

# Zehnder ComfoTube 110mm



# ComfoTube 110mm

The Zehnder ComfoTube 110mm is a high performance semi-rigid ductwork ideal for residential applications using decentralised mechanical extract ventilation (dMEV). The clinside smooth internal lining help to reduce build up of dust and enable the ductwork to be cleaned. The ductwork is fully accredited and listed on the PCDB.

The ductwork can be installed much faster than conventional ductwork with a reduced number of connections helping to reduce any potential air leakage within the system resulting in reduced noise levels and running costs. The O-rings and locking slides also help to prevent the ductwork being disconnected during first fix and maintain an airtight seal. End caps are also available to prevent dust ingress during first fix to maintain a hygienic system.

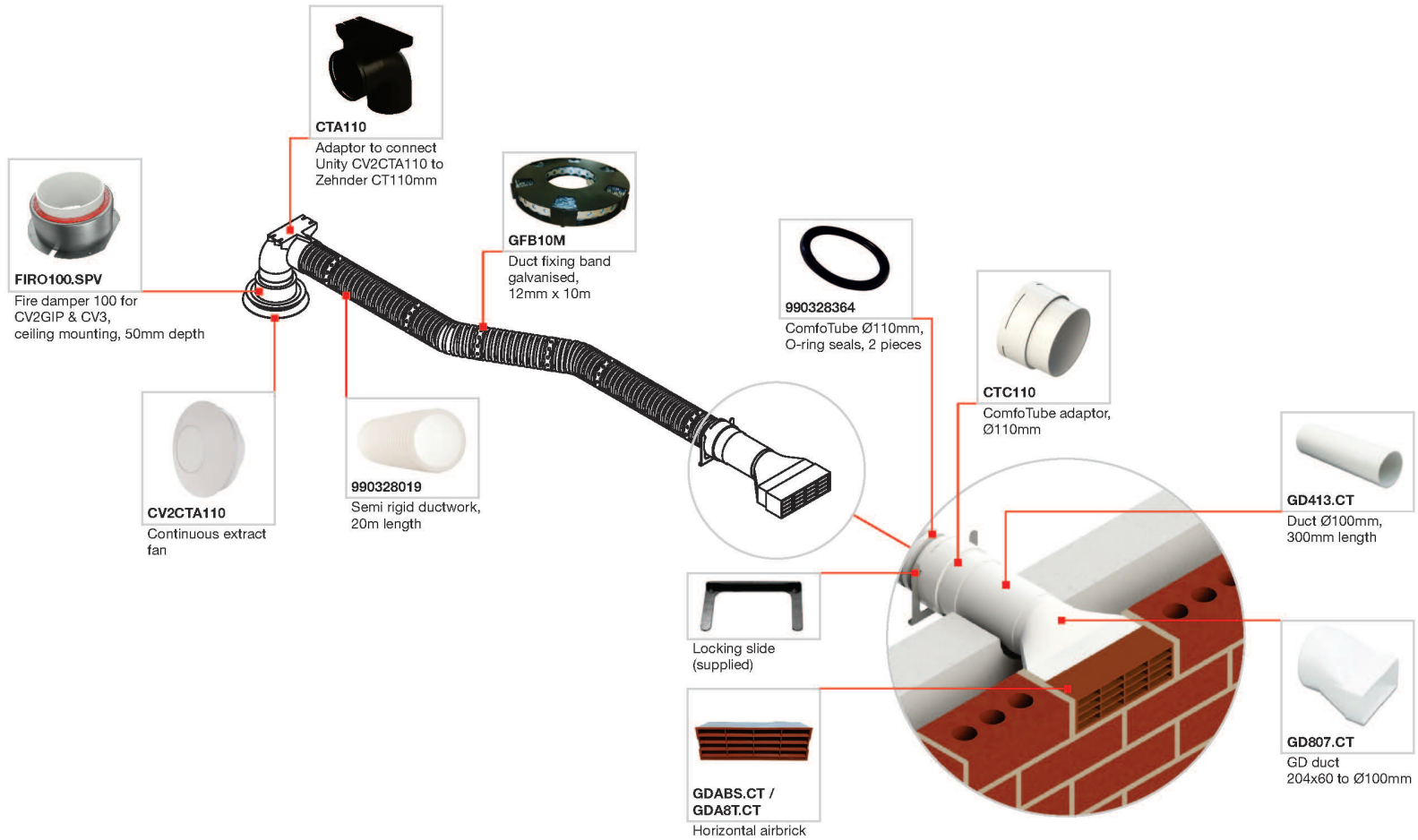
## Key Features

- Easy and quick to install
- Airtight
- High-quality food-grade plastic (HDPE)
- Fully accredited and listed on the PCDB
- Low pressure losses
- Easy to clean
- Suitable for installation in the building concrete structure
- Crush resistant a ring stiffness of >8 kN/m<sup>2</sup>
- Corrosion resistant
- Lightweight and easy to handle
- No sealant or tape required
- Suitable for use with the CV2CTA110 dMEV

## Article Numbers

Description	Product Code
<b>Ductwork</b>	
Zehnder ComfoTube Ø 110mm, 50m roll	990 328 018
Zehnder ComfoTube Ø 110mm, 20m roll	990 328 019
<b>Ancillaries</b>	
CTA110 adaptor to connect Unity CV2CTA110 to Zehnder CT110mm	CTA110
Connector to fix Zehnder ComfoTube DN110 to GG82W 125mm Grille	990 328 111
Connector to fix Zehnder ComfoTube DN110 to GD413.CT	CTC110
Zehnder ComfoTube ø 75mm, locking slides, 2 pieces	990 326 014
Zehnder ComfoTube ø 110mm, end caps, 2 pieces	990 328 264
Zehnder ComfoTube ø 110mm O-ring seal, 2 pieces	990 328 364
GD rectangular ducting, GD4 ø 100mm to GD8 204x60 adapter	GD807.CT
GD round ducting, GD4 pipe, ø 100mm x 350mm	GD413.CT
Duct fixing band, galvanised, 12mm x 10m	GFB10M
Fixing worm drive clip, ø 180mm	FC180
Insulated Flexiduct ø 150mm, aluminium, 4m pipe	GFA6.4I
Insulated Flexiduct ø 150mm, aluminium, 10m pipe	GFA6.10I
Fire damper ø 100mm for CV2GIP and CV3, ceiling mounting, 50mm depth	FIRO100.SPV
<b>External Terminals</b>	
External terminal, square louvred vent, ø 125mm connector, brown	GG82B
External terminal, square louvred vent, ø 125mm connector, white	GG82W
External terminal, horizontal airbrick, GD8 204x60mm connector, sand	GDA8S.CT
External terminal, horizontal airbrick, GD8 204x60mm connector, terracotta	GDA8T.CT
Roof terminal with universal stepped adaptor, connects ø 100, 110, 125, 150 and 160mm pipe, black	RTUB41
<b>dMEV</b>	
Unity Low Energy dMEV Fan, with SMART Tech, for CT110mm Ducting	CV2CTA110

## 3D System Layout



## Zehnder ComfoTube ø 110mm, 20/50m roll

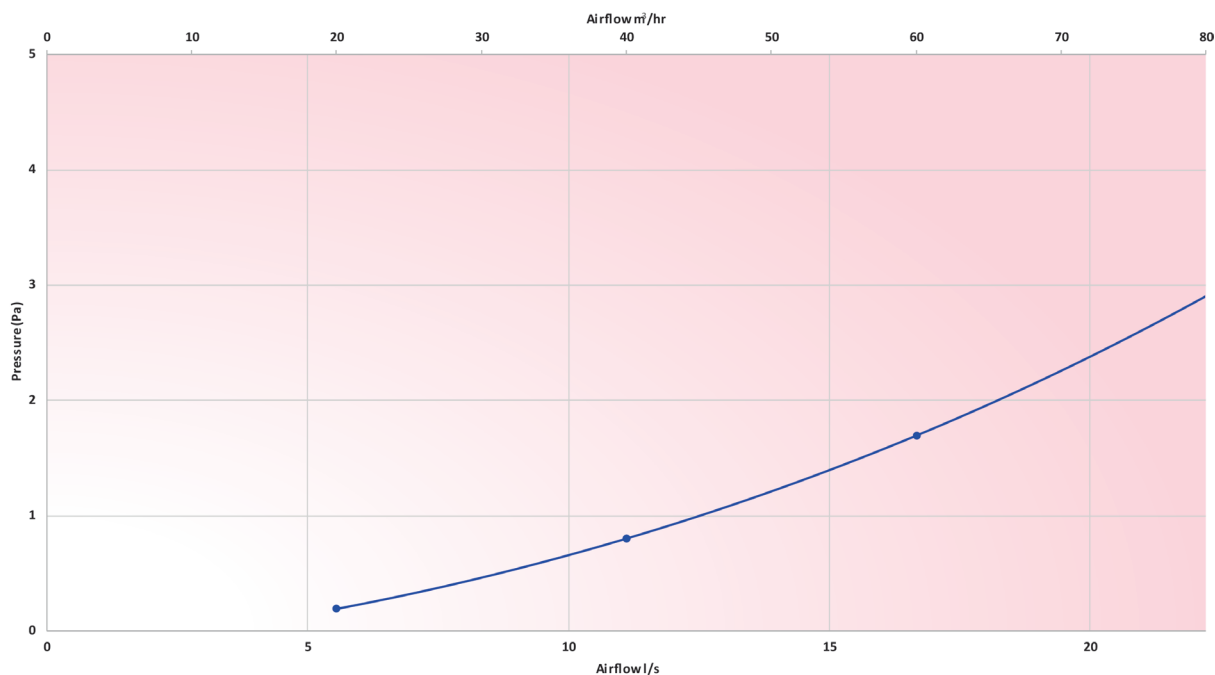
Article number: 990 328 018 / 990 328 019



### Technical Specification

Material	High-quality food-grade plastic
Operating temperature range	-25 to +60 °C
Maximum recommended air volume per tube	22.2l/s (80m³/h)
Minimum bending radius	2 x diameter
Outside diameter	110mm
Inside diameter	92mm
Weight per m	0.55 kg/m
Fire rating in accordance with DIN EN 13501-1	E
Ring stiffness	>8 kN/m <sup>2</sup>
BS EN ISO 9969:2007 crushability compliant	Yes
Coil diameter (50m roll)	1780mm
Coil height (50m roll)	500mm

### Pressure Curve



Zehnder ComfoTube ø 110mm, 1m length

### Sound Data

	Octave Band (Hz) Insertion Loss, dB							
	63	125	250	500	1000	2000	4000	8000
Zehnder ComfoTube ø 110mm, 1m length	0.5	0.4	0.5	0.5	0.7	0.8		

Acoustic performance measured according to EN ISO 7235 (pink noise)

## CTA110 adaptor to connect Unity CV2CTA110 to Zehnder CT110mm

Article number: CTA110



### Description

#### Adaptor:

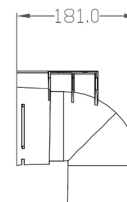
Zehnder ComfoTube  $\varnothing$  110mm, adaptor. The adaptor is used to connect the CV2CTA110 dMEV fan to Zehnder ComfoTube  $\varnothing$  110mm ductwork at a 90 degree angle, as featured on the (PCDB) Product Characteristic Database, and comes complete with locking slide.

### Technical Specification

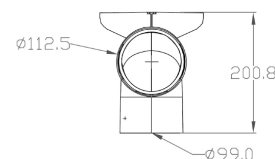
Height	200.8mm
Width	171.9mm
Depth	181mm
Weight	0.32kg
Material	Acrylonitrile butadiene styrene (ABS)

Side view

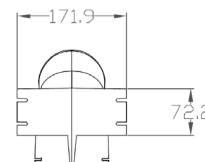
### Dimensions



Front view



Top View



## Connector to fix Zehnder ComfoTube DN110 to GG82W 125mm Grille

Article number: 990 328 111



### Description

#### Pipe Connector:

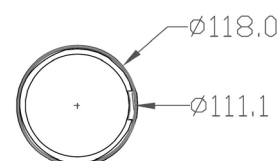
Zehnder ComfoTube  $\varnothing$  110mm, pipe connector. The connector is used to join two lengths of Zehnder ComfoTube  $\varnothing$  110mm together to create an airtight and robust seal using O-rings, alternatively it can be used to connect Zehnder ComfoTube  $\varnothing$  110mm to a GG82B/W 125mm external grille.

### Technical Specification

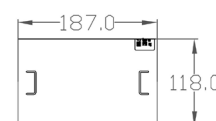
Length	187mm
Diameter ID	111.1mm
Diameter OD	118mm
Weight	0.19kg
Material	Medium-density polyethylene

Front view

### Dimensions



Top View



## Connector to fix Zehnder ComfoTube DN110 to ø 100mm GD413.CT

Article number: CTC110

### Description

#### Pipe connector:

Zehnder ComfoTube ø 110mm, pipe connector. The female connector is used to connect Zehnder ComfoTube ø 110mm to ø 100mm GD413.CT ø 100mm ductwork.

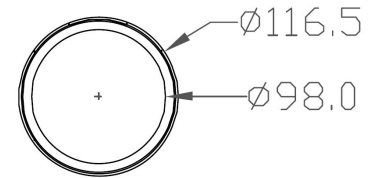
### Technical Specification

Length	85.7mm
Diameter ID	98 / 112.5mm
Diameter OD	108 / 116.5
Weight	0.128kg
Material	Acrylonitrile butadiene styrene (ABS)

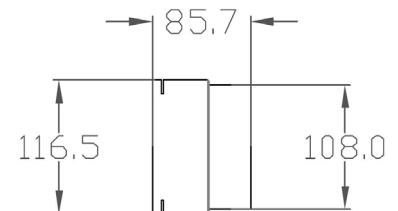


### Dimensions

Front view



Top View



## Zehnder ComfoTube ø 75mm, locking slides, 2 pieces

Article number: 990 326 014

### Description

#### Locking slide:

Zehnder ComfoTube ø 110mm, locking slide. The locking slide is used to secure the Zehnder ComfoTube ø 110mm ductwork without the need for messy sealants.



### Dimensions

### Technical Specification

Weight	0.051kg (each)
Material	Galvanised steel

## Zehnder ComfoTube ø 110mm, end caps, 2 pieces

Article number: 990 328 264



### Description

#### End caps:

Zehnder ComfoTube end caps. The 75mm / 90mm and 110mm end caps can be placed within their corresponding Zehnder ComfoTube ø 75mm, Zehnder ComfoTube ø 90mm and Zehnder ComfoTube ø 110mm during the construction phase to prevent dust ingress. The 90mm end caps can also be placed directly into the 75mm manifold or mounting plate and the 110mm end caps can be placed directly into the 90mm manifold or mounting plate to seal off any unwanted ports.

### Technical Specification

Pieces	2
Length	55.3mm
Diameter	102mm
Weight	0.05kg (each)
Material	Medium-density polyethylene

## Zehnder ComfoTube 110mm O-ring seal, 2 pieces

Article number: 990 328 364



### Description

#### O-ring:

Zehnder ComfoTube O-ring seal. The O-ring is used to ensure an airtight connection is made with pipe connectors, grille housings, manifold/mounting plates and connecting elements.

### Technical Specification

Outside diameter	114mm
Inside diameter	93mm
Weight	0.015kg (each)
Material	EPDM (Ethylene Propylene Diene Monomer)

## GD rectangular ducting, GD4 $\varnothing$ 100mm to GD8 204x60 adapter

Article number: GD807.CT

### Description

#### Pipe connector:

204x60 to  $\varnothing$  100mm, pipe connector. The female connector is used to connect  $\varnothing$  100mm GD413.CT to a GDA8S.CT or GDA8T.CT 204x60mm airbrick.

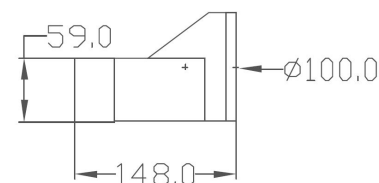
### Technical Specification

Height	100mm
Width	203mm
Depth	148mm
Weight	152g
Material	High Impact Polystyrene

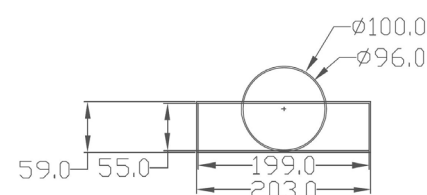


### Dimensions

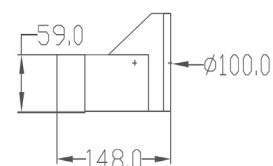
Side view



Front view



Top View



■ External terminal: GDA8S.CT and GDA8T.CT horizontal airbrick terminal for 204x60 GD8

## GD round ducting, GD4 pipe, $\varnothing$ 100mm x 350mm

Article number: GD413.CT

### Description

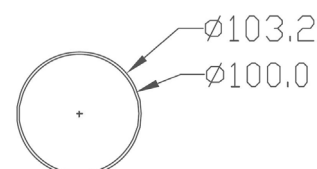
#### Ductwork:

The pre-cut 350mm  $\varnothing$  100mm ductwork is ideal for through wall terminations connecting the CTC110 and GD807.CT

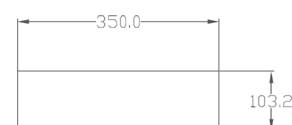


### Dimensions

Front view



Top View



### Technical Specification

Length	350mm
Outside diameter	103.2mm
Inside diameter	100mm
Weight	233g
Material	Polyvinyl Chloride Un-plasticised (PVCu)

**External terminal, horizontal airbrick, GD8 204x60mm connector, Sand/ Terracotta**

Article number: GDA8S.CT / GDA8T.CT



**Dimensions**

**Description**

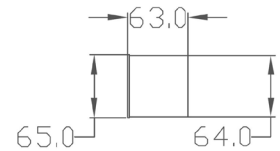
**Termination:**

Termination for 204x60 duct system to securely connect to GD807.CT adapter.

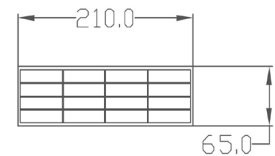
**Technical Specification**

RAL colour	Sand (RAL1001) / Terracotta (RAL2001)
Height	65mm
Width	210mm
Depth	63mm
Weight	115g
Material	High Impact Polypropylene
Free area	7680mm <sup>2</sup>

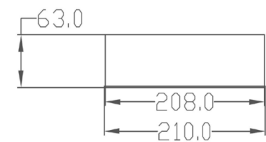
Side view



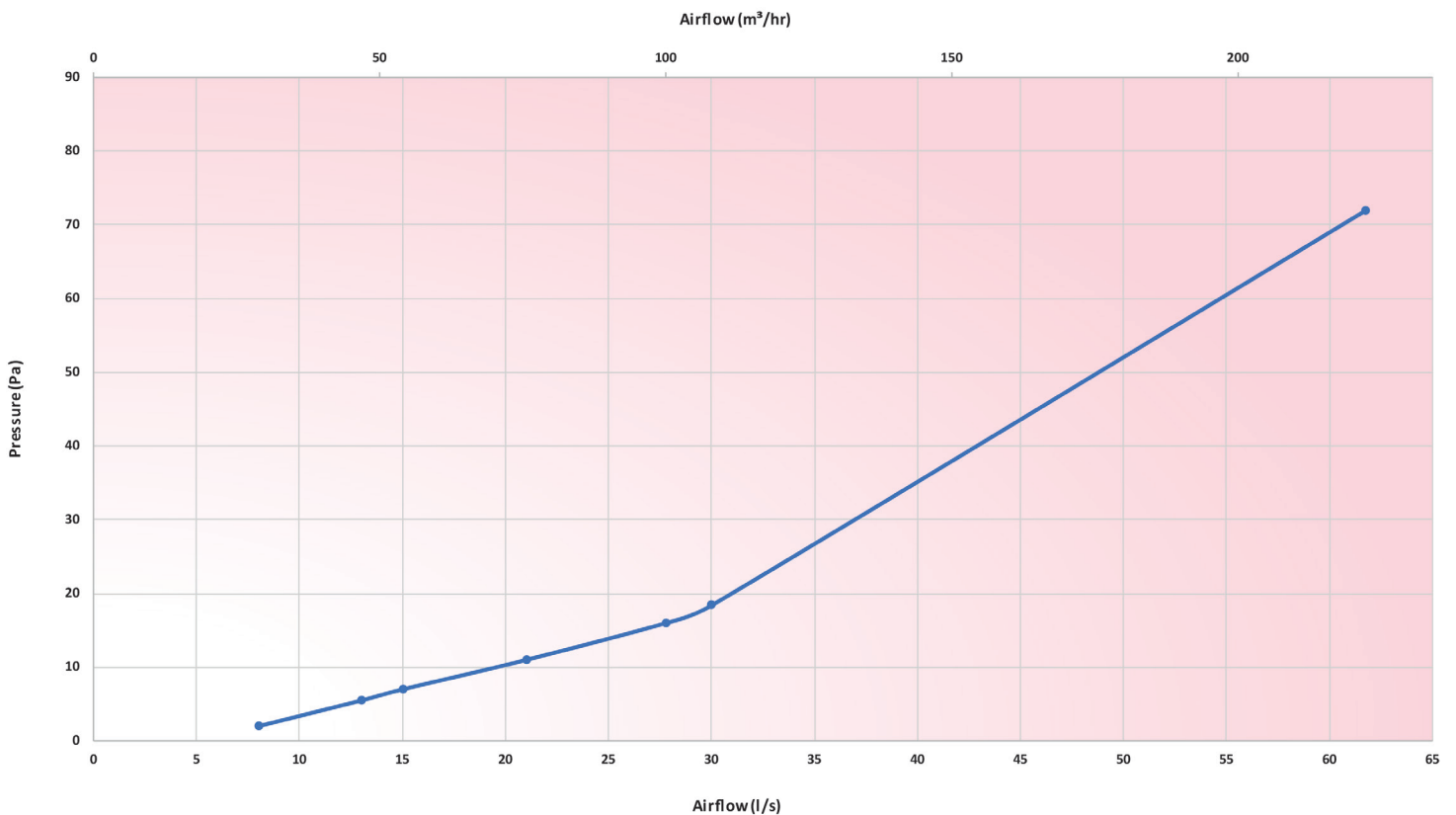
Front view



Top View



**Pressure Curve**



External terminal, horizontal airbrick, GD8 204x60mm connector

Fire damper  $\varnothing$  100mm for CV2GIP and CV3, ceiling mounting, 50mm depth

Article number: FIRO100.SPV

### Description

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.

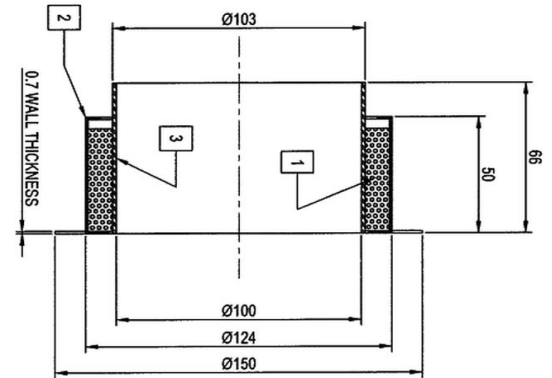
To support this, any holes that are made for ceiling fans must be fire stopped, in order to reinstate the original fire rating of the ceiling.

To satisfy this requirement the fire damper for ceiling fan has been developed to provide protection for holes created by 100mm ceiling fans.

The Fire Damper for Ceiling Fan is both quick and easy to install and has been independently approved with both Unity CV2 and Unity CV3 extract fans.



### Dimensions



### Technical Specification

Inside Diameter	100mm
Outside Diameter	124mm
Depth	66mm
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

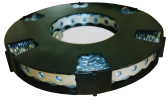
### Test Data

Test Type	Fire Test Lab	Report Number	Construction	Fire Rating
Fire Test	Warrington Fire	WF 394530	Metal Web Joist	30min
Fire Test (indicative)	Warrington Fire	WF 391714/A	Metal Web Joist	30min

## Ancillaries

### Ancillaries - Sealants, tapes and clips

GFB10M



Galvanised fixing band

FC180



Fixing worm drive clip

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### Ancillaries - Flexible ductwork

GFA6.4I



Insulated Flexiduct ø 150mm,  
aluminium, 4m pipe

GFA6.10I



Insulated Flexiduct ø 150mm,  
aluminium, 10m pipe

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### Ancillaries - External terminals

GG82B / GG82W



External terminal,  
square louvred vent,  
ø 125mm connector,  
brown or white

RTUB41



Roof terminal with universal  
stepped adaptor, connects  
ø 100, 110, 125, 150 and  
160mm pipe, black

## BIM/CAD Components

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## Consultant specification

### Specification

The semi-rigid ductwork shall be dual wall constructed of high-quality food-grade plastic HDPE/LDPE with a crush resistant ring stiffness of  $>8 \text{ kN/m}^2$ . It shall be suitable for installation into concrete with a fire rating in accordance with EN 13501 of E. It shall have an operating temperature range of  $-25$  to  $+60 \text{ }^\circ\text{C}$  and not be designed to exceed flowrates of  $22.2 \text{ l/s}$ .

The ductwork shall be accredited for use in SAP Appendix Q.

The ductwork shall be manufactured by Zehnder.

## Greenwood Unity CV2CTA110

The Greenwood Unity CV2CTA110 is a decentralised mechanical extract ventilation fan (dMEV) that revolves around a one product concept which can be applied to any wet room in the home.



### Key Features

- One fan, any room, all applications - Unity can be applied to all wet rooms and removes the need for large ducting networks and high background ventilation requirements.
- Using as little as 1.1 watts, Unity's energy performance is ideal for directly reducing carbon emissions in SAP .
- Unity's short 68mm spigot design makes it perfect for application in shallow ceiling voids.
- The unique 100% variable airflow feature offers peace of mind to Installers that Building Regulation compliance can be easily achieved.
- Unity's SMART technology features, including automatic humidity sensing and a logical approach to overrun timing, help to reduce heat loss and energy wastage.
- The discreet and stylish design helps Unity to blend in with its environment .
- The SMART touchpad located on the front panel removes the need for battling with fiddly switches, often located at the back of the fan.
- Unity offers ultra-quiet ventilation as low as 10dB(A) in low speed mode once installed.
- The best of the rest - Unity has a low energy EC motor, 9 registered design patents and a mixed flow backward curved impellor for protection against clogging.
- Independently tested noise data
- CV2CTA110 suitable for use with ComfoTube 110mm semi-rigid ductwork

### Article Numbers

#### Description

Unity Low Energy dMEV Fan, with SMART Tech, for CT110mm Ducting

#### Product Code

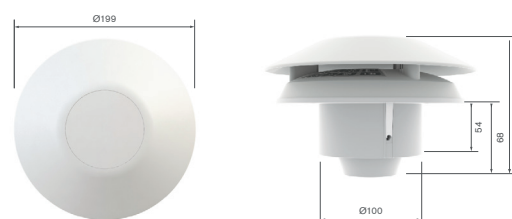
CV2CTA110

### Technical Specification

Weight	0.6 Kg
Materials	ABS
Supply voltage	230V / single-phase / 50Hz
Maximum power consumption	5.4 W
Fuse rating	3 amp
IP Rating	IPX4 Ceiling
Specific Fan Power	0.16 W/l/s
Wall / ceiling / window	Ceiling

### Dimensions

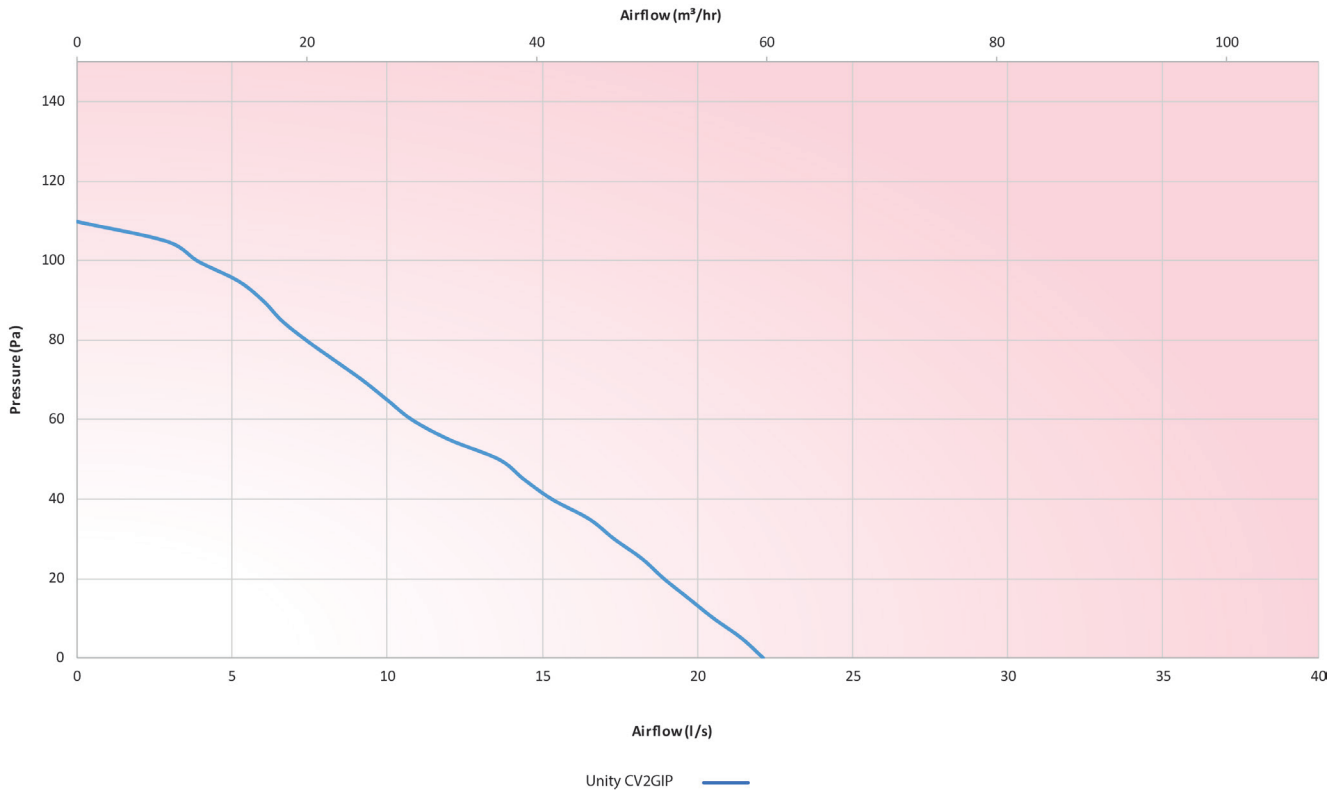
Height	199 mm
Width	199 mm
Depth	129.5 mm
Spigot diameter $\varnothing$	100 mm



## SAP PCDB

Rigid Ducting		
Configuration	Location	SFP (w/l/s)
In-room	Kitchen	0.18
	Bathroom	0.16
Through-wall	Kitchen	N/A
	Bathroom	N/A

## Pressure Curve

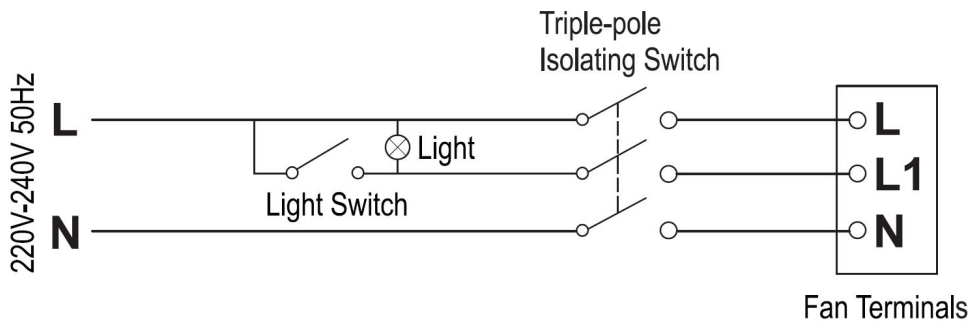


## Sound Data

	Sound Pressure Level dB(A)*
Unity CV2CTA110	10.1 - 38.5

\*Sound pressure level measured @ 3 metres

## Wiring Diagram



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## Consultant specification

### Specification

The unit shall consist of a body manufactured in recyclable ABS. It shall have an ultra-low energy DC motor and mixed flow impellor.

The unit shall have a single 100mm diameter exhaust connection for direct connection to a converter piece to enable use with semi-rigid ductwork. It shall be suitable for horizontal orientation to the ceiling.

The unit shall be constructed to have a removable cover to allow full maintenance access.

The unit shall conform to LVD and EMC standards and be CE Marked and be independently tested for noise characteristics. The unit shall be manufactured by Zehnder.

### Operation

The extract unit shall be a Unity manufactured by Zehnder and shall be suitable to mount on a ceiling in accordance with the specification.

The unit 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 unit shall incorporate electrical connections to allow for the signal from a switched live 230V contact to vary its speed.

The unit shall have the ability to adjust and commission the extract motor via the front mounted in-built control panel. The unit shall offer 100% variable speed control on both the low and high speeds.

### Controls

All Unity units shall contain the following functions within the unit pre-wired and factory fitted by the manufacturer:

- 100% variable extract motor control
- Variable low and high speed flow rate set point
- Switched live input
- 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
- Variable overrun timer relative to high speed activation period