

EN



**CME2 Q Plus**

TP302A

TP303A

**CME2 Q Plus**

with Humidity Sensor

TP302HA

TP303HA

**Extract Ventilation Unit  
Product Manual**



 **Titon**<sup>®</sup>  
ventilation systems

# Warnings, Safety information and Guidance

## Important Information

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### **Important: read these instructions fully before the installation of this appliance**

1. Installation of the appliance and accessories must be carried out by a qualified and suitable competent person and be carried out in clean, dry conditions where dust and humidity are at minimal levels.
2. All wiring must conform to current I.E.E. Wiring Regulations and all applicable standards and Building Regulations.
3. The appliance must be connected to a local double pole isolation switch with a contact separation of at least 3mm. Ideally located adjacent to the unit.
4. The appliance must be earthed.
5. Units are suitable for 230V ~ 50/60Hz single phase with a fuse rating of 3A.
6. Boost cable - Unshielded 4 Core 18-24AWG Stranded, Tinned Copper.
7. Boost cables should not be placed within 50mm or on the same metal cable tray as any 230V lighting or power cables.
8. The unit must be stored in a clean and dry environment.
9. Do not install the appliance in areas where the following may be present or occur;
  - Excessive oil or a grease laden atmosphere,
  - Corrosive or flammable gases, liquids or vapours,
  - Ambient temperatures above 40°C or below -5°C,
  - Humidity levels above 90% or is a wet environment.

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10. The appliance is not suitable for installation to the exterior of the dwelling.
  11. This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.
  12. Children should be supervised to ensure that they do not play with the appliance.
  13. Ensure that external grilles are located away from any flue outlet, in accordance with relevant Building Regulations.
  14. The unit must not be connected to a tumble dryer.
  15. The unit must not be connected to a cooker hood.
  16. Precautions must be taken to avoid the back-flow of gases into the room from an open flue appliance.
  17. Ensure all ducting, is free from debris and blockages before switching on the unit.

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## Technical

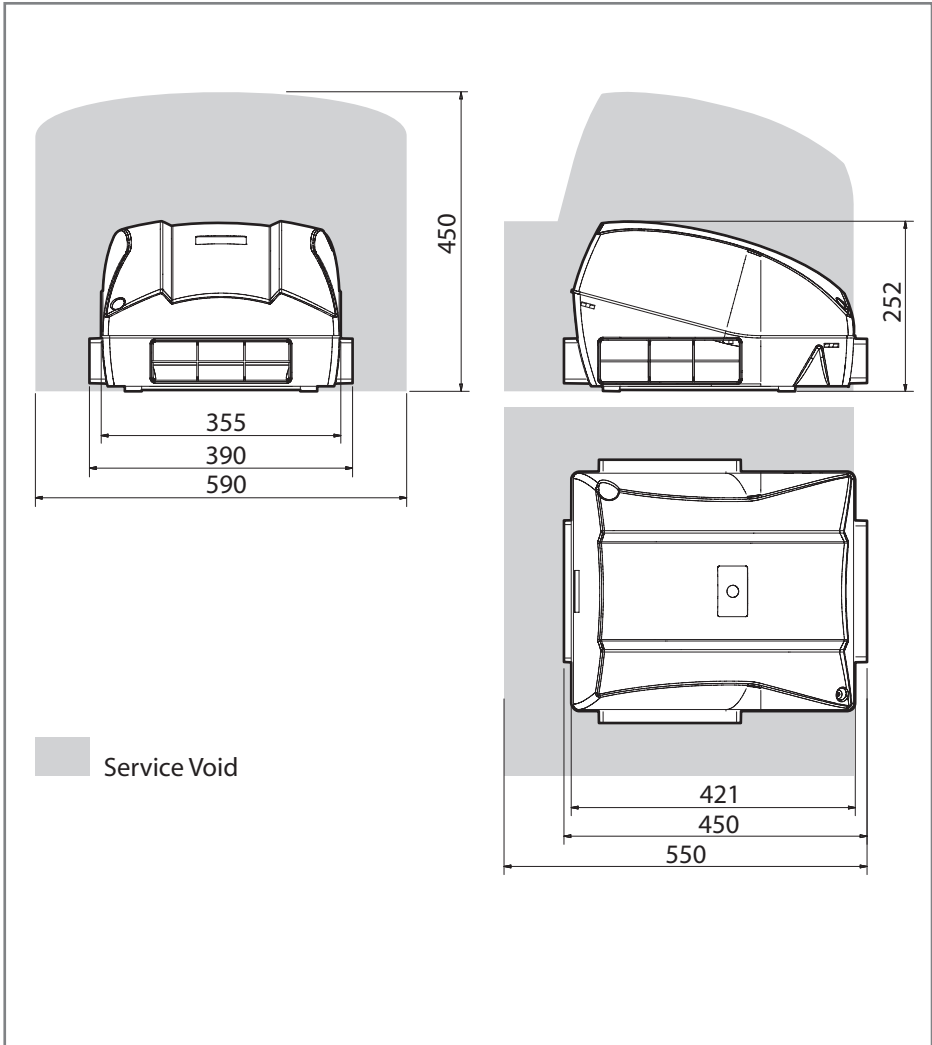
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# Product Overview

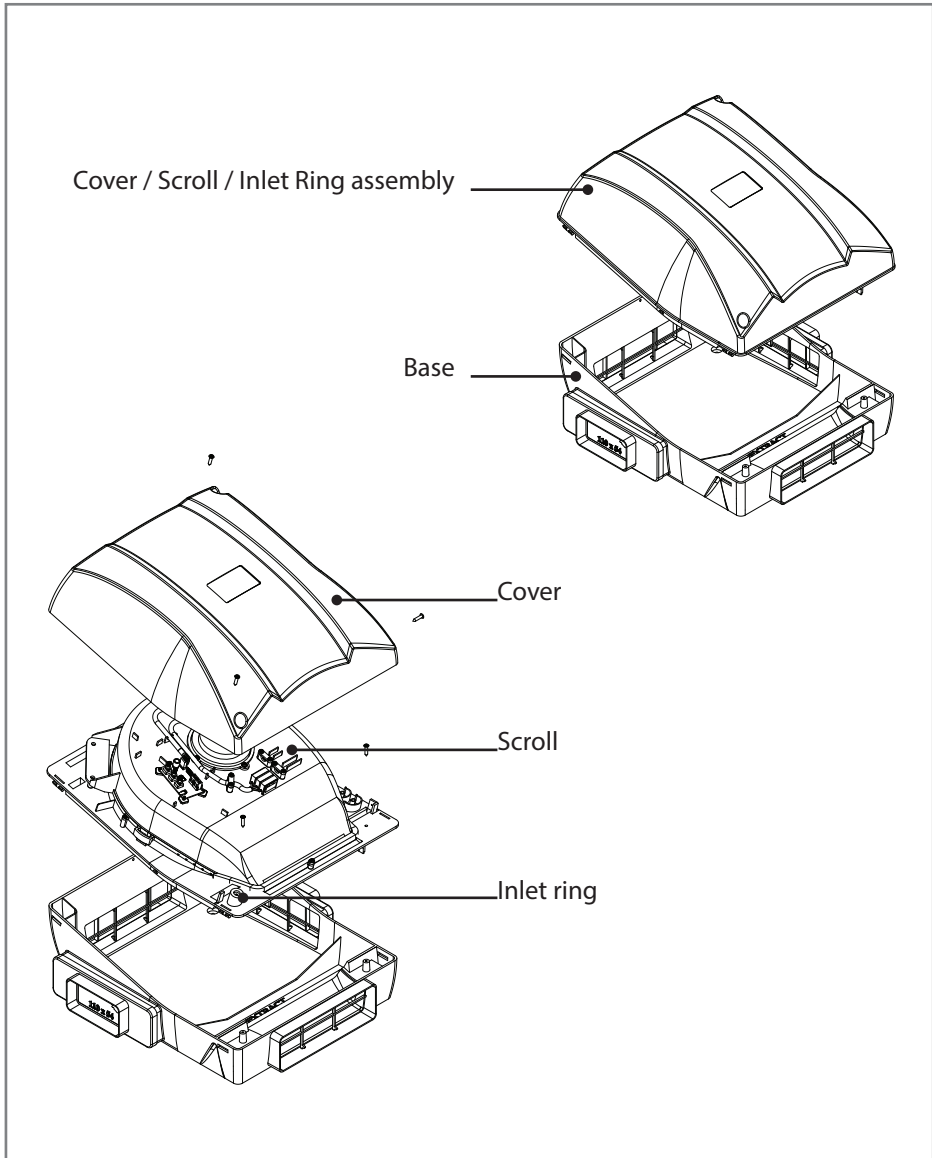
## Dimensions

This diagram details the overall size of the unit and the additional space required around the unit to allow for commissioning and future servicing and maintenance.



All dimensions in mm

# Component Identification



Unit components



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## Packaging Contents

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Inspect the unit when taking delivery. Check the unit for damage and that all accessories have been supplied. The box contains:

- CME2 *Q Plus* Unit x 1.
- Port covers x 3.
- This Product manual x 1.
- Screw Pack x 1.
- User Guide x 1.

All shortages or damage must be immediately reported to the supplier.



# Product Features

- Compact low profile unit.
- Hidden installation fixings.
- All duct ports on one level.
- Accepts 204mm x 60mm or 110mm x 54mm ducting.
- Can be cleaned and serviced without disturbing any ducting.
- Straightforward installation.
- Versatile volt-free boost and setback switching.

The CME2 *Q Plus* is controllable by various volt-free switches and sensors. Mains switching can be achieved by use of the Titon Boxed Relay 5A TP 505.

The following describes the controls and features of the CME2 *Q Plus* and how they are controlled. Ensure all controls are adequately labelled, indicating their function clearly.

Model	CME2 <i>Q Plus</i>			
	TP302A	TP303A	TP302HA	TP303HA
Complete unit	●		●	
2nd Fix Cover / Scroll / Inlet Ring assembly		●		●
Setback Speed (Set automatically)	●	●		
Setback Speed			●	●
Continuous Speed		●		
Boost Speed		●		
Boost Overrun Timer		●		
Integrated Humidity Sensor			●	●

GB Patent Application No. GB2491516,

## Auto Setback Speed

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Setback Speed is a reduced ventilation rate. Auto Setback Speed is automatically set at the mid point between minimum possible Continuous Speed and the selected Continuous Speed. The Auto Setback Speed can be enabled by connection of a volt-free one-way switch, or combined with the Boost Speed with the 3 position switch TP 508.

## Setback Speed

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Setback Speed is a reduced ventilation rate. Setback Speed is configured using a step-less independent fan control potentiometer. The Setback Speed can be enabled by connection of a volt-free one-way switch, or combined with the Boost Speed with the 3 position switch TP 508.

## Continuous Speed

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Continuous Speed is the normal running speed of the unit. Continuous Speed is configured using a step-less independent fan control potentiometer.

## Boost Speed with Overrun Timer

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Boost Speed is an increased speed providing higher extract air flow. Boost Speed is configured using a step-less independent fan control potentiometer. The Boost Speed can be triggered by any device which provides a volt-free one-way switch, such as a PIR, thermostat, humidistat or a standard one-way switch

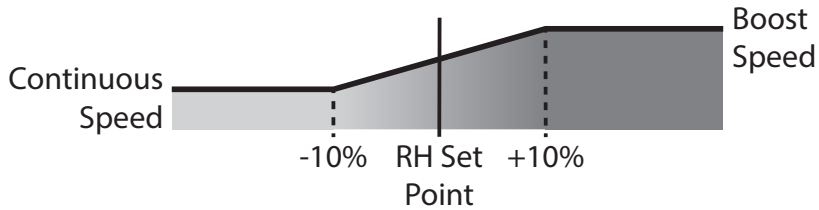
## Boost Overrun Timer

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Boost Overrun Timer maintains the Boost Speed for a specific time variable between 0 and 30 minutes. The Boost Overrun Timer time is configured using step-less independent potentiometer.

## Integrated Humidity Sensor

The units are fitted with an Integrated Humidity Sensor. This continuously monitors the relative humidity (RH) of the extracted air. The fan speed increases proportionally between Continuous Speed & Boost Speed depending on the measured %RH; see below for details.



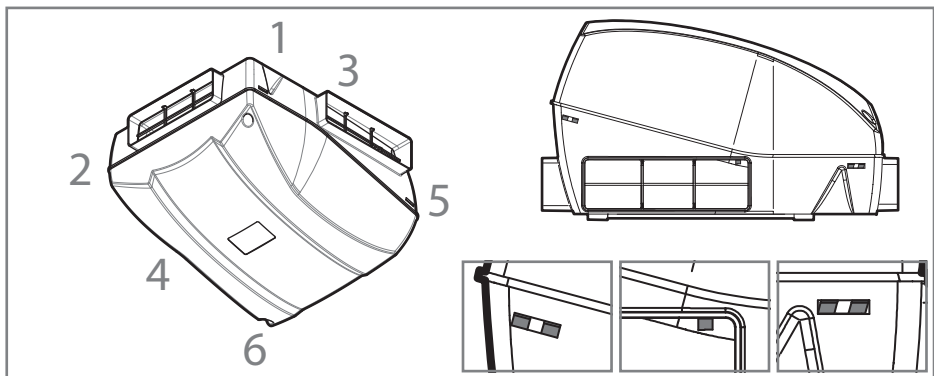
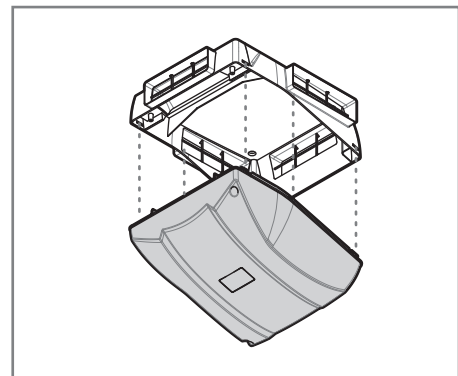
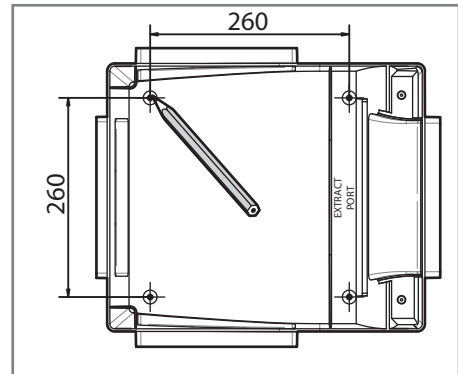
The Humidity Sensor's set point is variable from 55%RH to 85%RH and is configured using a potentiometer.

# Installation

## Fixing

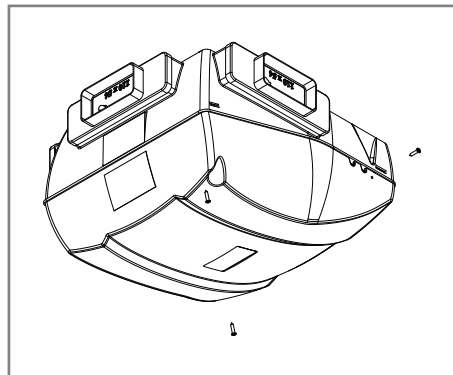
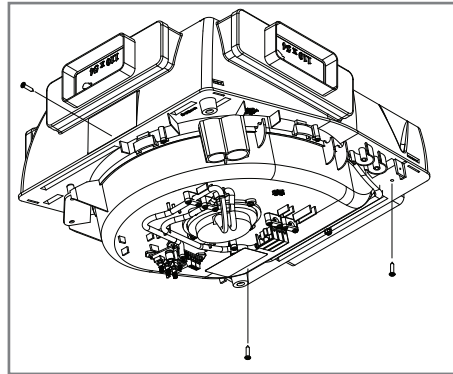
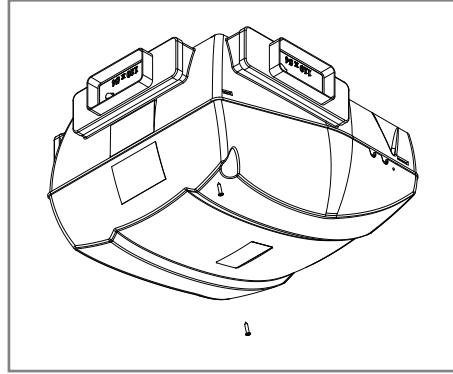
1. The unit must be securely fixed to a smooth flat surface, any orientation is possible.
2. Mark the four fixing hole centres using the Base as a template.
3. Drill holes for fixings, use 4mm Pan Head screws. Always use a fixing type and length suited to the substrate type. The unit weighs approximately 5kg.
4. Mount the Base, ensuring it is not distorted by the fixings or mounting surface.
5. Clip the Motor and Lid assembly to the Base, ensure that all 6 clips have engaged.

**Tighten screws by hand, DO NOT over tighten screws or use power tools.**



Positions of Clips

6. Unscrew the 2 retaining screws that hold on the Cover and remove, retain the screws.
7. Fit two screws from the Screw Pack through the preformed holes at the front of the Inlet Ring to securely fix the Inlet Ring/Scroll assembly to the Base.
8. Fit one screw from the Screw Pack through the preformed hole in the back of the Base. to securely fix the Inlet Ring/Scroll assembly to the Base.
9. Re-fit the Cover using the 2 screws retained and 1 screw from the Screw Pack.



# Ducting Connections

Titon recommend the use of guidance given in the Domestic Ventilation

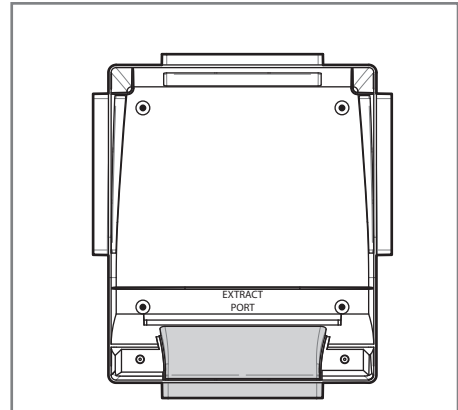


Compliance Guide 2010 Edition ISBN-978 1 85946 378 9 and Approved Document Part F 2010 ISBN-978 1 85946 370 3 for all installations in the United Kingdom.

The above documents can be downloaded free from [www.planningportal.gov.uk](http://www.planningportal.gov.uk).

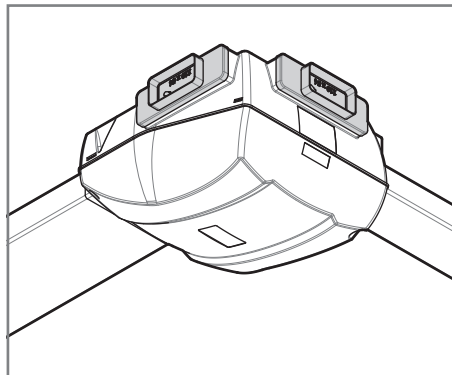
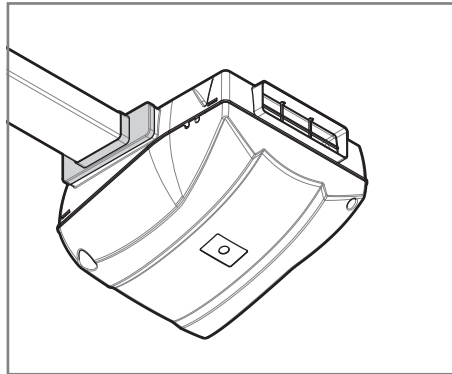
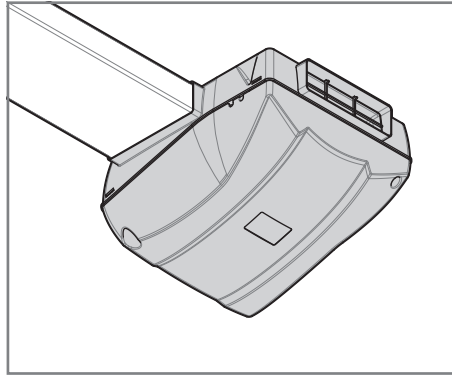
Titon recommend that:

1. 204 x 60mm ducting is used for the connection of the Extract Port to Outside.
2. 204 x 60mm or 110 x 54mm ducting is used for connection to the other ports.
3. A minimum distance of 200mm between the CME2 *Q Plus* unit and any sharp bends in duct work.
4. Ducting should be insulated where it passes through unheated areas and voids.
5. Unit should be insulated when fitted in unheated area.
6. Where a duct extends externally above roof level the section above the roof should be insulated or a condensate trap should be fitted just below roof level.
7. Where ducts pass through fire barriers, they must be appropriately fire stopped in accordance with the requirements of Part B Building Regulations (England & Wales).
8. A ducting condensate drain must be fitted to vertical Extract Port to Outside duct work.
9. Condensate drain pipe work must be adequately secured, installed to have a minimum 5° fall and be insulated if any part of the pipe passes through an unheated void.



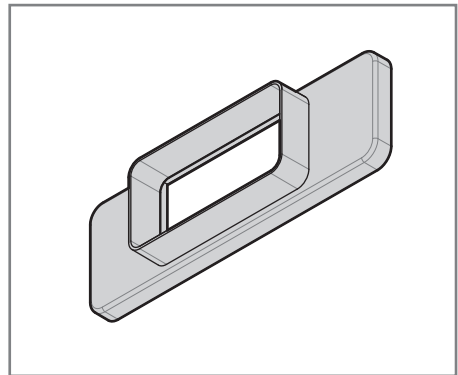
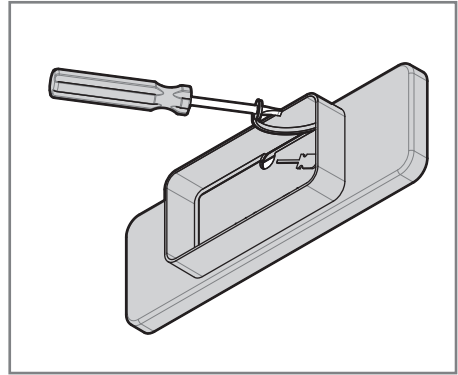
Extract Port to Outside

10. All insulation to be the equivalent of at least 25mm of insulating material with a thermal conductivity of 0.04 W/(mK).
11. Ducting must be installed in such a way that resistance to airflow is minimised.
12. Ducting connected to the Extract Port to Outside must be to the external air outside the building envelope.
13. All ducting joints including those to the CME2 *Q Plus* unit's Duct Ports and Convertible Port Covers must be permanently connected and sealed.
14. Do not distort ducting, Convertible Port Cover or Duct Ports.
15. 204 x 60mm ducting fits inside the units Duct Ports.
16. 110 x 54mm ducting fits inside the Convertible Port Cover.
17. Unused extract ports must be fitted with non-converted or undamaged port covers.



## How to Convert Port Cover

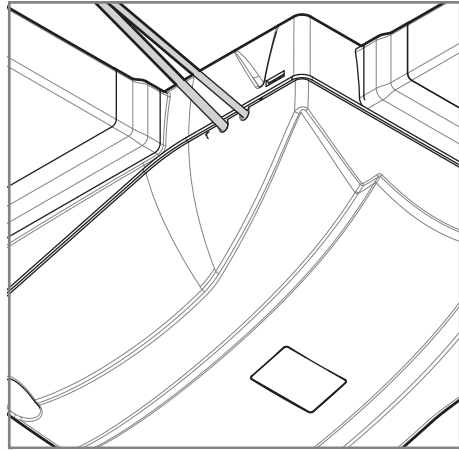
1. To enable fitment of 110 x 54mm ducting, modify the Convertible Port Cover by tearing out the 'rip strip'.
2. When using the convertible port cover ensure the tear out section is completely removed.



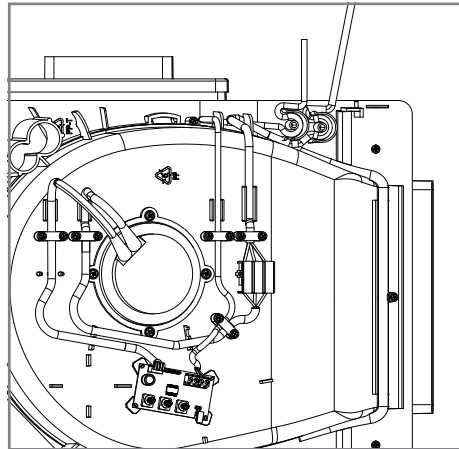


## Wiring Connections Access

Access to the connections for mains, boost and other volt-free control functions is via removal of the Cover. Cables must be routed as shown and secured with clamps provided.

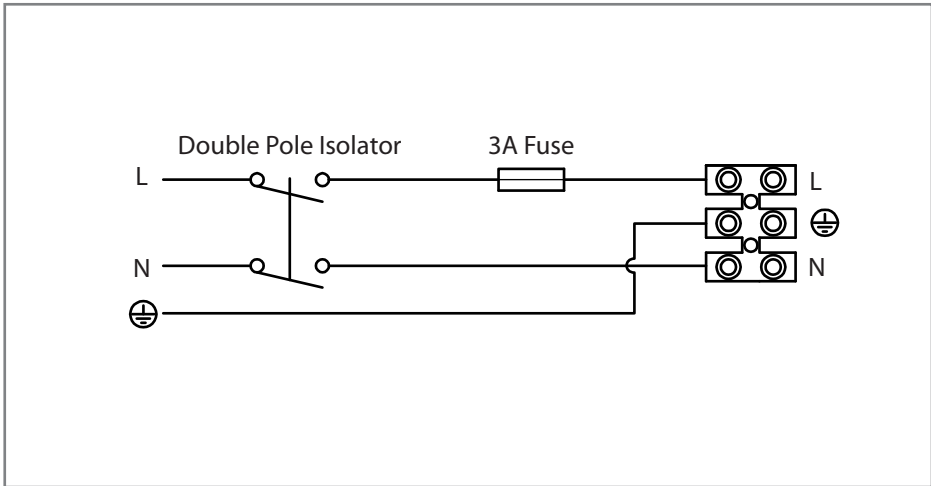


Cable Access



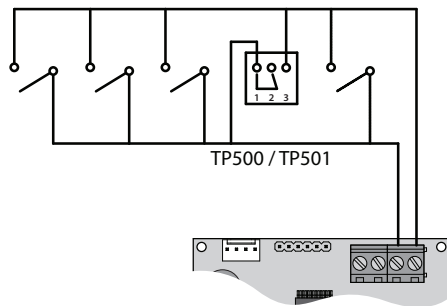
Internal Cable Routing

## Wiring Diagrams



Volt-free boost switching of unit's controller PCB using single-pole switches TP 502, TP 503, TP 507 and/or TP500 / TP501 Humidistat.

There maximum of 10 single pole switches or humidistats that can be used.



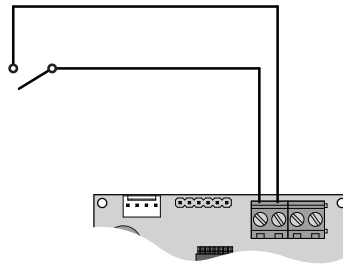
Boost switching and External Humidistat connection ref EE 151

## Wiring Diagrams

Volt-free setback switching of the unit's controller PCB using single-pole latching switch and / or volt-free normally open relay contacts.

To avoid the unit being inadvertently left in Setback Mode, it is recommended that only one latching switch is fitted.

Volt-free setback switch or normally open relay contacts



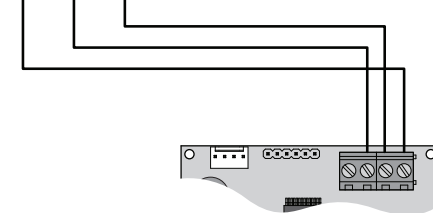
Setback Switch connection ref EE 152

### SWITCH POSITIONS

- 1 - Setback Speed
- 2 - Continuous Speed
- 3 - Boost Speed

TP 508  
Three position rotary switch

U3 U2 U1 L



Three position Rotary Switch TP 508 switching and connection ref EE 153

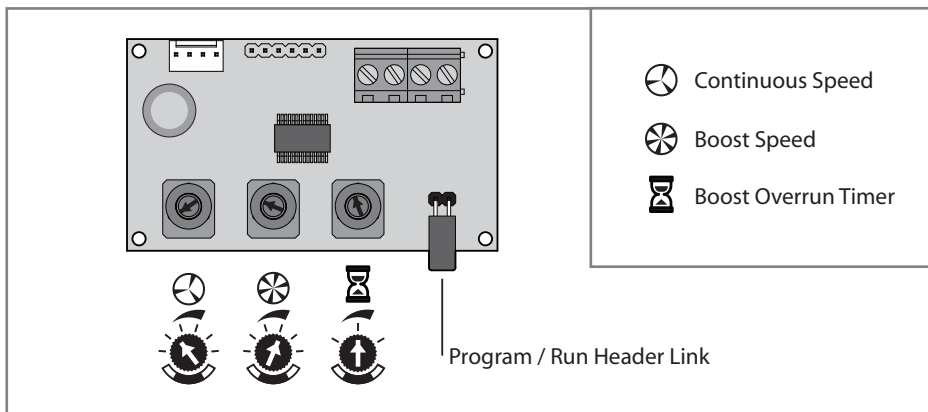
# Commissioning

## TP302A & 303A

The fan speeds of the Titon CME2 *Q Plus* will require adjustment to ensure that the flow rates achieved provide adequate ventilation. The Titon CME2 *Q Plus* has 3 standard fan speed settings, Continuous Speed, Boost Speed and Setback Speed.

The Continuous Speed and Boost Speeds are adjustable via Rotary Potentiometers. Setback Speed is automatically set at the mid point between minimum possible Continuous Speed and the selected Continuous Speed.

Prior to the first commission, set the Continuous Speed potentiometer to minimum by rotating fully anti-clockwise and set the Boost Speed potentiometer to maximum by rotating fully clockwise.

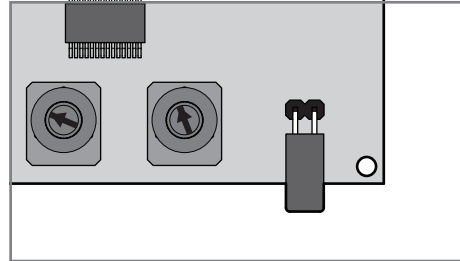


### Control Parameters

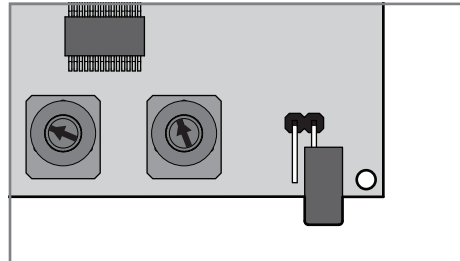
- All volt-free switch inputs are disabled when the Program / Run Header Link is in the Program position.
- All speed control potentiometers are disabled when the Program / Run Header Link is in the Run position.
- The unit needs to be powered up for the commissioning settings to be stored.

## Commissioning

1. Remove Program / Run Header Link and place in the Program Position, fitted over both pins. The CME2 *Q Plus* will automatically switch between Continuous Speed and Boost Speed when adjusting the respective potentiometer.
2. Rotate Continuous Speed adjustment potentiometer to achieve required continuous air flow.
3. Rotate Boost Speed adjustment potentiometer to achieve required boost air flow.
4. Return Program / Run Header Link to Run Position, fitted to one pin, to exit commissioning.

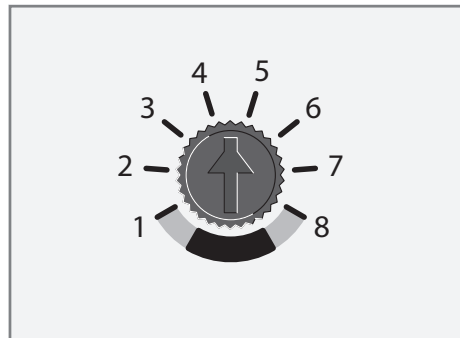


Header Link in Program position



Header Link in Run positions

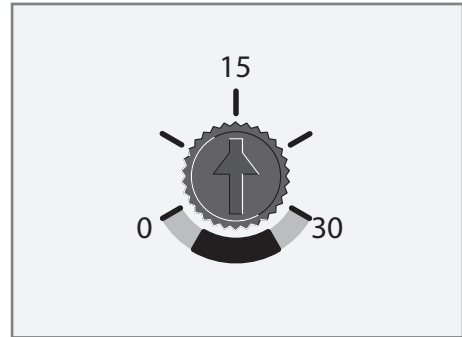
After commissioning the Program / Run Header Link must be placed in the Run position.  
Alternatively the Program / Run Header Link can be completely removed to 'lock' the commissioned settings.



Commissioning Pot positions

## Boost Overrun

Boost Overrun Timer is variable between 0 and 30 minutes. Rotate potentiometer to change overrun time. Boost Overrun Timer adjustment can be done at any time without the need to move the Program / Run Header Link.



Boost Overrun Pot positions

## Controller Reset

Following a controller reset the ventilation system will need to be fully re-commissioned. The unit will need to be powered up during the reset procedure.

1. Place the Program / Run Header Link in the Run Position
2. Rotate the Continuous Speed and Boost Speed adjustment fully clockwise.
3. Place Program / Run Header Link in the Program Position.
4. Rotate the Continuous Speed adjustment potentiometer fully anti clockwise.

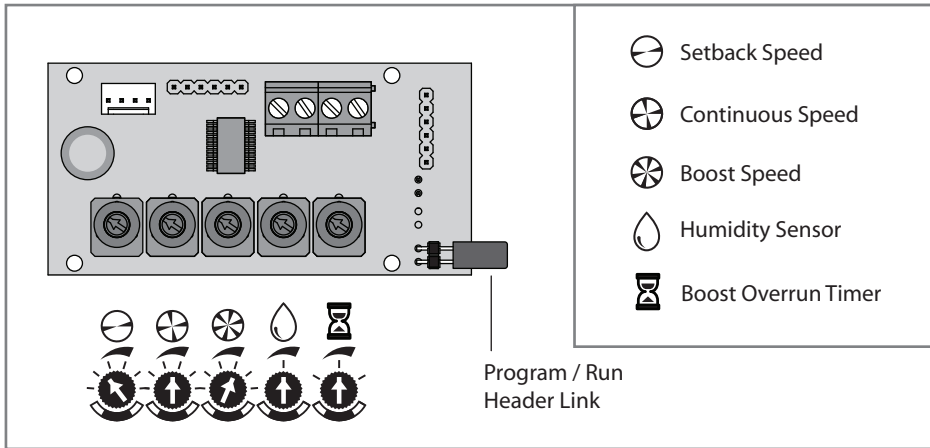
## Hardware Reset

Certain conditions (repeated supply interruptions etc.) can activate the automatic motor protection mode. Where by the fan motors are prevented from operating. This requires a hardware reset to return the unit to normal operating mode, to achieve this power to the unit should be switched off for 5 minutes, restoring the power after this time will reset the hardware of both the motor and PCB. Commissioning settings are not affected during a hardware reset.

## TP302HA & TP303HA

The fan speeds of the Titon CME2 *Q Plus* will require adjustment to ensure that the flow rates achieved provide adequate ventilation. The Titon CME2 *Q Plus* has 3 standard fan speed settings, Continuous Speed, Boost Speed and Setback Speed.

All speeds are adjustable via Rotary Potentiometers.



### Control Parameters

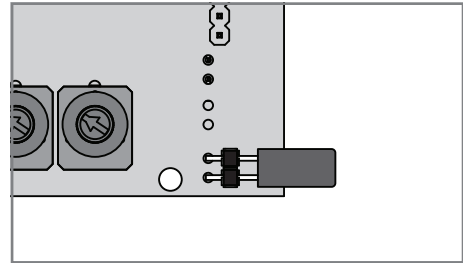
- All volt-free switch inputs are disabled when the Program / Run Header Link is in the Program position.
- All speed control potentiometers are disabled when the Program / Run Header Link is in the Run position.
- Boost Overrun Timer & Humidity Sensor adjustment can be done at any time without the need to move the Program / Run Header Link
- The unit needs to be powered up for the commissioning settings to be stored.

## Commissioning

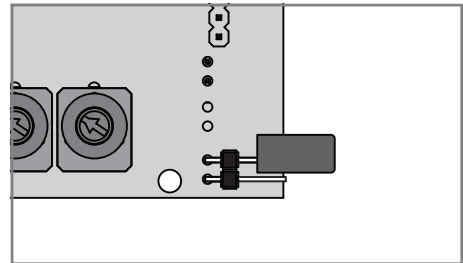
1. Remove Program / Run Header Link and place in the Program Position, fitted over both pins. The CME2 *Q Plus* will automatically switch between Setback Speed, Continuous Speed and Boost Speed when adjusting the respective potentiometer.
2. Rotate the Speed adjustment potentiometer to achieve required air flow for each speed.
3. Return Program / Run Header Link to Run Position, fitted to one pin, to exit commissioning.

After commissioning the Program / Run Header Link must be placed in the Run position.

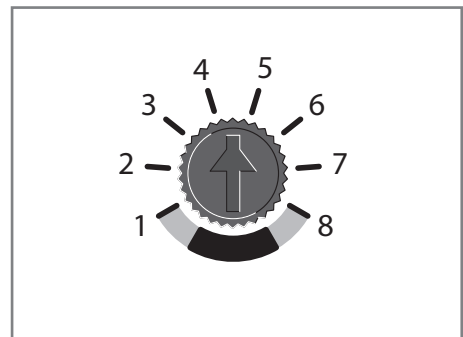
Alternatively the Program / Run Header Link can be completely removed to 'lock' the commissioned settings.



Header Link in Program position



Header Link in Run position

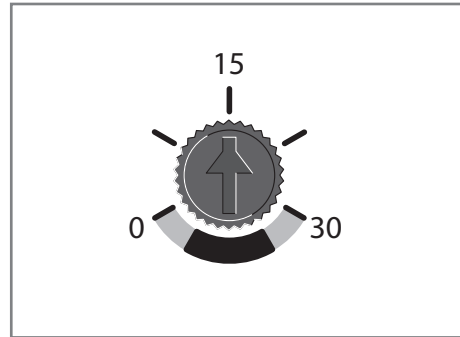


Commissioning Pot positions



## Boost Overrun

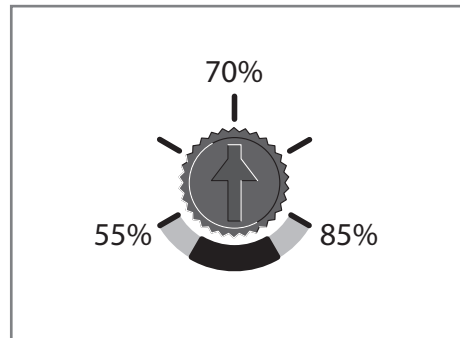
Boost Overrun is variable between 0 and 30 minutes. Rotate potentiometer to change overrun time. Boost Overrun adjustment can be done at any time without the need to move the Program / Run Header Link.



Boost Overrun Pot positions

## Humidity Sensor

The Humidity Sensor's set point is variable from 55%RH to 85%RH. Rotate potentiometer to change set point. Humidity Sensor adjustment can be done at any time without the need to move the Program / Run Header Link.



Humidity Sensor Pot positions

## Controller Reset

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Following a controller reset the ventilation system will need to be fully re-commissioned. The unit will need to be powered up during the reset procedure.

1. Place the Program / Run Header Link in the Run Position
2. Rotate the Setback, Continuous and Boost Speed adjustment potentiometers fully clockwise.
3. Place Program / Run Header Link in the Program Position.
4. Rotate the Setback Speed potentiometer fully anti clockwise and the Continuous Speed adjustment potentiometer to the mid position.

## Hardware Reset

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Certain conditions (repeated supply interruptions etc.) can activate the automatic motor protection mode. Where by the fan motors are prevented from operating. This requires a hardware reset to return the unit to normal operating mode, to achieve this power to the unit should be switched off for 5 minutes, restoring the power after this time will reset the hardware of both the motor and PCB. Commissioning settings are not affected during a hardware reset.

# Maintenance

## Routine maintenance

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All ventilation units require periodic maintenance. Routine maintenance must only be carried out by a suitably qualified and competent person. The CME2 Q Plus must be periodically cleaned internally. The maximum time between cleaning will depend on the local environment. Titon recommend the unit be cleaned every 3 – 4 years at a minimum.

**In the event of any queries please contact the system installer.**

**WARNING: The unit uses a 230V ~ supply and contains rotating mechanical parts. ISOLATE the unit from mains power supply and allow sufficient time for all moving parts to stop before undergoing any Servicing or Maintenance.**

### Cleaning Exterior

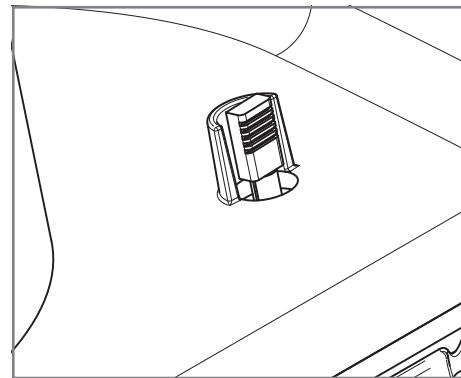
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For best results use a clean cloth and warm water with a mild detergent solution. Do not use solvents or abrasive cleaners.

### Cleaning Interior

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For best results use a clean damp cloth and mild detergent. Do not use solvents or abrasive cleaners. When cleaning the interior ensure that the humidity sensor does not get wet, dust with a dry cloth.

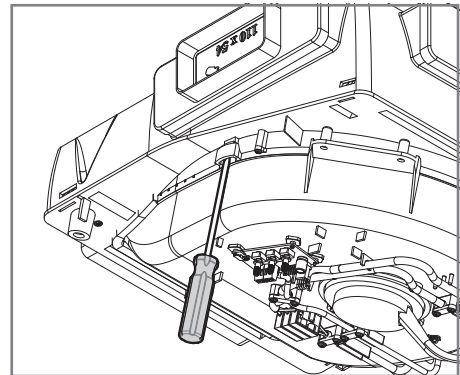
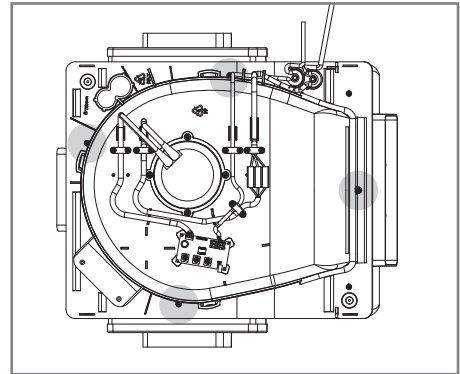
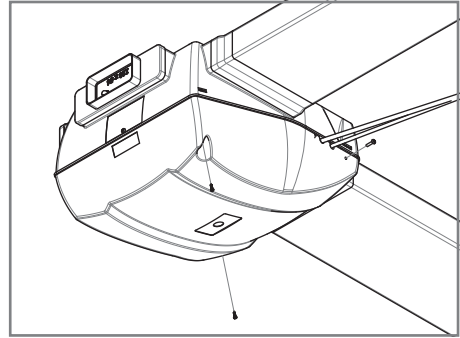


Humidity Sensor

## Access to the Interior for Cleaning

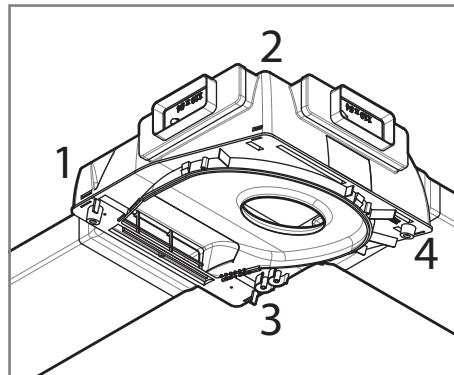
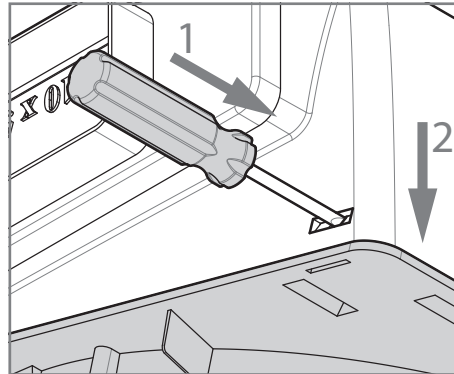
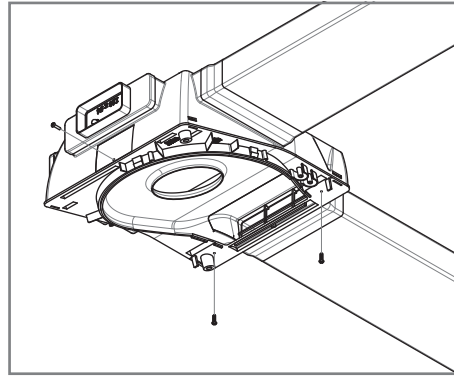
To gain access to the interior of the unit for cleaning –

1. Unscrew the 3 retaining screws that hold on the Cover and remove
2. Remove the 4 Scroll retaining screws.
3. Using a flat bladed screw driver, un-clip Scroll from Inlet Ring by disengaging the 3 retaining clips. Ensure that the Scroll is supported and does not strain the cables.



4. Remove the 3 retaining screws
5. Using a flat bladed screwdriver, un-clip the Inlet Ring from Base by disengaging the 4 retaining clips.
6. Carefully remove dust from the unit and fan blades using a vacuum cleaner.
7. Wipe with damp cloth and mild detergent.
8. Check fixing screws.
9. Assembly is the reverse of the preceding instructions.
10. Ensure all fasteners are secure before returning power to the unit.

**Tighten screws by hand, DO NOT over tighten screws or use power tools. After servicing, always complete the service record.**



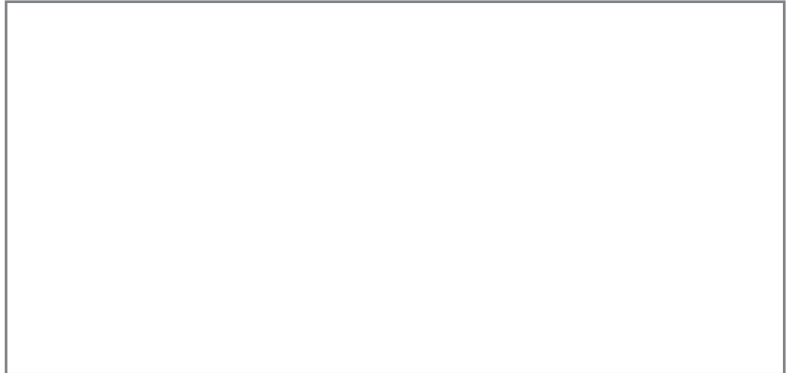
Positions of Clips



## Product Fiche

Supplier Name	Titon Hardware Ltd.
Supplier Address	894 The Crescent Colchester Business Park Colchester Essex CO4 9YQ
Model	CME2 Q Plus A CME2 Q Plus HA CME2 Q Plus A 2nd Fix CME2 Q Plus HA 2nd Fix Central Mechanical Extract
Model Identifier	TP302A TP302HA TP303A (2nd Fix) TP305HA (2nd Fix)
Declared Typology	NRVU - UVU
Type of Drive installed	Multi-speed drive
Type of heat recovery system	none
Thermal efficiency of heat recovery	not applicable
Nominal NRVU Flow Rate (m <sup>3</sup> /s)	0.102
Effective power input (kW)	0.06
SFPint W/(m <sup>3</sup> /s)	n/a
Face velocity in m/s	n/a
Nominal external pressure in Pa	200
Internal pressure drop in Pa	n/a
Static efficiency of fan in accordance with (EU) No 327/2011	35% - < 125W motor
Declared maximum internal leakage rate (%)	n/a
Energy performance of the filters	n/a
Casing sound power level (L <sub>WA</sub> )	57dB(A)
Filter Warning (RVU)	n/a
Internet address (for disassembly instructions)	<a href="http://www.titon.co.uk">www.titon.co.uk</a>

**Installed by**



**In the event of any queries please contact the system installer. Ensure this booklet is passed to the householder once installation and commissioning of the ventilation system is complete. This Product Manual must be kept in the Home Information Pack and used as a Service Record.**



**MARKETING DIVISION**

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