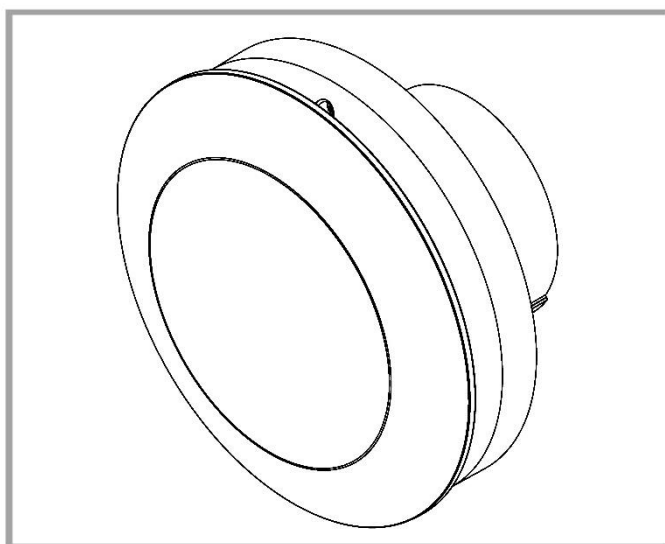


# Lo-Carbon PureAir Cleanse

CONTINUOUS EXTRACT FILTERLESS FAN

Installation and Wiring Instructions



## Stock Ref. N°

414942 – PureAir Cleanse 100

416841 – PureAir Cleanse 100 HT

414943 – PureAir Cleanse 100 HT-IAQ

220-240V~50Hz

**Vent-Axia®**

UK  
CA CE

PLEASE READ INSTRUCTIONS IN CONJUNCTION WITH ILLUSTRATIONS.  
PLEASE SAVE THESE INSTRUCTIONS.

IPX5

Original English Instructions.



**IMPORTANT:  
READ THESE INSTRUCTIONS BEFORE COMMENCING THE  
INSTALLATION**

DO NOT install this product 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 higher than 40°C or less than -5°C.
- Possible obstructions that would hinder the access or removal of the Fan.

**SAFETY AND GUIDANCE NOTES**

**A.** All wiring to be in accordance with the current I.E.E.

Regulations within the UK, or the appropriate standards of your country and **MUST** be installed by a suitably qualified person.

**B.** The Fan should be provided with a local isolator switch capable of disconnecting all poles, having a contact separation of at least 3mm.

**C.** Ensure that the mains supply (Voltage, Frequency, and Phase) complies with the rating label.

**D.** The Fan should only be used in conjunction with the appropriate Vent-Axia products.

**E.** The fan should only be used in conjunction with fixed wiring.

**F.** When the Fan is used to remove air from a room containing a fuel-burning appliance, ensure that the air replacement is adequate for both the fan and the fuel-burning appliance. Precautions must be taken to avoid the back-flow of gases into the room from any open flue of gas or other fuel burning appliances.

**G.** The Fan should not be used where it is liable to be subject to direct water spray for prolonged periods of time.

**H.** Where ducted Fans are used to handle moisture-laden air, insulated ducting or a condensation trap should be fitted. Horizontal ducts should be arranged to slope slightly downwards away from the Fan.

**I.** This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

**J.** Young children should be supervised to ensure that they do not play with the appliance.

## **DESCRIPTION**

The PureAir Cleanse is a continuously running extract fan designed for use in kitchens, utility rooms, bathrooms, and toilets. It features a built-in Speed Adjustment Dial, allowing easy customization of airflow to meet specific installation requirements. All three models come with standard Back Pressure Detection (BP) and Comfort Mode (CM).

The HT and HT-IAQ models include advanced sensors for enhanced performance: a digital humidity sensor with a preset threshold and rapid-rise detection, and an air quality sensor that identifies and measures chemical pollutants. When high humidity or poor air quality is detected, the fan automatically increases its speed to help remove excess moisture and airborne contaminants, improving indoor air quality.

**Important HT-IAQ model only: - The onboard air quality sensor requires 48 hours to stabilise to enable the fan to provide accurate readings. The fan may not perform as intended until the stabilisation process is complete.**

- 414942 - PureAir Cleanse 100 - 100mm continuously running fan
- 416841 - PureAir Cleanse 100 HT - 100mm continuously running fan with Humidity sensor and fixed Timer
- 414943 - PureAir Cleanse 100 HT-IAQ - 100mm continuously running fan with Humidity sensor / fixed Timer and Indoor Air Quality sensor

## **ACCESSORIES** (not supplied)

### **WALL FITTING KIT**

A range of wall kits are available for installing into most walls using telescopic liners

254100 - 100mm Brown Wall Fitting Kit

254102 - 100mm White Wall Fitting Kit

For installations in high rise/no access to the outside:

472318 - 100mm White Internal Fit Wall Fitting Kit

472319 - 100mm Brown Internal Fit Wall Fitting Kit

## **A. INSTALLATION**

### **PANEL/CEILING/ INTERIOR WALL MOUNTING**

1. Cut a 107mm diameter hole for the fans.  
Note: The fans have outer product diameter of 190mm. When positioning the fan, please provide at least 10cm between any adjacent walls or ceilings and the fan.
2. Remove the front tile carefully pulling away from the fan.
3. Loosen the 3 grille screws to remove inner grille.
4. Mark the screw centres through the holes in the fan back plate. Drill, plug and screw into position. Attach ducting as required for the installation - (Please see **Condensation** section below).
5. Wire the fan as described in Section B-Wiring. Adjust any settings as required (see Section C-Setup).
6. After installation, ensure impeller rotates freely.
7. Replace the inner grille and tighten the retaining screws. Place tile front onto the inner grille by aligning the fixings and pushing the tile front on.

### **CONDENSATION BUILD UP**

Where ducted Fans are used to handle moisture-laden air, insulated ducting or a condensation trap should be fitted to prevent water regularly draining onto the building structure/plasterboard and/or the fan. Horizontal ducts should be arranged to slope slightly downwards away from the Fan.

### **EXTERIOR WALL MOUNTING**

1. For wall mounting, cut a 117mm diameter hole through the wall and insert the wall sleeve. Slope the sleeve slightly downwards away from the fan. Where necessary cut to length and cement both ends into position flush with the wall faces. The fans have outer product diameters of 190mm. When positioning the fan, please provide at least 10cm between any adjacent walls or ceilings and the fan.
2. Fix exterior grille into position with the louvres positioned downwards.
3. Remove the front tile carefully pulling away from the fan.
4. Loosen the 3 grille screws to remove inner grille.
5. Mark the screw centres through the holes in the fan back plate. Drill, plug and screw into position. Attach ducting as required for the installation.
6. Wire the fan as described in Section B-Wiring. Adjust any settings as required (see Section C-Setup).
7. After installation, ensure impeller rotates freely.
8. Replace the inner grille and tighten the retaining screws. Place tile front onto the inner grille by aligning the fixings and pushing the tile front on.

## B. WIRING



**WARNING: THE FAN AND ANCILLARY CONTROL EQUIPMENT MUST BE ISOLATED FROM THE POWER SUPPLY DURING INSTALLATION OR MAINTENANCE.**

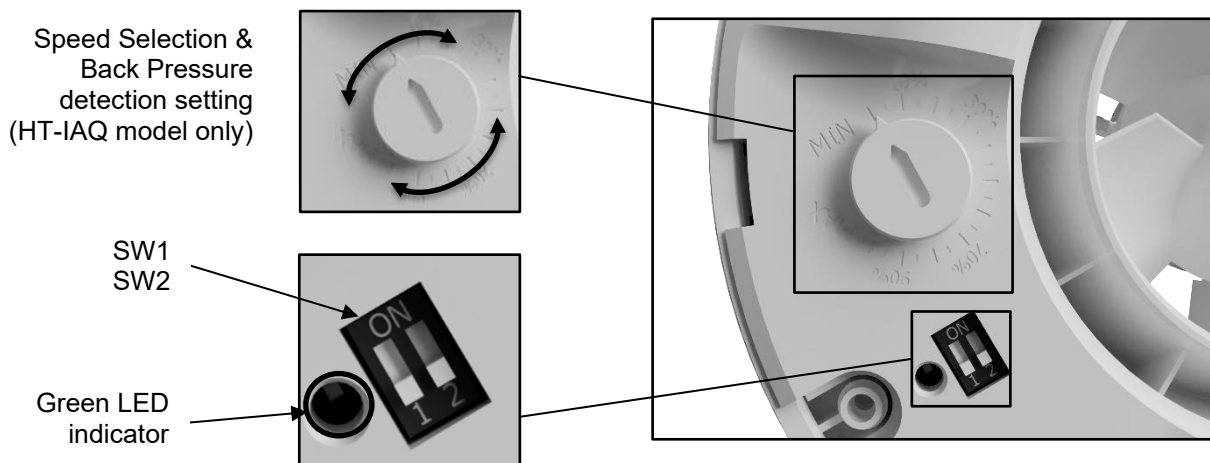
### IMPORTANT

- The cross - sectional area of supply cord used should be ranged from 0.75 -1.5mm<sup>2</sup>.
- This is a fixed wired product; flexible cord must not be used.
- The fan is a class II double insulated product and does not need to be earthed.

1. Wiring can be made from either the side or rear of the fan. Ensure the rubber seal integrity is maintained when piercing a hole for the cable.
2. If using side entry, wiring must be retained in suitable conduit.
3. Select and follow the appropriate wiring diagram. (**Fig. 1, 2 or 3**)
4. Check all connections have been made correctly.
5. Ensure the impeller rotates and is free from obstructions.

## C. SETUP

### Installation Settings:



#### Dip Switch 1 (**SW1**) (Default OFF):

This determines the installation type, wall or ducted.

OFF = Wall Installation (default)

ON = Ducted installation

#### Dip Switch 2 (**SW2**) (Default OFF): - Basic & HT models only

(ON) enables the BP detection (**Fast green LED flashing for 5 mins**)

(OFF) disables the BP detection (**No green LED flashes**)

#### Dip Switch 2 (**SW2**) (Default ON): - HT-IAQ model only

(ON) enables the AQ sensor (**Fast green LED flashing for 10 seconds**)

(OFF) disables the AQ sensor (**No green LED flashes**)

#### Enable/disable Back Pressure detection(BP) by default OFF: - HT-IAQ model only

Remove the front tile and Switch ON the fan, then increase the speed setting from minimum to maximum 5 times within 5mins.

Repeat the above to disable the Back Pressure detection(BP).

### Back Pressure detection (BP)

During windy conditions, the airflow from the extractor may momentarily drop. The automatic Back Pressure detection (BP) system detects the reduced flow rates and increases the fan speed to compensate. The system only reacts if there is a sustained and excessive wind present to reduce unnecessary noise or operation.

LED indicators for Back Pressure detection (BP) & Comfort mode (CM) settings:

Back Pressure (BP)	Comfort Mode (CM)	LED Status
ON	ON	Fast Green LED flashing for 5mins
OFF	OFF	No LED flashes
ON	OFF	Slow Green LED flashing for 5mins
OFF	ON	Green LED ON for 5mins

### **Speed Selection**

The fan speed is only adjustable within the first 5 minutes of mains power. The trickle flow rate can be quickly adjusted via the dial as shown – either with the inner grille on or off (see below images). The 10-100% scale relates to a flow rate of between 5-24l/s and 5-26l/s for the 100mm and 125mm models respectively. The scale is adjusted based on the installation type (**SW1**). The boost speed is proportionally higher than the trickle flow rate.

Inner grille on:



Inner grille removed:



Speed can be adjusted while the fan is isolated from the mains with the inner grille removed or with the inner grille screwed on and the fan powered up. Note the fan speed is only adjustable within the first 5 minutes of mains power.

### **Overrun Timer with Integrated Comfort mode (Overrun Timer by default is disabled)\***

The comfort mode feature offsets/delays the boost when the LS has been activated (e.g. from switching the light on) until after the LS has been deactivated (up to a maximum of 20 minutes). Therefore reducing any nuisance noise until after the user has left the room.

When the LS is deactivated, fan will run at boost mode for the length of time the LS was present (up to a maximum of 20 minutes) plus the standard 15 minute overrun time.

If the LS was activated for less than 3 minutes, no boost will occur to prevent nuisance activations.

If the LS is still connected after 20 minutes, the fan will boost anyway. Once the LS is disconnected, the fan will run for only 20 minutes plus the 15min overrun timeout.

The humidity and/or air quality sensor will override other settings if humidity and/or poor air quality is detected. The fan will run according to the humidity and/or air quality function, depending on which sensor detects the worst environment.

\*To enable comfort mode:

1. Power cycle the fan. Wait 30 seconds.
2. Switch LS on and off 5 times within 20 seconds (leaving a minimum of 1 second between each consecutive toggle).
3. Comfort mode is now enabled. Please check the LED status as shown in the above table.
4. The Comfort mode setting persists between power cycles. To disable, repeat instructions 1 and 2.

### **Inbuilt Threshold Humidistat with Rapid Rise Detection (HT&HT-IAQ models only)**

The HT & HT-IAQ models include a digital humidity sensor with pre-set Threshold and Rapid Rise sensing. These settings are fixed and cannot be adjusted.

#### **Humidity Threshold:**

The fan will increase in speed proportionally between trickle and boost flow rates at 75%RH and 85%RH.

- 0-75%RH = Trickle speed flow rate
- 76-85%RH = Proportional between trickle and boost
- 86-100%RH = Boost speed flow rate

#### **Rapid Rise Detection:**

If the humidity increases by more than 5%RH (RH2) compared to the humidity 5 minutes ago (RH1), the fan enters boost mode. Once the humidity starts to fall, the fan will remain in boost for a further 30 minutes or until the humidity reaches the original (RH1) humidity level, whichever is sooner.

#### **Intelligent air quality sensor (HT-IAQ model only)**

The air quality sensor outputs a number between 0-5 based on the quality of the air in the room.

**Important HT-IAQ model only: - The onboard air quality sensor requires 48 hours to stabilise to enable the fan to provide accurate readings. The fan may not perform as intended until the stabilisation process is complete.**

Output	Air Quality	Action
Below 2.9	Good Air quality	The fan will not boost.
Between 3 & 3.9	Medium air quality	The fan will boost proportionally from 0% to a maximum of 20% of the selected trickle speed.
Between 4 & 4.9	Poor air quality	The fan will boost proportionally from 20% to +50% of the selected trickle speed.
Above 5	Bad air quality	The fan will stay on boost at +50% of the selected trickle speed until the air quality within the room improves back down to a good level.

## D. SERVICING AND MAINTENANCE

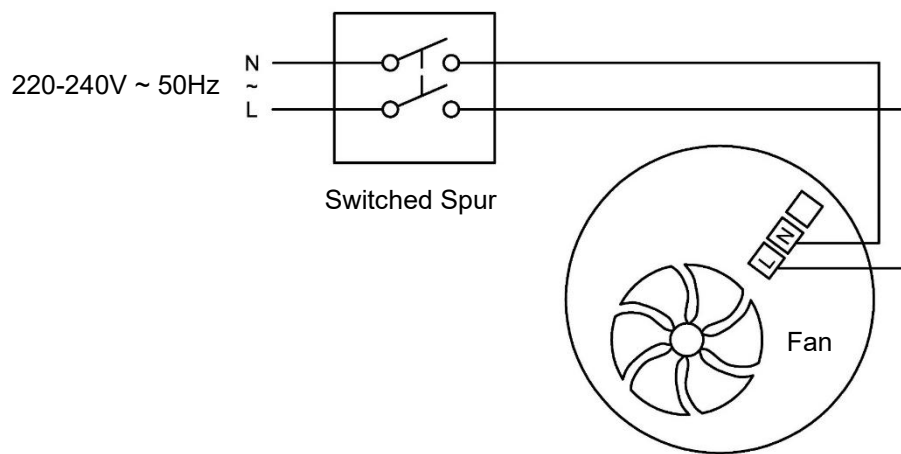


**WARNING: THE FAN AND ANCILLARY CONTROL EQUIPMENT MUST BE ISOLATED FROM THE POWER SUPPLY DURING MAINTENANCE.**

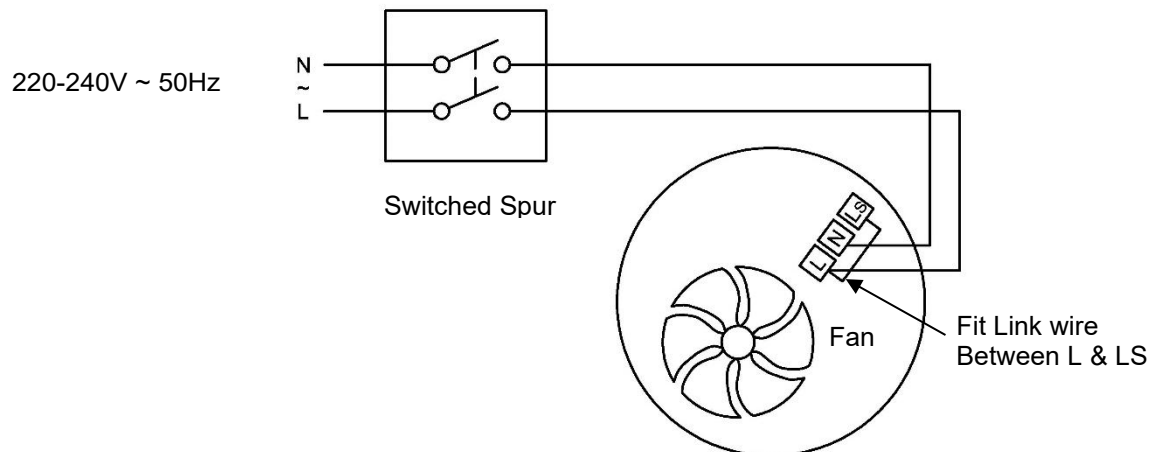
1. At intervals appropriate to the installation, the fan should be inspected and cleaned to ensure there is no build-up of dirt or other deposits.
2. Wipe the inlets and front face with a damp cloth until clean.

**The fan has sealed for life bearings, which do not require lubrication.**

**Fig.1** Continuous trickle (no manual boost). (The fan is internally fused)

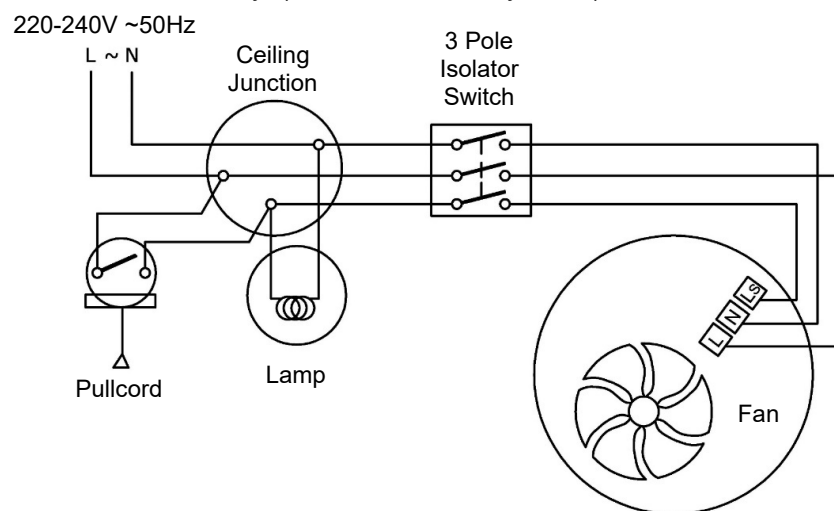


**Fig.2** Continuous boost with no trickle facility. (The fan is internally fused)

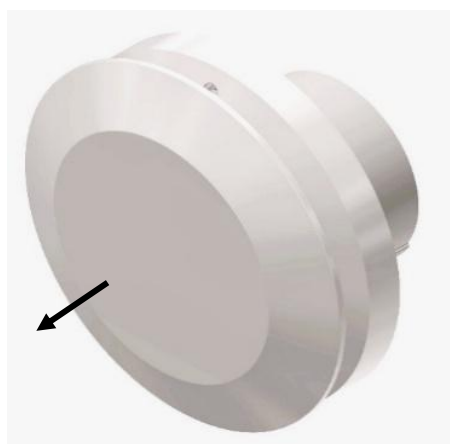




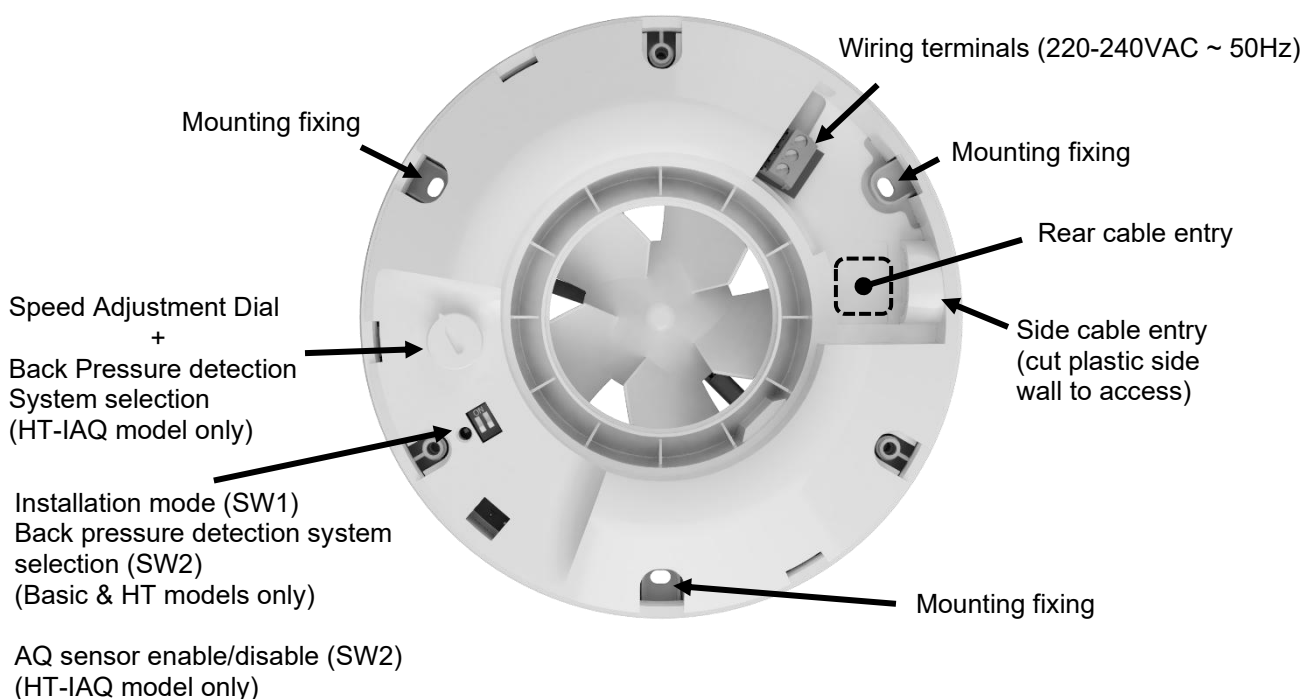
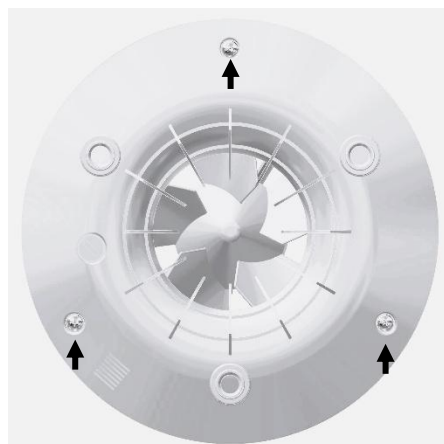
**Fig.3** Continuous trickle with boost facility. (The fan is internally fused)



1. Remove tile cover



2. Loosen 3 grille screws (do not fully remove) and pull the inner grille forward off the fan



## Quick Setup

1. Ensure fan is isolated from mains.
2. Set the installation type - wall or ducted (SW1).
3. Set trickle flow rate - Dial as shown in the image.

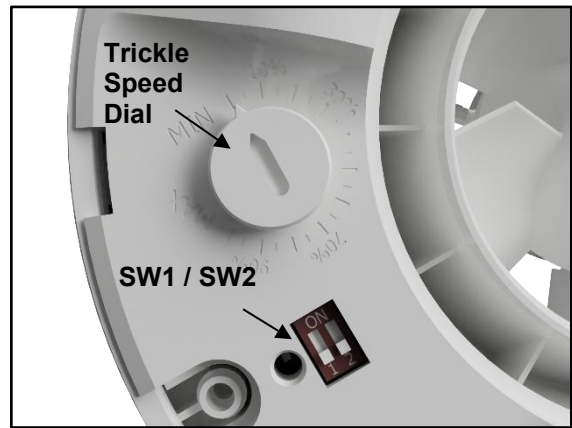
### HT & HT-IAQ models only:

The humidity sensor is fully automatic and does not require setting.

Boost speed is fixed at 50% higher than the set trickle rate.

### HT-IAQ model only:

The Air quality sensor is also fully automatic and does not require setting. The fan speed will automatically increase due to the quality of the air within the room.



### Speed Setting:

Dial Position %	Installation Type (Typical examples)	
	Wall (l/s) (SW1 Off)	Ducted 5.5m (l/s) (SW1 ON)
	100mm	100mm
20	5	5
25	6	6
30	7	8
35	8	11
40	10	12
45	12	15
50	14	16
55	14	17
60	15	18
65	16	19
70	17	21
75	18	21
80	18	22
85	19	22
90	20	23
95	Speed Limited in Wall Mode Setting (SW1)	24
100		24

Note the fan speed is only adjustable within the first 5 minutes of mains power.

Using Vane Anemometers: Please refer to the operating manual for your Vane Anemometer/other types of airflow meters that use hoods. The airflow typically reduces by 20% due to the additional resistance from the hood and vane anemometer. Care should be taken to ensure the correct hood is used to prevent excessive resistance due to the tile cover.

For more details please refer to Setup section.

## PRODUCT FICHE

For Residential Ventilation Units (Complying Commission Delegated Regulation (EU) No 1254/2014)

Name:	Vent-Axia	Vent-Axia	Vent-Axia
Model ID (Stock Ref.) :	PureAir Cleanse 100 414942	PureAir Cleanse 100 HT 416841	PureAir Cleanse 100 HT-IAQ 414943
SEC Class	E	C	C
SEC Value ('Average')	-14.90	-25.85	-25.85
SEC Value ('Warm')	-6.29	-11.48	-11.48
SEC Value ('Cold')	-29.93	-50.93	-50.93
Label Required? (Yes/No=Out of scope)	No	No	No
Declared as: RVU or NRVU/UVU or BVU	RVU-UVU	RVU-UVU	RVU-UVU
Speed Drive	Variable Speed	Variable Speed	Variable Speed
Type HRS (Recuperative, Regenerative, None)	None	None	None
Thermal Eff: [ (%), NA(if none)]	N/A	N/A	N/A
Max. Flow Rate (m3/h)	57.60	57.60	57.60
Max. Power Input (W): (@Max.Flow Rate)	1.51	1.51	1.51
LWA: Sound Power Level (dB)	33.22	33.22	33.22
Ref. Flow Rate (m3/s)	0.01	0.01	0.01
Ref. Pressure Diff. (Pa)	N/A	N/A	N/A
SPI [W/(m3/h)]	0.03	0.03	0.03
Control Factor & Control Typology: (CTRL/ Typology)			
Control Factor; CTRL	0.95	0.65	0.65
Control Typology	Clock Control	Local Demand Control	Local Demand Control
Declared: -Max Internal & External Leakage Rates(%) for BVUs or carry over (for regenerative heat exchangers only), -&Ext. Leakage Rates (%) for Ducted UVUs;	N/A	N/A	N/A
Mixing Rate of Non-Ducted BVUs not intended to be equipped with one duct connection on either supply or extract air side;	N/A	N/A	N/A
Position and description of visual filter warning for RVUs intended for use with filters, including text pointing out the importance of regular filter changes for performance and energy efficiency of the unit	N/A	N/A	N/A
For UVUs (Instructions Install Regulated Supply/Extract Grilles Façade)	In F&W	In F&W	In F&W
Internet Address (for Disassembly Instructions)	www.vent-axia.com	www.vent-axia.com	www.vent-axia.com
Sensitivity p. Variation@+20/-20 Pa: (for Non-Ducted Vus)	N/A	N/A	N/A
Air Tightness-ID/OD-(m3/h) (for Non-Ducted Vus)	N/A	N/A	N/A
Annual Electricity Consumption: AEC (kWh/a)	0.33	0.15	0.15
Annual Heating Saved: AHS (kWh/a)			
AHS: Average	15.72	26.23	26.23
AHS: Warm	7.11	11.86	11.86
AHS: Cold	30.75	51.31	51.31



#### Disposal

This product should not be disposed of with household waste.

Please recycle where facilities exist. Check with your local authority for recycling advice.

### The **Vent-Axia** Guarantee

Applicable only to products installed and used in the United Kingdom. For details of guarantee outside the United Kingdom contact your local supplier.

Vent-Axia guarantees this product for 7 years from date of purchase against faulty material or workmanship. In the event of any part being found to be defective, the product will be repaired, or at the Company's option replaced, without charge, provided that the product:-

- Has been installed and used in accordance with the instructions given with each unit.
- Has not been connected to an unsuitable electricity supply. (The correct electricity supply voltage is shown on the product rating label attached to the unit).
- Has not been subjected to misuse, neglect or damage.
- Has not been modified or repaired by any person not authorised by the company.

#### IF CLAIMING UNDER TERMS OF GUARANTEE

Please return the complete product, carriage paid to your original supplier or nearest Vent-Axia Centre, by post or personal visit. Please ensure that it is adequately packed and accompanied by a letter clearly marked "Guarantee Claim" stating the nature of the fault and providing evidence of date and source of purchase.

The guarantee is offered to you as an extra benefit, and does not affect your legal rights

# **Vent-Axia**

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**UK NATIONAL CALL CENTRE**, Newton Road, Crawley, West Sussex, RH10 9JA

SALES ENQUIRIES: Tel: 0344 856 0590

TECHNICAL SUPPORT: Tel: 0344 856 0594

For details of the warranty and returns procedure please refer to [www.vent-axia.com](http://www.vent-axia.com) or write to Vent-Axia Group, Fleming Way, Crawley, RH10 9YX

EU Authorised Representative: Vent-Axia Sigarenmaker 5 - 5521DJ Eersel Nederland [authorisedrep@vent-axia.nl](mailto:authorisedrep@vent-axia.nl)