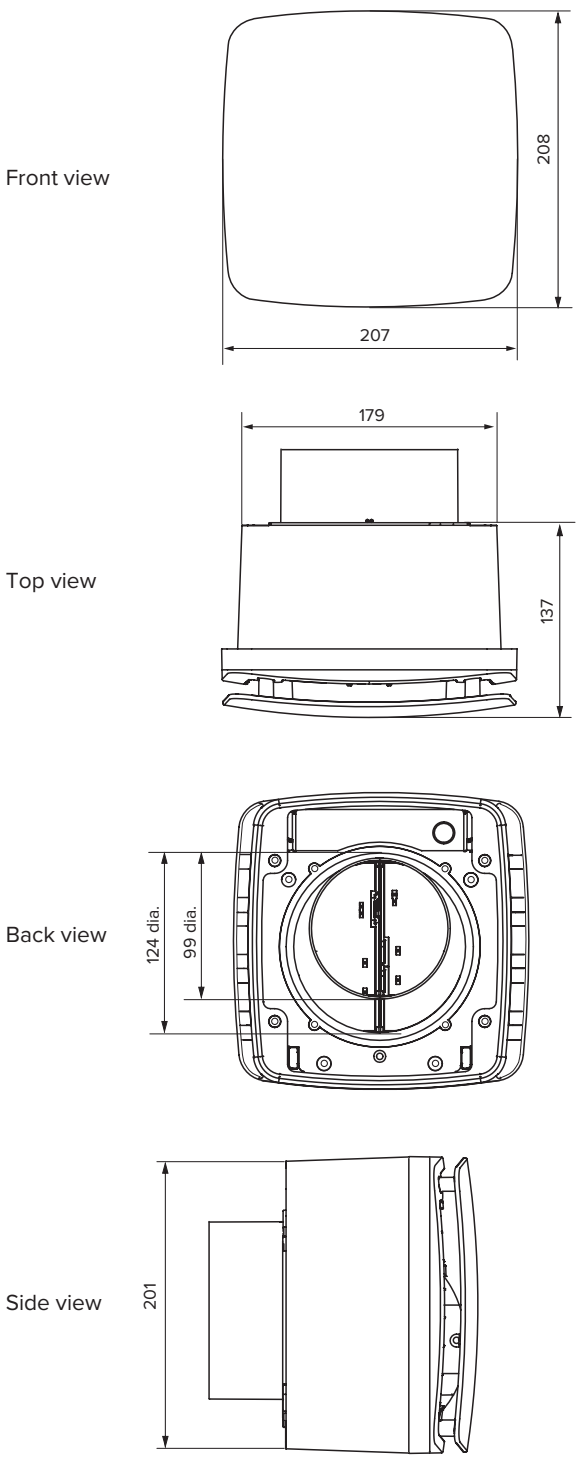
- Fan Scroll including Motor and Removable Impeller
- Control / PSU PCB, complete with Boost Pull Switch
- PCB Cover
- Front Grille
- Front Cover
- 100mm Spigot (fitted)
- Additional 125mm Ø Spigot
- 2x 100mm Back Draught Spigot
- 2x 125mm Back Draught Spigot
- 24V Transformer Enclosure
- 15mm deep mounting skirt

### 2.5.2 FIXING KIT

| Code | Description | Qty |
|---|---|---|
| 040397 | Cable Clamp | 3 |
| 040512 | Flanged Bush | 4 |
| 180083 | 6g x 1/2” Pan Head Screw | 6 |
| 180295 | 4.2mm x 13mm Self-Tapping Screw | 8 |
| 180317 | 6g x 3/4” Pan Head Screw | 4 |
| 580069 | Shutter Spring | 1 |
| 680212 | 8g x 3/8” Pan Head Screw | 2 |

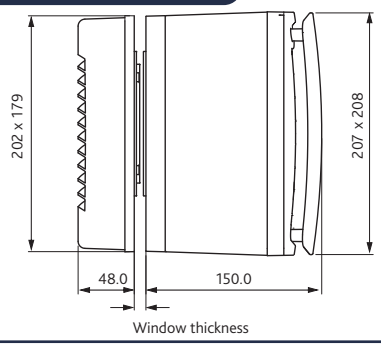
## 2.6 DIMENSIONS (mm)

**Fig 1:** Cyfan Dimensions




### 2.6.1 WINDOW KIT (OPTIONAL)

**Fig 2:** Window Kit Dimensions



## 3.0 INSTALLATION PREPARATION

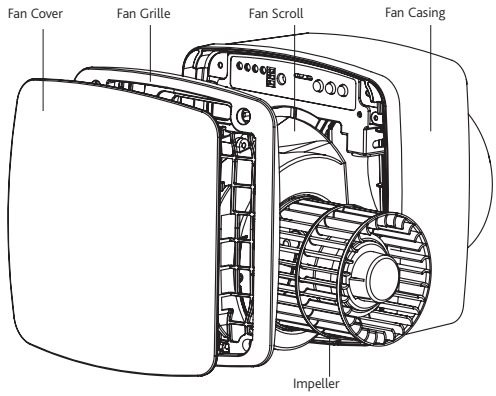
Before commencing any work read the following instructions carefully and ensure you have the necessary competency to complete the work safely.

The 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, HVCA, etc.

If the environment in which the product is installed also houses a fuel-operating device (water heater, methane stove etc., that is not a “sealed chamber” type), it is essential to ensure adequate air intake, to ensure good combustion and proper equipment operation.

Ensure adequate air return into the room in compliance with existing regulations in order to ensure proper device operation. Ensure the fans capability by checking the performance fan curve. Flexible ducting is not recommended.

**Fig 3:** Unit Exploded View

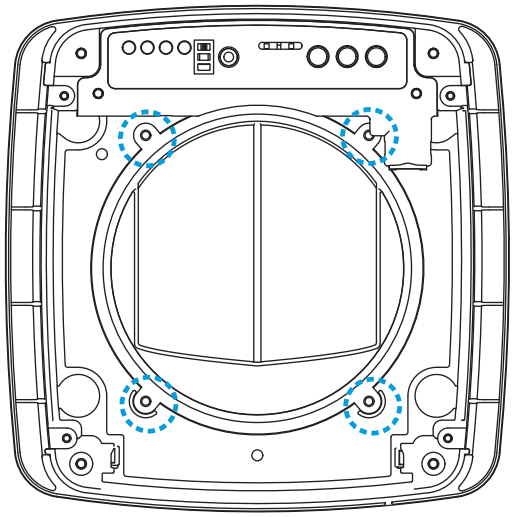



### 3.1 SPIGOT CHANGE

For kitchen installations it is recommended that the 125mm diameter spigot is fitted.

- Remove the front cover and grille.
- Remove fan scroll from fan casing (Do not disconnect wiring).
- Using a PH2 screw head driver remove 4 of No.8 x 1/4” screws.
- Remove spigot.
- Place the required spigot into position (Fig 4).
- Replace 4x No8 1⁄4” screws.
- Replace fan scroll on fan casing.
- Replace front cover and grille.

**Fig 4:** Spigot Change Screw Location



### 3.2 BACKDRAUGHT SHUTTER INSTALLATION

The CYFAN kit comes complete with back draught shutters for 100mm and 125mm spigots however these are not fitted as standard and **should not be used when using your CYFAN in continuous operation**.

It is also recommended that you should not fit back draught shutters if your intermittent operation duties are below 15 l/s and for installations other than directly through the wall application to avoid failure of the shutters opening.

Please follow these simple steps to fit your back draught shutters if required: **It is advised to fit the shutters before installing the fan unit.**

- Collect all required parts
- 125mm shutters (2 of 41285) or 100mm shutters (2 of 41286)
- Spring (Part of Fixing Kit 770173)

Fit one of the required diameter shutters with the part number facing in, by placing the bottom pin into the bottom hole, slightly deflect the shutter and then fit the top pin into the top hole. Repeat this process for the other shutter.

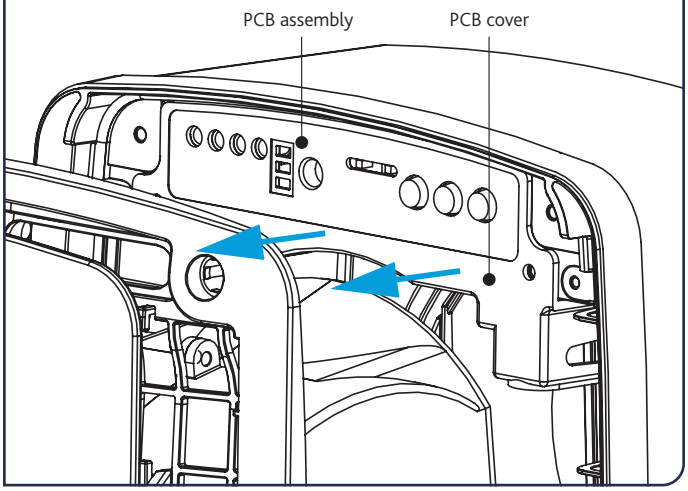
**Fig 5:** Backdraught Shutter Spring Installation



### 3.3 CONVERSION FROM 230V TO 24V

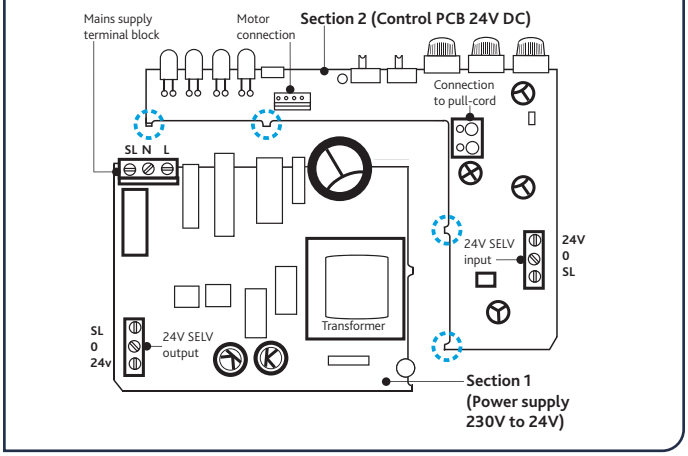
- Unpack the fan unit, components and transformer. Ensure that all parts listed on page 1 are present. If not please contact the manufacturer for replacement / missing parts.
- Place the front cover and inlet grille to one side.
- Remove the PCB cover by removing 2 off No.6 x 1/2" screws.
- Partially remove the PCB assembly from the fan casing by placing a fingertip behind the switches and pulling the PCB away from the fan casing (Fig 6).

**Fig 6:** PCB Cover Removal



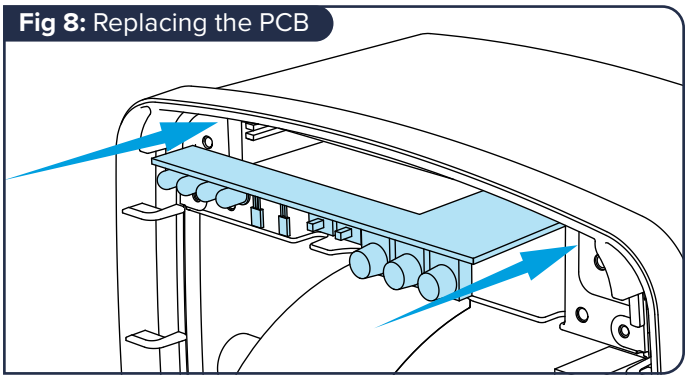

- Separate section 2 of the PCB from section 1 by cutting the tabs in the positions shown (Fig 7).

**Fig 7:** Separated PCB Sections




- Replace section 2 of the PCB into the fan unit (Fig 8).

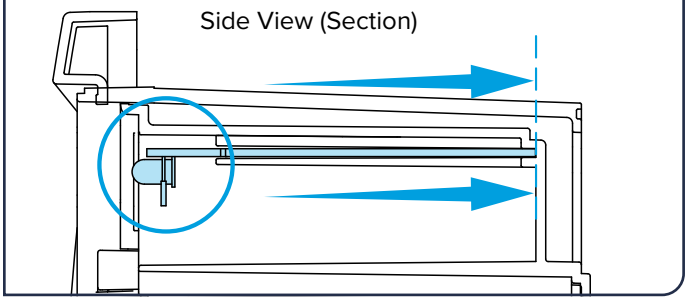
**Fig 8:** Replacing the PCB



**IMPORTANT**

**Make sure the PCB is seated fully back inside its housing so as not to damage the components on it when the PCB cover is replaced. See Fig 9.**

**Fig 9:** Fully Seating the PCB Back Inside the Housing




### 3.4 TRANSFORMER ENCLOSURE (24 VOLT UNITS ONLY)

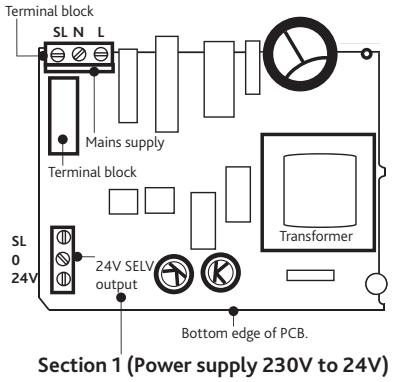
**24V fan units must be installed in accordance with these instructions and IEE Wiring Regulations BS7671 for SELV installations.**

The enclosure containing the transformer is intended to be mounted out of sight (e.g. loft or cupboard) but should remain accessible for possible replacement. It should not be mounted in areas of excessive ambient temperature (e.g. airing cupboard).

However, if this is not possible the transformer enclosure should be mounted as close to the ceiling, or as far from the "splash zone" as possible (see below for definition of the splash zone).

As can be seen from the table of wiring sizes, it is advisable to place the enclosure as close to the fan as possible to reduce the costs of wiring and assist in installation.

**Fig 10:** 24V PCB Section Installed in Transformer Enclosure Following 24V Wiring Completion




#### 3.4.1 SPLASH ZONE

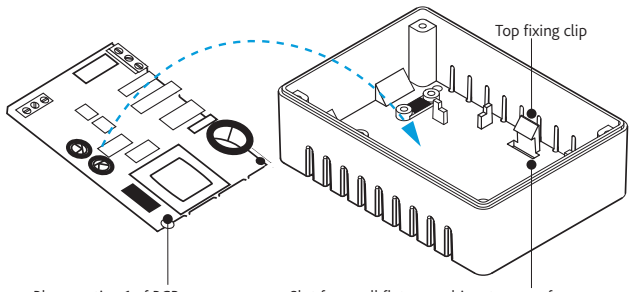
The 'Splash Zone' can be considered to be an area within a bathroom or shower room where a person using the bath or shower can effectively reach.

An arm's reach is defined as 0.6 metres from the edge of the bath or shower up to a height of 2.25 metres.

- Installing the Transformer
- Remove the transformer cover.
- Position the transformer base enclosure on mounting surface and route cables through knock outs. Mark the fixing points on the mounting surface. Secure using suitable fixings (by others).

- Before fitting section 1 of the PCB into the transformer enclosure connect wiring as shown in section 4.0 on page 5. Fit section 1 of the PCB by first slotting the bottom edge (Fig 11) into the fixing clip inside the base of the transformer enclosure then press on the transformer and terminal block until the PCB clicks into place. Complete by replacing the transformer cover using the screws provided. **Keep vents clear of obstruction**.
- Complete the installation of components by securing the PCB cover on the fan. **No earth is to be connected between transformer and fan.**

**Fig 11:** Installing Section 2 of PCB into Transformer Enclosure




### 3.4.2 WIRE SIZES FOR TRANSFORMER INSTALLATION

It is important to note that the size of wire used between the transformer and the fan unit can have an adverse effect on the units' performance if the following table is not adhered to.

**To avoid cable insulation contact with hot transformer, always use the knock out at PCB end.**

| Cable Type | Cable Size |
|---|---|
| Mains Supply - 230V | 0.5mm² |
| Transformer to Fan Cable Runs (max. 10m ) - 24V Units Only | |
| Up to 2m | 0.75mm² |
| Up to 4m | 1.0mm² |
| Up to 6m | 1.5mm² |
| Up to 10m | 2.5mm² |

## 4.0 ELECTRICAL INSTALLATION

Disconnection from the supply mains must be incorporated within the fixed wiring in accordance with the wiring regulations and shall have a minimum contact separation of 3mm in accordance with the latest edition of the IEE Wiring Regulations.

**Before commencing work, ensure the unit, switched live and any controls are electrically isolated from the electric supply.**

### 4.1 WIRING DIAGRAMS - 24V

**Fig 12:** Wiring - 24V SELV via Remote Switch

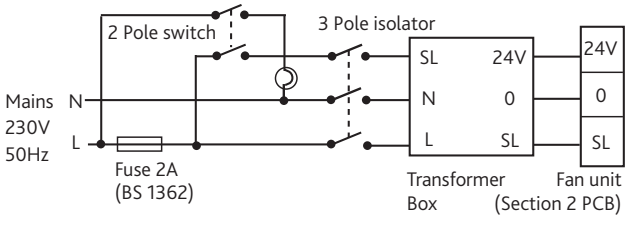
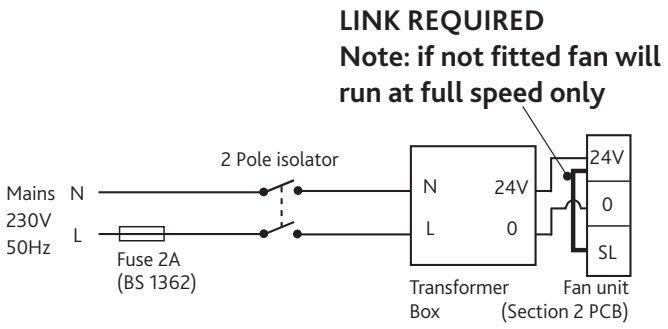



**Fig 13:** Wiring - 24V SELV via Pull Cord (CYFAN only)




### 4.2 WIRING DIAGRAMS - 230V

**Fig 14:** Wiring - 230V via Remote Switch

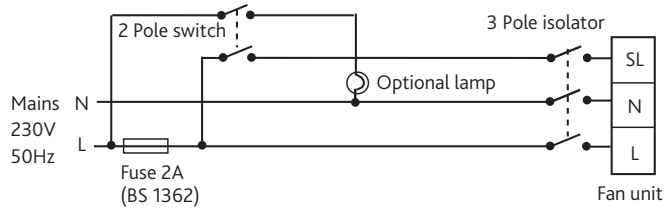
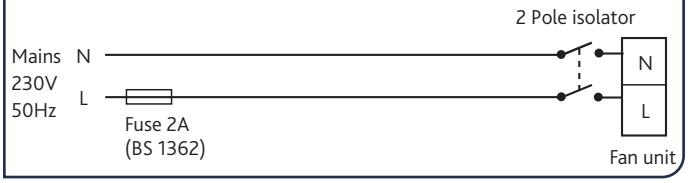



**Fig 15:** Wiring - 230V via Pull Cord (CYFAN only)




### 4.3 WIRING DIAGRAMS - 230V TWO ROOMS VIA SIDE SPIGOT

**Fig 16:** Wiring - 230V Two Rooms via Remote Switches

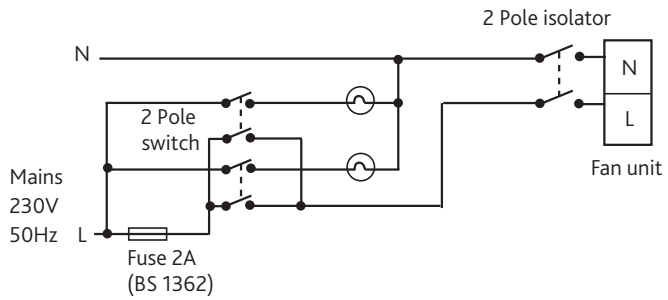
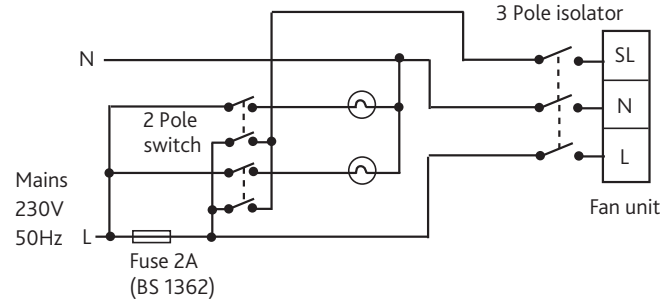



**Fig 17:** Wiring - 230V Two Rooms via Pull Cords (CYFAN only)



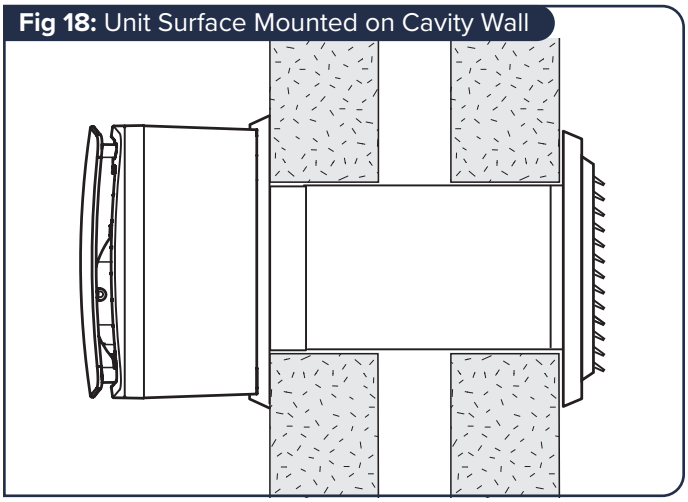
# 5.0 MECHANICAL INSTALLATION

## 5.1 SURFACE MOUNTED INSTALLATION

### 5.1.1 FAN INSTALLATION

Installation must be completed by qualified personnel. A solid non reverberant mounting position must be selected and passages for ductwork from the outlet spigot, as well as electrical connection prepared. Compatible ductwork should have already been installed.

**Fig 18:** Unit Surface Mounted on Cavity Wall



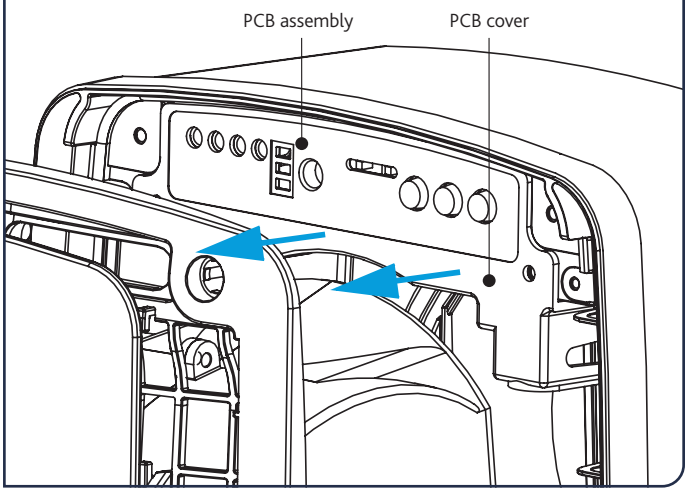
### 5.1.2 REQUIRED TOOLS

- Drill
- PH2 Screwdriver
- Terminal Screwdriver
- Tape Measure
- 100 / 125mm diameter core cutter

### 5.1.3 SURFACE MOUNTED FAN INSTALLATION PROCEDURE

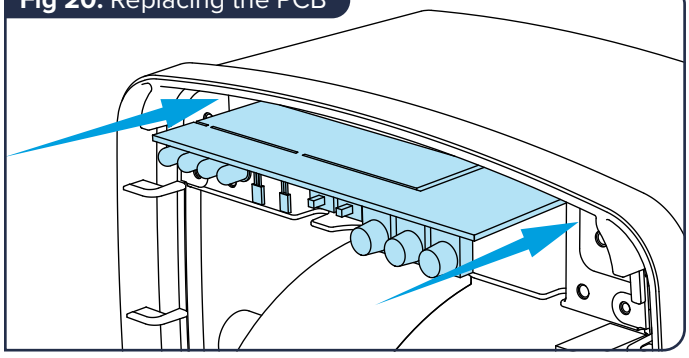
- Unpack the fan unit and other components, and ensure that all parts listed in section 2.5 on page 2. If not please contact the manufacturer for replacement / missing parts.
- Place the front cover and inlet grille to one side.
- Remove the PCB cover by removing 2 off No.6 x 1/2" screws (Fig 19).

**Fig 19:** PCB Cover Removal




- Partially remove the PCB assembly from the fan casing by placing a fingertip behind the switches and pulling the PCB away from the fan casing (Fig 19).
- Disconnect and remove the fan scroll from assembly and completely remove the PCB assembly. **If the pull cord is not required (CYFAN only), remove it completely.**
- Using the template in section 7.0 on page 13, mark out the position of the spigot hole (depending on spigot size chosen) and the four mounting holes.
- Core cut centre and drill and plug mounting holes.
- Choose one of the four cable entries on the fan skirt for the supply wiring and carefully trim out or alternatively feed cable through hole in wall.
- Secure skirt to wall (fixings supplied by others). Note: use round head screws, not countersink screws, to avoid distorting the skirt.
- Feed cable through the back of the fan casing (as per Fig 31) and wire cable into mains supply terminal block on the PCB (as per Fig 7).
- Replace PCB into fan casing and secure cable into place using cable clamps and screws provided in the CYFAN fixing kit.
- Secure unit to skirt using 4 off No.6 x 1/2" screws provided.
- Replace fan scroll assembly and plug motor into PCB, replace PCB fully into position by pushing the switches (Fig 20).

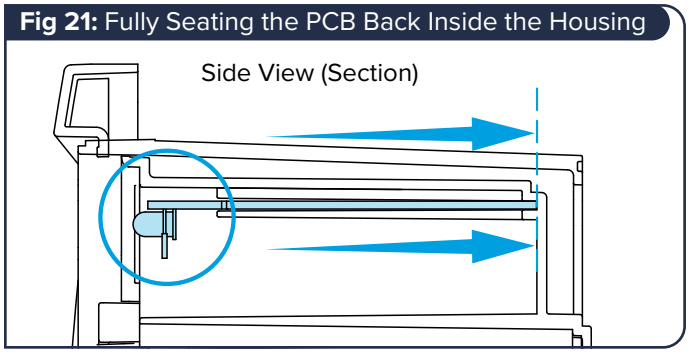
**Fig 20:** Replacing the PCB



**IMPORTANT**

**Make sure the PCB is seated fully back inside its housing so as not to damage the components on it when the PCB cover is replaced (Fig 21).**

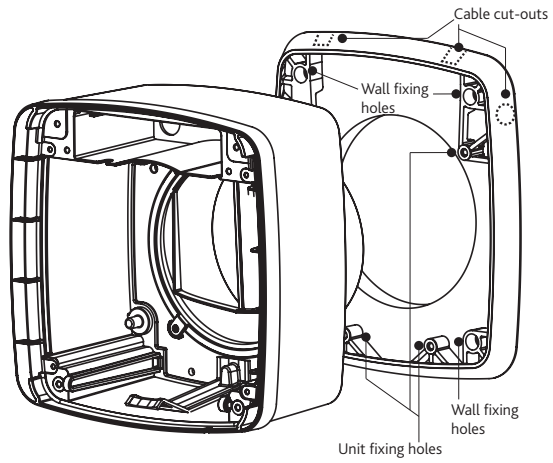
**Fig 21:** Fully Seating the PCB Back Inside the Housing




- Replace PCB cover by fitting with 2 off No.6 x 1/2" screws.
- Fit front inlet grille using 4 off No.6 x 3/4" screws found in the fixing kit.

  **Note: The fan will not run if the grille is not fitted.**
- Once the grille has been re-installed, remove the silicone cover to access the potentiometers (Fig 27). Once required settings are complete and the desired airflow is achieved replace silicone cover.
- Complete the fan installation by fitting (push fit) the front cover.

**Fig 22:** Unit Installation Using Fan Mounting Skirt




## 5.2 SURFACE MOUNTED INSTALLATION

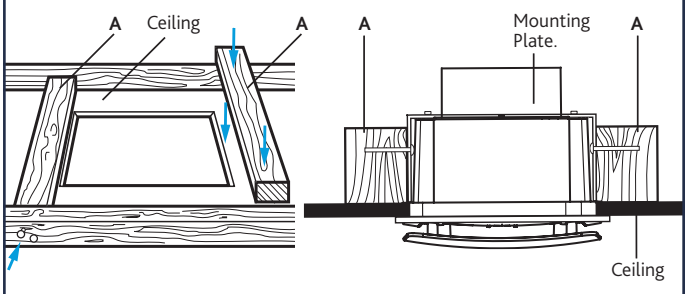
### 5.2.1 FAN INSTALLATION

Installation must be completed by qualified personnel. A solid non reverberant mounting position must be selected and passages for ductwork from the outlet spigot, as well as electrical connection prepared. Compatible ductwork should have already been installed.

### 5.2.2 REQUIRED TOOLS

- Drill
- PH2 Screwdriver
- Terminal Screwdriver
- Tape Measure
- 100 / 125mm diameter core cutter

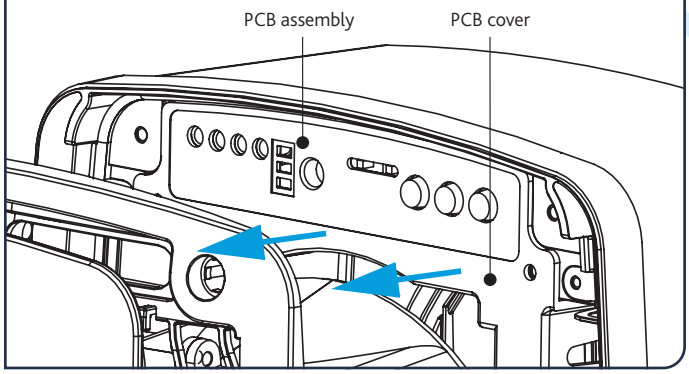
**Fig 23:** Semi-Recessed Ceilinmg Mounted Unit




### 5.2.3 SEMI-RECESSED FAN INSTALLATION PROCEDURE

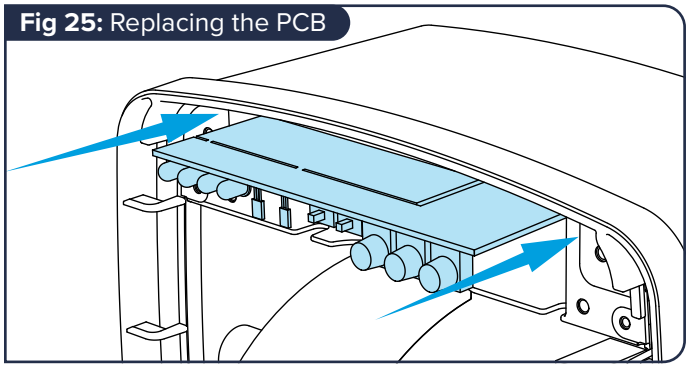
- Unpack the fan unit and other components, and ensure that all parts listed in section 2.5 on page 2. If not please contact the manufacturer for replacement / missing parts.
- Place the front cover and inlet grille to one side.
- Remove the PCB cover by removing 2 off No.6 x 1/2" screws (Fig 24).
- Partially remove the PCB assembly from the fan casing by placing a fingertip behind the switches and pulling the PCB away from the fan casing.
- Disconnect and remove the fan scroll from assembly and completely remove the PCB assembly. **If the pull cord is not required (CYFAN only), remove it completely.**
- Using the template on page 13, mark out the position of the spigot hole (depending on spigot size chosen) and the four mounting holes.

**Fig 24:** PCB Cover Removal




- For ceiling mounting using the Semi-Recessed mounting kit. First cut an aperture for the fan in the ceiling, cut and fit (A) timber supports (not supplied) and fit fan as shown. **Remove the shutters from the spigot if you are mounting CYFAN in the ceiling. Pull-cord must be removed.**
- Core cut centre and drill and plug mounting holes.
- Choose one of the four cable entries on the fan skirt for the supply wiring and carefully trim out or alternatively feed cable through hole in wall.
- Secure skirt to wall (fixings supplied by others). Note: use round head screws, not countersink screws, to avoid distorting the skirt.
- Feed cable through the back of the fan casing (as per Fig 31) and wire cable into the mains supply terminal block on the PCB (as per Fig 7).
- Replace PCB into fan casing and secure cable into place using cable clamps and screws provided in the CYFAN fixing kit.
- Secure unit to skirt using 4 off No.6 x 1/2" screws provided.
- Replace fan scroll assembly and plug motor into PCB, replace PCB fully into position by pushing the switches (Fig 25).

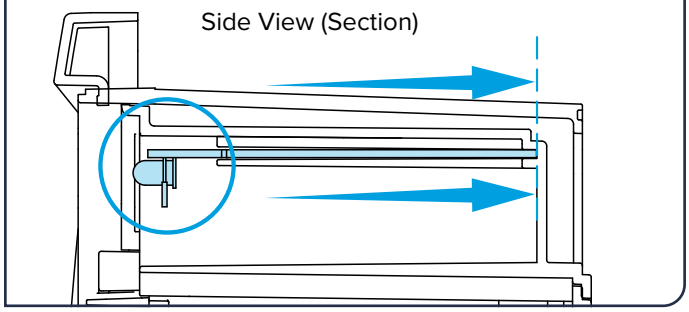
**Fig 25:** Replacing the PCB



**IMPORTANT**

**Make sure the PCB is seated fully back inside its housing so as not to damage the components on it when the PCB cover is replaced (Fig 26).**

**Fig 26:** Fully Seating the PCB Back Inside the Housing

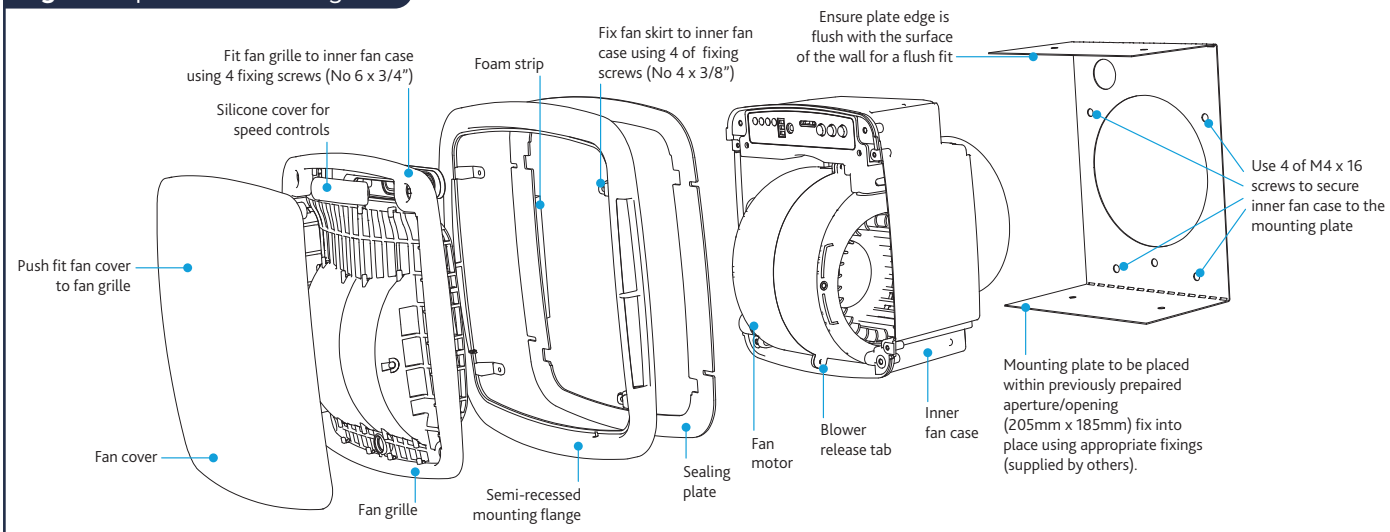


- Replace PCB cover by fitting with 2 off No.6 x 1/2” screws.
- Fit front inlet grille using 4 off No.6 x 3/4” screws found in the fixing kit.

  **Note: The fan will not run if the grille is not fitted.**

- Once the grille has been re-installed, remove the silicone cover to access the potentiometers (Fig 27). Once required settings are complete and the desired airflow is achieved replace silicone cover.
- Complete the fan installation by fitting (push fit) the front cover.

**Fig 27:** Exploded View Diagram




## 5.3 WINDOW MOUNTED INSTALLATION

### 5.3.1 FAN INSTALLATION

**Window mounting requires the optional mounting kit, Part number: CYFAN-WKIT.**

Installation must be completed by qualified personnel.

### 5.3.2 REQUIRED TOOLS

- Drill
- PH2 Screwdriver
- Terminal Screwdriver
- Tape Measure

### 5.3.3 CYFAN WKIT PARTS CHECKLIST

| Code | Description | Quantity |
|---|---|---|
| 041351 | Window Cover | 1 |
| 041350 | Outside Clamp | 1 |
| 041349 | Inner Clamp | 1 |
| 041286 | Backdraught Shutter | 2 |
| 772285 | Screw Kit Containing Shutter Spring | 1 |

### 5.3.4 SCREW KIT PARTS CHECKLIST (772285)

| Code | Description | Quantity |
|---|---|---|
| 691646 | No.8 x 1” CSK HD Supascrew | 2 |
| 680193 | No.8 x 1-1/2” CSK HD Supascrew | 4 |
| 691647 | No.8 x 1-3/4” CSK HD Supascrew | 4 |
| 691648 | No.8 x 2-1/4” CSK HD Supascrew | 2 |
| 180394 | No.8 x 3/4” Panhead Pozi (Main Case to Inner Clamp) | 3 |
| 580069 | Spring | 1 |

### 5.3.5 WINDOW KIT INSTALLATION PROCEDURE

The window kit is designed for mounting the unit into windows 4mm to 34mm thick using a 125mm diameter hole in the glass (Fig 32).

- Employ a qualified glazier to cut a hole 125mm diameter in the glass or, alternatively, replace your window with new glass incorporating a pre-cut hole.
- Back draught Shutters (Fig 34) are clipped into Inner clamp and the spring is fitted in the lower position).
- Position the assembly on the outside of the glass. If only one person is installing the fan it may be helpful to tape the assembly to the outside glass at this stage during installation as all fixings and assembly are completed from inside.
- Working from inside the room with the clamp. Position this inner clamp over the hole in the glass and line up the 4 mounting holes.
- Select appropriate screws from the screws kit supplied for mounting into different thickness’s of glass, see section 5.3.7. Should the screws foul on the back of the grille during installation, replace with the next size down. There are 2 long and 2 short screws for each thickness of glass with the shorter screws located at the top.
- Using four screws locate the screw bosses in the outer assembly and draw the inner and outer assemblies together. Remove any tape supporting the outer assembly and continue to draw the units together until the silicone seal is compressed against the window. **Do not over tighten the fixing screws as this may distort the assembly.**
- Wire unit in accordance with the appropriate wiring diagram. A cable clamp is provided inside the case. **The remaining installation procedures for Window Mounting are as the description in section 5.3.6 on page 9.**

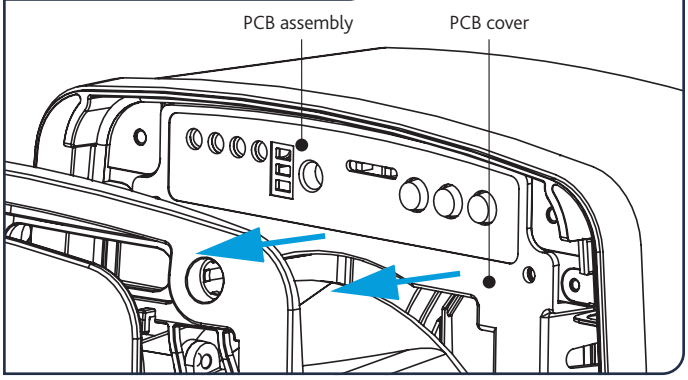
### 5.3.6 WINDOW FAN INSTALLATION PROCEDURE

**IMPORTANT**

**Ensure Power Supply is Isolated**

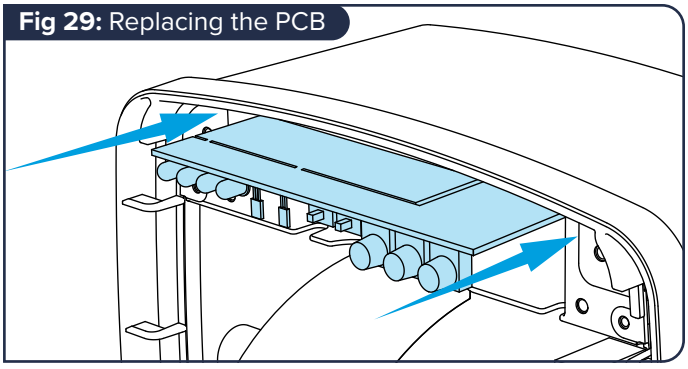
- Unpack the fan unit and window kit components, and ensure that all parts listed are present (see sections 2.5 on page 2 & 5.3.6 on page 9). If not please contact the manufacturer for replacement / missing parts.
- Place the front cover and inlet grille to one side.
- Remove the PCB cover by removing 2 off No.6 x 1/2" screws.

**Fig 28:** PCB Cover Removal




- Partially remove the PCB assembly from the fan casing by placing a fingertip behind the switches and pulling the PCB away from the fan casing.
- Disconnect and remove the fan scroll from assembly and completely remove the PCB assembly. Note: if the pull cord is not required (CYFAN only), remove it completely. Remove rear spigot and motor clip from the CYFAN body (Theses are not required for the CYFAN-WKIT).
- Feed wiring flex through the back of the fan casing and secure into place using cable clamps and screws provided in the CYFAN fixing kit.
- Secure the case to the window kit using three pan head screws provided (Fig 33). Note: care must be taken not to twist or distort the case whilst fitting.
- Partially replace PCB into the fan casing and wire flex into the terminal block.
- Replace fan scroll assembly and plug motor into PCB, replace PCB fully into position by pushing the switches.

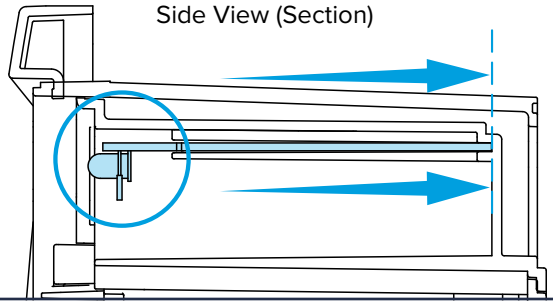
**Fig 29:** Replacing the PCB



**IMPORTANT**

**Make sure the PCB is seated fully back inside its housing so as not to damage the components on it when the PCB cover is replaced (Fig 30).**

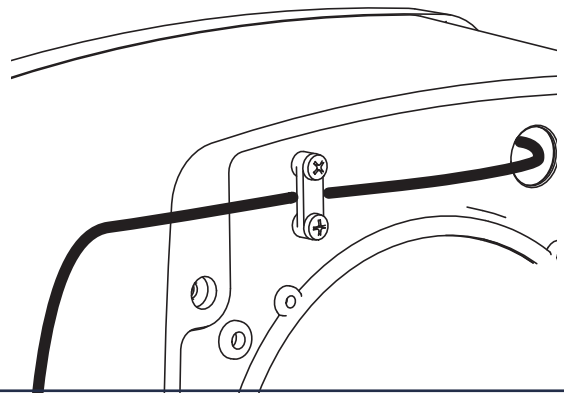
**Fig 30:** Fully Seating the PCB Back Inside the Housing




- Replace PCB cover by fitting with 2 off No.6 x 1/2" screws.
- Fit front inlet grille using 4 off No.6 x 3/4" screws found in the fixing kit.

  **Note: The fan will not run if the grille is not fitted.**
- Once the grille has been re-installed, remove the silicone cover to access the potentiometers (Fig 27). Once required settings are complete and the desired airflow is achieved replace silicone cover.
- Complete the fan installation by fitting (push fit) the front cover.

**Fig 31:** Rear Cable Clamp



### 5.3.7 WINDOW MOUNTING SCREWS

| Window Thickness | Screw Size | Quantity |
|---|---|---|
| 4mm - 11mm | No.8 x 1" CSK HD | 2 |
| | No.8 x 1-1/2" CSK HD | 2 |
| 12mm - 21mm | No.8 x 1-1/2" CSK HD | 2 |
| | No.8 x 1-3/4" CSK HD | 2 |
| 22mm - 34mm | No.8 x 1-3/4" CSK HD | 2 |
| | No.8 x 2-1/4" CSK HD | 2 |

**Fig 32:** Ø125mm Hole in Glass

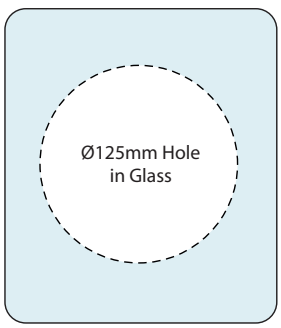


**Fig 33:** Window Mounted (4-34mm Thick) Using Optional Window Mounting Kit with 125mm Diameter Hole in Glass

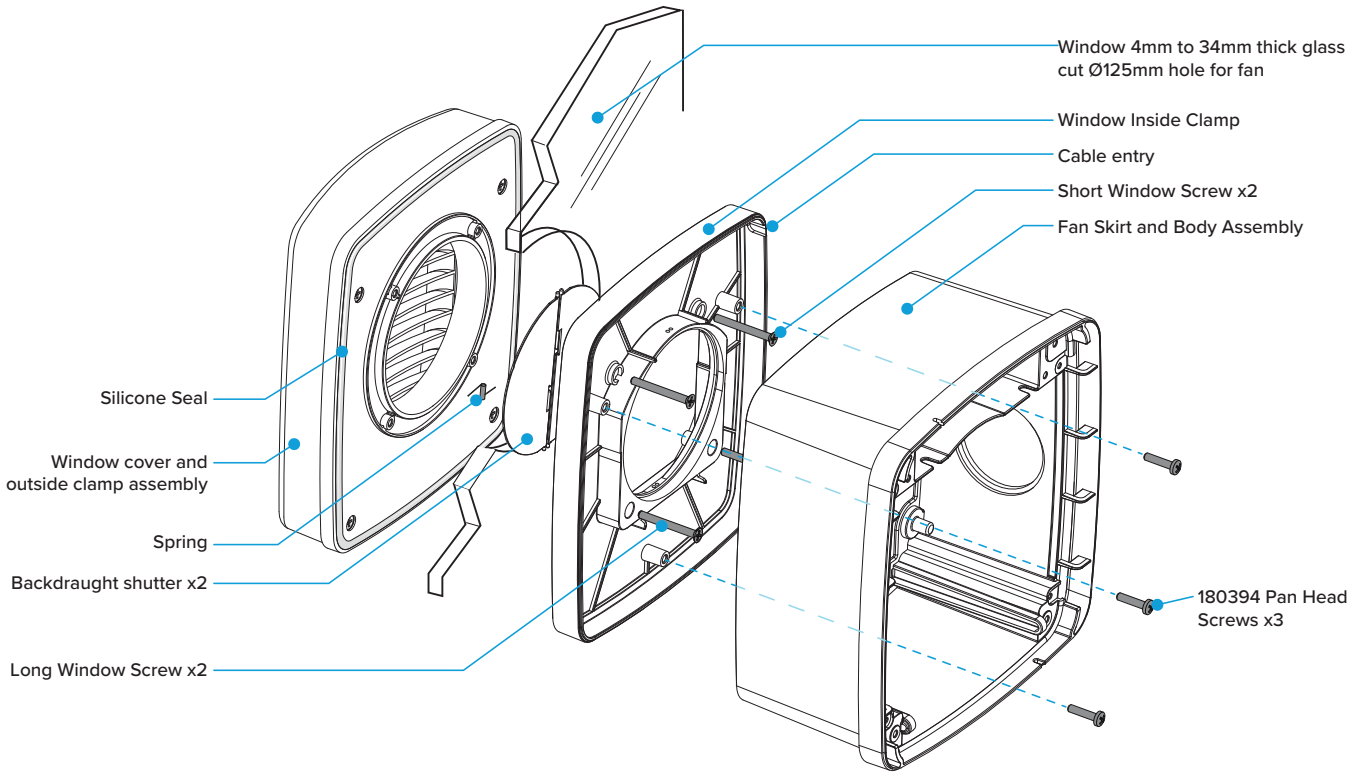



**Fig 34:** Spring Assembly

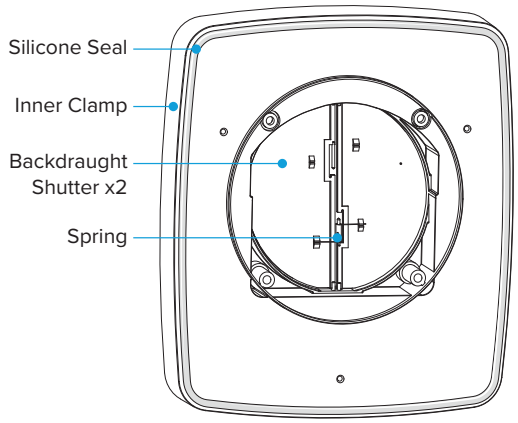
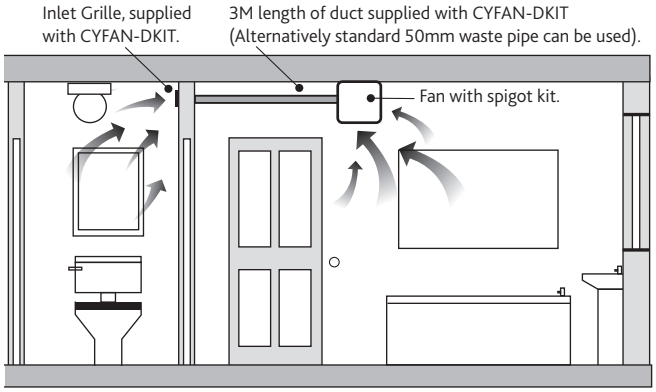



**Fig 35:** Typical Installation Example of Fan Unit with Ancillary Spigot Kit in Bathroom and Adjacent Toilet




## 5.4 SURFACE MOUNTED WITH SIDE SPIGOT INSTALLATION

**CYFAN-DKIT is recommended for Intermittent Extract Only.**

### 5.4.1 FAN INSTALLATION

**Surface mounting with side spigot requires the optional mounting kit, part number: CYFAN-DKIT.**

Installation must be completed by qualified personnel. A solid non reverberant mounting position must be selected and passages for ductwork from the outlet spigot, as well as electrical connection prepared. Compatible ductwork should have already been installed.

### 5.4.2 REQUIRED TOOLS

- Drill
- PH2 Screwdriver
- Terminal Screwdriver
- Tape Measure

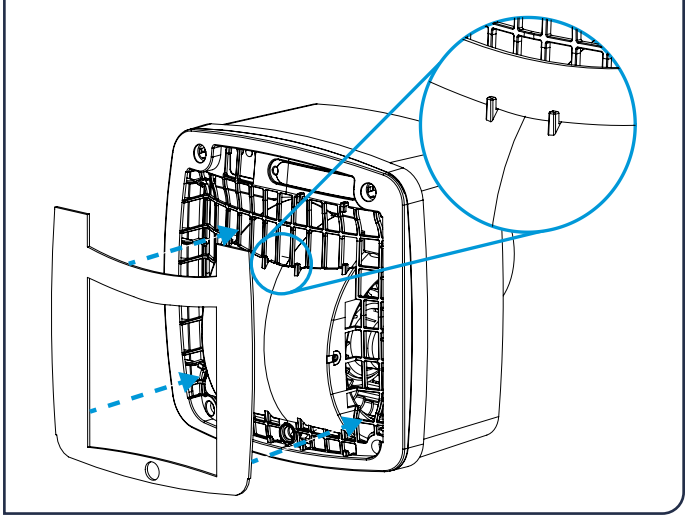
### 5.4.3 SPIGOT KIT CONTENTS

- Replacement Outer Fan Skirt with 50mm diameter hole in one side
- Replacement Fan Body with 55mm diameter hole in each side
- 50mm diameter Spigot
- 3M of 50mm Duct
- Inlet Grille with Filter
- Reduction Filter

### 5.4.4 INSTALLATION PROCEDURE

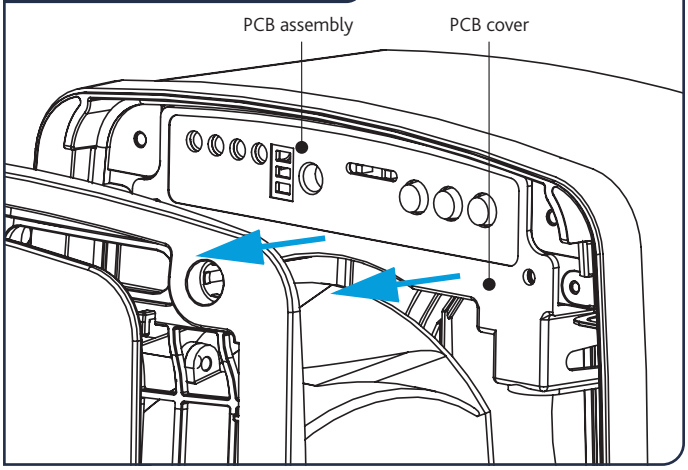
- Unpack the fan unit and components, and the subsidiary spigot kit. Ensure that all parts are present. If not please contact the manufacturer for replacement / missing parts.
- Place the front cover to one side.
- Place the reduction filter over the grille. Secure the filter by pressing the filter under the lugs located around the grille (Fig 36).

**Fig 36:** Reduction Filter Insert and Retaining Lugs



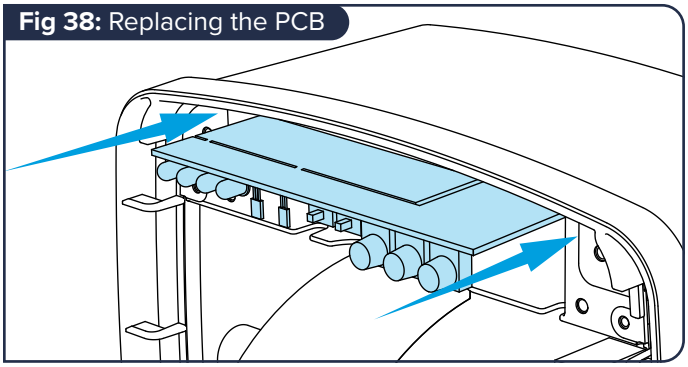
- Remove the PCB cover by removing 2 off No.6 x 1/2" screws.
- Partially remove the PCB assembly from the fan casing by placing a fingertip behind the switches and pulling the PCB away from the fan casing (Fig 37).

**Fig 37:** PCB Cover Removal




- Disconnect and remove the fan scroll from assembly and completely remove the PCB assembly. **If the pull cord is not required (CYFAN only), remove it completely.**
- If using surface mounted wiring the 15mm fan skirt must be used, as shown in Fig 22.
- Core cut a hole through mounting surface at desired mounting position to suit the size of the discharge spigot required, 100mm or 125mm diameter.
- Place the fan casing in the mounting position (spigot placed into core cut hole) and use the base as a template to mark the mounting screw hole positions (x4). Remove casing once marks are made.
- Drill and plug (if necessary) the mounting surface.
- Feed wiring flex through the back of the fan casing and secure into place using cable clamps and screws provided in the CYFAN fixing kit.
- Secure the case to the surface (fixings supplied by others). **Care must be taken not to twist or distort the case whilst fitting.**
- Partially replace PCB into the new fan casing and wire flex into the terminal block.
- Whilst utilising the fan skirt, use the template in section 7.0 on page 13) to mark out the position of the spigot hole (depending on spigot size chosen) and the four mounting holes.
- Core cut centre and drill and plug mounting holes.
- Choose one of the four cable entries and carefully trim out.
- Secure skirt to wall (fixings supplied by others). Use round head screws, not countersink screws, to avoid distorting the skirt.
- Feed cable through skirt and offer up fan case to skirt. Feed cable through unit and secure unit to skirt using 4x No.6 x 1/2" screws provided.
- Replace fan scroll assembly and plug motor into PCB, replace PCB fully into position by pushing the switches (Fig 38).

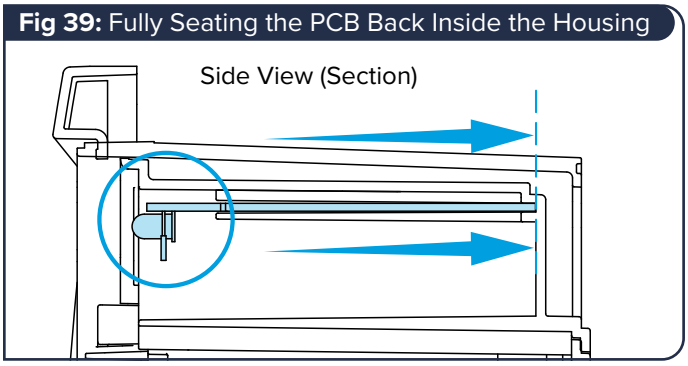
**Fig 38:** Replacing the PCB



**IMPORTANT**

**Make sure the PCB is seated fully back inside its housing so as not to damage the components on it when the PCB cover is replaced (Fig 39).**

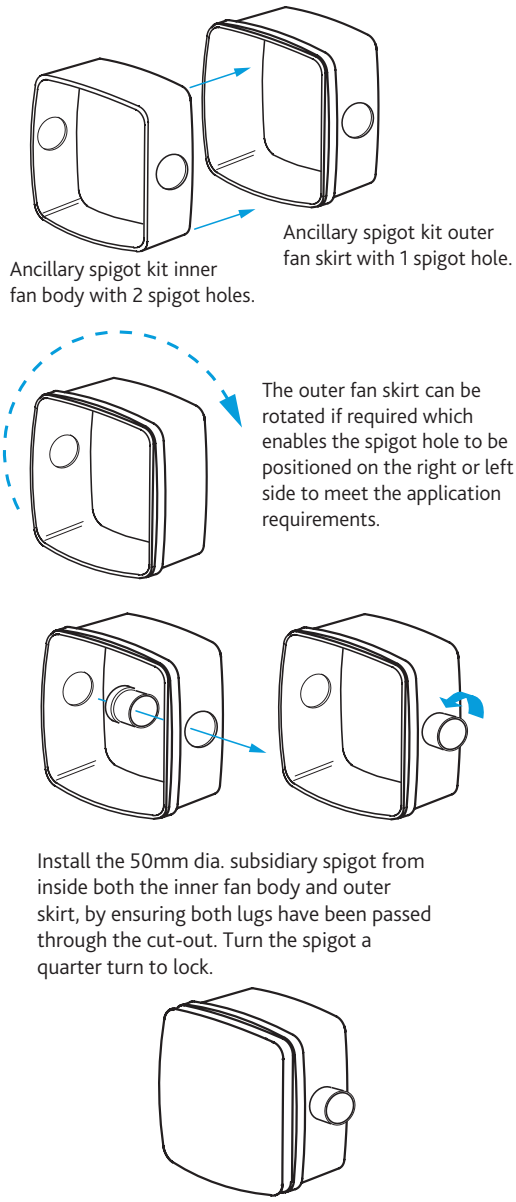
**Fig 39:** Fully Seating the PCB Back Inside the Housing




- Replace PCB cover by fitting with 2 off No.6 x 1/2" screws.
- Fit front inlet grille with reduction filter fitted using 4 off No.6 x 3/4" screws found in the fixing kit.

  **Note: The fan will not run if the grille is not fitted.**
- Once the grille has been re-installed, remove the silicone cover to access the potentiometers (Fig 27). Once required settings are complete and the desired airflow is achieved replace v.
- Complete the fan installation by fitting (push fit) the front cover.

**Fig 40:** Example of Spigot Kit (Code: CYFAN-DKIT), 50mm Grille available (Code: 50IG)




### 5.4.5 SETTING THE FAN FOR INTERMITTENT USE

The unit should be configured for intermittent use. To achieve 17L/s through the CYFAN front grille, and 6L/s through the subsidiary spigot the boost speed control should be set approximately to the 11 O'clock position.

## 6.0 OPERATION

**The grille of this unit contains a small magnet, used to confirm the grille is in position prior to the unit operating. If the grille is not fitted or the magnet is missing the unit will not operate.**

### 6.1 DEFAULT SETTINGS

As default Cyfan units are set as follows:

- **Intermittent setting** – Fan will only operate from pull-cord or switched live to boost flow rate.
- **Continuous running (background ventilation)** – OFF
- **Humidity sensing** – OFF
- **Air flow rate (boost)** – 15 l/s
- **Run-on timer (from switched live only)** – 1 minute

### 6.2 VENTILATION FLOW RATES

| Table 1 - From ADF 2010 (England & Wales) Extract Ventilation Rates | | |
|---|---|---|
| **Room** | **Minimum High Rate** | **Minimum Low Rate** |
| Kitchen | 13 l/s | Total extract rate should be at least the whole dwelling ventilation rate given in table 2. |
| Utility Room | 8 l/s | |
| Bathroom | 8 l/s | |
| Sanitary Accommodation | 6 l/s | |

| Table 2 - Whole Dwelling Ventilation Rates | | | | | |
|---|---|---|---|---|---|
| | **Number of Bedrooms in Dwelling** | | | | |
| | **1** | **2** | **3** | **4** | **5** |
| Whole Dwelling Ventilation Rate (l/s) | 19 | 25 | 31 | 37 | 43 |

1. In addition, the minimum ventilation rate should be no less than 0.3l/s per $m^2$ of internal floor area. (This includes all floors, e.g. for a two-story building add the ground and first floor areas).
2. If the dwelling only has one habitable room, a minimum ventilation rate of 13l/s should be used.
3. For each additional bedroom add 6 l/s to the values in table 2.

### 6.3 CONTINUOUS / INTERMITTENT SWITCH

**Continuous** – Fan running to provide background ventilation. The amount of airflow can be set between 6 to 30 l/s. Operating the pull cord (CYFAN only) or remote switch will boost the fan to the adjustable set point available between 8 to 60l/s.

**Intermittent** – Fan does not operate continuously but only when the pull cord (CYFAN only) or remote switch is activated. The amount of airflow is adjustable from 8 to 60 l/s.

### 6.4 HUMIDITY TRACKER SWITCH

The default setting is off. Switching to 'ON' will enable the unit to sense the humidity in the room. The fan will switch itself on when the humidity rises above 60% and will slowly speed up as the humidity rises, as per the example table below.

| Relative Humidity | Intermittent Boost Set at 60 l/s | Intermittent Boost Set at 30 k/s |
|---|---|---|
| 60% | 20 l/s | 10 l/s |
| 70% | 30 l/s | 15 l/s |
| 80% | 40 l/s | 20 l/s |
| 90% | 50 l/s | 25 l/s |
| 100% | 60 l/s | 30 l/s |

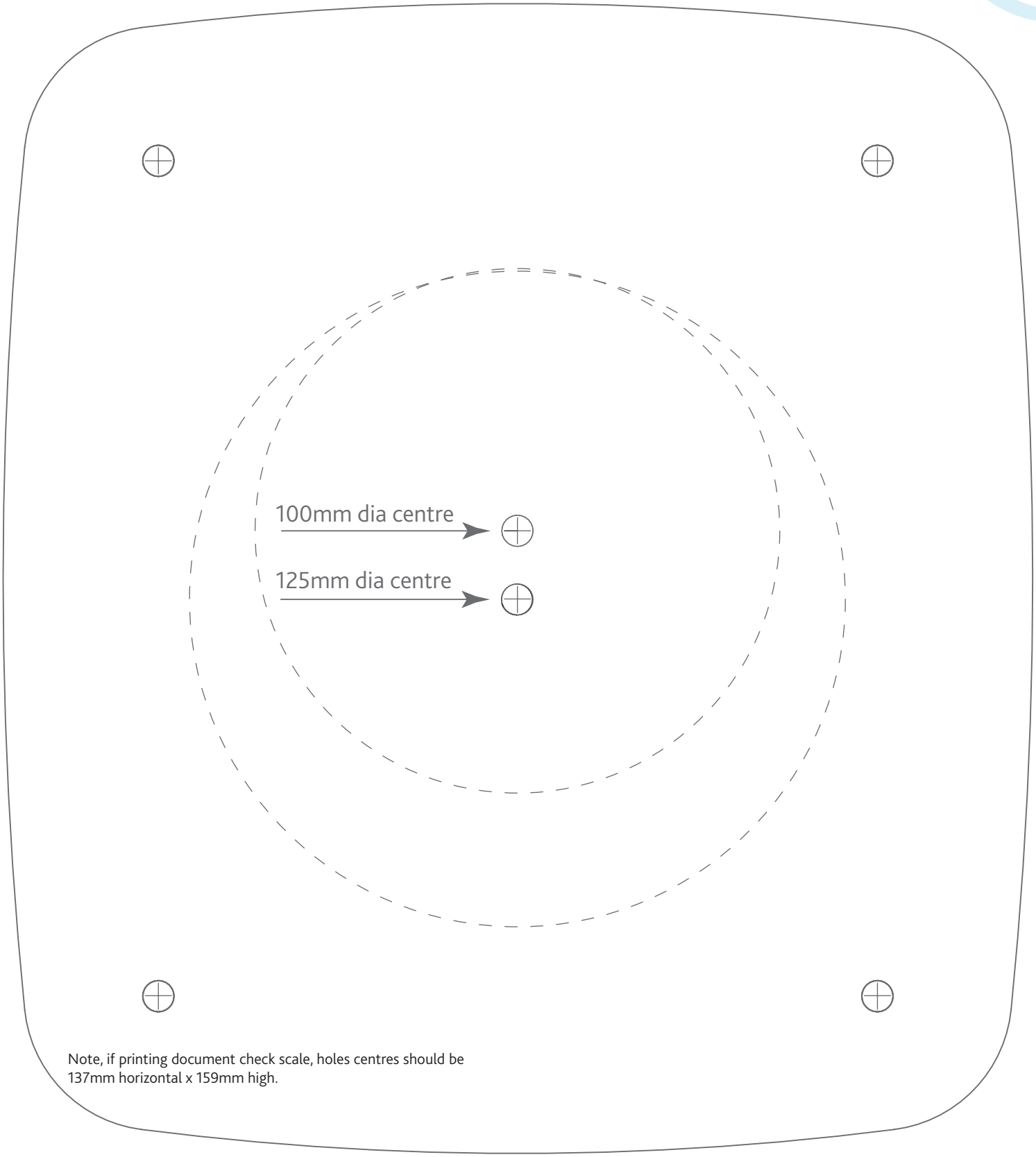
### 6.5 RUN-ON TIMER

The run-on timer is adjustable from 1 to 30 minutes and can operate off a remote switch (e.g. bathroom light switch).

### 6.6 AIRFLOW ADJUSTMENT

The unit adjustment dials have been set for a unit that has been installed directly through a wall and with a 125mm spigot. If the 100mm spigot is used and resistance is placed on the fan (long duct runs) the airflow should be checked using an appropriate measuring instrument.

## 7.0 DRILL PATTERN TEMPLATE




Note, if printing document check scale, holes centres should be 137mm horizontal x 159mm high.

## 8.0 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.

**Before any maintenance or cleaning operation, switch off the fan and disconnect from the power supply.**

### 8.1 ROUTINE MAINTENANCE

Before any maintenance or cleaning operation, switch off the fan and disconnect from the power supply.

The push fit front cover can be removed and cleaned with water and a mild detergent using a soft cloth and the motor fan assembly can be cleaned with a dry brush or dry cloth. Any other maintenance or cleaning should be carried out by properly qualified personnel.

Ensure the unit does not come into contact with any kind of liquid or solvent. If this should occur, contact a qualified technician before reassembling the fan.

**The motor does not require lubrication as it is of the maintenance free "sealed for life" type.**

## 9.0 WARRANTY

The 5 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.**

## 10.0 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.

**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.**

## 11.0 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.

CE UKCA

IPX4 (IPX4 to EN 60335-2-80 with front cover fitted)

## 12.0 NOTES