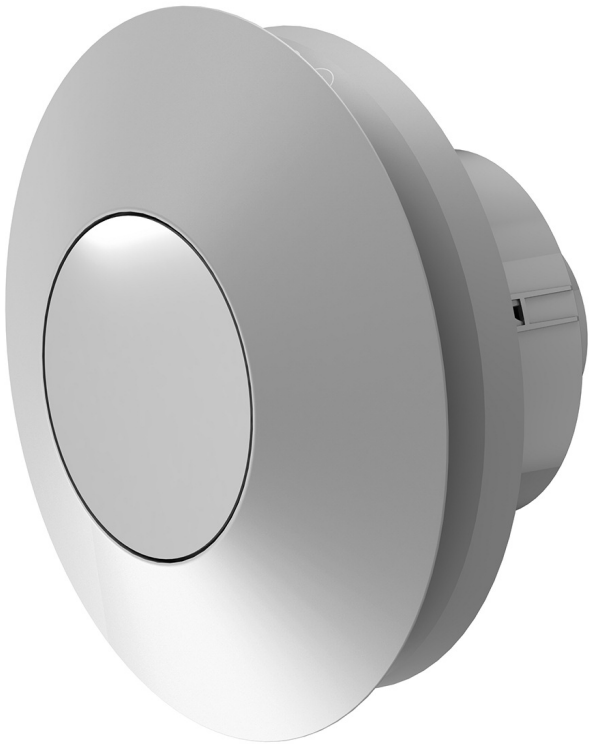
Greenwood AIRVAC

Unity CV3 (SELV)

Decentralised Mechanical Extract Ventilation (dMEV)
Installation and Operating Instructions

The Unity CV3 is a continuously -running (dMEV) extract fan, designed to offer a simplistic approach to meet Building Regulations and provide an energy efficient domestic ventilation solution to improve indoor air quality in dwellings.



Please read instructions before commencing the installation.

Please make these instructions available for the user.

CE

The Unity CV3 is a continuously running (dMEV) fan that revolves around ‘one product’, which has been designed to be flexible in application and to meet the performance requirements of all ‘wet’ rooms within a dwelling.

This product features on the Product Characteristics Database (PCDB), part of the process will require the Installation Checklist for dMEV products to be completed and submitted to building control, available at www.ncm-pcdb.org.uk, along with all other relevant paperwork.

Your Unity CV3 (SELV model reference CV3SV) may have the following features activated:

* Intelligent sensing via the Greenwood TimerSMART™ and Greenwood HumidiSMART™ technology (fully automatic integral delay / over-run timer and humidity functions) which monitor the homeowners’ environment.
* Delay-on-timer, set between 1-60 minute period.
* A 'do not disturb' night mode where your fan will not boost for a period of time upon activation of the light switch.

  Note: These functions only affect the higher extract boost mode, your fan will continue to ventilate at the lower trickle mode.

Key: Installer Information **pages 2 - 9** User Information **pages 10 - 11**

Important:

Please read these instructions before commencing the installation

- 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. Children shall not play with the appliance.
- Cleaning and user maintenance shall not be made by children without supervision. Ensure the fan is switched off from the mains supply before cleaning commences.
- Where an open-flued oil or gas-fuelled appliance is installed, precautions must be taken to avoid a back-flow of gases into the room.
- When installing wall mounted fans, ensure that there are no buried cables or pipes in the way. It is recommended that this fan is mounted >1.8m above floor level and within 400mm of the finished ceiling.
- The fan should not be sited where it would be subject to a direct heat source in excess of 40°C, e.g. at least 600mm distance from cooker hob.
- Observe appropriate safety precautions if working on steps or ladders.
- Wear eye protection when breaking out wall or ceiling materials, etc.
- To disassemble the unit, disconnect from mains supply and use a screwdriver to segregate the electronic components and motor from the plastic housing. Dispose items in accordance with WEEE.

WEEE Statement

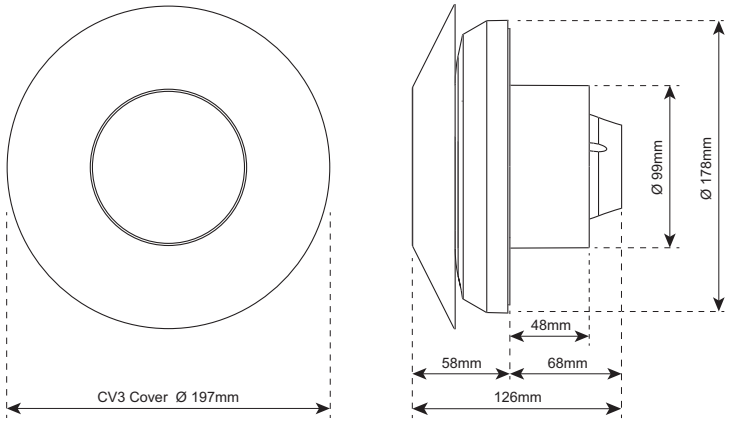
This product may not be treated as household waste. Instead it should be handed to an appropriate collection point for the recycling of electrical and electronic equipment. For more detailed information about the recycling of this product, please contact your local council office or your household waste disposal service.

Installation Preparation

Electrical installation must only be carried out by a qualified Electrician and in accordance with the current editions of Building Regulations and BS7671: IEE Wiring Regulations.

The Unity CV3 fan is supplied with a 100mm nominal spigot for connection of ducts for installation - 100mm diameter rigid duct should be used to provide the best performance levels required for compliance with Building Regulations.

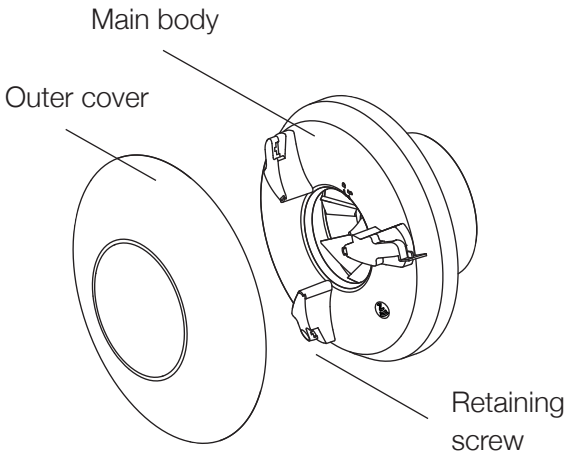
Technical Services can be contacted on +44 (0) 1276 408402 should you have any questions in respect of this.



Preparing your fan for installation

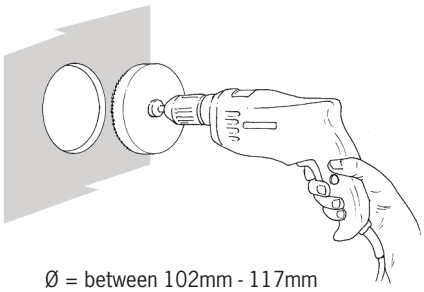
Upon removal from packaging, rotate 'outer cover' anticlockwise until retaining clips are released and place the cover to one side.

Loosen retaining screw in main body cover and rotate anticlockwise to remove.



The unit can be installed on a wall, window (with separate adaptor kit) or ceiling mounted and ducted.

Wall Preparation



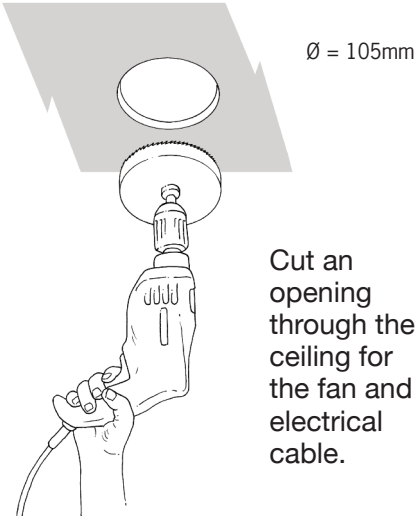
Ø = between 102mm - 117mm
(to suit ducting dimensions)

Allow a clearance of 50mm from wall/ceiling edges around the fan.

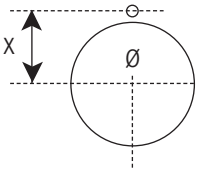
Cut the duct to depth of the plasterboard or tiled wall with slight fall to exterior (Make provisions for cable).

Fill in any gaps with mortar or foam and make good internal and external walls. Make sure that ducting retains its original shape.

Ceiling Preparation

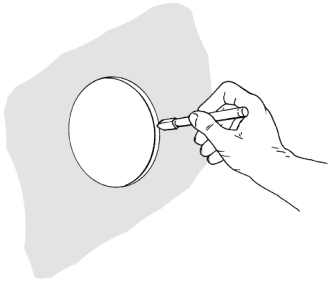


Cut an opening through the ceiling for the fan and electrical cable.



X = 65 Ø = 105mm

Window Preparation

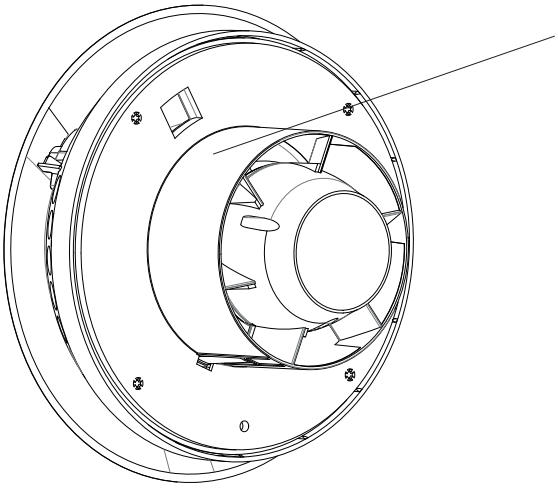


Cut circular hole within window pane.

- minimum Ø = 118mm
- maximum Ø = 130mm

See instructions with window kit for installation details.

Installation



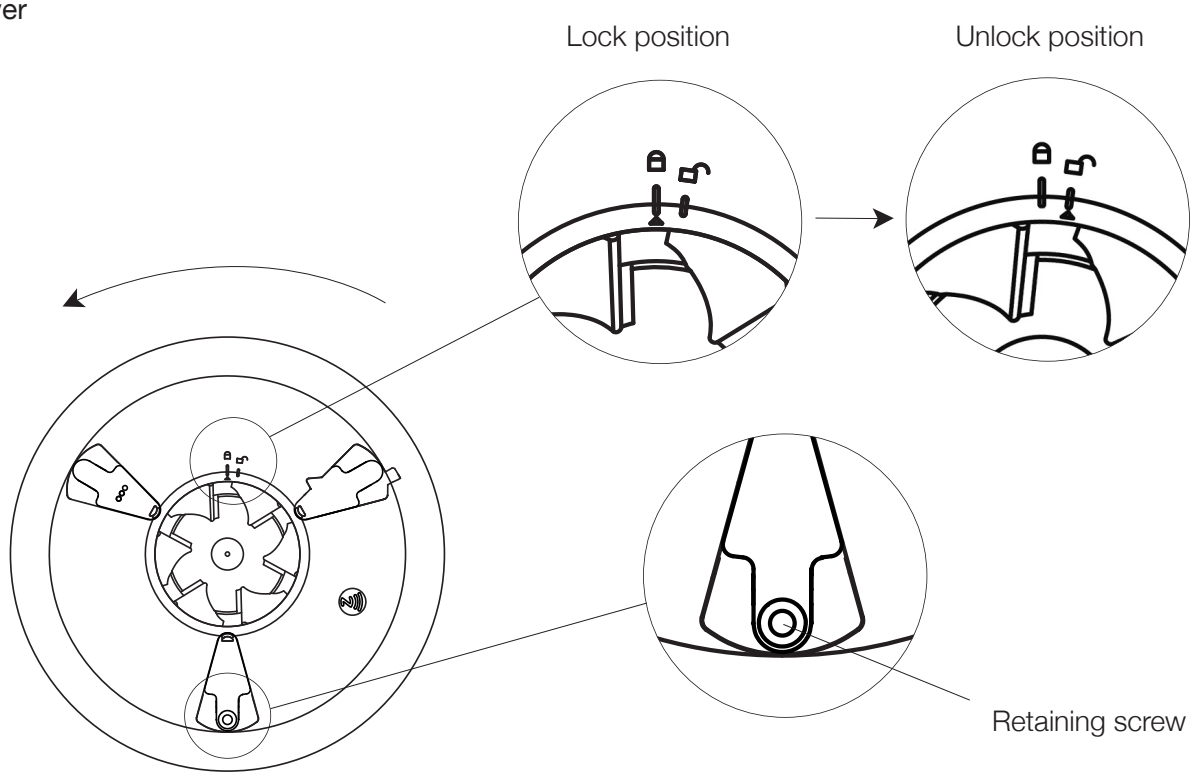
STEP 1

Connect ducting to the spigot on the back of the Unity CV3

Note: If using flexible ducting, ensure this is pulled taut (to a min. 90% stretch capacity) between fan and termination

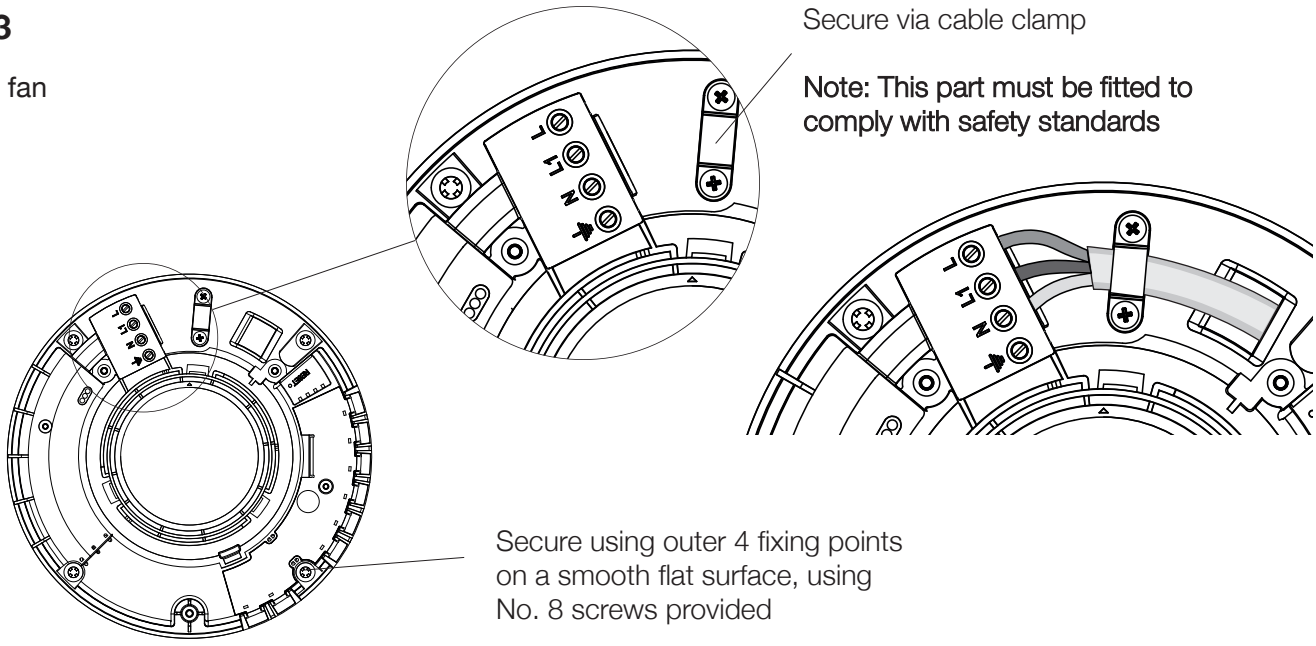
STEP 2

Loosen retaining screw until you can rotate main body cover of the fan anticlockwise to ‘unlock position’ and remove cover



STEP 3

Wire the fan



Electrical Installation Preparation

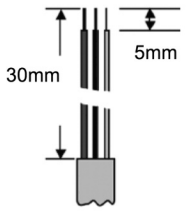
Installation or disconnection must be carried out by a qualified Electrician and all wiring must conform to IEE Wiring or local Regulations. Isolate electricity supply before starting work.

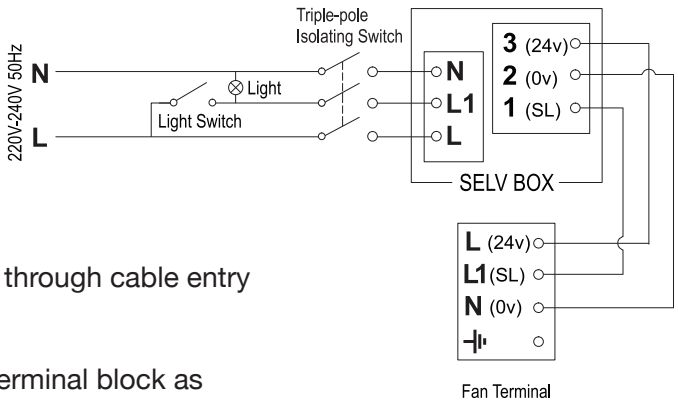
A triple-pole switch having a minimum contact separation of 3mm must be used to provide isolation for the unit. When supplied from a 6 amp lighting circuit no local fuse is required. If electricity is not supplied via the lighting circuit, a localised 3 amp fuse must be used.

Unity SELV Wiring Details

III IPX5 Wall, IPX4 Ceiling, 24DC: between controller and fan 220-240V ~ 50Hz / 1Ph, 7 Watts max.

Cable size: Mains: Fixed flat wiring 2 core 1mm^2, 3 core 1/1.5mm^2, SELV Output: Circular wiring 3 core 0.75mm^2





Strip cable to correct lengths and insert cable through cable entry point at the back of the fan.

Tighten cable clamp and push wires into the terminal block as per wiring diagram, tighten screws of the terminal block.

Note: A facility to park the earth cable has been provided; as the fan is class III no connection to earth is required.

SELV Box Installation

Install SELV Back Plate and Power Supply (see images below), using the two fixing holes, in a suitable location outside of the room where the Unity SELV fan (CV3SV) is installed. The location should be as such that air can circulate around the Power Supply unit and it should never be covered.

The distance between the fan and the SELV Back Plate and Power Supply should be kept to a minimum and ideally not be greater than 3.0m.

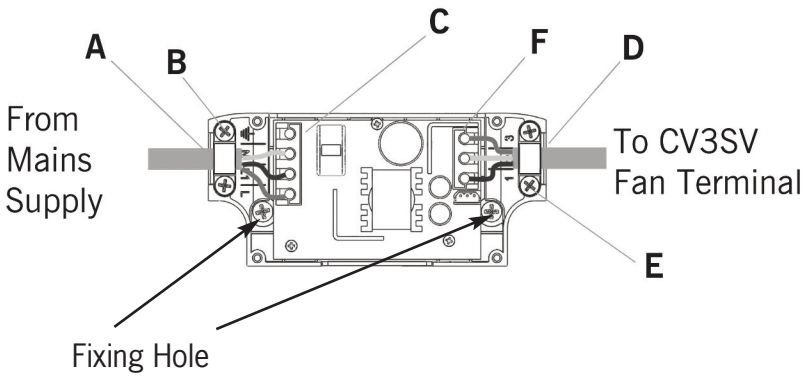
Strip cable to correct length (as shown on page 5) for CV3SV and SELV Back Plate.

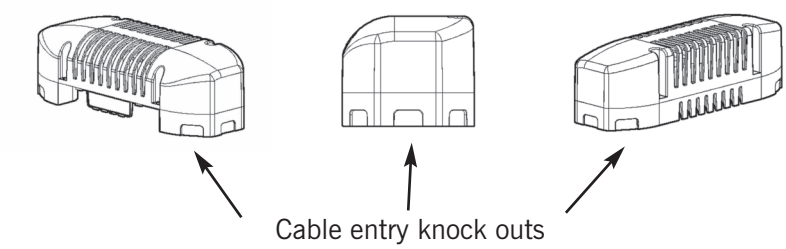
Insert mains cable (A) and clamp using cable clamp provided (B).

Push the wires into the terminal block (C) as per the wiring diagram (on page 5). Tighten the terminal block screws and ensure a good connection.

Push circular low voltage cable through cable entry point (D) and then secure cable using the cable clamp (E).

Push the wires into the terminal block (F) as per the wiring diagram (on page 5). Tighten the terminal block screws and ensure a good connection.

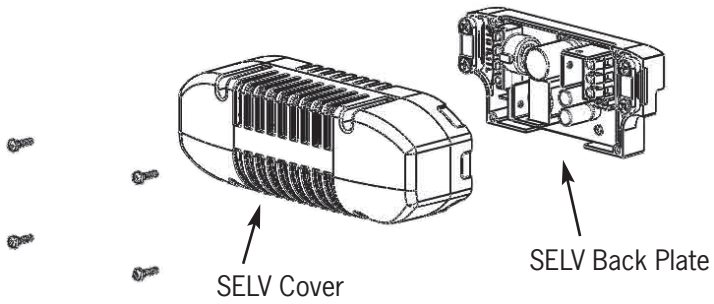




Before fitting the SELV Cover remove suitable cable knock outs that best suit the entry position of both the mains and low voltage cables, ensure that they are dressed and that all sharp edges are removed to ensure cable insulation is not damaged.

Fit SELV Cover to SELV Back Plate and Power Supply and secure using the 4 screws provided.

Insert low voltage cable through the Unity fan's cable entry point and then secure cable using the cable clamp.

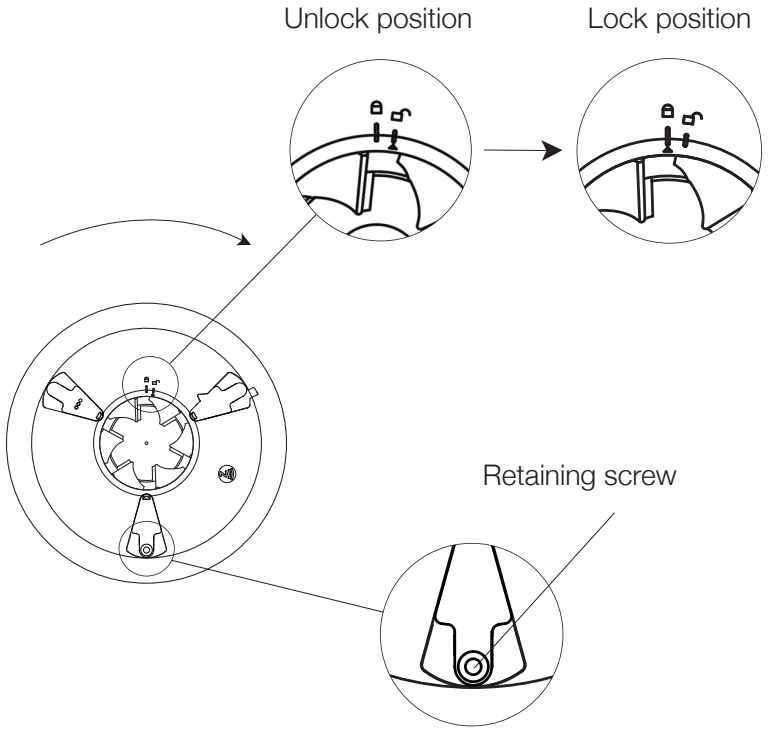


Push the wires into the fan's terminal block as per the wiring diagram (on page 5). Tighten the terminal block screws and ensure a good connection.

STEP 4

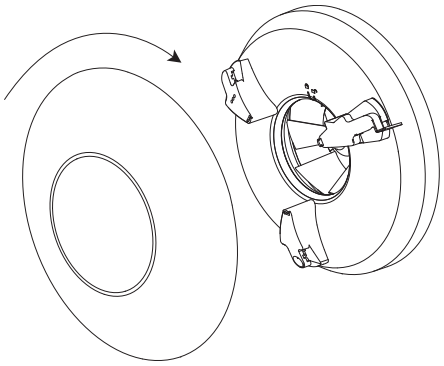
Turn power off and locate main body cover via the arrow & unlock position, rotate clockwise to ‘lock position’

Tighten retaining screw until main body cover cannot be opened.
Turn power on and follow respective commissioning on pages 8 & 9



STEP 5

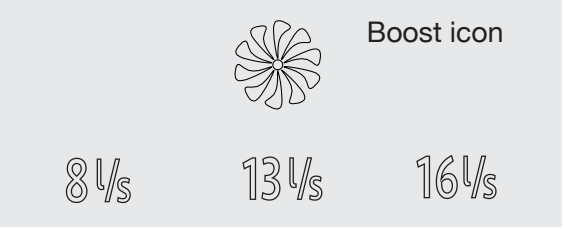
Reattach the front cover by rotating clockwise, utilising the guidance rail, until firmly secured by the retaining clips



A 100mm nominal diameter spigot is provided for connection to ducting. Ductwork should be securely connected to the back of the fan. Failure to do this will cause unnecessary air leakage and may impair performance.

Commissioning your Unity CV3 … via the fan

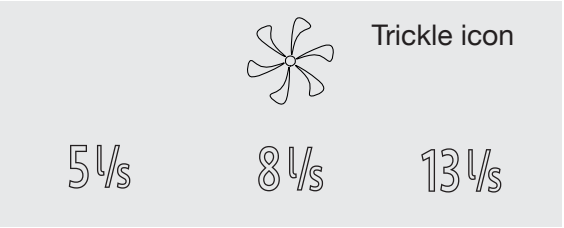
Upon first power up, your Unity CV3 will commence a diagnostic check, whereby the capacitive touch buttons will flash. You should hear a range of beeps, 1 long beep followed by between 2-5 short beeps (depending on how the unit has been configured).



Following diagnostic completion, the ‘Boost’ button and 3 higher speeds will start to flash.

Select required flow rate ⟶ the light adjacent to your selection will go solid.

To confirm flow rate selection press ‘Boost’ button.



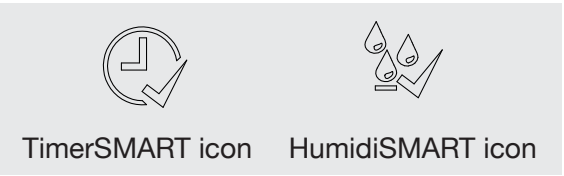
The ‘Trickle’ button and up to 3 lower speeds will start to flash (depending on what boost speed has been selected).

Select required flow rate ⟶ the light adjacent to your selection will go solid.

To confirm speed selection press ‘Trickle’ button.

Upon confirmation of the Boost and Trickle flow rates, your Unity CV3 will start to go through its initialisation sequences for the respective flow rate commissioning.

Select required settings for TimerSMART and HumidiSMART and refit the ‘outer cover’ onto fan (see Step 5 on page 7) .



Default setting: Off

To activate, press required button ⟶ the light adjacent to your selection will go solid.

Note: Your fan may take up to 15 minutes to commission, depending on ducting and install configuration, during this time, your fan will emit a ‘pulse beep’ which will be variable depending on stage of setup. Please note that for the first 1 minute of this phase the impellor of your fan will remain static. This beep will stop once your fan has completed its set up. The airflow sensor has been calibrated at the factory using UKAS accredited equipment (for certification and equipment details please refer to the inside of your Unity CV3).

Status of your fan during commissioning:

Initialisation Sequences	Status of Unity CV3
Both Boost and Trickle lights are on with pulse beep	Your fan is in airflow sensor calibrating mode
Trickle light on with pulse beep	Your fan is now setting up your required trickle rate
Boost light on with pulse beep	Your fan is now setting up your required boost rate
All lights are off and no pulse beep	Commissioning has been successful

Check status of fan by removing the outer cover:

Impellor running:
Airflow rates achieved … you can view your settings by touching any airflow buttons on the fan.

Impellor not running:
A light will be flashing next to either trickle or boost to indicate which airflow has not been achieved, check ducting / installation, 'master reset' following instructions on page 9 and recommission your fan.

Commissioning your Unity CV3 … via the APP

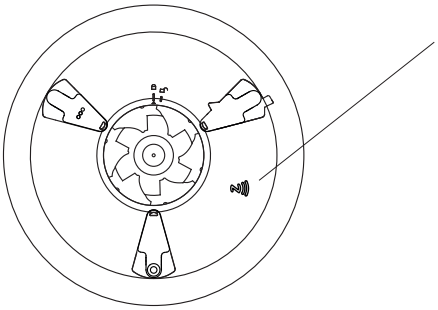
Download our Unity CV3 APP onto your android device via the link available on our website (www.greenwood.co.uk) or via Google Play.

Note: Your device must be NFC capable with NFC enabled (some devices may not work whilst in a case). Minimum Android operating requirements for functionality via the APP is OS 4.3.

Upon first power up, your Unity CV3 will commence a diagnostic check, whereby the capacitive touch buttons will flash. You should hear a range of beeps, 1 long beep followed by between 2-5 short beeps (depending on how the unit has been configured).

Following diagnostic completion, the 'Boost' button and 3 higher speeds will start to flash.

Note: Do not press any buttons.



NFC Location for use with APP only

Open the Unity CV3 APP, remove 'outer cover' of your fan and when prompted match your Android device's NFC with the NFC symbol on the 'main body' of the fan (please refer to your Android device instructions for the NFC location).

Click on the 'Product Setup' section and follow the APP on screen instructions.

Upon pressing 'save' place the NFC symbol on your phone on the NFC symbol on the main body of the fan.

Upon confirmation of required set up via the APP, your Unity CV3 will start to go through its initialisation sequences for the respective flow rate commissioning. Refit the 'outer cover' onto your fan (see Step 5 on page 7).

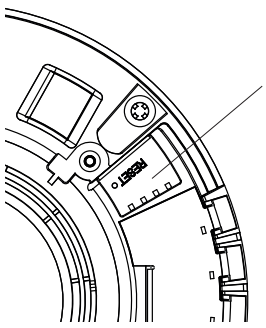
Note: Your fan may take up to 15 minutes to commission, depending on ducting and install configuration, during this time, your fan will emit a 'pulse beep' which will be variable depending on stage of setup. Refer to table on page 8 for fan status. This beep will stop once your fan has completed its set up. The airflow sensor has been calibrated at the factory using UKAS accredited equipment (for certification and equipment details please refer to the inside of your Unity CV3).

Check status of fan by removing the outer cover:

Impellor running: Airflow rates achieved … you can view your settings by placing your android device over the NFC symbol.

Impellor not running: A light will be flashing next to either trickle or boost to indicate which airflow has not been achieved, check ducting / installation, 'master reset' following instructions below and recommission via the APP.

To master reset and recommission your Unity CV3



Resetting your Unity CV3 must be carried out by a qualified electrician or competent person.

Whilst the fan is running, remove both the outer cover and main body cover of the fan (see installation section page 4). Locate the 'reset' button and depress using a small 'pin-sized' tool for 3 seconds. All lights will turn on to show the unit has been reset.

Turn the power OFF to the fan ⟶ replace main body (see installation section page 7).

Turn the power to the fan ON ⟶ recommission either via your fan or the APP, refer to respective commissioning section The Unity CV3 will start to go through its initialisation sequences for the respective flow rate commissioning. See page 8 for fan status..

Note: Your fan will remember its previous timer and humidity settings, if required, these can be changed during the recommissioning section.

Servicing / Maintenance

Service / Maintenance must be carried out by a trained / competent person.

The Unity CV3 fan contains a unique backward curved mixed flow impellor that has been designed to reduce build-up of dirt. The fan motor has sealed for life bearings, which do not require lubrication.

Periodic cleaning of the fans front cover and casing can be carried out using a soft damp cloth.

Do not use solvents to clean this fan.

Cleaning and user maintenance shall not be made by children without supervision.

Please note that your stored fan settings will not be lost during any interruptions to your fan's power supply.

Troubleshooting

Question	Answer
I don't think that my fan is working	The fan is very quiet when the room's light is off, but it is still extracting and working to provide you with enhanced comfort If in doubt, remove the front cover to expose the fan. If the fan impellor is not rotating then contact Technical Services on + 44 (0) 1276 408402
My fan is running all the time	This is correct; it will run at a low speed whilst your room is unoccupied to provide continuous ventilation
My fan is running faster and noisier	Your fan will automatically go into "boost" mode when you turn the light on or if HumidiSMART is activated, when you have a bath / shower / generate steam via cooking The fan will run at a faster speed which generates more noise as more air is being extracted
My fan still runs faster and noisier when I turn the light off	Has the bathroom light been left on for more than 5 minutes? If yes, your fan has TimerSMART activated and the fan will run at the higher noisier "boost" rate between 5 - 15 minutes and it will then return to the lower quieter continuous speed setting
Why can't I turn the fan off	Your fan has been designed to ventilate the room continuously (i.e. 24/7) to improve the indoor air quality and enhance your comfort

How do I change my fan's settings	Press button on fan
	• If the 'trickle or boost' symbols with a flow rate lights up, your fan has been commissioned locally. You can change the following settings:
	
	• Touch TimerSMART button for on or off
	• Touch HumidSMART button for on or off
	
	If only the 'trickle or boost' symbols & no airflow speeds light up, your fan has been commissioned via our APP. To review / change your settings, download our Unity CV3 APP from our website or via Google Play. You can view your settings by removing the front cover and placing your android device over the NFC symbol. Follow APP to read settings on your device for:
	
	• If fan setup has been locked you cannot change anything
	• If unlocked you will be able to adjust:
	  • HumidiSMART on / off
	  • Selected timer mode:
	  o TimerSMART on / off
	  o Silent mode delay-on-timer, 1-60 minute range
	  • Night mode setting to deactivate the boost mode during your selected time period

All information is believed correct at time of going to press. All dimensions referred to are in millimetres unless otherwise shown. E&OE.

All goods are sold according to Zehnder Group UK Ltd's Standard Conditions of Sale which are available on request. See website for warranty period details.

Zehnder Group UK Ltd reserves the right to change specifications and prices without prior notice.

Greenwood Airvac is a division of Zehnder Group UK Limited

Zehnder Group UK Limited

Watchmoor Point, Camberley,
Surrey, GU15 3AD

Customer Services: +44 (0) 1276 408404
Technical Services: +44 (0) 1276 408402
Email: info@greenwood.co.uk
Web: www.greenwood.co.uk
Web: www.zehnder.co.uk

05.10.1061 – June 2019