

Zehnder Unity CV2.1APP

**Decentralised continuous mechanical extract ventilation (dMEV)
with datalogging, humidity sensor and timer**

Product data sheet

always the best climate





Unity CV2.1APP

The Zehnder Unity CV2.1APP is the latest continuously running (dMEV) fan from Zehnder.

The Unity CV2.1 family has been tested and certified against the 2021 UK Building Regulations. It has been designed to take on board the continued importance of reducing energy consumption, easy compliance with Regulations and contribution to well-being by eliminating nuisance noise and contributing to improving indoor air quality.



Key Benefits

- For simple set up, customisation and the best, detailed data logging ever. You can tap into real time information including run time, power off cycles, average and current humidity and temperature levels that can aid informed decision making concerning costly issues around mould and condensation
- Independently tested noise data. Unity CV2.1APP offers ultra-quiet ventilation as low as just 7.9dB(A) in low speed mode once installed
- Using as little as 0.5 Watts, Unity CV2.1APP's energy performance is ideal for directly reducing carbon emissions and running costs
- The unique 100% variable airflow feature, conveniently achieved using the + and - buttons, offers peace of mind to installers that Building Regulation compliance can be easily achieved without over ventilating
- Once calibrated, the controls can be locked to avoid unnecessary changes being made to the fan's running mode. Unity CV2.1APP will also remember its calibrated settings in the event of loss of power, such as a power cut or during any maintenance to the property or the unit
- Unity's SMART technology features, including automatic humidity sensing and a logical approach to overrun timing, help to reduce heat loss and energy wastage
- Listed on the PCDB with a specific model (CV2.1APPCTA110) designed to be utilised with semi-rigid ductwork to reduce the chance of leakage; ideal for installations where lower running costs, lower noise levels and increased product life span is a high priority
- Effortlessly facilitate fan servicing and maintenance with the CV2.1APPQRK Quick Release Kit, featuring easy removal by a competent person and a 5-year warranty for peace of mind
- Suitable for all installation applications, Unity CV2.1APP can be applied to all wet rooms and removes the need for large ducting networks and high background ventilation requirements
- Like other units in the Unity range, Unity CV2.1APP can be installed in walls, windows (with a separate adaptor kit) or ceiling mounted and ducted quickly and easily, with minimal disturbances to existing infrastructure
- Unity CV2.1APP's short 68mm spigot design makes it perfect for application in shallow ceiling voids
- The capacitive touch pad, located on the front panel, ensures easy access and simple commissioning
- Refined and sleek design helps Unity CV2.1APP to blend in with its environment
- Extension to the industry leading Unity range of extract fans

Article Numbers

Description	Product Code
Unit	
Unity Low Energy dMEV Fan, with SMART Humidistat/Timer and Datalogging	CV2.1APP
Unity Low Energy dMEV Fan, with SMART Humidistat/Timer and Datalogging, for CT110mm Ducting	CV2.1APPCTA110
Unity Low Energy dMEV Fan and Quick Release Kit, with SMART Humidistat/Timer and Datalogging	CV2.1APPQRK
Unity Low Energy dMEV SELV Fan, with SMART Humidistat/Timer and Datalogging	CV2.1APPSV
Fire collar ø 100mm for CV2GIP, CV2.1 and CV3, ceiling mounting, 50mm depth	FIRO100.SPV
Secure Window Kit for Unity CV3/CV2/CV2.1 Low Energy dMEV Fan	EWCV3
Picture frame adaptor for Unity dMEV fan	PFACV2
Controls	
Controls, two position switch	ZGS2

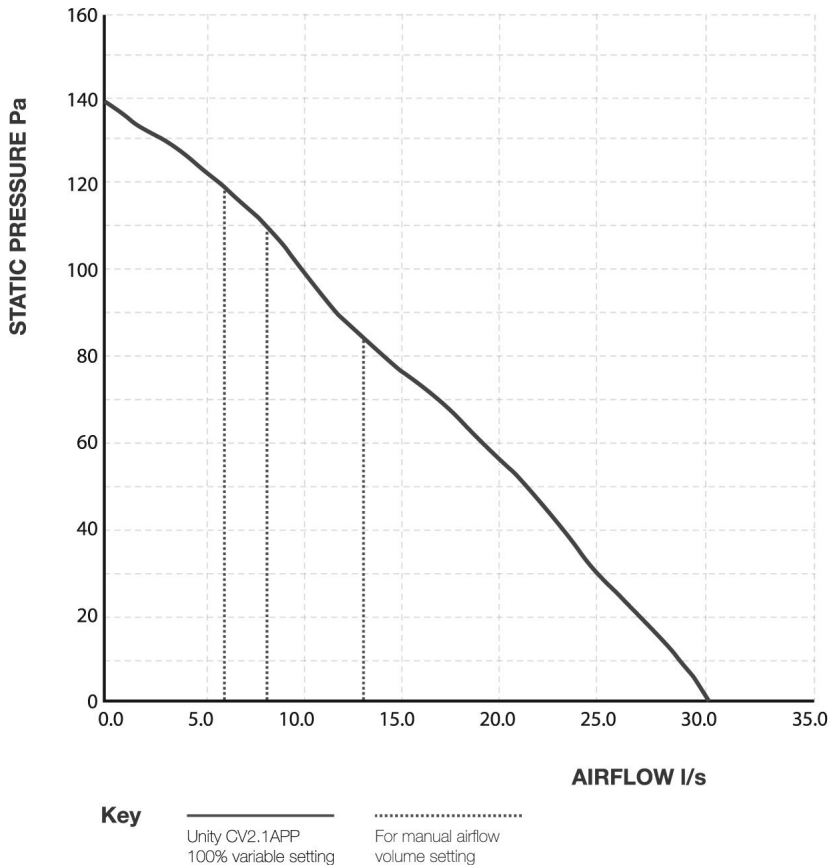


SAP PCDB

Rigid Ducting		SFP (w/l/s)
Configuration	Location	2021
In-room	Kitchen	0.13
	Bathroom	0.11
Through-wall	Kitchen	0.1
	Bathroom	0.1

Semi-rigid Ducting		SFP (w/l/s)
Configuration	Location	2021
In-room	Kitchen	0.13
	Bathroom	0.11
Through-wall	Kitchen	0.1
	Bathroom	0.1

Pressure Curve



Sound Data

Setting	Test area	Octave Band (Hz) Sound Power Level, dB								dB(A) @ 3 m
		63	125	250	500	1000	2000	4000	8000	
MIN	Casing	29.2	23.1	22.6	17.5	13.0	14.5	18.4	23.1	7.9
4 l/s	Casing	29.1	24.2	22.5	19.0	14.2	14.9	18.4	23.1	8.2
6 l/s	Casing	30.1	25.2	27.6	22.9	15.1	15.1	18.1	22.8	9.5
8 l/s	Casing	31.6	27.9	35.0	25.5	20.5	19.6	18.7	23.0	13.3
10 l/s	Casing	33.7	28.5	39.7	32.0	24.8	23.5	19.2	23.0	17.7
12 l/s	Casing	34.5	33.8	44.4	36.9	30.1	28.9	20.8	23.2	22.2
13 l/s	Casing	35.2	38.3	46.5	38.4	32.2	31.9	21.5	23.2	24.3

Casing tested according to [ISO 3741:2010](#). Environment dB(A) @ 3m given as hemispherical.

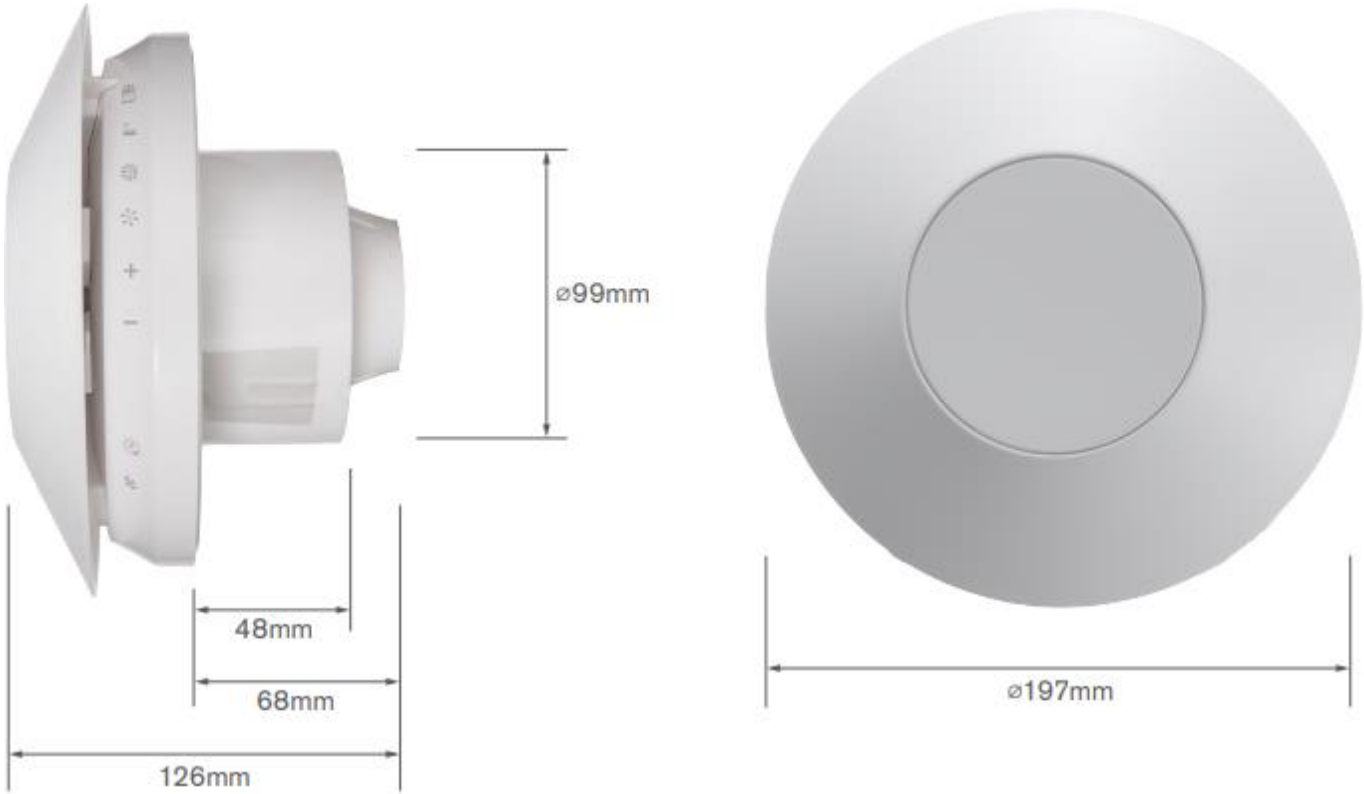


Technical Specification

Weight	0.53 Kg
Glazing	Suitable for 4-28 mm Glazing hole 118-130 mm
Materials	ABS / PC plastic
Supply voltage	230 V / single-phase / 50Hz SELV 24DC
Maximum power consumption	6 W
Current draw	0.055 A
Fuse rating	3 amp
IP Rating	IPX4 Ceiling IPX5 Wall
Specific Fan Power	0.10 W/l/s

Dimensions

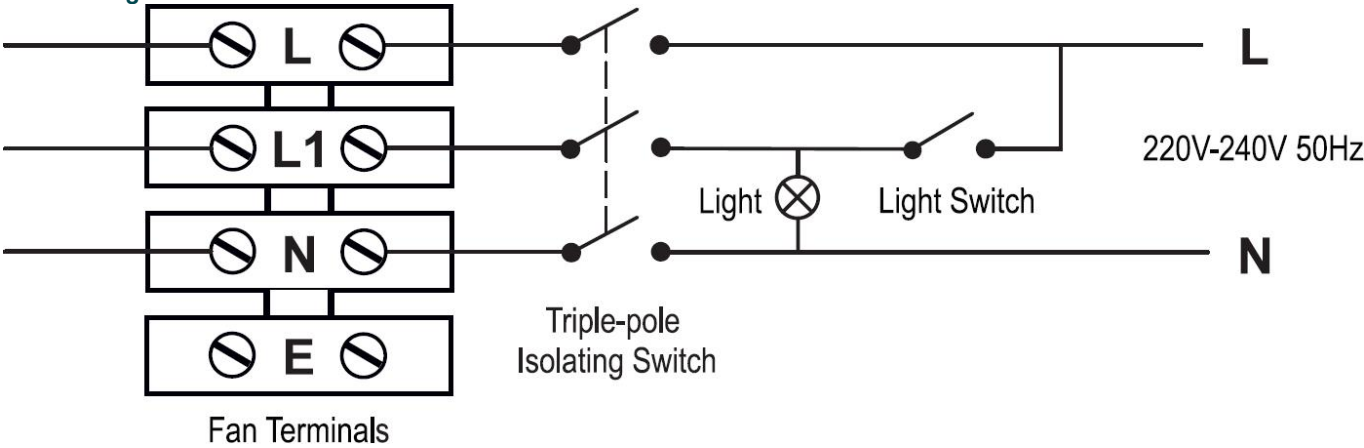
Height	197 mm
Width	197 mm
Depth	126 mm
Spigot diameter ø	100 mm
SELV transformer (HxWxD)	60.3 x 165 x 50 mm



Wiring

Electrical connections should be carried out in accordance to [IEE regulations](#) by a qualified electrician. The unit is supplied with a flying lead for connection to the mains supply.

Boost via light switch



Quick Release Kit

Effortlessly facilitate fan servicing and maintenance with the CV2.1APPQRK Quick Release Kits, complete with compatible CV2.1APP it features easy removal by a competent person and a 5-year warranty for peace of mind.



Touch to set

The innovative capacitive sensing controls of Unity CV2.1APP have been specifically designed to help reduce the time for set-up and make on-site commissioning as straight-forward as possible. On first power up, both Bathroom and Kitchen Room selection button lights should start to flash to indicate that an appropriate installation setting needs to be selected. Selection lights should then remain on for approximately 10 seconds to enable the setup.





Advanced Technology Integration

The advanced technology in our products includes a variety of sensors, controls, and design features. Key features integrated into our Unity range of dMEV fans include: Intelligent Commissioning, Humidity Sensors, and Adaptive Timer Functionality.

Intelligent Commissioning
First introduced on the iconic Greenwood Unity CV2GIP, our Intelligent Commissioning function was designed around a touchpad which simplified the setup and commissioning process. Now included across all the Zehnder Unity range, the consolidation of all necessary features in a single, easily accessible touchpad at the front of the fan, makes adjustments straightforward - even after installation.

Humidity Sensors
Our humidity sensors, which are available across our Zehnder Unity, Greenwood Omnique, Zehnder ComfoAir 155/185, and Greenwood Centair ranges, facilitate the automatic adjustment of ventilation based on detected humidity levels in a room by boosting airflow only when needed. By doing so, it prevents issues like mould, condensation, and damp whilst also avoiding unnecessary operation or energy loss and minimising nuisance running outside of waking hours. Whilst traditional humidity sensors often rely on fixed thresholds, typically 65%, which can lead to unnecessary fan operation in certain conditions (e.g., a warm evening with open windows), our system dynamically adjusts its baseline, reacting only to significant spikes in humidity, ensuring it operates when genuinely needed.

Adaptive Timer Functionality
The adaptive timer functionality in the Zehnder Unity range actively monitor the length of time there is an occupancy within a wet room and provides a fixed over-run time period to best match the length of time the switch-live was active, helping to further minimise unnecessary operation and reduce both noise and energy consumption.

Fire collar ø 100mm for CV2GIP, CV2.1 and CV3, ceiling mounting, 50mm depth

Article number: FIRO100.SPV

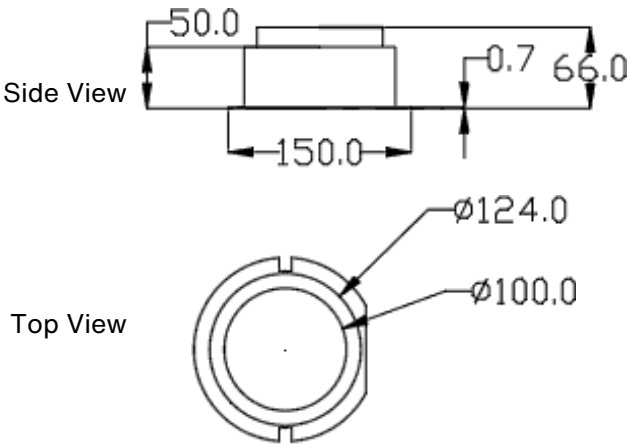
Description
Fire collar:
Recessed ceiling fans are commonplace in domestic buildings, primarily for aesthetic gains. Ceilings are subject to fire regulations and must be fire protected in accordance with Approved Document B. To support this, any holes that are made for ceiling fans must be fire stopped, in order to reinstate the original fire rating of the ceiling. To satisfy this requirement the fire collar for ceiling fan has been developed to provide protection for holes created by 100 mm ceiling fans. The Fire Damper for Ceiling Fan is both quick and easy to install and has been independently approved with Unity CV2, CV2.1 and CV3 extract fans.

Technical Specification	
Length	66 mm
Diameter ID	100 mm
Diameter OD	124 mm
Weight	0.5 kg
Material	Modified steel / fire wrap
Fire Tested to BS EN 1365-2 standard	30 minute fire rating Tested in Timber / Metal Web Joist system

■ For use with Unity Low Energy dMEV Fan



Dimensions



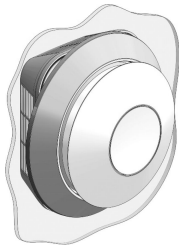
Secure Window Kit for Unity CV3/CV2/CV2.1 Low Energy dMEV Fan

Article number: EWCV3

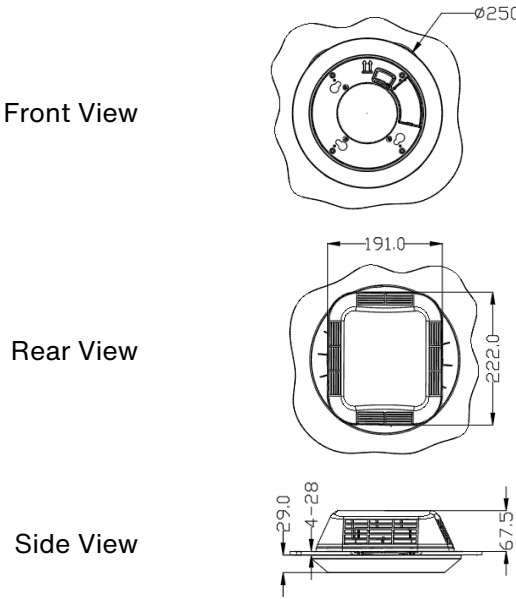
Description
Window Kit:
The Unity Window Fixing Kit is made from robust material and features a specially designed external grille which makes gaining access to the inside of a property through the entry created by the fan more difficult. Extra thick webbed plastic at screw fixing points also give an increased level of strength and security to protect the unit from possible malicious damage.

Technical Specification	
Height (external / internal element)	222 / 250 mm
Width (external / internal element)	191 / 250 mm
Depth (external / internal element)	67.5 / 29 mm
Weight (external / internal element)	0.26 / 0.15 kg
Glazing	Suitable for 4-28 mm Glazing hole 118-130 mm
Material (external / internal element)	ABS and polycarbonate / ASA and polycarbonate

■ For use with Unity Low Energy dMEV Fan



Dimensions



Picture frame adaptor for Unity dMEV fan

Article number: PFACV2

Description

Picture Frame Adaptor:

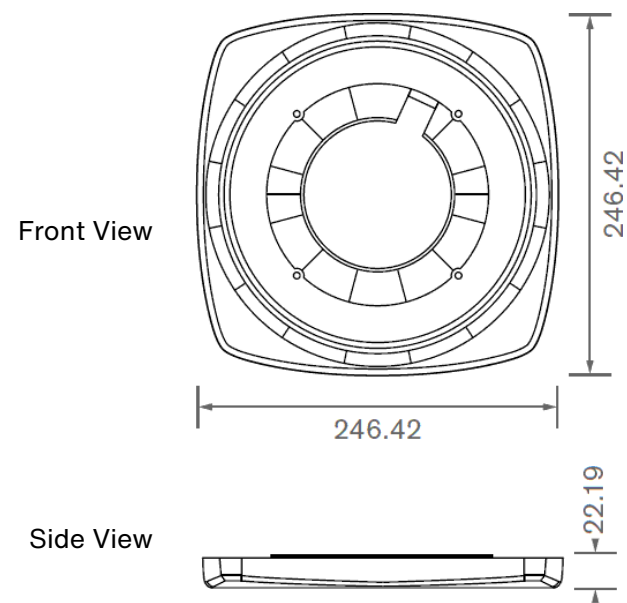
Designed to provide a perfect aesthetic finish when Unity is used as a replacement product in existing 150 mm wall installations.

Technical Specification

Height	246.42 mm
Width	246.42 mm
Depth	22.19 mm
Weight	0.18 kg
Material	White satin finish ABS Plastic



Dimensions



■ For use with Unity Low Energy dMEV Fan

Controls

ZGS2

Product code: ZGS2



The Zehnder ZGS2 is a two position switch designed to enable the user to manually select the desired ventilation systems flow rate

Key Benefits

- 2 separate ventilation flow rate options to select in 1 controller

Technical Specification

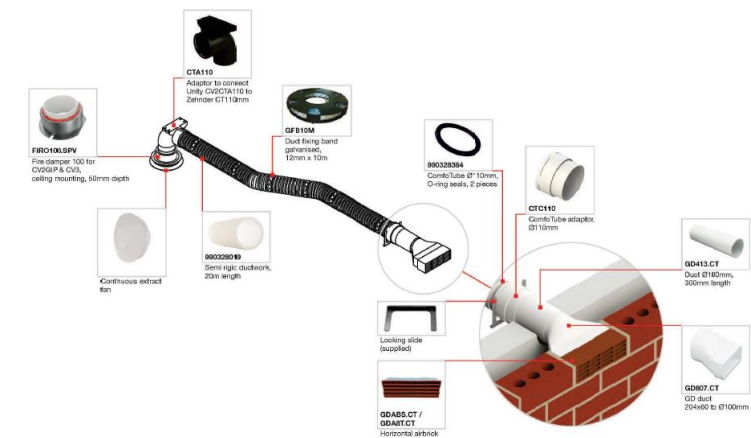
Mounting options	Recessed
Supply voltage	Mains power - 230 V / single-phase / 50Hz

Dimensions (recessed)

Height	86 mm
Width	86 mm
Depth	15 mm

For use with

The CV2.1APPCTA110 can be used with our zero leakage ComfoTube 110 mm semi-rigid ductwork to speed up installation and reduce running cost and noise levels.



TO VIEW OUR COMFOTUBE 110 INFORMATION

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Installation Instructions

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Consultant Specification

Specification

The fan shall consist of a body manufactured in recyclable ABS. It shall have an ultra-low energy DC motor with a backwards curved mixed flow impellor and shall be constructed to have a removable cover.

The fan shall have a single 100 mm diameter exhaust connection for direct connection to standard ductwork or a converter piece to enable use with 110mm semi-rigid ductwork. The unit shall be tested and published on the PCDB for both rigid and semi-rigid ductwork. It shall be suitable for horizontal or vertical orientation to the wall, window or ceiling and provide a minimum of IPX5 protection in the wall / window installation (jetted water) and IPX4 protection in the ceiling installation (splashing water) as standard.

The fan shall conform to LVD and EMC standards, be UKCA Marked and be independently tested for noise characteristics. It shall be double insulated to meet the IEE wiring regulations. The fan shall be manufactured by Zehnder.

Operation

The fan shall be a Unity manufactured by Zehnder and shall be suitable to mount on a wall, window or ceiling in accordance with the specification.

The fan shall vary its speed of the ultra-low energy DC automatically when it receives a signal from external sensors in combination with external switches. The fan shall incorporate electrical connections to allow for the signal from a switched live 230V contact to vary its speed.

The fan shall have the ability to adjust and commission the extract motor along with activate or deactivate the timer or humidity control via the front mounted control panel on the main body, without the need to remove the cover. The fan shall offer 100% variable speed control on both the low and high speeds, and maintain commissioned settings even in the event of a power cut.

Controls

All fans shall contain the following functions which are factory fitted by the manufacturer:

- 100% variable extract motor control
- Variable low and high speed flow rate set point
- Easy to use commissioning facility via the main body of the fan with 100% variability for both the low and high airflow rates
- Switched live input
- SMART humidity sensors to operate the unit in response to humidity spikes above natural background humidity levels as opposed to a single threshold humidity point to activate the high set point
- SMART timer controls using variable length of boost operating time depending upon room occupancy duration