zehnder

Greenwood
AIRVAC

New Build & Refurbishment

Product Directory

Ventilation solutions for residential housing - 2021/22

We are a global leader in providing solutions for an energy-efficient, healthy and comfortable indoor climate with focus on and around ventilation as core.

Air pollution, allergies and the fact that we spend over 70% of our lives in enclosed rooms make a healthy indoor climate essential.

Our solutions are based on the preservation and improvement of good health and our experience over the past 140 years have led to many innovations that have shaped our industry today.

Unity CV100

Unity CV2

Leading the way in dMEV

We were the first to market in manufacturing a dMEV classified product in the UK. Our approach to deliver a low energy performance product, with a 'one fan fits all approach' to facilitate easier installation procedures for domestic properties, resulted in the Unity CV100/SV being launched to the market in 2007.

Delivering products tailored to our customers requirements is integral to our market approach. We worked closely with our customers to identify key product attributes, including low energy consumption and running costs, as well as low running noise, which contributed to developing our Unity CV2 GiP product – a firm favourite for nearly a decade!

The requirement to deliver an advanced extract fan that offers easy compliance to building regulations and contributes to well-being, whilst still being cost effective to run and quiet in operation, resulted in the Unity CV3 being launched in the market in 2017.

ComfoAir CA155

ComfoAir Q

Leading the way in MVHR

Our first introduction into MVHR manufacture was focused on delivering a high performing, small and compact unit. The hugely popular HRV1 was launched in 2006.

As technologies improved and customer acceptance of MVHR increased, an advanced product – HRV2 was delivered in 2009 and led the industry in heat recovery performance.

Customer requirements identified ease of installation being of prime importance in selecting MVHR units - and our innovative commissioning wizard, integrated within our Vireo units in 2013, set the benchmark. Today, our Vireo MVHR units have been enhanced and re-branded as ComfoAir models.

Delivering the highest performing MVHR units, our ComfoAir Q range achieves up to 96% heat recovery efficiency. Passive House accredited, these units have raised the bar for MVHR and form part of our suite of innovative solutions to mitigate overheating!

Welcome to our latest product directory. It is important to us to help you find a ventilation product that suits your project and fits your criteria perfectly.

Today, the focus is on creating energy efficient and highly insulated homes – and these homes and the people living in them need properly ventilated accommodation to ensure health and comfort.

This product directory showcases our wide domestic ventilation range.

Look out for our Guaranteed Installed Performance (GIP) products that have been specifically aligned with the requirements of Building Regulations and assist in the delivery of GIP. Many of our products also now include our own SMART Technology designed to make commissioning, set up and automatic control of ventilation the simplest it can be - you can recognise them by our SMART technology app icons.

Our products are widely specified around the UK and they come with an outstanding quality record and oodles of technical expertise and support. We know there is so much to digest and understand so make use of our knowledge - and get in touch.

ALWAYS THE BEST CLIMATE

"We strive to improve the quality of life by providing the finest indoor climate solutions."

Excellent team
Every day we combine passion, expert knowledge and commitment to give you the best results.

Great solutions, products and services
Great products and unique service for an energy-efficient, healthy and comfortable indoor climate.

First choice for customers
Always close to the needs of our customers, to grow with you and overcome all challenges together.

INNOVATION OVER 4 GENERATIONS

MANUFACTURER OF THE WORLD'S
1st
STEEL AND BATHROOM RADIATORS

REPRESENTED IN MORE THAN
70 COUNTRIES

AROUND
3,500 EMPLOYEES

16 OF OUR OWN PRODUCTION PLANTS IN EUROPE, NORTH AMERICA AND CHINA

INNOVATION SINCE **1895**

1,200 PATENTS AND DESIGN RIGHTS THROUGHOUT THE WORLD

AROUND **20,000** TRAINED CUSTOMERS PER YEAR

WE ARE THE SPECIALISTS FOR A HEALTHY, COMFORTABLE AND ENERGY-EFFICIENT INDOOR CLIMATE

The broad and clearly structured portfolio from the Zehnder Group is split into four product lines. Consequently, we can provide our customers with the right product, perfect system and matching service for all types of projects – from new build to renovations, single or multi-occupancy homes, as well as commercial projects. This variety ensures that our wealth of experience is continuously expanding, providing tangible added value to our customers on a daily basis.

Decorative radiators
Our individual decorative radiators for living and bathrooms make a home not only warmer but also more attractive. Created by renowned designers, they impress with excellent functionality.

Comfortable indoor ventilation
Our comfortable indoor ventilation is energy-efficient and provides a healthy indoor climate. It promotes the wellbeing of the occupants and increases the value of the property.

Heating and cooling ceiling systems
Zehnder ceiling systems are convenient and energy-efficient for heating and cooling. They are perfectly attuned to the relevant environment.

Clean air solutions
Clean air systems from Zehnder reduce the level of dust in the air, create a healthier working environment and reduce the amount of cleaning required.

OUR BRANDS REPRESENT INNOVATION, QUALITY AND DESIGN

The Zehnder brand offers excellent indoor climate solutions within the product lines of decorative radiators, comfortable indoor ventilation, heating and cooling ceiling systems and clean air solutions.

BISQUE
The Bisque brand offers beautiful but practical radiators in the most exciting styles, colours and shapes for homes and more.

Greenwood AIRVAC
The Greenwood Airvac brand offers a range of low energy, smart residential ventilation solutions from intermittent extract fans to whole house ventilation with heat recovery.

BEST QUALITY CERTIFICATES

Zehnder Group products are frequently awarded prizes for design and innovative technology.

iF DESIGN AWARD 2018

reddot design award winner 2018

Contents

Our accreditations

ISO9001:2015 and ISO4001 certification

For quality, environmental management and carbon foot-printing, we use robust frameworks and processes.

This ensures that we are consistent in our business operation. It allows us to measure ourselves and look for genuine areas of improvement. We also use a 360 degree feedback mechanism.

We are proud of our achievements, especially our quality performance.

SMAS Worksafe contractor

Heath & Safety is at the very core of our business. We are recognised as a SMAS Worksafe contractor. A recognised Safety Schemes in Procurement (SSIP) program, our SMAS Worksafe certificate is recognised by all other SSIP members. This means we have demonstrated our Health & Safety competence and, in turn, have a certificate which can be used to reduce the administration required to complete health and safety questionnaires for SSIP members.

Zehnder Greenwood
Web Presence
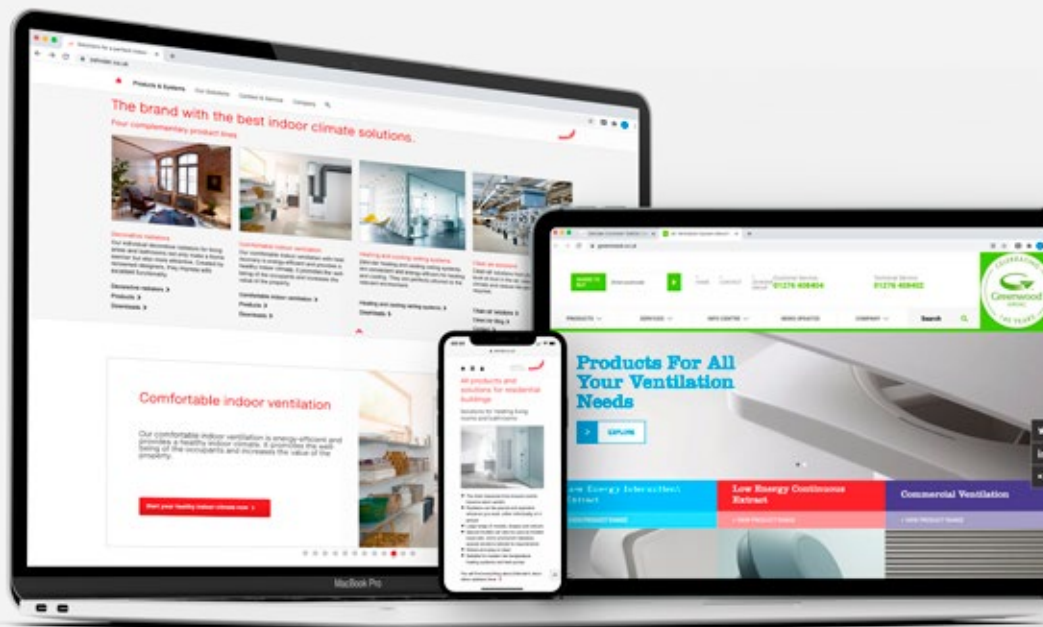
Visit our websites to access product documentation, regulatory guidance, BIM / DWG files, product selection tools and much more.

www.zehnder.co.uk
www.greenwood.co.uk

YouTube channel

Visit our dedicated channels to see our series of installation, maintenance and educational videos across our suite of solutions, to ensure you get the best out of our systems.

**Visit the Zehnder United Kingdom Playlist
youtube.com/c/zehndersystems/featured
youtube.com/user/GreenwoodAirvac**

Follow us on Twitter

Follow us for the latest product information, industry news and regulatory guidance.

Follow us @Zehnder_UK @greenwoodairvac

Connect with us on Linkedin

Are you an industry professional? Connect with us on Linkedin for the latest discussions, industry updates, new trends and more.

**Linkedin.com/company/zehnder-group-uk-ltd
Linkedin.com/company/greenwood-air-management**

We have over 140 years of ventilation experience so we know a thing or two about indoor air quality

Condensation and mould are not new phenomena – they have been issues in housing for years and the increased focus on reducing air leakage around our homes means that ventilation is now needed more than ever.

With improved heating systems, insulation and double glazing, we are now nice and toasty. However we and our homes need air to breathe and, of course, the air that we breathe needs to be of good quality.

How times have changed

In the 1930s natural ventilation was adequate, as houses built contained little or no insulation and there were no drivers for energy efficiency. As a whole, an open fire and chimney provided the necessary airflow around the home.

Today, with the increasing focus on improving the airtightness and insulation of our homes, natural ventilation's effectiveness has been somewhat reduced. At the same time, the need for good indoor air quality has increased. The result is that ventilation has moved up the agenda of importance when building or refurbishing a home.

Impacts on indoor air quality

The new man-made furnishings that we have been bringing into our homes means there are a whole host of nasties floating around.

Volatile Organic Compounds (VOCs) are just one example. They are organic chemicals that vaporise easily at room temperature. For the scientists among us, they form a photochemical reaction, which causes oxygen to convert into a potential smog-promotion troposphere (low level ozone) and, for the layman, they can be found all around your home and can be harmful to breathe in. They are produced from a wide range of everyday household items such as cleaning products, air fresheners, solvents, cigarettes, polishes, hairspray and textiles – they have no colour, smell or taste.

Of course, there are many other impacts on indoor air quality (the dreaded dust mite to name one) and today's Building Regulations actually reference acceptable levels of indoor air pollutants which drive ventilation rates for dwellings, including;

- ➤ **NO_2** – Nitrogen dioxide
- ➤ **CO** – Carbon monoxide
- ➤ **TVOC** – Total volatile organic compound
- ➤ Control of bio effluents (body odours)

Today achieving an effective balance between energy efficiency and indoor air quality is simple. 'Build Tight – Ventilate Right'.

ADF 2010
Means of Ventilation

Ventilation is required for one or more of the following purposes:

- Provision of outside air for breathing
- Dilution and removal of airborne pollutants including odours
- Control of excess humidity (arising from water vapour in the indoor air)
- Provision of air for fuel-burning appliances (which is covered under Part J of the Building Regulations)

Buildings are ventilated through a combination of infiltration and purposely provided ventilation;

Infiltration is the uncontrollable air exchange between the inside and outside of a building through a wide range of air leakage paths in the building structure.

Purposely provided ventilation is the controllable air exchange between the inside and outside of a building by means of a range of passive and/or active devices.

It is important to minimise uncontrollable infiltration and supply sufficient purpose-provided ventilation during the design stages.

Ventilation provision for new dwellings

Ventilation rates are set out in the document under four standard methodologies:

System 1	Background Ventilators and Intermittent Extract Fans	
System 2	Passive Stack Ventilation	
System 3	Continuous Mechanical Extract Ventilation	Central Mechanical Extract Ventilation
System 4	Continuous Supply and Extract Ventilation with Heat Recovery	

Each of the methodologies has a specific calculation to determine the required air flow rates based on dwelling size, number of bedrooms and occupancy levels.

The ventilation provisions recommended for new dwellings have been specified for two standard designs of air permeability.

The default option assumes zero air permeability and, consequently, zero infiltration. This means the building is therefore entirely dependent on purpose provided ventilation.

Airflow rates

Table 5.1a

Extract ventilation rates

Please refer to ADF 2010 for the full calculation requirements for System 1-4

Room	Intermittent extract Minimum rate	Continuous extract	
		Minimum high rate	Minimum low rate
Kitchen	30 l/s adjacent to hob or 60 l/s elsewhere	13 l/s	Total extract rate should be at least the **whole dwelling ventilation** rate given in Table 5.1b
Utility room	30 l/s	8 l/s	
Bathroom	15 l/s	8 l/s	
WC	6 l/s	6 l/s	

Table 5.1b

Whole dwelling ventilation rates

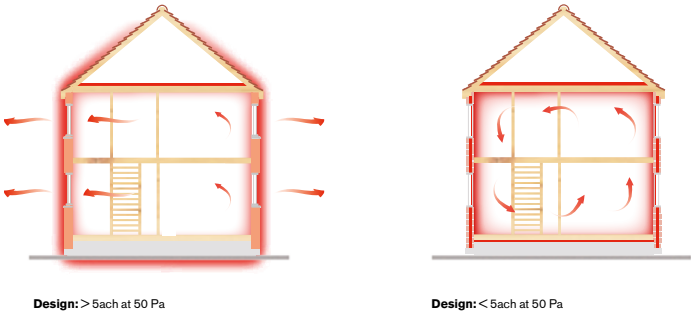|	Number of bedrooms in dwelling				
	1	2	3	4	5
Whole dwelling ventilation rate (l/s)	13	17	21	25	29

Notes:

a   In addition, the minimum ventilation rate should be not less than 0.3 l/s per m[2] of internal floor area (this includes all floors, e.g. for a two-storey building add the ground and first floor areas).

b   This is based on two occupants in the main bedroom and a single occupant in all other bedrooms. This should be used as the default value. If a greater level of occupancy is expected add 4 l/s per occupant.

Remember…

Two design air permeabilities now exist

➤ For ventilation rates, the DEFAULT option is assumed to be < 5ach at 50 Pa in SAP 2009

➤ Ventilation airflow rates DIFFER between the two air permeability designs

Design: > 5ach at 50 Pa   **Design:** < 5ach at 50 Pa

Background ventilation

Table 5.2a

Total equivalent ventilator area [a] (mm[2]) for a dwelling with any design air permeability

Total floor area (m[2])	Number of bedrooms [b]				
	1	2	3	4	5
< 50	35000	40000	50000	60000	65000
51–60	35000	40000	50000	60000	65000
61–70	45000	45000	50000	60000	65000
71–80	50000	50000	50000	60000	65000
81–90	55000	60000	60000	60000	65000
91–100	65000	65000	65000	65000	65000
> 100	Add 7000mm[2] for every additional 10m[2] floor area				

Alternative guidance on total equivalent area [a] (mm[2]) for a dwelling with a designed air permeability leakier than (>) 5m[3]/(h/m^{2}) at 50 Pa

Total floor area (m[2])	Number of bedrooms [b]				
	1	2	3	4	5
< 50	25000	35000	45000	45000	55000
51–60	25000	30000	40000	45000	55000
61–70	30000	30000	30000	45000	55000
71–80	35000	35000	35000	45000	55000
81–90	40000	40000	40000	45000	55000
91–100	45000	45000	45000	45000	55000
> 100	Add 5000mm[2] for every additional 10m[2] floor area				

Notes:

a   The equivalent area of a background ventilator should be determined at 1 Pa pressure difference.

b   This is based on two occupants in the main bedroom and a single occupant in all other bedrooms. For a greater level of occupancy, assume a greater number of bedrooms (i.e. assume an extra bedroom per additional person). For more than five bedrooms, add an additional 1000mm[2] per bedroom.

Standard 3.16 domestic buildings

Scotland

Part K domestic buildings

Northern Ireland

Recommended ventilation for a dwelling

Space	Ventilation recommendations	Trickle ventilation [1]
Apartment	A ventilator with an opening area of at least 1/30th of the floor area it serves [2]	12,000mm²
Kitchen	Either: a Mechanical extraction capable of at least 30 l/s (intermittent) above a hob [3]; or b Mechanical extraction capable of at least 60 l/s (intermittent) if elsewhere [3]; or c A passive stack ventilation system [4]	10,000mm²
Utility room	Either: a Mechanical extraction capable of at least 30 l/s (intermittent) [3]; or b A passive stack ventilation system [4]	10,000mm²
Bathroom or shower-room (with or without WC)	Either: a Mechanical extraction capable of at least 15 l/s (intermittent); or b A passive stack ventilation system [4]	10,000mm²
Toilet	Either: a A ventilator with an opening area of at least 1/30th of the floor area it serves; or b Mechanical extraction capable of at least 3 air changes per hour	10,000mm²

Notes:
1   Where the trickle ventilator is ducted, the recommended areas in the table should be doubled (see clause 3.14.5).
2   The overall provision of trickle ventilation in a dwelling may be provided at an average of 11000mm² per room with a minimum of 11000mm² for each apartment.
3   Refer to guidance to standard 3.17 and OFTEC Technical Book 3 where an extract fan is fitted in a building containing an open-flued combustion appliance. Extract rates should be reduced.
4   Refer to section 2: Fire where a passive stack ventilation system is installed in a building containing flats and maisonettes.
5   Long duct runs, flexible ducting and bends can reduce fan performance and should be carefully considered during design.

LABSS consider that, Zehnder CV2GIP/CV2SVGIP/CV3/ CV3SV/CV2CTA110 dMEV Fan UNITS – House Ventilation System, will meet the functional requirements of the Scottish Building Regulations. Certificate available on request.

Work on existing buildings

Where infiltration rates in a dwelling exceed 10m³/h/m² at 50 Pa, which may often be the case in existing buildings, the size of trickle ventilation may be reduced to 8000mm² for apartments and 4000mm² for all other rooms.

Alternatively, the overall provision of trickle ventilation in a dwelling may be provided at an average of 6000mm² per room, with a minimum provision of 4000mm² in each apartment.

Mechanical ventilation and systems

Where infiltration rates of less than 5m³/h/m² at 50 Pa are intended, such a system should be used. The following are examples of mechanical systems that will aid ventilation in a dwelling:

a   Continuously operating balanced supply and extract mechanical ventilation systems. When combined with heat recovery these installations are known as Mechanical Ventilation with Heat Recovery (MVHR) systems.

Installations should be in accordance with the guidance in BRE Digest 398. In hot weather, windows can be opened to cool the dwelling while the system is operating. Openable windows may also be needed for fire escape purposes.

b   Continuously operating mechanical extract ventilation installed in accordance with the guidance in BRE Digest 398.

c   Mechanical extract ventilation units (extract fans), either window or wall mounted, in rooms where there is likely to be high humidity such as kitchens, bathrooms and shower rooms installed in accordance with the recommendations in clause 3.14.2. Fans can be switched manually or automatically via a humidistat control. Humidistat control is not recommended for a WC as odours may not be removed.

Ventilation of rooms direct to external air

Table 2.1

Room [1]	Rapid ventilation opening(s) (minimum free area)	Background ventilation opening(s) [2] (minimum free area)	Mechanical extract ventilation [3] [4] (nominal airflow)
Habitable room	1/20th of floor area	8000mm²	–
Kitchen [5]	1/20th of floor area	4000mm²	30 l/s adjacent to the hob [6] or 60 l/s elsewhere
Utility room	1/20th of floor area	4000mm²	30 l/s
Bathroom (with or without WC)	1/20th of floor area	4000mm²	15 l/s
Sanitary accommodation (separate from bathroom)	1/20th of floor area [7]	4000mm²	–

Notes:
1   Where a room serves a combined function such as a kitchen-diner, the individual provisions for rapid, background and mechanical extract ventilation need not be duplicated provided that the greater or greatest provision for the individual functions in Table 2.1 is made.
2   As an alternative to the background ventilation provisions listed in Table 2.1, background ventilation openings equivalent to an average of 6000mm² per room may be provided but no room shall have a background ventilation opening of less than 4000mm².
3   As an alternative to mechanical extract ventilation, passive stack ventilation may be provided. Where passive stack ventilation is provided it shall be designed and constructed in accordance with BRE Information Paper 13/94 or a valid BBA Certificate.
4   Mechanical extract ventilation shall not be provided in a room where there is an open-flued solid fuel burning appliance (see paragraph 1.4). Mechanical extract ventilation (or passive ventilation) need not be provided in a room with an open-flued appliance which has a flue having a free area at least equivalent to a 125mm diameter duct and the appliance's combustion air inlet and dilution air inlet are permanently open when the appliance is not in use.
5   This provision is for a domestic size kitchen where the appliances and usage are of a domestic nature. Guidance on the ventilation required for commercial kitchens is given in CIBSE Guide B, Tables B2.3 and B2.11.
6   Adjacent to a hob means either:
    a   Incorporated within a cooker hood located over the hob; or
    b   Located near the ceiling within 300mm of the centreline of the space for the hob.
7   As an alternative, mechanical extract ventilation at 6 l/s may be provided.

Domestic Ventilation Compliance Guide

Domestic Building Services Guide

In addition to ADF, ADL (Part L) Conservation of Fuel and Power has also been revised. ADL also has an associated document – Domestic Building Services Guide - which also details ventilation.

The document provides detailed guidance for persons designing and installing fixed building services in both new and existing domestic dwellings.

Mechanical ventilation specification is referenced in relation to energy efficient performance. The guidance recommends minimum standards for mechanical ventilation systems.

Recommended minimum standards for mechanical ventilation systems

	New and replacement systems
1.0 Fan power	a. Mechanical ventilation systems should be designed to mini-mise electric fan power. Specific fan power (SFP) should not be worse than: i. 0.5 W/(l/s) for intermittent extract ventilation systems; ii. 0.7 W/(l/s) for continuous extract ventilation systems; iii. 0.5 W/(l/s) for continuous supply ventilation systems; iv. 1.5 W/(l/s) for continuous supply and extract with heat recovery ventilation systems.
2.0 Heat recovery efficiency	a. The heat recovery efficiency of balanced mechanical ventilation systems incorporating heat recovery should not be worse than 70%
3.0 Controls	a. Intermittent mechanical extract ventilation systems should be operated by local manual switches or automatically by a presence sensor. b. All other mechanical ventilation systems should have manual or automatic control of the boost

Domestic Ventilation Compliance Guide

Energy Related Products Directive

What is ERP?

ErP is the European Energy Related Products Directive which is driving more transparency and information in the matters of energy efficiency. As a CE Marking Directive, it provides the ecodesign requirements for defined energy-related products or functions.

You will probably already be familiar with it in relation to white goods.

From refrigerators to washing machines to TV's and vaccum cleaners, ErP is responsible for the introduction of the energy efficiency label, which indicates the energy consumption of the unit.

What is the objective of the ErP directive?

The objective of the ErP Directive is to reduce greenhouse gas emissions and other adverse environmental impacts throughout the life-cycle of a product. The emphasis is being placed on the design and development stages of a product with a view to improving its energy efficiency.

Currently, the European market for domestic ventilation units is subject to numerous different national and international approval and certification programmes. The new regulation means a further step towards greater market transparency and better consumer information across Europe.

How does the ErP affect ventilation products?

The ErP Directive 2009/125/EC, covering residential and non-residential ventilation units, will be effective from 1st January 2016.

This focuses on three ventilation product categories:

• Residential Units <30 watts
• Residential units >30 watts
• Non-residential units

For information purposes, every energy-related product within these categories must have a Declaration of Performance (DoP) available on their respective manufacturer's website.

The DoP provides the necessary energy performance information and rating A+ - G

The implementation of this legislation is set to have a major impact on the ventilation products that are available on the market. The onus is on ventilation system manufacturers to ensure they are selling products which comply with the CE Marking/ErP requirements.

Every product must have a DoP but what is actually within scope for 1.1.2016?

Residential units (>30 watts)

This includes central mechanical systems such as Mechanical Extract Ventilation (MEV)and Mechanical Ventilation with Heat Recovery (MVHR) Systems.

The ecodesign criteria, for each of the above products, within this category require that as from the 1st January 2016:

• The Specific Energy Consumption (SEC), calculated for the average climate, is no more than 0 kWh/(m2.a)

• All ventilation units are to be equipped with a multi-speed drive or variable speed drive

• All MVHR units (classified as Bidirectional Ventilation Units - BVUs) will be required to include a thermal by-pass facility

As well as providing DoP information on the manufacturers website, all products in this category 'Residential units >30 watts' must also have the DoP and ErP label(s) provided with the product. This is so that the installer can attach the correct label at the point of installation.

IP Requirements
For installations of fans in bathrooms and showers

The European standardisation, Amendment 1 of the 18th edition of the IEE Wiring Regulations (BS7671) came into effect in July 2018. This outlined the new zoning and ingress protection criteria for bathroom fans, having effect on product safety and installation location. To achieve IP ratings, fans are rigorously tested using a series of graded water tests. Location advice (i.e. zone 0, 1 or 2) ensures installers and users are not at risk of installing and operating products in unsuitable areas.

I P X X

International

Protection Ratings

First Number

Protection of equipment
Ingress of solid objects

0 Non-protected
1 > 50mm diameter
2 > 12.5mm diameter
3 > 2.5mm diameter
4 > 1.0mm diameter
5 > Dust protected
6 > Dust tight

Second Number

Protection of persons
Electrical safety

0 Non-protected
1 Vertically dripping
2 Dripping 15° tilted
3 Spraying
4 Splashing
5 Jetted
6 Power jetting
7 Temporary immersion
8 Continuous immersion

IP ratings: IPX4

To achieve the electrical protection level equivalent to level 4, a fan is continuously sprayed with fine water jets for 10 minutes while constantly running. The fan is then left running for a further 10 minutes after which it is checked for water ingress. If siting IPX4 rated products in zone 0, additional protection may be required. Therefore, guidance within BS7671 should be followed.

IPX4 RATED

The following descriptions are extracted from amendment 1 of the 18th addition of the IEE Wiring

Regulation 701.32.3
Description of zone 0
Zone 0 is the interior of the bath tub or shower basin.

For showers without a basin, the height of zone 0 is 0.10m and its surface extent has the same horizontal extent as zone 1.

Regulation 701.32.3
Description of zone 1
Zone 1 is limited by:

i. The finished floor level and the horizontal plane corresponding to the highest fixed shower head, water outlet or the horizontal plane lying 2.25m above the finished floor level, whichever is higher.

ii. The vertical surface:
a) Circumscribing the bath tub or shower basin.
b) At a distance of 1.20m from the centre point of the fixed water outlet on the wall or ceiling for showers without a basin.

Zone 1 does not include zone 0. The space under the bath tub or shower basin is considered to be zone 1.

However, if the space under the bath tub or shower basin is only accessible with a tool it is considered to be outside the zones.

Regulation 701.32.4
Description of zone 2
Zone 2 is limited by:

i. The finished floor level and the horizontal plane corresponding to the highest fixed shower head or water outlet or the horizontal plane lying 2.25m above the finished floor level, whichever is higher.

ii. The vertical surface at the boundary of zone 1 and the parallel vertical surface at a distance of 0.60m from the zone 1 border.

For showers without a basin, there is no zone 2 but an increased zone 1 is provided by the horizontal dimensions of 1.20m mentioned in Regulation 701.32.3(ii).

Anything outside zones 0, 1 and 2 is treated as 'outside of zones', therefore has no IP requirement.

Illustration is not to scale and is for illustration purposes only (see regulation 701.32 for definition of zones)

Bathroom zones

In addition to product safety, the standards have an effect on where products are located within the bath/shower room area. The standards clarify the current confusion regarding the siting of electrical appliances and reduce the risk to end users operating within these zones.

The new regulations divide the location containing the bath or shower into three areas – zones 0, 1 and 2.

Zehnder Greenwood SMART Technology
Easier, better, smarter

We have been designing SMARTer ventilation products and solutions for new and existing homes. Our SMARTer ventilation products offer savings for the installer, the homeowner and the environment...

✅ **They can be commissioned on-site** in the quickest time and most fuss-free way (no more fiddly switches to set up different speeds).

✅ **They work in harmony with the environment** because they work by sensing the environment around them and react because of it, not because of a generic setting (which is often incorrect!).

✅ **They help reduce problems** often associated with some ventilation products – nuisance noise (especially in the middle of the night) and unnecessary heat loss.

✅ When operating, **they help save more energy.** Less electricity is being used having a positive impact on your bills, and they contribute even further to reducing the carbon footprint of the home (because they do what they need to do in the actual environment).

Unity's SMART touchpad – provides the simplest and easiest commissioning, an example of Zehnder Greenwood CommissionSMART technology.

HumidiSMART®

A new and revolutionary way of using humidity levels to provide effective ventilation in domestic properties all year round – see the potential energy and heat loss savings that can be made on page 22.

TimerSMART®

A new and logical approach to timer operation used in domestic ventilation fans and whole house systems – put a stop to nuisance running in the middle of the night! See page 23.

CommissionSMART®

Innovative design controls and features on Greenwood products that are simply there to make on-site set up and commissioning the easiest it can be – see how wireless and touch-pad technology make life simple! See page 24.

SummerSMART®

This innovative technology ensures a home has filtered air 365 days a year, especially in warmer summer months.

WinterSMART®

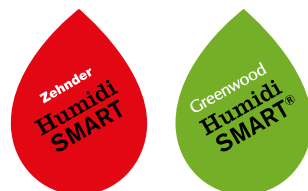Ensures the ventilation system is protected from extreme temperatures during winter months whilst also providing a comfortable, balanced indoor environment 365 days a year.

CarbonSMART®

An innovative combination of the most efficient components and design means these products are among the top performing products in their class/ventilation method when compared against standard market alternatives. See page 25.
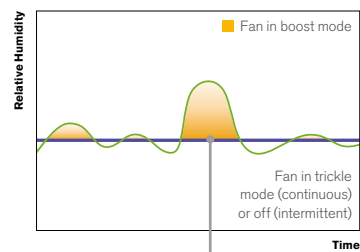
HumidiSMART

A new and revolutionary way of using humidity levels to provide effective ventilation in domestic properties.

Zehnder Humidi SMART

Greenwood Humidi SMART®

Why is it SMARTer?

In contrast to traditional humidity sensors that activate because a preset threshold is crossed, HumidiSMART only reacts to man-made increases.

This is because it cleverly monitors the installed environment and knows what the 'normal ambient' humidity levels are on each individual day throughout the year.

As a result of its specific set-up and activation, HumidiSMART helps to reduce nuisance running at night, unnecessary heat loss and energy usage. This is because the fan isn't running in response to increases in background humidity which naturally occur throughout the day and with the changing seasons.

This is a SMARTer use of humidity sensing because during the year, the average humidity level will be different.

A generic setting at 65% could mean the fan will be boosting for a long period of time because it is a particularly humid day or time of year.
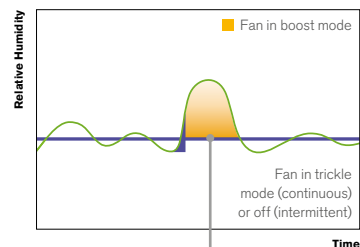
Based on a specific scenario you could make savings from 35% in running costs and therefore contribute to reducing the carbon footprint.

Traditional humidistat sensor

The use of a generic threshold is a very effective way of ensuring harmful levels of humidity are reduced. This does not, however, necessarily work in the most efficient way for the installed environment. A generic setting may be under or over compensating for naturally occurring changes in humidity.

Fan in boost mode
Fan in trickle mode (continuous) or off (intermittent)

Generic preset threshold
A fan with a traditional humidistat sensor will activate each time the humidity rises above this preset activation point.

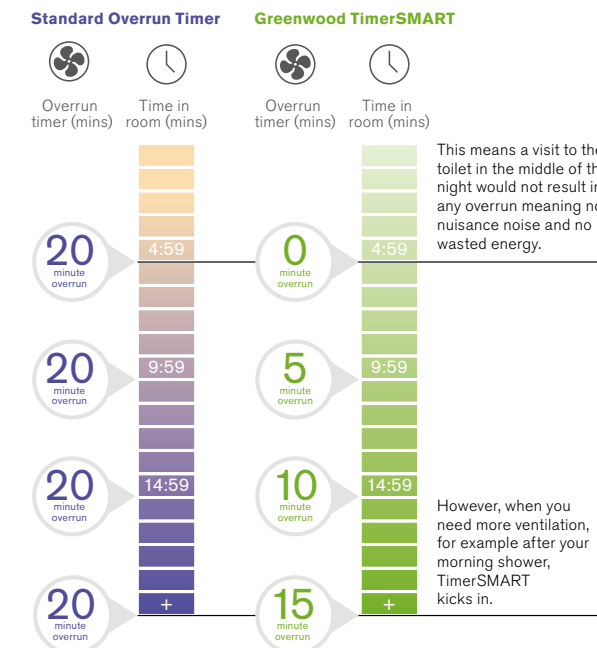With HumidiSMART there is no generic preset activation point. The SMART humidity sensing **continually monitors the installed environment** looking for a **rapid** increase in humidity from the 'normal' reading of that particular day.

A rapid increase indicates an activity that will be creating high levels of moisture, usually a bath/shower or cooking.

This means that ventilation only boosts into action when it is needed as a result of activity in the room.

Once humidity levels start to decline and reach a calculated threshold at non-detrimental levels, the fan will either switch to trickle mode or turn off depending on its type (continuous or intermittent).

Fan in boost mode
Fan in trickle mode (continuous) or off (intermittent)

SMARTer ventilation
HumidiSMART looks for a rapid increase in humidity.

TimerSMART

A new and logical approach to using a timer for operation of domestic ventilation fans and whole house systems.

Zehnder Timer SMART

Greenwood Timer SMART®

Why is it SMARTer?

In contrast to traditional timers that use a generic preset period for overrun time, TimerSMART uses duration of occupancy time to determine the overrun period.

A traditional timer works on a preset overrun period each time the light or remote switch activates the fan into boost mode, e.g. 20 minutes.

TimerSMART will overrun the fan based on occupancy duration, only ventilating as much as is needed, e.g. the less time you activate the fan via the light switch or pull cord, the less time it will overrun.

The association between duration of overrun timer and occupancy ensures a SMARTer control of ventilation. In turn this helps to reduce unnecessary energy wastage and heat loss and most importantly eliminates nuisance night time running!

Potential savings

Standard Overrun Timer

Overrun timer (mins) | Time in room (mins)

Greenwood TimerSMART

Overrun timer (mins) | Time in room (mins)

20 minute overrun | 4:59 → **0** minute overrun | 4:59
This means a visit to the toilet in the middle of the night would not result in any overrun meaning no nuisance noise and no wasted energy.

20 minute overrun | 9:59 → **5** minute overrun | 9:59

20 minute overrun | 14:59 → **10** minute overrun | 14:59
However, when you need more ventilation, for example after your morning shower, TimerSMART kicks in.

20 minute overrun | + → **15** minute overrun | +

How does this compare?

	Traditional timer		Greenwood TimerSMART
Total running time of fan in normal boost mode via light/remote switch (per 24hrs)	90 mins		90 mins
Total overrun duration	120 mins		40 mins
Running costs (per annum) based on scenario	<0.5 w/l/s	£1.97–£7.39	£1.64
	>0.5 w/l/s	£7.04–£12.65	

Savings in total running costs demonstrated. Savings in heat loss and nuisance running all contribute to occupant and tenant comfort.

Comparison Scenario

- Single dwelling
- Light switch activated 6 times in 24 hour period (2 at 30 minutes, 2 at 10 minutes, 2 at 5 minutes)
- Traditional overrun timer set at generic 20 minute intervals
- TimerSMART based on occupancy duration

All comparisons based on continuously running fan models.

Based on this scenario you could make savings of 17% on running costs, therefore directly contributing to reducing the carbon footprint in homes.

CommissionSMART

CommissionSMART technology is represented by an innovative control or design feature on a product that makes on-site set-up and commissioning the easiest it can possibly be.

Why is it SMARTer?

In contrast to fiddly switches often located at the back or inside of fans and whole house systems, CommissionSMART technology brings the use of wireless, radio frequency and touch-pad design for ease and simplicity.

Located at the front of the unit or via specifically designed handheld devices, airflow rates can be set up at the touch of a button and easily accessed once installation is complete. CommissionSMART technology can also help to eliminate incorrect set-up and reduce installation time on-site. This SMART technology is at the very core of assisting in the delivery of Guaranteed Installed Performance (GIP) and making the entire on-site experience as fuss-free as possible.

Touch to set

Unity is perfectly rounded to deliver a total solution in one box.

Unity CV3 uses capacitive touch technology for quick and easy set-up on-site – simply touch to set the speed required.

Four airflow performance points are available to meet regulation room rates requirements easily for trickle and boost speeds.

5 l/s   **8** l/s   **13** l/s   **16** l/s

CommissionSMART technology in action

ComfoAir CommissionSMART – the most intelligent installation and commissioning Wizard ever!

ComfoAir MVHR includes the newest and most innovative version of CommissionSMART technology to date.

A clever LCD display and control button take you through a step-by-step process for set-up and commissioning. So simple, and so quick, that everything is done at the touch of a button – even the handing of the unit, e.g. right or left hand configuration.

CarbonSMART

All CarbonSMART products can demonstrate tangible savings in running costs and energy usage when compared against their standard alternatives.

Why is it SMARTer?

Products that carry the CarbonSMART label are SMARTer because they are designed and manufactured using very low energy consuming components. They also utilise the most efficient design, balancing watts and airflow performance in the most effective way.

For both new and existing properties, CarbonSMART products can demonstrate excellent overall energy performance by being among the top performing products in their class.

The results are very low running costs (e.g. Unity costs the equivalent to just two cans of branded baked beans for the entire year) or directly reducing dwelling emission rates (DERs) in SAP for new build housing.

Zehnder offers a free fan recycling scheme. For any new fan installation project we will organise to recycle the fans replaced completely **free of charge.**

Call **01276 605800** for details

CarbonSMART products

ComfoAir heat recovery range

Onmique multifunction extract fan

Unity continuously running dMEV* extract fan

Samika intermittent extract fan

Centair mechanical extract ventilation unit

* BRE tested dMEV unit

Guaranteed Installed Performance

GIP is our core principle

GIP has been introduced through Building Regulations

With focus on performance, the current Building Regulations and associated documents are focused on ensuring installed performance is achieved for all ventilation systems. Building insulations levels are increasing and, in some instances, 100% of the ventilation rate is provided by the system itself – this means that **installed performance** is now crucial to ensuring a comfortable and efficient indoor environment.

Building Regulation Documents
ADF 2010 Means of Ventilation
Domestic Ventilation Compliance Guide
Domestic Building Services Guide

The above documents cover three core areas to ensure GIP is achieved and maintained:

Design → **Installation** → **Maintenance** →

Guaranteed Installed Performance

GIP - What's the point if it isn't doing its job?

GIP means no under or over ventilation, unnecessary heat loss or energy usage and the elimination of nuisance running!

In **New Build** GIP is important as buildings are becoming airtight and homes, and the people in them, need to breathe! With increased focus on airtightness, ventilation is now a crucial building service that requires design and installation sign-off by Building Control.

Choosing the correct and most effective ventilation strategy isn't just about energy performance and SAP – it's about sizing and designing to get it right!

In **Existing** homes, GIP is still as important; especially with increasing improvements in insulation levels through cavity wall and roof insulation and high performance double glazing. Today over five million homes in the UK are suffering with mould and condensation – so you might see a fan and hear it, but how do you know it's doing its job?

With a high proportion of extractor fans in bathrooms and kitchens, choosing the right product based on its application and installation is crucial. Did you know – a wall, a ceiling with ducting and a window all have different impacts on the way a fan will perform once it is installed? Under ventilation is common and this can only lead to mould and condensation over the long term.

GIP GUARANTEED INSTALLED PERFORMANCE

GIP GUARANTEED INSTALLED PERFORMANCE

Fundamentally, GIP is about getting ventilation right. It's about ensuring what is actually installed in a dwelling is what has been designed.

Designed to promote products, systems and solutions that are specifically made to assist in the delivery of GIP. We want to make it easy to get it right.

GIP products offer peace of mind to specifiers, installers and homeowners offering;

Adjustability

To ensure you can deliver the correct installed airflow performance on-site, GIP products have adjustable airflow settings. You can simply increase or decrease the airflow rate at the touch of a button on-site to ensure the system is not under or over ventilating. Adjustability eliminates under or over ventilation, nuisance noise and unnecessary heat loss from homes.

Low Energy

GIP products utilise the most efficient motor technology available on the market to ensure outstanding energy performance and running costs to homeowners and tenants, e.g. Unity CV2GIP costs the equivalent of two cans of branded baked beans to run for the entire year!

SMART Technology

For set up and commissioning and controllability in the home GIP products ensure that performance is always delivered. SMART humidity and timer controls eliminate nuisance running and energy wastage as they use the installed environment to provide ventilation rather than using generic settings that can often be tampered with.

Independent 3rd Party Safety

GIP products offer an additional layer of confidence to specifiers, installers and homeowners. Not only can they be adjusted to ensure they deliver the correct performance, we are also one of the only ventilation manufacturers who uses 3rd party independent testing for quality and safety.

Did you know? Fewer than ¼ of 1% of our products are ever returned through fault in manufacture!

Zehnder Greenwood GIP product range

Samika intermittent extract fan

Unity continuously running dMEV* extract fan

Onmique multifunction extract fan

Centair mechanical extract ventilation unit

ComfoAir heat recovery range

* BRE tested dMEV unit

Intermittent Extract Ventilation

Intermittent Extract Ventilation

Bathroom and kitchen fans

About Intermittent Extract Ventilation

Providing traditional 'on-off' ventilation for wet rooms under System 1 of the Building Regulations for new build and room based performance requirements for refurbishment applications, we offer a classically styled range of intermittent extraction fans with lots of options.

With increasing focus on Guaranteed Installed Performance, selecting the right fan for the installed application is crucial and our intermittent fan range offers peace of mind, has been built to last, and has been specified with confidence for over 30 years.

Need help specifying a product?

If you can't work out which product you need, or how to provide ventilation in the most efficient way for your homes we can help you! Our dedicated team of Area Managers and Technical Advisors understand the impact of specifying products into new and existing homes.

Call us with your questions or email us at
ventilation@zehnder.co.uk

Head Office
01276 605800

Customer Services
01276 408404

Technical Services
01276 408402

The objective

With increasing insulation levels in new and existing homes, the need for effective ventilation is crucial.

The method

Positioned in all wet rooms around the home, fans work intermittently, dependent on the control option selected, to extract stale or humid air.

Typically, operation is via a light switch or pullcord and fans can include adjustable timers and automatic humidity sensors.

Fresh air is supplied to the habitable rooms via background ventilators such as window vents. Building Regulations now call for high levels of background ventilation when using System 1 as the dwelling's ventilation strategy.

The outcome

1 A wide and varied range of products to suit any installation requirement.

2 On-off ventilation through the day leads to low running costs.

3 Low energy consumption.

4 No over or under ventilation.

5 Simple, traditional ventilation strategy.

System 1
Background Ventilators and Intermittent Extract Fans

Fresh air

Extract air

Background ventilators
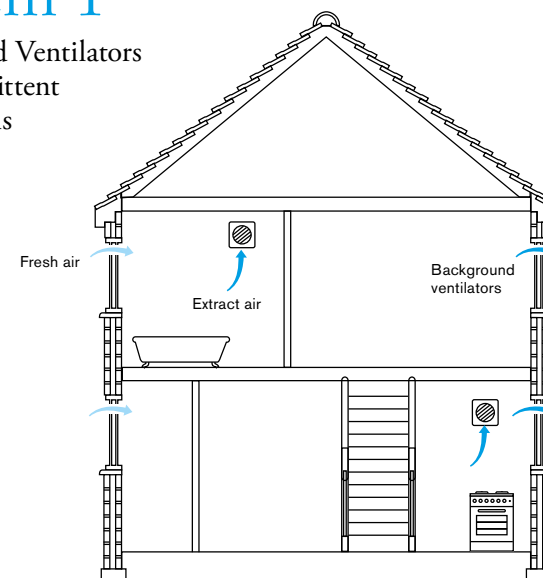
Building Regulations

Our intermittent fans comply with System 1 as outlined in Approved Document F 2010. Installed in each wet room throughout a property, they work intermittently (on and off) throughout the day as required via occupant control or through automatic sensing.

All Greenwood fans comply with the airflow requirements as set out in current Building Regulations.

Control options

What the codes mean and how the fan works

Product selector

	Mounting options	pNo	B/PC	T/TR	SMT	HT/HTR	SMHT	MA	A	SV	Two room ventilation
Bathroom and kitchen fan											
Omnique OF100GIP	Wall/window/ceiling	36	•		•		•			•	
Bathroom fans											
Samika LE100	Wall/window/ceiling	40		•		•				•	
Select AXS100	Wall/ceiling	42	•	•		•				•	
Select SF90	Wall/window/ceiling	44	•	•		•			•	•	
Select RF90	Wall/ceiling	45	•	•		•					
Silent Bathroom Fan	Wall/window/ceiling	46	•	•		•					
Silent Induct Fans & Shower Kits*	Wall	47	•	•							
Halo Range Shower Fan & Light Kit	Wall/window	48	•	•							
P Fan	Wall/ceiling	50	•	•							•
Elite EL100	Wall/window/ceiling	52	•	•		•				•	
Kitchen fans											
Samika LE150	Wall/window/ceiling	41	•		•		•				
Select AXSK	Wall	43	•					•			
Elite EL150	Wall/window	53	•			•					

* without / with light

B/PC - Basic / Integral pull-cord
- Single speed
- Operation by pullcord, remote switch, light switch or sensor
- Neon running light (some models)
- Shower kit without / with light (some models)

T/TR - Timer / overrun timer
- Single speed
- Operation by pullcord, light switch or remote switch
- Integral pullcord activates fan for preset overrun timer period
- Neon running light (some models)
- If wired into room light or remote switch, fan will operate when switch is on and then run for preset overrun timer period when room light or switch is turned off
- Adjustable overrun timer up to 30 mins
- Unique manual override with automatic shut off available (some models)
- Shower kit without / with light (some models)

SMT - Greenwood TimerSMART
- Single speed
- Operation by integral pullcord, remote switch or light switch
- Utilises duration of occupancy to determine overrun length
- See page 22 for full features and benefits

HT/HTR - Humidistat with timer / overrun timer
- Single speed, automatic humidity sensing control
- Fan should operate when the RH% exceeds the preset activation point, e.g. 65%. When the RH is reduced back to the activation point, the overrun timer will continue to operate the fan for the preset time period to ensure the RH level is further reduced within the room and prevent "hunting". Sensor also features a set back facility to eliminate nighttime running
- Neon running light (some models)
- If wired into room light or remote switch, the fan will operate whilst in the on position, once the fan is switched off the overrun timer will run for the preset period
- Humidistat available 50–90% RH @ 20°C
- Adjustable overrun timer up to 30 mins

SMHT - Greenwood HumidiSMART
- Single speed
- Operation by integral pullcord, remote switch or light switch
- Monitors RH levels to determine normal ambient humidity levels
- Ensures that the fan only goes into boost mode when a man-made spike in RH is detected
- See page 21 for full details

MA - Dual speed humidistat timer
- Dual speed
- Automatic operation for slow speed and manual operation for normal speed
- Integral humidistat sensor operates fan at slow speed when RH% exceeds preset activation point, e.g. 65%)
- When RH is reduced to preset level, overrun timer continues fan at slow speed for preset period
- Manual operation by remote switch or light switch will operate fan at normal speed
- Humidistat adjustable between 50–90% RH @ 20°C
- Adjustable overrun timer up to 30 mins

A - Continuously running
SF90A
- Dual speed – continuously running at trickle speed
- Operation between trickle/normal speed by pullcord/light/remote switch or humidity sensor

P1
- Single speed
- Operation by room light, remote switch or remote sensor
- Operation with clip-in TA Timer – If connected to room light, fan operates when light is on. When light is off, overrun timer will run for preset period
- Adjustable timer up to 30 mins

PD1
- Duplicate fan with second standby fan and motor

SV - Safety Extra Low Voltage
- Provides an extra level of safety and protection
- Allows the fan to be installed safely within Zone 1 of a wet room
- Separate remote transformer is supplied to be located outside of the wet room

6 functions from just one fan!

Omnique

The only low energy fan you'll ever need

We have created a unique fan, one which can be applied to each and every application in a home from one single unit – the only fan of its kind.

Omnique has been designed as a multifunction fan that meets Building Regulation requirements and is also adaptable so that it can be set to meet the individual ventilation requirements of virtually any property or project.

Why choose Omnique?
Omnique provides the perfect multifunction solution for today's social housing landlords who are faced with multiple housing types, applications and a wide range of tenants with different lifestyles. It also contributes to the ever increasing focus on energy efficiency, carbon reduction, and overall simplicity in ventilation specification, installation and maintenance.

Multifunctionality

The **Greenwood SMART** technology used in Omnique makes it SMARTer than the rest

Omnique can be commissioned on-site in the fastest time, no more fiddly switches to set-up the different speeds.

Once installed, Omnique works in harmony with the actual environment because it is sensing the environment around it and reacts because of it, not because of a generic setting.

The SMART technology in Omnique helps to reduce problems often associated with some ventilation products, for example, nuisance noise and unnecessary heat loss.

Omnique's SMART features help to save energy - less electricity is used which has a positive impact on energy bills and contributes even further to reducing the carbon footprint of the home.

One man, one van, one fan
Perfect for large scale refurbishment and new build projects, Omnique allows one single specification or a survey and installation in one single visit that is fully compliant with Building Regulations. From one single fan unit you simply choose the set-up you need for the property. This simplicity helps reduce call out times and visits and ensures easy management of all housing stock in the long term.

Low energy
Omnique's low energy motor uses as little as 1.1 watts in operation which delivers low running costs and energy consumption for homeowners and tenants.

SMART technology for various controls required in homes
Omnique includes a range of SMART technologies offering further benefit for large scale projects. Includes SMART Timer and Humidity options that eliminate nuisance running, unnecessary heat loss and energy consumption from homes.

Adjustability – over-ventilation is a thing of the past!
Many fans over or under ventilate once they are installed because resistance caused by windows, walls, ceilings and ducting impact on how the fan will perform. Omnique is a Greenwood GIP product which offers airflow adjustability. By the touch of a button the airflow speed can be increased or decreased accordingly – perfect for problem properties suffering with mould and condensation.

Offering both intermittent and continuous ventilation from one single unit.

Intermittent ventilation mode

Fuel poverty: Energy/heat conservation v efficient extraction of stale air
Omnique balances the needs of the home and the occupant. In intermittent mode, Omnique's front shutter opens and closes to extract as required. Once shut, the unit is sealed, preventing heat loss when it is not in operation.

Higher rise ducted applications
Omnique is a mixed flow fan which can overcome resistance caused by ducting and, at the same time, balance energy

efficiency to offer low running costs to homeowners and tenants – ideal for higher rise installations.

The best choice for windows

Secure extractor fan installations are crucial in window applications as they may be targeted as a way to gain access to a property. Omnique's window kit has been designed in conjunction with social housing providers and advisors on secure designs in housing. Today it is one of the most robust solutions for a safe window installation.

Secured by Design
Police Preferred Specification

6 functions from just one product

1 **Intermittent running mode** can be selected to provide traditional 'on-off' ventilation for wet rooms.

2 **Continuous running mode** means Omnique runs at very low speed through the day to ensure a consistent level of extraction.

3 Omnique's integral **Pullcord** can be utilised at times when high levels of extraction are required by occupants.

4 When **Greenwood TimerSMART** mode is selected, Omnique will use the duration of occupancy time in a wet room to determine the duration of the boost overrun period.

5 Omnique uses **Greenwood HumidiSMART** to monitor the installed environment and recognise the difference between 'normal' and 'man-made' humidity levels before making a decision to boost.

6 The easy conversion to a SELV (Safety Extra Low Voltage) model provides Omnique with an extra level of safety and protection for installation in wet rooms.

COMPLIES WITH SYSTEM 1

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

5 YEAR WARRANTY

CE UKCA MARKED

UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

SUITABLE FOR ZONE 1 AND 2

IPX4 RATED

Omnique OF100

The only low energy fan you'll ever need

Offering both intermittent and continuous running modes, it can be used across a wide variety of refurbishment and new build projects with ease.

Physical specification

Weight: 1.4kg

Materials:
White gloss finish
ABS plastic

Dimensions

All measurements in millimetres unless otherwise indicated

196

117   35.5

227

Ø99

Multifunction: 6 in 1 fan

1. **Intermittent running mode**
2. **Continuous running mode**
3. **Greenwood HumidiSMART control**
4. **Greenwood TimerSMART control**
5. **Pullcord control**
6. **SELV – Safety extra low voltage option**

With large stocks of housing, you can simply set up the fan as required for the dwelling, number of occupants and lifestyle. One fan, one man, one van.

Features and benefits

With outstanding low energy performance, Omnique OF100GIP is a flexible and multifunction mixed flow fan ideal for all wet rooms, installation applications and control requirements.

➤ Minimal heat loss – when the fan isn't operating, the unit is completely sealed and eliminates any draughts or noise transfer from outside whilst preserving the heat inside! (Intermittent mode only)

➤ With excellent pressure handling, Omniqe OF100GIP can be installed in ducted applications and higher rise dwellings and still deliver correct levels of performance

➤ 100% adjustable airflow allows full flexibility during installation and is ideal for problem properties that may require a period of a higher rate of extraction to overcome issues

➤ Low energy – uses as little as 1.1 watt in operation and, therefore, has low running costs for homeowners

➤ Greenwood HumidiSMART ™ and Greenwood TimerSMART ™ use the installed environment to determine how and when the fan activates and overruns – SMART use of energy!

➤ Ø 100mm spigot for easy replacement of both existing bathroom and kitchen fans in housing stock

➤ Can be fitted in wall, ceiling, and window applications – available with the most safe and secure window kit on the market – designed in conjunction with social housing professionals

➤ No tenant intervention required at all – low maintenance, fully guaranteed

➤ Widely specified amongst Local Authorities and Housing Associations in the UK

Performance

Omnique	Airflow performance (l/s)		Sound pressure level @ 3m dB(A)		Energy consumption (W)	
					Min	Max
W.C.	6		7			
Bathroom	15		31		1.1	25.8
Utility room	30		45			
Kitchen	61.7		52			

Key
Kitchen
Utility
Bathroom
W.C.

250

200

Static Pressure Pa

150

100

50

0

0   10   20   30   40   50   60   70

Airflow l/s

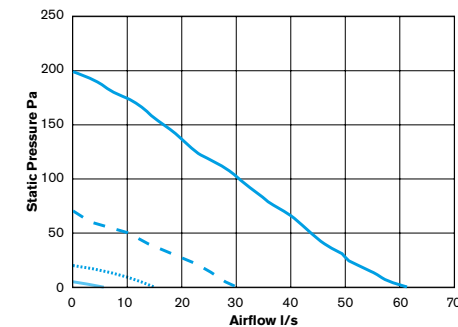### Omnique

The UK's first and only Secured by Design Accredited window fan

➤ Intruder proof

➤ Privacy design

➤ GIP: ventilation performance

Secured by Design
Police Preferred Specification

Window kit models and key data

Ø Glazing hole (mm)	Glazing thickness (mm)	Width (mm)	Height (mm)	Depth (mm)	Weight (Kg)
ø 118	up to 28	192	222	68	0.5

Installation

Wiring: Must comply with IEE Regulations

Fuse: 3 amp normally required (when fan is supplied from a 6A lighting circuit no local fuse is required)

Electrical specification:
220–240V~50Hz Class II
SELV conversion Class III

Exhaust: Ø 100mm

Glazing: Suitable for 4–28mm
Glazing hole Ø 118mm

Application:
Wall / window / ceiling

Cable:
Fixed flat wiring 2 core 1mm², 3 core 1.5mm² max

Consumption:
Min – 1.1W
Max – 25.8W

Accessories:
Wall and Window Kit - See Page 199

Product codes

OF100GIP

OF100SBD

GIP GUARANTEED INSTALLED PERFORMANCE

Greenwood HumidiSMART

Greenwood Commission SMART

Greenwood TimerSMART

Greenwood Carbon SMART Guaranteed

An adaptive fan
like no other

Samika

Low Energy + fan

The best choice for windows

Secure extractor fan installations are crucial in window applications as they may be targeted as a way to gain access to a property. Samika's window kit has been designed in conjunction with social housing providers and advisors on secure designs in housing. Today it is one of the most robust solutions for a safe window installation. See page 198 for more on window kits.

A brand new concept in ventilation and the first ever intermittent fan to have adjustable speeds for varying installation applications.

You might see a fan and hear it, but how can you be sure that it's doing its job? A wall, a window, a ceiling and ducting all introduce resistance to airflow when the fan is installed – reducing its actual performance to the home.

Driven by the need to achieve GIP and meeting Building Regulations, Samika is a Low Energy+ fan that offers peace of mind to specifiers, homes and end users.

It's low energy

Ultra efficient motors are designed into Samika's 100 and 150mm ranges ensuring that ventilation is provided at the lowest possible running costs to homeowners and tenants. As low as 1.6 watts in operation and 11 pence per annum in running costs, it is amongst the most efficient fans in the market place.

Greenwood Carbon SMART® LOW ENERGY

SMART technology controls

Low energy ventilation isn't just about the wattage figure. It's also about how the fan works in the installed environment.

SMART Technology in Samika includes our Greenwood HumidiSMART and Greenwood TimerSMART technology.

Both of these are typical controls used to activate ventilation in homes. However, SMART Technology is innovative and works with the occupant and the home rather than a generic setting.

SMART Technology benefits all. It eliminates nuisance nighttime running, unnecessary heat loss and energy wastage – because it is **only ventilating when it needs to!**

Adaptive airflow settings

A car in a factory may achieve 63 mpg, but add 4 adults and a boot full of shopping and it will be very different.

Ventilation is the same. Walls, window, ceiling, ducting and grilles **all affect performance**.

What happens if a fan doesn't do what it's supposed to? Mould and condensation!

What happens if a fan does more than it is supposed to? Heat loss, energy wastage, and nuisance noise!

In fact, we tested installed fans and found some delivered just 75% of their required performance whilst others delivered 150%!

The new generation
Samika is adaptive and can be set up for its application to ensure that performance is achieved and that you see the fan, hear it and know that it is doing what it is supposed to!

Samika has 6 speeds for each model (100/150mm) that are based on installation, e.g. for the 100mm, speed 2 = bathroom <1.5 ducting.

This adaptability is needed to ensure Guaranteed Installed Performance is achieved.

100mm - WC & Bathroom

Speed	Room	Installation
❶	WC	Through Wall + <3m Ducting
❷	Bathroom	<1.5m Ducting
❸	WC	Window Kit
❹	Bathroom	Through Wall
❺	Bathroom	Window Kit
❻	Bathroom	<3m Ducting

150mm - Utility & Kitchen

Speed	Room	Installation
❶	Utility	Through Wall
❷	Utility	<1.5m Ducting
❸	Utility	Window Kit
❹	Utility	<3m Ducting
❺	Kitchen	Window Kit
❻	Kitchen	Through Wall

Did you know?

Samika costs just 11 pence per annum to run*

A fridge freezer costs £29.06 per year based on 24 hours per day. This is equal to running **264 Samika fans.**

A games console costs £38.75 per year based on 2 hours usage per day. This is equal to running **352 Samika fans.**

GIP GUARANTEED INSTALLED PERFORMANCE

Greenwood HumidiSMART®

Greenwood CommissionSMART®

Greenwood TimerSMART®

Greenwood Carbon SMART®

*based on 1.5 hours usage per day – setting 1 LE100 model

COMPLIES WITH SYSTEM 1

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

2 YEAR WARRANTY

CE UKCA MARKED

UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

SUITABLE FOR ZONE 1 AND 2

IPX4 RATED

Samika LE100

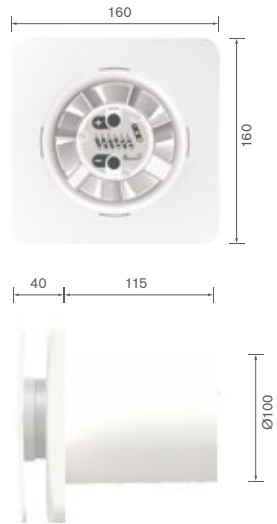Low energy adaptive extraction for **bathrooms and WCs**

Physical specification

All measurements in millimetres unless otherwise indicated

Weight: 100mm = 0.9kg
100mm SELV = 1.0kg

Materials: White satin finish ABS Plastic

160
160
40 115
Ø100

Features and benefits

➤ Ø 100mm axial flow fans suitable for wall or window applications. Ceiling mounting with discharge via external wall or soffit incorporating one 90° bend. Not suitable for vertical duct installations via a roof tile vent or similar

➤ Four models with varying controls including SMART timer and humidity and SELV low voltage options

➤ Greenwood CommissionSMART - adaptive installed performance set up at the touch of a button!

➤ Secure and robust window kit designed in conjunction with social housing landlords

➤ Soft closing anti-backdraught shutters to prevent nuisance noise when the fan is not in use (remove for ceiling applications)

➤ Integral pullcord on all models

Installation

Wiring: fixed flat wiring 2 core 1mm², 3 core 1.5mm² max

Cable: 2 core Ø 1mm² max
3 core Ø 1.5mm² max

Fuse: 3 amp normally required (when fan is supplied from a 6A lighting circuit no local fuse is required)
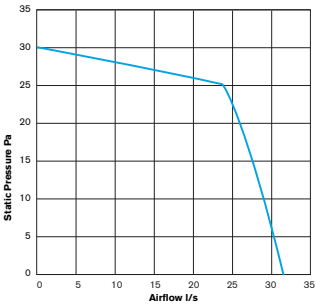
Exhaust: Ø 100mm

Electrical specification:
220–240V~50Hz Class II
SELV 24DC Class III

Glazing: Suitable for 4–28mm
LE100 glazing hole Ø 118mm

Accessories:
Wall and Window Kit - See Page 198

Performance

Models, control options and key data

Product code	Control operation	Voltage	IP	Performance (l/s)		Sound Pressure Level dB(A)*		Energy Consumption (W)	
				WC	Bathroom	min	max	min	max
LE100T	Single speed with SMART timer	230	X4	6	15	25	45	1.6	7.1
LE100HT	Single speed with SMART humidistat & timer	230	X4	6	15	25	45	1.6	7.1
LE100SVT	SELV with SMART timer	24DC	X4	6	15	25	45	1.6	7.0
LE100SVHT	SELV with SMART humidistat & timer	24DC	X4	6	15	25	45	1.6	7.0

*Sound pressure level measured @ 3 metres

COMPLIES WITH SYSTEM 1

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

2 YEAR WARRANTY

CE UKCA MARKED

UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

SUITABLE FOR ZONE 1 AND 2

IPX4 RATED

Samika LE150

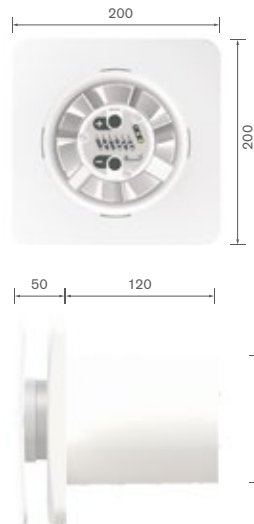Low energy adaptive extraction for **kitchens and utility rooms**

Physical specification

All measurements in millimetres unless otherwise indicated

Weight: 1.2kg

Materials: White satin finish ABS Plastic

200
200
50 120
Ø150

Features and benefits

➤ Ø 150mm axial fan kitchen and utility room applications. Ceiling mounting for Utility mode only and discharge via external wall or soffit not via the roof

➤ Wall mounted only in kitchen mode

➤ Two models with varying controls including SMART timer and humidity

➤ Greenwood CommissionSMART - adaptive installed performance set up at the touch of a button!

➤ Secure and robust window kit designed in conjunction with social housing landlords

➤ Soft closing anti-backdraught shutters to prevent nuisance noise when the fan is not in use

➤ Integral pullcord on all models

Installation

Wiring: Must comply with IEE Regulations

Cable: Ø 2 core 1mm² max
Ø 3 core 1.5mm² max

Fuse: 3 amp normally required (when fan is supplied from a 6A lighting circuit no local fuse is required)
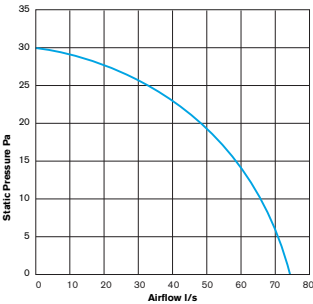
Exhaust: Ø 150mm

Electrical specification:
220–240V~50Hz Class II
SELV 24DC Class III

Glazing: Suitable for 4–28mm
LE150 glazing hole Ø 167mm

Accessories:
Wall and Window Kit - See Page 198

Performance

Models, control options and key data

Product code	Control operation	Voltage	IP	Performance (l/s)		Sound Pressure Level dB(A)		Energy Consumption (W)	
				Utility	Kitchen	min	max	min	max
LE150PC	Single speed with pullcord	230	X4	30	60	29	47.5	3	12.3
LE150HT	Single speed with SMART humidistat & timer	230	X4	30	60	29	47.5	3	12.0

*Sound pressure level measured @ 3 metres

COMPLIES WITH SYSTEM 1

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

2 YEAR WARRANTY

CE UKCA MARKED

UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

SUITABLE FOR ZONE 1 AND 2

IPX4 RATED

IPX7 SELV MODELS

Select 100

Axial flow **bathroom** fan

Physical specification

All measurements in millimetres unless otherwise indicated

Weight: 0.54kg

Materials: White satin finish ABS Plastic

Cable surface entry

154

154

27

84

111
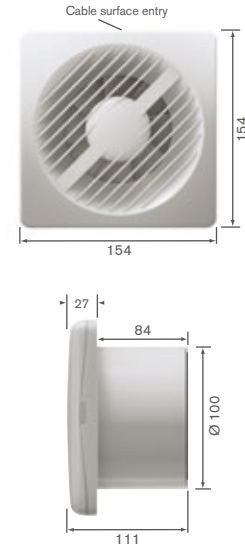
Ø 100

Features and benefits

➤ Classic Ø 118 axial flow fan that complies with current Building Regulations – widely specified in new houses

➤ Ø 100mm axial flow fans suitable for wall application. Ceiling mounting with discharge via external wall or soffit incorporating one 90° bend. Not suitable for vertical duct installations via a roof tile vent or similar

➤ Wide range of control options including SELV (Safety Extra Low Voltage) for additional safety protection in wet rooms

➤ Built in guide vanes to improve installed airflow performance

➤ Includes anti-backdraught shutters to help reduce heat loss when not in operation

➤ Clever spigot strengthener design helps to prevent crushing when attaching flexible ducting

➤ Axial impellor design has flat surfaces that do not clog easily reducing the impact any dirt or other airborne particles have on fan performance

Installation

Wiring: Must comply with IEE Regulations

Cable: Fixed flat: Ø 1.5mm² max Circular: Ø 0.75mm² max

Fuse: 3 amp normally required (when fan is supplied from a 6A lighting circuit no local fuse is required)

Exhaust: Ø 100mm

Electrical specification: 230V ~ 50Hz Class II

Consumption: 14W (AXS100/PC/T/TR) 17W (AXS100HT) 18W (AXS100SVIT/SVIHT)

Performance
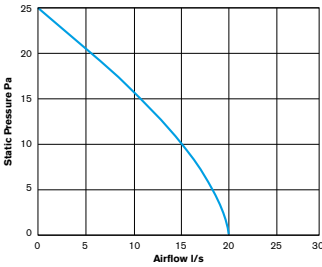
Models, control options and key data

Product code	Control operation	Voltage	IP	Performance m³/h	l/s	Watts	dB(A)*
AXS100	Single speed	230	X4	72	20	13.2	33
AXS100PC	Single speed with pullcord	230	X4	72	20	13.2	33
AXS100T	Single speed with overrun timer & pullcord	230	X4	72	20	13.6	33
AXS100TR	Single speed with overrun timer & remote operation	230	X4	72	20	13.6	33
AXS100HT	Single speed with humidistat/timer & pullcord	230	X4	72	20	16.8	33
AXS100SVIT	Single speed SELV with overrun timer & pullcord	12	X7	72	20	17.8	33
AXS100SVIHT	Single speed SELV with humidistat/timer & pullcord	12	X7	72	20	17.2	33

*Sound pressure level measured @ 3 metres

Call: 01276 408404   **Email:** ventilation@zehnder.co.uk   **Visit:** www.greenwood.co.uk

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COMPLIES WITH SYSTEM 1

2 YEAR WARRANTY

CE UKCA MARKED

UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

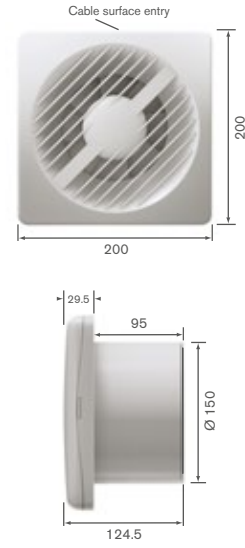**IPX2 RATED**

Select 150

Axial flow **kitchen** fan

Physical specification

All measurements in millimetres unless otherwise indicated

Weight: 0.99kg

Materials: White satin finish ABS Plastic

Cable surface entry

200

200

29.5

95

124.5

Ø 150

Features and benefits

➤ Suitable for wall installation with built in guide vanes to improve installed airflow performance

➤ Ø 150mm axial impellor design has flat surfaces that do not clog easily reducing impact any dirt or particles have on fan performance

➤ Includes anti-backdraught shutters to help reduce heat loss when not in operation

➤ Clever spigot strengtheners to prevent crushing when attaching flexible ducting

➤ Classic styling for all modern interiors and easy to wipe clean as necessary

Installation

Wiring: Must comply with IEE Regulations

Cable: Ø 1mm² max

Fuse: 3 amp normally required (when fan is supplied from a 6A lighting circuit no local fuse is required)

Exhaust: Ø 150mm

Electrical specification: 230V ~ 50Hz Class II

Consumption: 29W 15W – AXSKMA (slow)

Performance
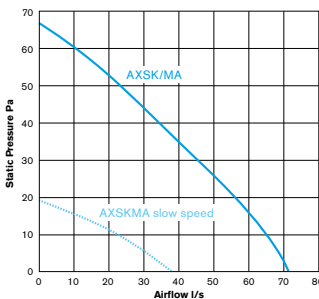
Models, control options and key data

Product code	Control operation	Voltage	IP	Performance Normal m³/h	l/s	Slow m³/h	l/s	dB(A)*
AXSK	Single speed with pullcord	230	X2	250	70	–	–	43
AXSKMA	Dual speed with humidistat/timer & pullcord	230	X2	250	70	133	37	43

*Sound pressure level measured @ 3 metres

COMPLIES WITH SYSTEM 1

SUITABLE FOR ZONE 1 AND 2

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

IPX4 RATED

2 YEAR WARRANTY

IPX7 SELV MODELS

CE UKCA MARKED

UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

SF90

Centrifugal surface mounted **bathroom** fan with integral filter

Physical specification

All measurements in millimetres unless otherwise indicated

Weight: 1.3kg,
SELV Controller – 1.173kg

Materials: Satin finish white ABS plastic, with PVC exhaust seal
SELV Controller – White satin finish, ABS plastic
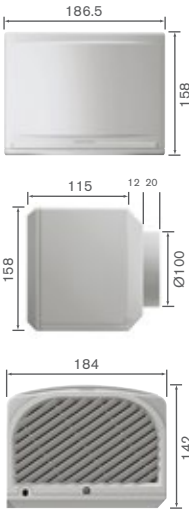
186.5

158

115   12 20

158   Ø100

184

142

Features and benefits

➤ Suitable for wall and ceiling mounted applications with discharge via wall/ soffit and root tile

➤ 100mm surface mounted centrifugal fan that complies with current Building Regulations – widely specified in new housing, both private and social

➤ Full range of control options for bathroom ventilation including SELV

➤ Anti-backdraught damper and pullcord insulating link

➤ Simple fuss-free 2 step installation where the back plate can be installed prior to fan and motor assembly

➤ Discreet styling for modern interiors

➤ Integral washable filter for motor protection – simply located at the front of the fan

➤ Continuously running model for whole house ventilation (not dMEV)

➤ Direct replacement for S90

Installation

Wiring: Must comply with IEE Regulations

Cable: 1mm^2 Ø max

Fuse: 3 amp normally required (when fan is supplied from a 6A lighting circuit no local fuse is required)

Exhaust: Ø 100mm

Glazing hole:
Ø 108mm. 4–28mm double glazing

Electrical specification:
230V ~ 50Hz Class II

Consumption:
21W (SF90B/T/HT/A)
29W (SF90SVIT/SVIHT)
10W (SF90A Trickle Speed)

Performance
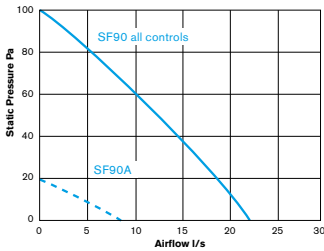
Models, control options and key data

Product code	Control operation	Voltage	IP	Performance to BS 848 Pt1 in free air				Sound pressure level @ 3m	
				Normal		Slow		Normal	Slow
				m³/h	l/s	m³/h	l/s	dB(A)	dB(A)
SF90B	Single speed with pullcord option	230	44	75	21	-	-	37	-
SF90T	Single speed with timer & pullcord	230	44	75	21	-	-	37	-
SF90HT	Single speed. Humidistat/overrun timer & pullcord	230	44	75	21	-	-	37	-
SF90SVIT	Single speed. SELV with overrun timer & pullcord	12	57	75	21	-	-	37	-
SF90SVIHT	Single speed. SELV with humidistat/timer & pullcord	12	57	75	21	-	-	37	-
SF90A	Continuously running at trickle speed. Operates between trickle/normal speeds by pullcord, switch or sensor	230	44	82	23	30	8	37	24

COMPLIES WITH SYSTEM 1

SUITABLE FOR ZONE 1 AND 2

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

IPX4 RATED

2 YEAR WARRANTY

IPX7 SELV MODELS

CE UKCA MARKED

UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

RF90

Centrifugal recessed **bathroom** fan with integral filter
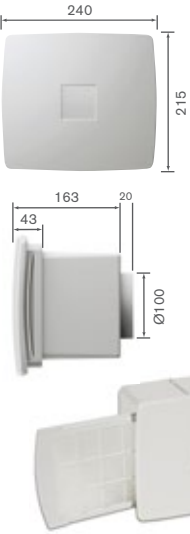
Physical specification

All measurements in millimetres unless otherwise indicated

Weight: 1.3kg

Materials:
Satin finish white ABS plastic with PVC exhaust seal

240

215
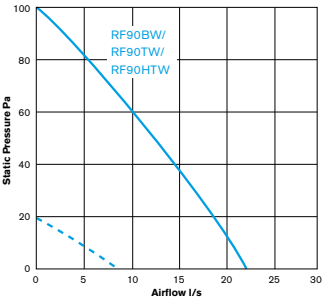
163   20

43   Ø100

Features and benefits

➤ Suitable for wall and ceiling mounted applications with discharge via wall/ soffit and root tile

➤ 100mm recessed centrifugal fan that complies with current Building Regulations – widely specified for social housing projects

➤ One fan with flexible installation options – wall, ceiling and panel

➤ Full range of control options including automatic humidistat sensing and overrun timers

➤ Simple fuss-free 2 step installation – back plate can be installed prior to fan and motor assembly

➤ Simple screw fix design for fast ceiling installation

➤ Modern, stylish front fascia design

➤ Integral washable filter for motor protection – simply located at the front of the fan

➤ Low running costs for occupants – ventilation without the expense

➤ Direct replacement for R90

Installation

Wiring: Must comply with IEE Regulations

Cable: 1mm^2 Ø max

Fuse: 3 amp normally required (when fan is supplied from a 6A lighting circuit no local fuse is required)

Exhaust: Ø 100mm

Electrical specification:
230V~50Hz Class II

Consumption:
21W (RF90BW)
22W (RF90TW/HTW)

Performance

Models, control options and key data

Product code	Control operation	Voltage	IP	Performance to BS 848 Pt1 in free air				Sound pressure
				Normal		Slow		
				m³/h	l/s	m³/h	l/s	dB(A)*
RF90BW	Single speed with pullcord	230	44	75	21	-	-	35
RF90TW	Single speed with overrun timer & pullcord	230	44	75	21	-	-	35
RF90HTW	Single speed with humidistat timer, overrun timer & pullcord	230	44	75	21	-	-	35

*Sound pressure level measured @ 3 metres

2 YEAR WARRANTY | CE UKCA MARKED | SUITABLE FOR ZONE 1 AND 2 | IPX4 RATED
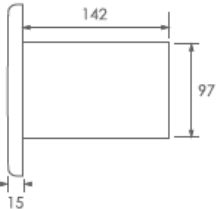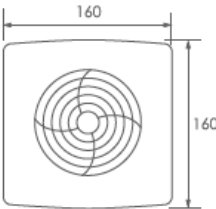
Silent Bathroom Fan

Axial flow **bathroom** fan

2 YEAR WARRANTY | CE UKCA MARKED | SUITABLE FOR ZONE 1 AND 2 | IPX4 RATED

Silent Induct Fans and Shower Kits Single speed silent **shower** fan

Physical specification

All measurements in millimetres unless otherwise indicated

Weight: 0.63kg
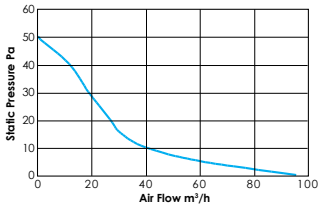
Materials: ABS Plastic

Features and benefits

➤ Ø 100mm axial flow fans suitable for wall or window applications. Ceiling mounting with discharge via external wall or soffit incorporating one 90° bend. NOT suitable for vertical duct installations via a roof tile vent or similar

➤ Designed to offer discreet performance in the bathroom - up to 70% quieter than standard axial fans when operating if installed in a "through the wall installation"

➤ Basic and timer control options

➤ Low profile design for wall mounting

➤ Long life, ball bearing motor

Installation

Wiring: Must comply with IEE Regulations

Cable: 2 core Ø 1mm^2 max
3 core Ø 1/1.5mm^2 max

Fuse: 3 amp normally required (when fan is supplied from a 6A lighting circuit no local fuse is required)

Exhaust: Ø 100mm

Electrical specification:
230V~50Hz Class II

Consumption:
100mm fan – 13W

Accessories:
Wall and Window Kit - See Page 198

Performance
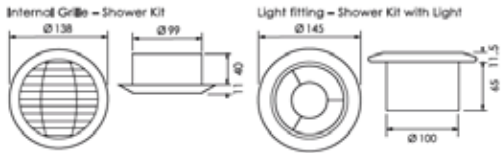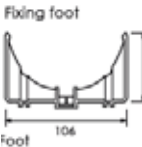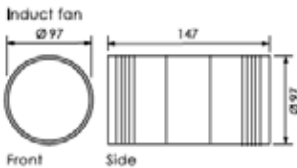

Physical specification

All measurements in millimetres unless otherwise indicated

Weight: Induct Fan – 0.61kg
Shower Kit – 1.3kg
Shower Kit & Light fitting – 1.7kg

Materials:
ABS Plastic

Features and benefits

➤ Ø 100mm axial flow fans suitable for Ceiling mounting with discharge via external wall or soffit incorporating one 90° bend. NOT suitable for vertical duct installations via a roof tile vent or similar

➤ Designed to offer discreet performance in the bathroom - up to 70% quieter than standard axial fans when operating

➤ Available as individual inline fan or as complete shower kit

➤ Basic and timer control options

➤ Shower kits – with or without 12V light

Installation

Wiring: Must comply with IEE Regulations

Cable: 2 core Ø 1mm^2 max
3 core Ø 1/1.5mm^2 max

Fuse: 3 amp normally required (when fan is supplied from a 6A lighting circuit no local fuse is required)

Exhaust: Ø 100mm

Electrical specification:
230V~50Hz Class II

Consumption:
16W – fan
20W – light

Performance
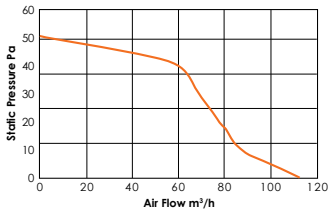
Models, control options and key data

				Performance		
Product code	Control operation	Voltage	IP	m³/h	l/s	dB(A)*
SR100	Basic fan. Remote operation. Single speed	230	X4	95	26	26.7
SR100TR	Timer fan. Remote operation. Single speed	230	X4	95	26	26.7
SR100HTR	Humidistat fan. Remote operation. Single speed	230	X4	95	26	26.7

*Sound pressure level measured @ 3 metres

Models, control options and key data

				Performance		
Product code	Control operation	Voltage	IP	m³/h	l/s	dB(A)*
SRD100	Basic induct fan. Single speed	230	X4	110	31	20
SRD100T	Timer induct fan. Single speed	230	X4	110	31	20
SRD100BSK†	Basic shower kit. Single speed	230	X4	55	15	24
SRD100TSK†	Timer shower kit. Single speed	230	X4	55	15	24
SRD100LTSK†	Timer shower kit & light. Single speed	12	X4	55	15	24

*Sound pressure level measured @ 3 metres †Installed performance with 3 metres of flexiduct

2 YEAR WARRANTY   CE UKCA MARKED   SUITABLE FOR **ZONE 1 AND 2**   **IPX4** RATED

Halo Range

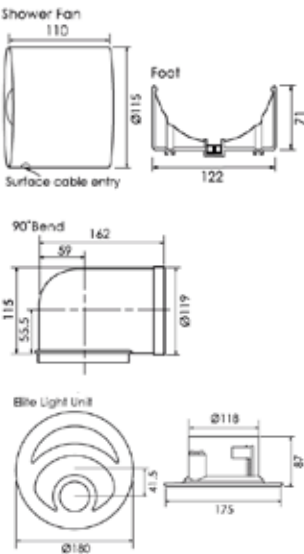High performance ceiling fan for **showers**

Physical specification

All measurements in millimetres unless otherwise indicated

Weight: 0.92kg

Materials: ABS White Plastic

Ceiling fixing hole: 145mm diameter

Shower Fan
110
Foot
Ø115
71
122
Surface cable entry

90°Bend
162
59
115
55.5
Ø119

Elite Light Unit
Ø118
41.5
87
175
Ø180

Features and benefits

➤ Complete shower fan kit including with inline fan, ducting and light included

➤ Basic and timer options

➤ 90° bend included for installing between joists in ceiling voids

➤ Both light fitting and fan are IPX4 rated

➤ 12V (SELV) lamp

➤ Chrome grille option available (HCBC)

Installation

Wiring: Must comply with IEE Regulations

Cable: Ø 1.5mm^2 max

Shower Fan:
230V~50Hz class II

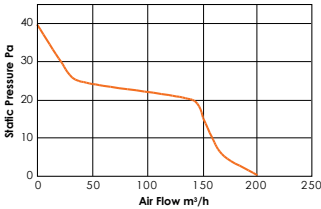**Consumption:**
20W

12V Lamp:
12V~50Hz class II

Lamp:
12V diachronic lamp rated at 20W, 36° beam angle. GE Lighting Type: M269

Consumption:
20W (SELV)

Performance

Models, control options and key data

Product code	Control operation	Voltage	IP	Performance m³/h	Performance l/s	dB(A)*
HC115BBK	Kit comprising basic induct fan, internal grille with 12V light unit, LV light transformer, 90° bend, 3 metres of Flexiduct, 4 fixing clips, outlet grille and fixing screws. Single speed	230	X4	200	56	31
HC115TBK	Kit comprising induct fan with adjustable timer, internal grille with 12V light unit LV light transformer, 90° bend, 3 metres of Flexiduct, 4 fixing clips, outlet grille and fixing screws. Single speed	230	X4	200	56	31
H115SL	Options to replace 12V light unit, LV light transformer and 90° bend	230	X4	–	–	–
HCBC	Chrome internal grille	–	–	–	–	–

*Sound pressure level measured @ 3 metres

Call: 01276 408404   **Email:** ventilation@zehnder.co.uk   **Visit:** www.greenwood.co.uk

Quality guaranteed every time

Our reputation for quality long-lasting products is credit to our 140 year history and continued specification amongst the UK's new build, refurbishment and retail sectors.

Product guarantees

Did you know that fewer than a quarter of 1% of our fans are ever returned to us through manufacturing fault? This is something that we are very proud of.

Each range of products is guaranteed as follows:

Intermittent Extract Fans

2 year warranty	**5 year warranty**
Samika	Omnique
Select 100/150	Elite 100/150
Select AXS100/AXSK	
P Fan	
SF90	
RF90	
Silent Fan	
Halo Fan	

Continuous Extract Fans

3 year guarantee	**5 year guarantee**
Unity	Omnique

Central Extract MEV
2 year warranty

Heat Recovery Ventilation MVHR
2 year warranty

Commercial Ventilation
2 year warranty

Ancillaries
2 year warranty

Controls
2 year warranty

This does not affect your statutory rights. Full details of our guarantees including braille and large format versions are available on request.

Terms of Business

A handling charge of £15 will be applied to all orders less than £350 nett.

All standard Greenwood branded products are available on a 3 day lead time unless specifically stated.

Comfosystems lead times

Ancillaries
2 weeks

ComfoAir and ComfoAir Q units
3-4 weeks

Deliveries of ducting may be subject to additional delivery times depending on volume and weight. This will be advertised at the time of ordering.

Morning and overnight deliveries are available subject to conditions and will incur a £25 minimum additional charge.

Orders must be placed before 11am to be eligible for overnight delivery.

Orders can be delivered to site providing a signed acknowledgement has been received. Zehnder does not accept responsibility for any items lost or damaged if the consignment note has been signed.

All quotations are valid for 30 days.

The basis for our offer, acceptance of orders, order confirmations or sales contracts is the current valid price list.

Sales are subject to our standard terms and conditions which are available on request.

Due to our policy of continuous change and improvement, product specification, price and availability may be subject to change without prior notice.

For full terms and conditions, please visit **www.zehnder.co.uk/company/legal**

COMPLIES WITH
SYSTEM 1

2 YEAR WARRANTY

CE UK CA MARKED

UKAS ACCREDITATION | INDEPENDENTLY ACCREDITED TEST INFORMATION

P Fan

Centrifugal surface mounted **bathroom** fan

The Greenwood P Fan is the longest serving member of the Intermittent Extract Fan range. Launched in the 1970's, we continue to have replacement orders - some of which are for the original installation of the fan!
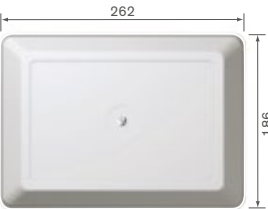
Physical specification

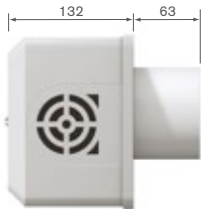All measurements in millimetres unless otherwise indicated

Weight: 2.1kg

Materials:
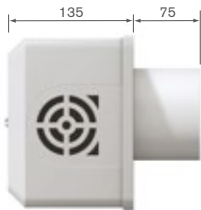White ABS plastic fan body with rubber mounting seal and adhesive foam seal for exhaust spigot

262

186

P1 Front

132   63

P1 Side

360

275

PD1 Front

135   75
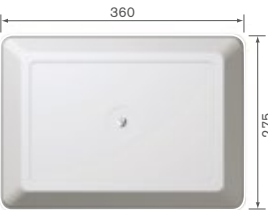
PD1 Side

Features and benefits

➤ One fan suitable for up to two room ventilation – ideal for separate bathroom and WC rooms located next to each other

➤ Six options of exhaust configurations

➤ Versatile design for surface, ceiling and wall installation applications

➤ Self balancing double inlet impellor eliminates need for adjustment on-site irrespective of configuration

➤ Additional timer module available – can be fitted retrospectively if required

➤ Low running costs for occupants
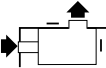
Configuration

One room ventilation
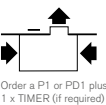
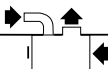Order a P1 or PD1 plus
1 x TIMER (if required)
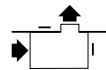
Order a P1 or PD1 plus
1 x PSB
1 x TIMER (if required)

Order a P1 or PD1 plus
1 x PSS
1 x PSG
1 x TIMER (if required)

Two room ventilation

Order a P1 or PD1 plus
1 x PSB
1 x PRS
1 x PSG
1 x TIMER (if required)
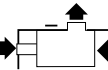
Order a P1 or PD1 plus
1 x PSS
1 x PSG
1 x TIMER (if required)
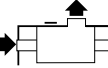
Order a P1 or PD1 plus
2 x PSS
2 x PSG
1 x TIMER (if required)

Secondary extract ducts:
Ø 63mm internal (nominal)

Note: Anti-backdraught shutter (PBDS) is available if required

Performance

Model	Performance to BS 848 Pt1 in free air		Sound pressure level @ 3m dB(A)
	m³/h	l/s	
P1	103	29	40
PD1	93	26	44

Key

P1

PD1

Graph: Static Pressure Pa (y-axis, 0 to 100) vs Airflow l/s (x-axis, 0 to 30)
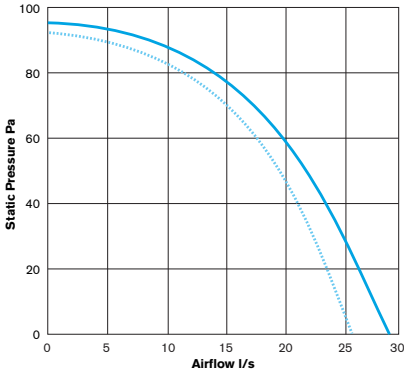
Models and control options

Model	Controls
P1	Single speed, operation by room light/remote switch/remote sensor
PD1	Single speed, duplicate fan with second standby fan & motor
TIMER	Built in overrun timer module for use with P1 & PD1 Fan

Installation

Wiring: Must comply with IEE Regulations

Cable: 1mm² Ø max

Fuse: 3 amp normally required (when fan is supplied from a 6A lighting circuit no local fuse is required)

Electrical specification: 230V~50Hz Class II

Exhaust: Ø 100mm

Consumption: 24W

Product codes

P1

PD1

PBDS Anti-backdraught shutter

PRS Rear spigot

PSS Side spigot

PSB Side blank

PSG Secondary grille

TIMER

COMPLIES WITH SYSTEM 1

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

5 YEAR WARRANTY

CE UKCA MARKED

UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

SUITABLE FOR ZONE 1 AND 2

IPX4 RATED

Elite 100

Axial flow **bathroom** fan

Physical specification

All measurements in millimetres unless otherwise indicated

Weight: See table

Materials:
White satin finish
ABS Plastic
SELV controller in satin finish white
ABS plastic
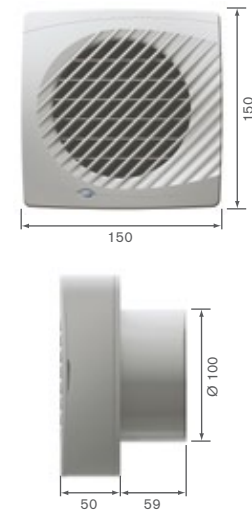
Features and benefits

➤ Ø 100mm axial flow fans suitable for wall or window applications. Ceiling mounting with discharge via external wall or soffit incorporating one 90° bend. NOT suitable for vertical duct installations via a roof tile vent or similar

➤ Ø 100mm axial flow fan that complies with Building Regulations – widely specified in social housing projects

➤ Robust window fixing kit with securing points inside the home – reducing the ability to tamper from the outside

➤ Wide range of control options including SELV (Safety Extra Low Voltage) and automatic humidity sensing for the continuous provision of good indoor air quality

➤ High quality, electronically operated shutter design helping to reduce heat loss when the fan is not operating

➤ Top and back cable entry for simple installation in existing dwellings

➤ Clever 'non crush' spigot design when connecting to ducting

➤ Direct replacement for the NTX range

Installation

Wiring: Must comply with IEE Regulations

Cable: 1mm^2 Ø max

Fuse: 3 amp normally required (when fan is supplied from a 6A lighting circuit no local fuse is required)
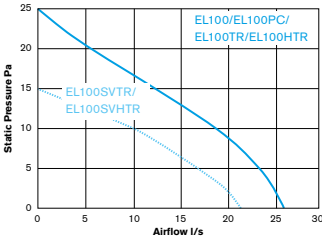
Exhaust: Ø 100mm

Glazing hole:
Ø 118mm, 4–28mm double glazing

Electrical specification:
230~50Hz Class II
SELV 12V ~ 50Hz Class III

Consumption:
17W (EL100/PC/HTR)
18W (EL100TR)
16W (EL100SVTR/SVHTR)

Accessories:
Wall and Window Kit - See Page 198

Performance

EL100/EL100PC/
EL100TR/EL100HTR

EL100SVTR/
EL100SVHTR

Models, control options and key data

Product code	Control operation	Weight kg	Voltage	IP	Performance m³/h	l/s	Watts	dB(A)*
EL100	Single speed	0.60	230	X4	96	26	17.2	39
EL100PC	Single speed with pullcord	0.68	230	X4	96	26	17.2	39
EL100TR	Single speed with overrun timer & pullcord	0.69	230	X4	96	26	17.9	39
EL100HTR	Single speed with overrun timer & remote operation	0.69	230	X4	96	26	16.5	39
EL100SVTR	Single speed SELV with overrun timer & pullcord	1.402	12	X4	78	21	15.7	30
EL100SVHTR	Single speed SELV with humidistat/timer & remote operation	1.415	12	X4	78	21	15.7	30

COMPLIES WITH SYSTEM 1

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

5 YEAR WARRANTY

CE UKCA MARKED

UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

IPX4 RATED

Elite150

Axial flow **kitchen** fan

Physical specification

All measurements in millimetres unless otherwise indicated

Weight: 0.98kg

Materials: White satin finish ABS plastic
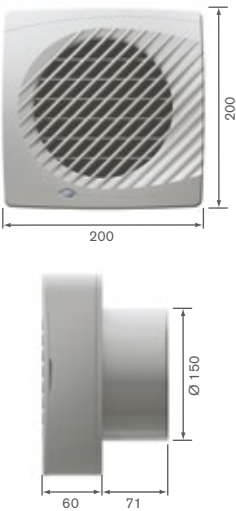
Features and benefits

➤ Installation for windows and walls only, not suitable for ceiling mounting

➤ High quality electronically operated shutter design helping reduce unnecessary heat loss when the fan is off and enhance privacy and security in low level installations

➤ Top or back cable entry for simple cost effective installation

➤ Modern styling for discreet finish

➤ Axial impellor flat surface design that does not clog easily helping to maintain installed performance

➤ Available with unique window fixing kit to reduce tamper ability once installed

Installation

Wiring: Must comply with IEE Regulations

Cable: Ø 1mm^2 max

Fuse: 3 amp normally required (when fan is supplied from a 6A lighting circuit no local fuse is required)

Exhaust: Ø 150mm

Glazing hole:
Ø 167mm, 4–28mm double glazing

Electrical specification:
230V~50Hz Class II

Consumption:
25W – EL150 range
26W – EL150HTR

Accessories:
Wall and Window Kit - See Page 198
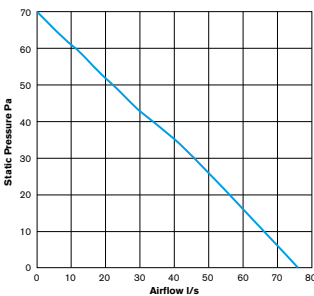
Performance

Models, control options and key data

Product code	Control operation	Voltage	IP	Performance m³/h	l/s	dB(A)*
EL150	Single speed	230	24	266	73	44
EL150PC	Single speed with pullcord	230	24	266	73	44
EL150HTR	Single speed with humidistat/timer & remote operation	230	24	266	73	44

*Sound pressure level measured @ 3 metres

Continuous Extract Ventilation

Continuous Extract Ventilation

Environmental

About Continuous Extract Ventilation

Simplicity at its best for less than a penny a day running costs. Continuous extract fans provide low level background ventilation with automatic boosting features when required. Their excellent low energy performance make them an ideal solution for any new build development or refurbishment project.

Need help specifying a product?

If you can't work out which product you need, or how to provide ventilation in the most efficient way for your homes, we can help you! Our dedicated team of Area Managers and Technical Advisors understand the impact of specifying products into new and existing homes.

Call us with your questions or email us at

ventilation@zehnder.co.uk

Head Office
01276 605800

Customer Services
01276 408404

Technical Services
01276 408402

The objective

Effective ventilation

With increasing insulation levels in new build and existing housing stock, the need for effective ventilation is crucial.

In a given day, a four person household can generate 10kg of water into the air from breathing, cooking, bathing and laundry.

The method

Positioned in bathrooms, WCs, kitchens and utility rooms, fans run continuously at very low speed to ensure a consistent level of extraction and indoor air quality.

Boost operation is commonly activated via the light switch, when short bursts of high extraction are required, or via the automated humidity and timer sensors.

For new build, habitable rooms feature background ventilators, usually in the form of a window vent. The continuous extraction eliminates the need for the high background ventilation rates associated with intermittent extraction. This principle also applies for refurbishment where low level continuous ventilation ensures the effective provision of good indoor air quality.

System 3

Continuous Mechanical Extract Ventilation

The outcome

1 A simple and effective form of whole house ventilation.

2 Low energy consumption.

3 Complies with System 3 of the current Building Regulations*.

4 Single fan for use in any application.

5 Extremely low running noise.

*Meets LABSS Scottish Building Regulations.

Extract air

Background ventilators

Fresh air
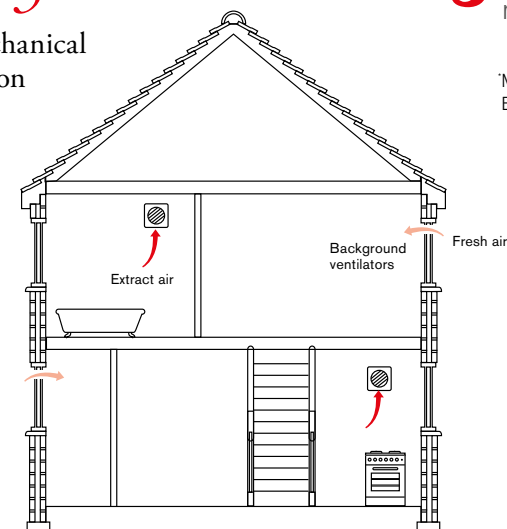
Building Regulations

Our continuously running Unity fan complies with System 3 of the Building Regulations as a de-centralised mechanical extract ventilator (dMEV).

Installed in each wet room throughout a property, the units run continuously between low and high speeds. High (boost) speeds are usually activated via occupant control (light switch) or automatic sensing (humidity/timer).

Continuous ventilation offers an excellent solution for new and existing homes as it does not cost the earth to run – in fact it's less than a penny a day for 365 days of the year!

The importance of correct ventilation installation

Did you know that the Building Regulations cover installation?

The Building Regulations have seen a new focus on installation practice and on-site performance certification.

The Domestic Ventilation Compliance Guide sets out a clear path to classify ventilation as a controlled service.

The Domestic Ventilation Compliance Guide

This published document brings together the first specific details of good practice installation.

Covering four ventilation systems, the document provides information and guidance on ducting connection, installation and commissioning.

To ensure that no nuisance noise is generated, which can have a negative impact on occupants, continuous fans need to comply with the installation requirements set out in the guide.

Important guidance:

DO

- Ensure the ducting takes the most economical route out of the building
- Ensure that duct is adequately supported
- Ensure that bends are sweeping to offer the least amount of resistance
- Ensure ducting is fully insulated
- Ensure all vertical duct installations incorporate a condensate trap
- Ensure condensate drain is insulated if terminated to atmosphere
- Follow guidance set out in the Domestic Compliance Guide

DON'T

- Allow duct route to sag, causing peaks and troughs
- Pass duct through an opening that allows a restriction to form causing resistance
- Install ducting without proper insulation or condensate requirements

For further clarification or support contact our
Technical Services team on 01276 408402

Ceiling loft

Tile Vent termination (min 7500mm² equivalent area)

Condensate drain (to nearest waste water connection)

Tile Vent

Ceiling void

Maximum length of flexible ducting

Flexible ducting support

Airflow

Minimum radius = the diameter of flexible ducting used

Discharge Grille

Room terminal/extract grille

Airflow

Grille discharge opening

Room extract grille & discharge grille:
Ensure the equivalent area of the opening is a minimum 85% of the equivalent area of the ducting being used

Flat ducting support

Ceiling Void

External Airblock

Peaks and troughs

Preferred flexible ducting route

Restrictions

Continuously
running bathroom/
kitchen fan

Unity

Low energy – one fan, **any room**

With an ultra-low energy EC motor, and aerodynamic impellor design, Unity assists in the delivery of GIP on-site.

Greenwood CommissionSMART is a key feature of Unity to ensure installer delight and help with the delivery of GIP on-site.

Incorporating an innovative, capacitive touch buttons-airflow settings and automatic sensing can be easily set up.

This replaces fiddly switches and wires which are often located in difficult to access places at the point of installation.

Unity 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.

One continuously running fan, any room, all installations.

For all wet rooms; for houses or apartments; for the wall or the ceiling; you can be assured that Unity is designed to comply with regulations. each and every time.

The **Greenwood SMART** technology used in Unity makes it SMARTer than the rest

Unity can be commissioned on-site in the fastest time, no more fiddly switches to set up the different speeds.

Once installed, Unity works in harmony with its environment by sensing and reacting to temperature and humidity, rather than running on a generic setting. This ensures optimum results.

The SMART technology in Unity helps to reduce problems often associated with some ventilation products, for example, nuisance noise and unnecessary heat loss.

Unity's SMART features help to save energy - less electricity is used which has a positive impact on energy bills and contributes even further to reducing the carbon footprint of the home.

How low can you go?

Low maintenance
Unity is a low maintenance fan which means that there are no filters to replace. It also features a unique aerodynamic impellor design which protects against the build up of dirt.

Low running costs
At less than 1p to run per day, Unity costs the equivalent of two cans of branded baked beans to run per year!

Low energy
With an SFP as low as 0.16 w/l/s, Unity easily complies with EST best practice.

Low noise
The quiet running speed has been achieved through a combination of innovative motor, electronics and aerodynamic impellor design; Unity is designed to be neither seen nor heard!
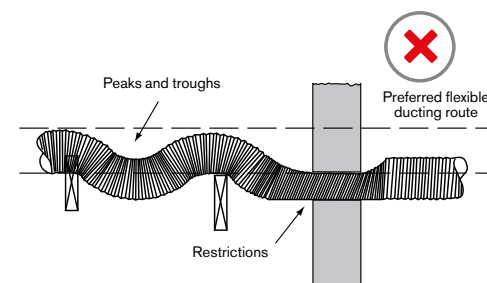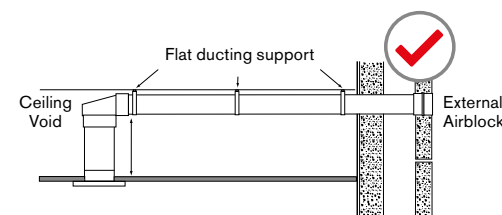
Low voltage
The SELV (Safety Extra Low Voltage) model of Unity offers an extra level of safety and protection for installation in wet rooms.

SELV is important when a fan is positioned within Zone 1 of a bathroom or shower room.

Unity can be safely installed in Zone 1 as its separate remote transformer can be situated out of the room and away from the splash zone.

➤ **IPX4** for ceilings

➤ **IPX5** for walls

Unity has been designed with minimalism in mind – in every aspect.

did you know?

Zehnder offers a free fan recycling scheme. For any new Greenwood fan installation project we will organise to recycle the fans replaced completely **free of charge.**

Call **01276 605800** for details

FREE SERVICE

Greenwood Carbon SMART *Low density*

Unity is perfectly rounded to deliver a total solution in one box.

Touch to set

Unity CV3 uses capacitive touch technology for quick and easy set-up on-site – simply touch to set the speed required.

Four airflow performance points are available to meet regulation room rates requirements easily for trickle and boost speeds.

5l/s **8**l/s **13**l/s **16**l/s

Tap in to real time information

With contactless technology, for the first time ever – you can simply transfer data (more than just time logs) from the installed fan to the phone easily.

Unity CV3

PRODUCT SETUP

PRODUCT INFO

TECHNICAL ASSISTANCE

COMPLIES WITH SYSTEM 3

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

3 YEAR WARRANTY

CE UKCA MARKED

UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

SUITABLE FOR ZONE 1 AND 2

IPX5 RATED WALL

IPX4 RATED CEILING

Unity CV3

The next generation of dMEV

Unity CV3 is the next generation of extractor fan, and has been designed to take on board the continued importance of reducing energy usage, easy compliance as well as contribution to well-being by eliminating nuisance noise.

Physical specification

Weight: 0.53kg

Spigot: Ø 99mm

Materials:
White satin finish/gloss finish
ABS/PCABS/PC plastic

Dimensions

All measurements in millimetres unless otherwise indicated

Ø99

48

68

126

Ø197

GIP GUARANTEED INSTALLED PERFORMANCE

Greenwood **Humidi SMART***

Greenwood **Commission SMART***

Greenwood **Timer SMART***

Greenwood **Carbon SMART***

Call: 01276 408404   **Email:** ventilation@zehnder.co.uk   **Visit:** www.greenwood.co.uk

Features and benefits

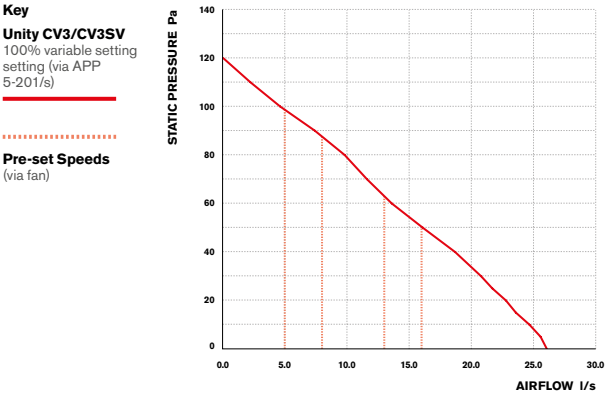Unity CV3 delivers a low energy continuous ventilation fan, suitable for new and existing homes.

➤ Extension to the industry leading Unity range of extract fans

➤ Suitable for all installation applications CV3 can be applied to all wet rooms and removes the need for large ducting networks and high background ventilation requirements

➤ Using as little as 0.72 watts, CV3's energy performance is ideal for directly reducing carbon emissions in SAP

➤ CV3 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

➤ Refined and sleek design helps CV3 to blend in with its environment

➤ The capacitive touch pad ensures ease of access, located on the front panel and simple commissioning

➤ CV3 offers ultra-quiet ventilation as low as 14.5dB(A) in low speed mode once installed

➤ App functionality supports commissioning and personalisation of settings, in addition to data transfer from the fan

Performance

Unity	Airflow performance (l/s)		Sound pressure level @ 3m dB(A)	Energy consumption (W)	
	Bathroom (Pre-set speeds)	Kitchen (Pre-set speeds)		Min	Max
Trickle speed	5	8			
Boost speed	8	13	As low as 14.5dB(A)	0.72	2.1
Maximum speed	16	16	-		

Key

Unity CV3/CV3SV
100% variable setting setting (via APP 5-20l/s)

Pre-set Speeds
(via fan)

STATIC PRESSURE Pa

140
120
100
80
60
40
20
0

0.0   5.0   10.0   15.0   20.0   25.0   30.0

AIRFLOW l/s

SAP Performance* Rigid/Flexible Ducting

Configuration	Location	SFP (w/l/s)
In-room	Kitchen	0.16
	Bathroom	0.12
Through-wall	Kitchen	0.13
	Bathroom	0.11

* Information extracted from the full PCDB report (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

Models and Control Options

Model	Control operation	IP	Voltage
CV3	Ultra Low Energy dMEV/Continuously running fan with Greenwood CommissionSMART™ technology and optional SMART Humidity and Timer options set-up at installation	IPX4 Ceiling IPX5 Wall	220–240V
CV3SV	Low Voltage Ultra Low Energy dMEV/Continuously running fan with Greenwood CommissionSMART™ technology and optional SMART Humidity and Timer options set-up at installation	IPX4 Ceiling IPX5 Wall	24V DC

Installation

Wiring: Must comply with IEE Regulations

Cable: Ø 2 core 1mm^2 max
        Ø 3 core 1.5mm^2 max

Fuse: 3 amp normally required (when fan is supplied from a 6A lighting circuit no local fuse is required)

Electrical specification:
220–240V~50Hz Class II
SELV Class III

Consumption:
Min 0.72W Max 2.1W (Pre-set speeds)
Up to 6.4W (max variable airflow performance)

Product codes

CV3

CV3SV

Accessories

COMPLIES WITH SYSTEM 3

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

3 YEAR WARRANTY

CE UKCA MARKED

UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

SUITABLE FOR ZONE 1 AND 2

IPX5 RATED WALL

IPX4 RATED CEILING

Unity CV2GIP

*Low energy – one fan, **any room***

A one product concept - one fan, any room, all installations. Unity is the first continuously running fan to truly assist in the delivery of Guaranteed Installed Performance.

Physical specification

Weight: 0.6kg

Spigot: Ø 100mm

Materials:
White satin finish
ABS plastic manufacture

Dimensions

All measurements in millimetres unless otherwise indicated

Ø199

54
68
129.5

Ø100

Features and benefits

Unity's outstanding energy performance and in-built **SMART technology** provides the best answers for today's ventilation requirements in both new and refurbishment housing.

➤ One fan, any room, all applications - CV2GIP 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

➤ CV2GIP'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 CV2GIP 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

➤ CV2GIP offers ultra-quiet ventilation as low as 10dB(A) in low speed mode once installed

➤ The best of the rest - CV2GIP has a low energy EC motor, 9 registered design patents and a mixed flow backward curved impellor, increased performance, removing clogging as the rubber blade protectors attract dust

Performance

Unity	Airflow performance (l/s)		Sound pressure level @ 3m dB(A)	Energy consumption (W)	
	Bathroom (default)	Kitchen (default)		Min	Max
Low speed	5	8	10.1		
High speed	8	13	38.5	1.1	5.4
Maximum speed	23	23	-		

Key

Unity

For manual airflow volume setting

Default settings ✖

Static Pressure Pa

120
110
100
90
80
70
60
50
40
30
20
10
0

0   5.0   10.0   15.0   20.0   25.0

Airflow l/s
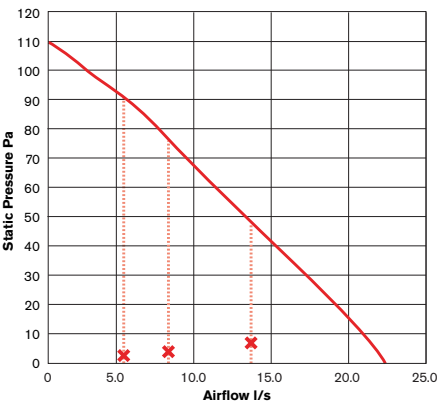
SAP Performance* Rigid/Flexible Ducting

Configuration	Location	SFP (w/l/s)
In-room	Kitchen	0.2
	Bathroom	0.2
Through-wall	Kitchen	0.2
	Bathroom	0.2

* Information extracted from the full PCDB report (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

Models and Control Options

Model	Control operation	IP	Voltage
CV2GIP	Continuously running dMEV fan with automatic Greenwood HumidiSMART sensing and Greenwood TimerSMART overrun options (set up at installation)	IPX4 Ceiling IPX5 Wall	220–240V
CV2SVGIP	Continuously running SELV fan with automatic Greenwood HumidiSMART sensing and Greenwood TimerSMART overrun options (set up at installation)	IPX4 Ceiling IPX5 Wall	24V DC

Installation

Wiring: Must comply with IEE Regulations

Cable: Ø 1mm^2 max

Fuse: 3 amp normally required (when fan is supplied from a 6A lighting circuit no local fuse is required)

Electrical specification:
220–240V~50Hz Class II
SELV Class III

Cable: Ø 1mm^2 max

Installation: Wall or ceiling

Consumption:
Min 1.1W
Max 5.4W

Product codes

CV2GIP

CV2SVGIP

Accessories

Picture frame adaptor for Unity dMEV fan - PFACV2   Page 199

GIP GUARANTEED INSTALLED PERFORMANCE

Greenwood HumidiSMART

Greenwood CommissionSMART

Greenwood TimerSMART

Greenwood CarbonSMART

Call: 01276 408404   **Email:** ventilation@zehnder.co.uk   **Visit:** www.greenwood.co.uk

Unity CV2GIP
System diagram - generic example

ComfoTube Ø 110mm Semi-Rigid Ductwork

CTA110
Adaptor to connect
Unity CV2CTA110 to
Zehnder CT110mm

GFB10M
Duct fixing band
galvanised,
12mm x 10m

990328111
Round connector,
Ø100mm

CV2CTA110
Continuous extract
fan

990328019
Semi rigid ductwork

GG82B
External vent,
Ø125mm

FIRO100.SPV
Fire damper 100 for
CV2GIP & CV3,
ceiling mounting, 90mm depth

CTA110
Adaptor to connect
Unity CV2CTA110 to
Zehnder CT110mm

GFB10M
Duct fixing band
galvanised,
12mm x 10m

990328364
ComfoTube Ø110mm,
O-ring seals, 2 pieces

CTC110
ComfoTube adaptor,
Ø110mm

GD453.CT
Duct Ø100mm,
300mm length

CV2CTA110
Continuous extract
fan

990328019
Semi rigid ductwork,
20m length

Locking slide
(supplied)

**GDABS.CT /
GDA5T.CT**
Horizontal airbrick

GD507.CT
GD duct
204x60 to Ø100mm

6 functions from just one fan!

Omnique

A complete multifunction fan for all projects

We have created a unique fan, one which can be applied to each and every application in a home from one single unit – the only fan of its kind.

Omnique has been designed as a multifunction fan that meets Building Regulation requirements and is also adaptable so that it can be set to meet the individual ventilation requirements of virtually any property or project.

Why choose Omnique?
Omnique provides the perfect multifunction solution for today's social housing landlords who are faced with multiple housing types, applications and a wide range of tenants with different lifestyles. The fan meets the ever increasing focus on energy efficiency, carbon reduction and overall simplicity in ventilation specification, installation and maintenance.

The **Greenwood SMART** technology used in Omnique makes it SMARTer than the rest

Omnique can be commissioned on-site in the fastest time, no more fiddly switches to set-up the different speeds.

Once installed, Omnique works in harmony with its environment by sensing and reacting to temperature and humidity, rather than running on a generic setting. This ensures optimum results.

The SMART technology in Omnique helps to reduce problems often associated with some ventilation products, for example, nuisance noise and unnecessary heat loss.

Omnique's SMART features help to save energy - less electricity is used which has a positive impact on energy bills and contributes even further to reducing the carbon footprint of the home.

Multifunctionality

One man, one van, one fan
Perfect for large scale refurbishment and new build projects, Omnique allows one single specification or a survey and installation in one single visit that is fully compliant with Building Regulations. From one single fan unit you simply choose the set up you need for the property. This simplicity helps reduce call out times and visits and ensures easy management of all housing stock in the long term.

Low energy
Omnique's low energy motor uses as little as 1.1 watts in operation which delivers low running costs and energy consumption for homeowners and tenants.

SMART technology for various controls required in homes
Omnique includes a range of SMART technologies offering further benefit for large scale projects. Includes SMART Timer and Humidity options that eliminate nuisance running, unnecessary heat loss and energy consumption from homes.

Adjustability – over-ventilation is a thing of the past!
Many fans over or under ventilate once they are installed because resistance caused by windows, walls, ceilings and ducting impact on how the fan will perform. Omnique is a Greenwood GIP product which offers airflow adjustability. By the touch of a button the airflow speed can be increased or decreased accordingly – perfect for problem properties suffering with mould and condensation.

Offering both *intermittent* and **continuous** ventilation from one single unit.

Continuous ventilation mode

Technically outstanding
Omnique is a mixed flow fan which can overcome resistance caused by ducting and, at the same time, balance energy efficiency to offer low running costs to homeowners and tenants.

Aesthetically pleasing
Omnique is a neat and compact fan designed to fit into today's modern kitchen and bathroom interiors. In continuous mode, the front shutter is permanently open for trickle speed which then increases when boost is required.

Low noise
In continuous mode, Omnique runs at just 7dB(A) making it one of the quietest products on the market.

The best choice for windows

Secure extractor fan installations are crucial in window applications as they may be targeted as a way to gain access to a property. Omnique's window kit has been designed in conjunction with social housing providers and advisors on secure designs in housing. Today it is one of the most robust solutions for a safe window installation.

See page 198 for additional details on the window kit.

Secured by Design
Police Preferred Specification

6 functions from just one product

1 **Continuous running mode** means Omnique runs at a very low speed through the day to ensure a consistent level of extraction.

2 Omnique's integral **Pullcord** can be utilised at times when high levels of extraction are required by occupants.

3 **Intermittent running mode** can be selected to provide traditional 'on-off' ventilation for wet rooms.

4 When **Greenwood TimerSMART** mode is selected, Omnique will use the duration of occupancy time in a wet room to determine the duration of the boost overrun period.

5 Omnique uses **Greenwood HumidiSMART** to monitor the installed environment and recognise the difference between 'normal' and 'man-made' humidity levels before making a decision to boost.

6 The easy conversion to a **SELV (Safety Extra Low Voltage)** model provides Omnique with an extra level of safety and protection for installation in wet rooms.

COMPLIES TO:
LOW VOLTAGE DIRECTIVE
EMC COMPATIBILITY DIRECTIVE

5 YEAR WARRANTY

CE **UKCA** MARKED

UKAS ACCREDITATION | INDEPENDENTLY ACCREDITED TEST INFORMATION

SUITABLE FOR **ZONE 1 AND 2**

IPX4 RATED

Omnique OF100

The only low energy fan you'll ever need

Energy efficiency within all areas of housing stock is a cornerstone of Government policy. This policy has led to an increasing number of demands being placed on housing providers and their housing stock to meet a variety of targets.

Physical specification

Weight: 1.4kg

Materials:
White gloss finish
ABS plastic manufacture

Dimensions

All measurements in millimetres unless otherwise indicated

196

117   35.5

227

Ø99

Multifunction: 6 in 1 fan

1. **Greenwood HumidiSMART control**
2. **Intermittent running mode**
3. **Pullcord control**
4. **Greenwood TimerSMART control**
5. **Continuous running mode**
6. **SELV – Safety Extra Low Voltage Option**

With large stocks of housing, you can simply set up the fan as required for the dwelling, number of occupants and lifestyle. One fan, one man, one van.

Features and benefits

Omnique is loaded with **Greenwood SMART** technology ensuring installer happiness, long-term reliability and outstanding energy performance.

Offering both continuous and intermittent running, Omnique is the only true multifunctional fan that caters for all refurbishment and new build projects.

➤ Using as little as 1.1W in continuous running mode, Omnique costs less than a penny a day to run contributing to a reduction in fuel poverty in homes

➤ Omnique has been specifically designed to be maintained rather than replaced

➤ Being a versatile 6-in-1 fan means that Omnique will comply with regulations for any home, every time

➤ Contractor costs for planned and responsive maintenance can be substantially reduced as Omnique's multifunctionality is the perfect answer for any installation - inspection and installation can be completed in a single visit

➤ The SMART technology in Omnique removes the need for tenant intervention and always ensures the optimal indoor environment

➤ Omnique's 100% variable airflow is ideal for installations where there are existing gas appliances as the airflow rates can be reduced and tailored as necessary

➤ The highly robust window kit for Omnique has been designed in conjunction with the people responsible for advising on secure products in housing and has been awarded the Secured by Design Accreditation

Performance

Omnique	Airflow performance (l/s)		Sound pressure level @ 3m dB(A)	Energy consumption (W)	
	Bathroom (default)	Kitchen (default)		Min	Max
Low speed	6	8	7	1.1	3*
High speed	8	13	19		

*Maximum energy consumption for continuous mode

Key

Maximum

Manual airflow volume setting

Default settings

✕

Static Pressure Pa

250
200
150
100
50
0

0   10   20   30   40   50   60   70

Airflow l/s
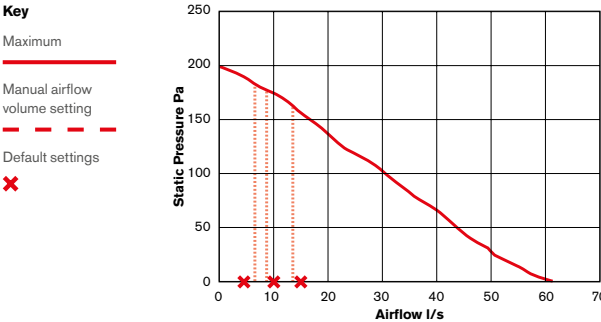
Control Options

Model	Control operation	IP	Voltage
OF100GIP / OF100SBD	Multifunctional fan with automatic Greenwood HumidiSMART sensing and Greenwood TimerSMART overrun options (set-up at installation)	IPX4	220-240V or 24V DC when converted to SELV mode

Omnique

The UK's first and only Secured by Design Accredited window fan

➤ Intruder proof

➤ Privacy design

➤ GIP: ventilation performance

Secured by Design
SBD
Police Preferred Specification

Installation

Wiring: Must comply with IEE Regulations

Fuse: 3 amp normally required (when fan is supplied from a 6A lighting circuit no local fuse is required)

Electrical specification:
220–240V~50Hz Class II
SELV Conversion Class III

Glazing:
Suitable for 4-28mm
Glazing hole Ø 118-130mm

Application:
Wall / window / ceiling

Cable: Ø 1mm^2 max

Consumption:
Min 1.1W
Max 25.8W

Product codes

OF100GIP

OF100SBD

Accessories

GIP GUARANTEED INSTALLED PERFORMANCE

Greenwood HumidiSMART

Greenwood CommissionSMART

Greenwood TimerSMART

Greenwood CarbonSMART

Call: 01276 408404   **Email:** ventilation@zehnder.co.uk   **Visit:** www.greenwood.co.uk

Mechanical Extract Ventilation

Mechanical Extract Ventilation MEV

Environmental

About Continuous Mechanical Extract Ventilation (MEV)

A range providing discreet, centralised extract ventilation for the whole house. A single loft or cupboard mounted unit extracts humid, stale air from wet rooms around the clock.

Need help specifying a product?

If you can't work out which product you need, or how to provide ventilation in the most efficient way for your homes we can help you! Our dedicated team of Area Managers and Technical Advisors understand the impact of specifying products into new and existing homes.

Call us with your questions or email us at

ventilation@zehnder.co.uk

Head Office
01276 605800

Customer Services
01276 408404

Technical Services
01276 408402

The objective

A system that provides dedicated extraction from the areas around the home where moisture is generated. A discreet, centrally positioned fan works around the clock to exhaust stale air to the outside whilst keeping nuisance running noise to a minimum.

The method

A central unit is positioned in a loft or cupboard space and ducted throughout the home to each wet room. Fans run continuously at very low levels to ensure a consistent level of extraction. High speed operation is generally activated via a light switch and can include adjustable overrun timer options.

Automatic humidity sensing can also be used to protect the dwelling from high levels of moisture. Habitable rooms contain passive ventilation, usually in the form of window ventilators, which are equally installed around the property in accordance with current Building Regulations.

The outcome

1 An easy-to-install central extract system to comply with System 3 of the Building Regulations.

2 Continuous low level background ventilation for optimised indoor air quality.

3 Ultra-simple operation with limited intervention required from occupants.

4 Low energy use and low running noise.

5 Compact and discreet system which is suited to both houses and apartments.

System 3
Central Mechanical Extract Ventilation

Exhaust air

Central Extract Ventilation Unit

Background Ventilators

Extract air

Fresh air
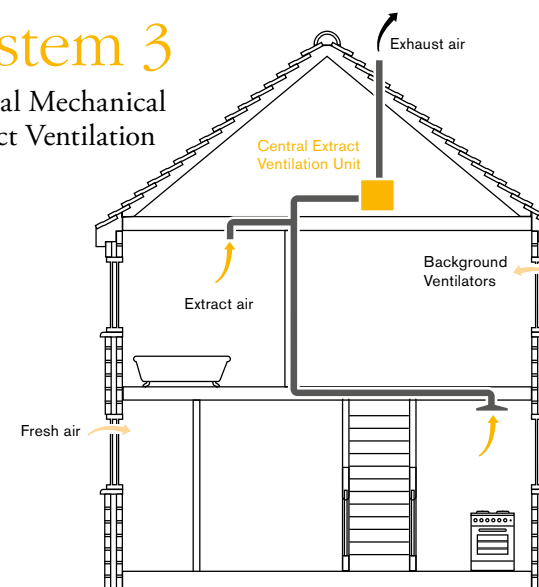
Building Regulations

MEV products comply with System 3 of the Building Regulations under Mechanical Extract Ventilation.

These products continuously extract humid, stale air from a home's wet rooms to one discreet, centralised unit mounted in a loft or cupboard and exhaust it to the outside.

Fresh air is supplied to the habitable rooms around the home via background ventilators such as window vents.

Centair CMEV.4e

Centair
Breathe Easy

Greenwood leads in the design and development of the best performing energy rated products (as under the UK Government's Standard Assessment Procedure – SAP) and our MEV units are no exception. Centair models offer superb reductions in Dwelling Emission (DERS) Rates for SAP.

Features and benefits

Centair is a whole house central extract unit that continuously extracts from all of the wet rooms in a property and works in conjunction with background ventilators to comply with System 3 of the Building Regulations as laid out in ADF: 2010.

> High quality AC or EC motor versions with excellent SFP performances

> Five extract spigots for ducting connections to wet rooms

> Wall or ceiling mounted unit which can be used in new and existing properties

> Discreet and low running noise once installed

> **A perfect fit** - its compact design (one of the smallest on the market) makes it ideal for apartments and small properties that usually don't have the window space for all of the trickle vents required with traditional 'on and off' extract fans

> **No fuss installation** - one of the fastest units to install with fixing holes designed to hold screws when mounting to a surface

Did you know?

Centair has been cleverly designed from the inside out. Energy efficient motors, five extract spigots, wall or ceiling mounting, clever motor assembly design which can be easily removed once isolated, allowing for cleaning and maintenance if necessary. Supplied with simple user control - wired remote switch for operating between low, medium and high speeds.

Centair CMEV.4eHT only

The **SMART** technology used in Centair CMEV.4eHT makes it SMARTer than the rest

HumidiSMART, a true and specific humidity sensing technology that works for the installed environment, removes nuisance running, a familiar issue with traditional humidity sensing technology.

TimerSMART is an innovative and logical approach to overrun timing – the longer you are in the bathroom, the longer the high speed will run when you leave the room.

Guaranteed Installed Performance

With 100% variable airflow, easily set up via pot controls located on the top of the unit, low energy Centair CMEV.4e/HT units are 100% adjustable to allow commissioning in line with Building Regulation requirements for Guaranteed Installed Performance.

With GIP products you can help reduce risk of non-compliance because you can easily get it right first time.

Product Selector

Our product selector tool provides complete technical specification details for our range of MVHR and MEV products, tailored to meet your exact requirements. Simply input the desired pressure and flow rate data; you will receive detailed information ensuring that solutions meet your ventilation needs.

www.zehnderproductselector.co.uk

Centair CMEV.4e

Central MEV system

The Centair range is made from high grade polypropylene which assists in maintaining low running noise levels.

Physical specification

Weight: 3.8kg

Materials:
The housing is manufactured from high grade black polypropylene material

Dimensions

All measurements in millimetres unless otherwise indicated
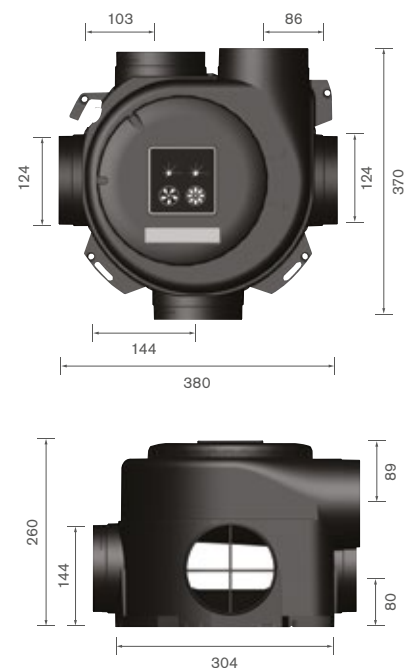
Features and benefits

With outstanding energy performance and an option loaded with **SMART** technology our Centair products ensure installer happiness along with long term performance and reliability.

➤ One of the best energy efficient products on the market with an incredible 0.16 w/l/s* performance which will help reduce DERs in SAP

➤ A continuously running ventilation system for the whole house that actively contributes to indoor air quality, controlled via a wired in remote switch to control low and high speeds

➤ A completely discreet system, centrally mounted in a cupboard or loft, helps reduce the impact of installed running noise for occupants

➤ The fifth extract point can be located at the bottom of the unit (requires cut out on-site) for easier connection to ducting in applications with limited space

➤ Compact design makes it ideal for apartments and small properties that can't easily apply System 1's high level of background ventilation

➤ One of the fastest units to connect and commission on-site – 100% variable motor speed options for low and high speeds adjusted through speed pots located on the fan body (medium speed will be based on mid-point between selected low and high speeds)

➤ Energy efficient EC motor, five extract spigots, wall or ceiling mounting, clever motor assembly design which can be easily removed once isolated, allowing for cleaning and maintenance if necessary

Performance

Speed	Test Area	Octave Band (Hz) Sound Power Level, dB							dB(A) @3m
		125	250	500	1000	2000	4000	8000	
1	Casing	29.6	17.9	16.1	12.7	13.9	18.6	25.2	8.7
	Extract	26.8	15.4	12.9	11.5	12.6	18.5	25.1	
2	Casing	32.9	34	25.1	17.6	15.2	18.6	25.2	13.0
	Extract	37.7	34.1	26.5	17.2	13.5	18.5	25.1	
3	Casing	39.9	42.7	40.6	29.5	26.2	19.9	25.3	22.8
	Extract	44.3	43.2	41.5	29.4	23.8	19.7	25.1	
4	Casing	42.9	49.2	50.5	43.7	35.8	27.2	26.4	31.5
	Extract	50.7	50.7	48.1	42.9	35.9	29.1	26.3	
MAX	Casing	45.1	49.9	48.5	48.5	40.1	33	28	33.7
	Extract	50.2	56	50.8	47.4	40.4	35.7	29.4	

Control Options

Model	Control operation
CMEV.4e	Wired in 3 position remote switch (GS1) to control low, medium and high speeds. Double pole light switches or GS2 to control low and high speeds.

SAP Performance***

K+n wet rooms	Specific fan power (w/l/s) (2009)	Heat recovery efficiency (%) (2009)	Specific fan power w/l/s (2012)	Heat recovery efficiency (%) (2012)
n = 1	0.8	-	0.8	-
n = 2	0.59	-	0.59	-
n = 3	0.72	-	0.72	-
n = 4	0.6	-	0.6	-
n = 5	0.51	-	0.51	-

*** Information extracted from the full PCDB report (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

Installation

Wiring: Must comply with IEE Regulations

Cable: 5 core 0.75mm² flying lead

Ducting: Connect to 100mm or 125mm ducting (rigid ducting recommended to minimise air resistance)

Fuse: 3 amp (when fan is supplied from a 6A lighting circuit no local fuse is required)

Electrical specification:
230V~50Hz Class II

Consumption:
Low   4.9W
High   11W
Maximum   38W

Product codes

CMEV.4e

Controls

Controls, two position switch for ComfoAir 155/185 and Centair range - ZGS2	Page 203
Controls, remote air quality sensor - AQR	Page 208
Controls, remote humidity sensor - HHRW	Page 209
Controls, remote passive infra-red movement sensor - PIRR	Page 209
Controls, remote temperature sensor - THR	Page 209

* 0.16 w/l/s based on kitchen plus two wet rooms installed with appropriate ducting as detailed in the Product Characteristics Database (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

Centair CMEV.4eHT

Central MEV system

Utilising a combination of sensors, controls and design features for a SMARTer approach.
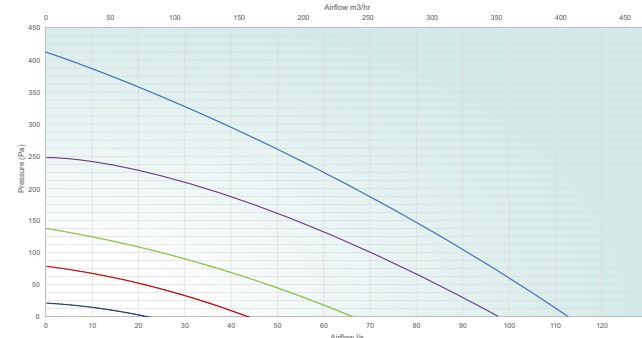
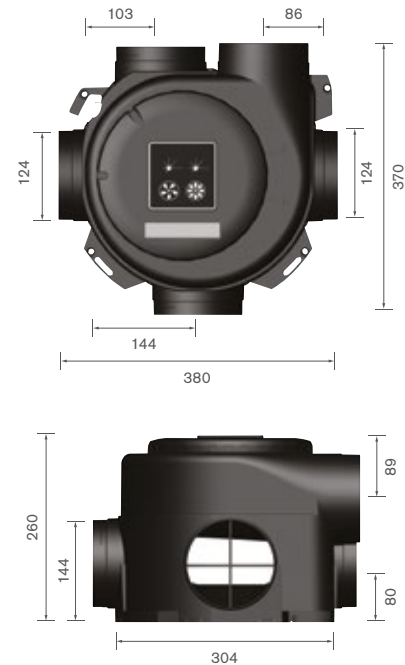## Physical specification

Weight: 3.8kg

Materials:
The housing is manufactured from high grade black polypropylene material

Dimensions

All measurements in millimetres unless otherwise indicated

Features and benefits

With outstanding energy performance and an option loaded with **SMART** technology our Centair products ensure installer happiness along with long term performance and reliability.
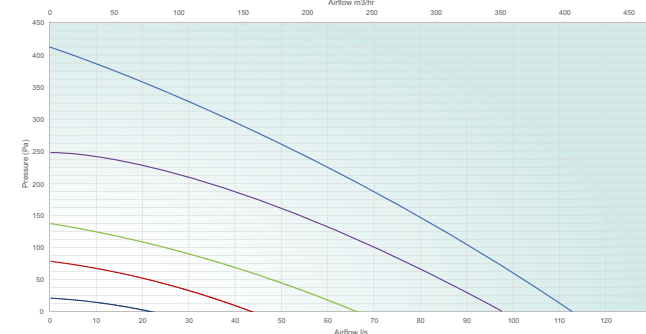
➤ One of the best energy efficient products on the market with an incredible 0.16 w/l/s* performance which will help reduce DERs in SAP

➤ A fusion of sensors, controls and innovative design features enable Centair CMEV.4eHT to work SMARTer

➤ A continuously running ventilation system for the whole house that actively contributes to indoor air quality, controlled via a wired in remote switch to control low and high speeds

➤ A completely discreet system, centrally mounted in a cupboard or loft, helps reduce the impact of installed running noise for occupants

➤ The fifth extract point can be located at the bottom of unit (requires cut out on-site) for easier connection to ducting in applications with limited space

➤ Compact design makes it ideal for apartments and small properties that can't easily apply System 1's high level of background ventilation

➤ One of the fastest units to connect and commission on-site – 100% variable motor speed options for low and high speeds adjusted through speed pots located on the fan body (medium speed will be based on mid-point between selected low and high speeds)

➤ Energy efficient EC motor, five extract spigots, wall or ceiling mounting, clever motor assembly design which can be easily removed once isolated, allowing for cleaning and maintenance if necessary

Performance

Speed	Test Area	Octave Band (Hz) Sound Power Level, dB							dB(A) @3m
		125	250	500	1000	2000	4000	8000	
1	Casing	29.6	17.9	16.1	12.7	13.9	18.6	25.2	8.7
	Extract	26.8	15.4	12.9	11.5	12.6	18.5	25.1	
2	Casing	32.9	34	25.1	17.6	15.2	18.6	25.2	13.0
	Extract	37.7	34.1	26.5	17.2	13.5	18.5	25.1	
3	Casing	39.9	42.7	40.6	29.5	26.2	19.9	25.3	22.8
	Extract	44.3	43.2	41.5	29.4	23.8	19.7	25.1	
4	Casing	42.9	49.2	50.5	43.7	35.8	27.2	26.4	31.5
	Extract	50.7	50.7	48.1	42.9	35.9	29.1	26.3	
MAX	Casing	45.1	49.9	48.5	48.5	40.1	33	28	33.7
	Extract	50.2	56	50.8	47.4	40.4	35.7	29.4	

Control Options

Model	Control operation
CMEV.4eHT	Wired in 3 position remote switch (GS1) to control low, medium and high speeds. Double pole light switches or GS2 to control low and high speeds. **Automatic SMART sensing;** Greenwood HumidiSMART – humidity boost Greenwood TimerSMART – overrun timer

SAP Performance***

K+n wet rooms	Specific fan power (w/l/s) (2009)	Heat recovery efficiency (%) (2009)	Specific fan power w/l/s (2012)	Heat recovery efficiency (%) (2012)
n = 1	0.17	-	0.17	-
n = 2	0.16	-	0.16	-
n = 3	0.17	-	0.17	-
n = 4	0.18	-	0.18	-
n = 5	0.22	-	0.22	-
n = 6	0.24	-	0.24	-

*** Information extracted from the full PCDB report (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

* 0.16 w/l/s based on kitchen plus two wet rooms installed with appropriate ducting as detailed in the Product Characteristics Database (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

Installation

Wiring: Must comply with IEE Regulations

Cable: 5 core 0.75mm² flying lead

Ducting: Connect to 100mm or 125mm ducting (rigid ducting recommended to minimise air resistance)

Fuse: 3 amp (when fan is supplied from a 6A lighting circuit no local fuse is required)

Electrical specification:
230V~50Hz Class II

Consumption:
Low	4.9W
High	11W
Maximum	38W

Product codes

CMEV.4eHT

Controls

Centair CMEV.4eHT

System diagram - generic example

GD8 - Ø125mm and GD8 - 204mm x 60mm
Rectangular Ductwork

GD813
GD round ducting,
GD8 pipe, Ø125mm
x 1.5m

GD824
GD round ducting,
GD8 90° bend

GD831
GD round ducting,
GD8 mounting clip

GD830
GD round ducting,
GD8 T-piece

GD826
GD round ducting,
GD8 45° bend

GD811
GD rectangular ducting,
GD8 mounting clip

GD803
GD rectangular ducting,
GD8 to a Ø125mm
adaptor with 90° bend

GG82B
External vent,
Ø125mm

GDA11
Round connector,
Ø125mm

CMEV.4eHT
Central extract unit,
Ø125mm

GD802
GD rectangular ducting,
GD8 pipe connector

GD801.2
GD rectangular ducting,
GD8 pipe, 204mm x 60mm x 2m

GD805
GD rectangular ducting,
GD8 90° horizontal bend

705051021
Extract air valve,
Ø125mm

Heat Recovery Ventilation

Heat Recovery Ventilation MVHR

Environmental

About Heat Recovery Ventilation MVHR

Heat Recovery Ventilation with a fresh and intelligent edge.
With the continued focus and drive to build highly insulated dwellings,
Heat Recovery Ventilation remains the optimal solution for many homes
for energy performance and the provision of good indoor air quality
throughout the year.

Need help specifying a product?

If you can't work out which product you need, or how to provide ventilation in the most efficient way for your homes we can help you! Our dedicated team of Area Managers and Technical Advisors understand the impact of specifying products into new and existing homes.

Call us with your questions or email us at

ventilation@zehnder.co.uk

Head Office
01276 605800

Customer Services
01276 408404

Technical Services
01276 408402

The objective

A constant supply of fresh air in the homes and buildings in which we spend over 70% of our time is vital to our health.

Energy conservation demands mean that both new build and refurbished buildings have become increasingly airtight, thereby making the provision of effective ventilation an essential element for today's homes.

The method

As stale air is extracted from the wet rooms, up to 96% of the heat is recovered by the heat exchanger before the air is exhausted into the atmosphere.

Meanwhile, fresh air is drawn from outside and filtered to remove pollutants then passed to the heat exchanger to take on the recovered heat before being supplied to the habitable rooms.

In warmer months when heat recovery is not required, extracted air by-passes the heat exchanger but continues to be filtered before it enters the home. This ensures that a balanced whole house system is still provided.

The outcome

1 Balanced whole house ventilation.

2 Constant supply of fresh, clean air Cost savings due to recycled heat use.

3 No background ventilation required.

4 Odours and contaminants are quickly removed from the dwelling.

5 Year-round comfortable, healthy and energy efficient indoor climate.

System 4

Continuous Supply & Extract Ventilation with Heat Recovery

Extract air

Supply air

Exhaust air

Intake air
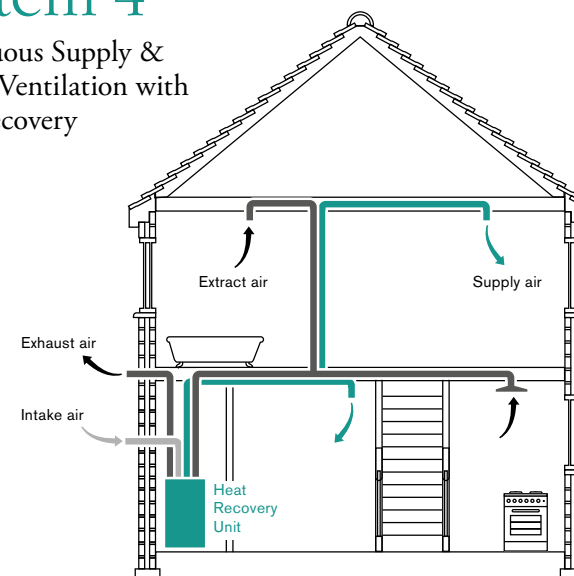
Heat Recovery Unit

Building Regulations

Our MVHR products comply with System 4 of the Building Regulations under supply and extract ventilation with Heat Recovery. These products are installed and run continuously between low and high speeds, supplying air to habitable rooms whilst extracting moist, stale air from wet rooms.

Heat Recovery Products Overview

An at-a-glance view of all the key features across our portfolio of heat recovery solutions.

Range	ComfoAir			
Model	CA155WM-GB	CA155WMe-GB	CA155CM-GB	CA185WM-GB
Property size (with attenuation)	125m²	125m²	125m²	150m²
Mounting	Wall	Wall	Ceiling	Wall
Max air flow @ 100Pa (l/s : m³hr)	82 : 296	85 : 307	77 : 278	80 : 288
Spigot size (mm)	125	125	125	150
Weight (kg)	18	17.5	21.5	30
Filter grade	ISO Coarse >45% (G3) / ISO Coarse >60% (G4)			ISO Coarse >45% (G3)
Tool free filter access	Yes	Yes	Yes	Yes
Left / right handing	Through software alone, no mechanical alteration required			
Summer by-pass	Automatic, full and filtered by-pass			
Integral Humidity sensor	Yes	Yes	Yes	Yes
Frost protection	Yes	Yes	Yes	Yes
Overrun timer	Yes	Yes	Yes	Yes
Delay on timer	Yes	Yes	Yes	Yes
100% variable speed control	Yes	Yes	Yes	Yes
Flow control				
Automatic summer purge				
Commission wizard	Yes	Yes	Yes	Yes
Switched live	Yes	Yes	Yes	Yes
Wired controller option	Yes	Yes	Yes	Yes
Wireless controller option				
Fault indicator	Yes	Yes	Yes	Yes
Volt free contact	Yes	Yes	Yes	Yes
0-10V control option				
BMS capability	Yes	Yes	Yes	Yes
App control option				
7 day programmer option				
Run time counter	Yes	Yes	Yes	Yes
PIN lock menu	Yes	Yes	Yes	Yes
Passive House certified				
Enthalpy heat exchanger option				
ComfoCool Q compatible				
ComfoFond-L compatible				
Electric integral preheater option				
Post heater control				
PCDB K+ ? (2012)	5	5	3	4

Range	ComfoAir			
Model	CA160	CA180	CA200	CA350
Property size (with attenuation)	100m²	110m²	120m²	160m²
Mounting	Wall / Ceiling	Wall	Wall / Ceiling	Wall
Max air flow @ 100Pa (l/s : m³hr)	46 : 167	63 : 230	73 : 266	111 : 400
Spigot size (mm)	100	125	125	150/160
Weight (kg)	28	24	30	39
Filter grade	ISO Coarse >65% (G4) / ISO ePM1 >65% (F7)			ISO Coarse >60% (G4) / ISO ePM1 >50% (F7)
Tool free filter access	Yes	Yes	Yes	Yes
Left / right handing	Left / right handed specific units			
Summer by-pass	Automatic, full and filtered by-pass			
Integral Humidity sensor				
Frost protection	Yes	Yes	Yes	Yes
Overrun timer	Yes	Yes	Yes	Yes
Delay on timer	Yes	Yes	Yes	Yes
100% variable speed control	Yes	Yes	Yes	Yes
Flow control				
Automatic summer purge				
Commission wizard				
Switched live	Yes	Yes	Yes	Yes
Wired controller option	Yes	Yes	Yes	
Wireless controller option	Yes	Yes	Yes	
Fault indicator	Yes	Yes	Yes	Yes
Volt free contact	Yes	Yes	Yes	Yes
0-10V control option	Yes	Yes	Yes	
BMS capability	Yes	Yes	Yes	
App control option				
7 day programmer option	Yes	Yes	Yes	
Run time counter				
PIN lock menu	Yes	Yes	Yes	Yes
Passive House certified	Yes	Yes	Yes	Yes
Enthalpy heat exchanger option	Yes	Yes	Yes	Yes
ComfoCool Q compatible				
ComfoFond-L compatible				
Electric integral preheater option	Yes	Yes	Yes	
Post heater control				
PCDB K+ ? (2012)	3	4	5	6

Range	ComfoCool Q	ComfoAir Q		ComfoAir Q	ComfoFond-L Q	ComfoPost CW6 - CW12
Model	**CCQ600**	**CAQ350**	**CAQ450**	**CAQ600**	**ComfoFond-L Q**	**ComfoPost CW6 - CW12**
Property size (with attenuation)	350m²	250m²	300m²	350m²	350m²	350m²
Mounting	Floor	Wall	Wall	Wall	Floor	Floor
Max air flow @ 100Pa (l/s : m³hr)	100 : 360	97 : 350	125 : 450	166 : 600	100 : 360	100 : 360
Spigot size (mm)	180	160/190	180/200	180/200	180	180
Weight (kg)	97	50	50	50	97	97
Filter grade	ISO Coarse >65% (G4) / ISO ePM1 >65% (F7)			ISO Coarse >65% (G4) / ISO ePM1 >55% (F7)		
Tool free filter access	Yes	Yes	Yes	Yes		Yes
Left / right handing	Through software alone, no mechanical alteration required			Through software alone, no mechanical alteration required		
Summer by-pass	Modulating, automatic, full and filtered by-pass			Modulating, automatic, full and filtered by-pass		
Integral Humidity sensor	Yes	Yes	Yes	Yes	Yes	Yes
Frost protection	Yes	Yes	Yes	Yes	Yes	Yes
Overrun timer	Yes	Yes	Yes	Yes	Yes	Yes
Delay on timer	Yes	Yes	Yes	Yes	Yes	Yes
100% variable speed control	Yes	Yes	Yes	Yes	Yes	Yes
Flow control	Yes	Yes	Yes	Yes	Yes	Yes
Automatic summer purge	Yes	Yes	Yes	Yes	Yes	Yes
Commission wizard	Yes	Yes	Yes	Yes	Yes	Yes
Switched live						
Wired controller option	Yes	Yes	Yes	Yes	Yes	Yes
Wireless controller option	Yes	Yes	Yes	Yes	Yes	Yes
Fault indicator	Yes	Yes	Yes	Yes	Yes	Yes
Volt free contact	Yes	Yes	Yes	Yes	Yes	Yes
0-10V control option	Yes	Yes	Yes	Yes	Yes	Yes
BMS capability	Yes	Yes	Yes	Yes	Yes	Yes
App control option	Yes	Yes	Yes	Yes	Yes	Yes
7 day programmer option	Yes	Yes	Yes	Yes	Yes	Yes
Run time counter						
PIN lock menu	Yes	Yes	Yes	Yes	Yes	Yes
Passive House certified	Yes	Yes	Yes	Yes	Yes	Yes
Enthalpy heat exchanger option	Yes	Yes	Yes	Yes	Yes	Yes
ComfoCool Q compatible	Yes			Yes	Yes	Yes
ComfoFond-L compatible	Yes	Yes	Yes	Yes	Yes	Yes
Electric integral preheater option	Yes	Yes	Yes	Yes	Yes	Yes
Post heater control	Yes	Yes	Yes	Yes	Yes	Yes
PCDB K+ ? (2012)	7	7	7	7	7	7
Mounting	Floor				Wall / Floor	Wall / Ceiling
Spigot size (mm)	180				180	125 - 200
Weight (kg)	47				47	13.5 - 22.4
Filter grade					G4	
Tool free filter access					Yes	
Left / right handing	Left / right handed specific units				Left / right handed specific units	
Minimum ventilation design rate (l/s : m³hr)	100 : 360					40 - 100 : 144 - 360
Refrigerant	R134a					
Refrigerant volume	0.5kg					
COP	up to 3.3					
Cooling capacity	1.5kW					1.52 - 5.64kW
Ideal brine/water pressure					1.5 bar	<6 bar
Brine/water flow rate @ maximum 350m³hr					6-8 l/min	600l/hr
Brine/water flow rate @ maximum 450m³hr					8-10 l/min	600l/hr
Brine/water flow rate @ maximum 600m³hr					8-10 l/min	600l/hr
Maximum head circulation pump					7 m	
Circulation pump class					A	
Summer air temperation	Yes				Yes	Yes
Winter air temperation					Yes	Yes
Automatic activation	Yes				Yes	Yes*
Suitable for use with ComfoAir Q350					Yes	Yes
Suitable for use with ComfoAir Q450					Yes	Yes
Suitable for use with ComfoAir Q600	Yes				Yes	Yes
Suitable for use with other ComfoAir units						Yes

* Controls by others

Heat recovery ventilation with an improved performance edge

ComfoAir

SMART ventilation

ComfoAir is the ideal choice for heat recovery ventilation in new build properties.

Build tight - ventilate right
Ask yourself – do you want to specify a Heat Recovery system that meets the challenges of Building Regulations, built with outstanding quality and is true value for money?

Then say "hello" to ComfoAir.

An elegant, discreet and compactly designed range consisting of four models for apartments and houses – from one single supplier. What's different about ComfoAir?

Intelligent design

Rely on us to provide expertise on design layout and airflow performance.

➤ ComfoAir is designed and manufactured in the UK

➤ Modern and discreet 'white goods' design

➤ Airflow performance designed to achieve 2010 ADF Building Regulation requirements

➤ Outstanding Specific Fan Power (SFP) and heat exchange efficiencies for true rewards in SAP

➤ Zehnder WinterSMART technology to protect the unit during colder winter months

➤ Easy access to filters and controls

➤ A range that is truly designed for the installer, dwelling and homeowner

➤ Highly efficient bacteria resistant heat exchanger

Install & commission

We have concentrated on installer happiness and cost control.

➤ Rapid 'straight-from-the-box' installation approach

➤ Light to handle

➤ Easy fitting in cupboards or ceilings

➤ Installations are up to 70% faster thanks to DISO technology

➤ Easy to use LCD display which is easily accessed for installation and maintenance

➤ 100% variable airflow settings makes it easy to set-up ComfoAir accurately for Building Regulations and Building Control sign-off

➤ Significant cost savings to be achieved on-site

➤ **Zehnder CommissionSMART** intuitive wizard that follows a step by step set-up process

Comfort & energy savings

Provision of good indoor air quality for the well-being of the occupants and the dwelling.

➤ **Zehnder SummerSMART** ensures comfort during summer months by by-passing the heat recovery mode. What sets ComfoAir apart from the rest is that the air is filtered 365 days per year

➤ **Zehnder TimerSMART** eliminates nuisance noise and over-ventilation by using duration of occupancy to determine the time the system boosts/overruns rather than a preset generic period

➤ ComfoAir uses **Zehnder HumidiSMART** to continuously monitor the home looking for rapid, man-made spikes before making a decision to boost and is unaffected by distance and dilution

➤ **Zehnder CarbonSMART** and two low energy EC motors ensure excellent overall energy performance resulting in very low running costs

Did you know? 3.29*

that's the number of ComfoAir units you can install in the time it takes to install just 1 of the other leading MVHR units.

Now that's what we call innovative design.

ComfoAir's DISO technology

Condensate forms when a warm, damp air stream meets a cold surface.

In the winter, condensation will form when warm, humid air is extracted from wet rooms around the home and exchanges its heat with the cold, dry intake air from outside.

In summer, if an air conditioner is used within the home, condensation can form as the cold, dry indoor air meets with hot humid air being brought into the home.

In fact, you could be looking at a minimum of two litres of condensation per day.

In some MVHR units this can cause problems as they are only designed to handle condensation occurring in winter.

Traditionally, MVHR units are designed to capture the condensation from one side of the heat exchanger and then rely on multiple plumbing connections to enable the handing of the unit to be changed.

Dual Inlet Single Outlet

With ComfoAir, the innovative, patented DISO technology allows the condensation from both sides of the heat exchanger and directs it to a single outlet without mixing the air streams. This allows for fully automated left or right handed configuration.

• No risk of damage to the unit from reconfiguring the handing on-site

• Greatly reduces the installation time

• Only one plumbing connection eliminates the risk of error

• Can be used in conjunction with air-conditioning or other cooling systems

zehnder
always the best climate

COMPLIES WITH SYSTEM 4

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

2 YEAR WARRANTY

emc **COMPLIES TO STANDARDS**

CE UKCA MARKED

SEC Class A⁺

UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

ComfoAir CA155CM

SMART ventilation

The Zehnder ComfoAir CA155CM is a heat recovery unit designed to enable easier specification of ventilation in new properties.
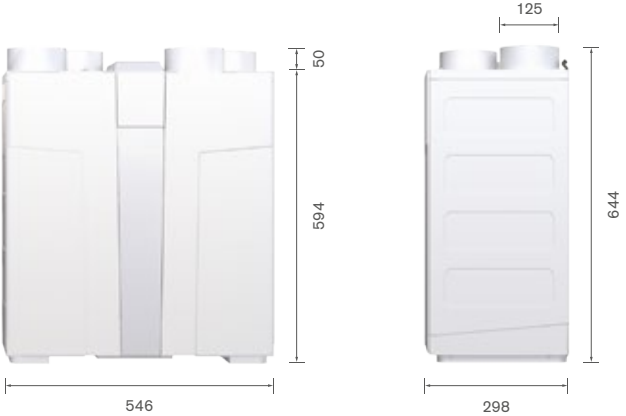
Physical specification

Weight: 21.5kg

Ducting: Ø 125mm

Condensate connection: 21.5mm

Materials:
Internal body - PP/EPS
Unit housing - ABS

Fans: EC

Filters: (G3) ISO Coarse >45% /(G4) Optional

Dimensions

All measurements in millimetres unless otherwise indicated

320

733.5

125

546

636

Features and benefits

With features such as its automatic true summer by-pass, high heat recovery efficiency and integrated humidity sensor to provide a comfortable, healthy and energy-efficient indoor climate.
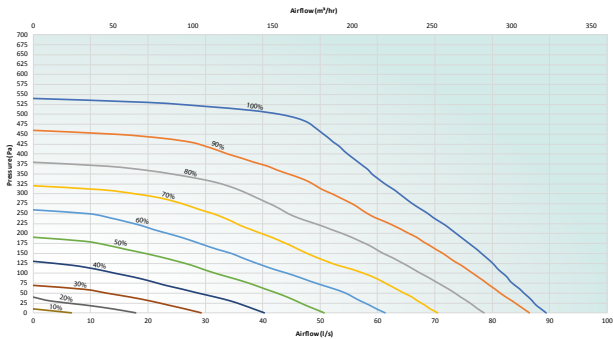
➤ Left or right hand configuration through software alone, no mechanical alteration required

➤ 100% full and filtered summer bypass

➤ Modern, discreet design

➤ Easy installation to ceilings

➤ Light to handle

➤ BMS capability

➤ Tool free filter access

➤ Volt free contact boost capability

➤ CommissionSMART is a commissioning wizard that enable a quick and simple set-up process

➤ SummerSMART ensures automatic full by-pass activation providing filtered supply air 365 days a year

➤ TimerSMART eliminates nuisance noise and overventilation by determining the duration of occupancy and allocating a suitable overrun time

➤ HumidiSMART continuously monitors the humidity level within the home and looks for a man-made spike before boosting the unit, irrespective of distance or dilution

➤ 100% variable AUX speed for use as away mode, medium speed or purge boost

➤ Independently tested sound data

Performance

Speed	Test Area	Octave Band (Hz) Sound Power Level, dB								dB(A) @3m
		63	125	250	500	1000	2000	4000	8000	
20%	Casing	29.7	26.5	23.7	22.2	19.3	15	18.2	23	9.3
	Supply/Exhaust	48.3	42.7	37.9	31.5	23.9	16.2	17.9	22.7	
	Extract/Intake	46.5	37.7	33.4	24.9	17.7	14.5	18	22.8	
40%	Casing	36.7	41.5	36	34.1	32.8	24	19.7	23	19.0
	Supply/Exhaust	63	59.5	55.5	50.8	48.9	43.8	34.5	32.1	
	Extract/Intake	50.4	46.8	48.9	37.5	32.2	26.2	20.8	23	
60%	Casing	44.7	50	44.8	40.9	39.8	34.7	26.8	23.6	26.5
	Supply/Exhaust	68.9	71	63	55.5	56.2	53.9	46.7	46	
	Extract/Intake	57.5	54.8	54.2	44.5	38.8	34.2	26.2	24.5	
80%	Casing	45.8	54.7	48.5	45.1	43.8	40.1	32.5	25.7	30.9
	Supply/Exhaust	73.2	74.5	68	62.7	61	60.1	53.4	54	
	Extract/Intake	62.6	59.8	60.5	48.5	43.2	41.2	31.9	28.5	
100%	Casing	51.6	56.5	51.6	50.1	46.5	43.8	36.6	28.3	34.5
	Supply/Exhaust	74.9	75.2	71.3	65	63	62.7	56.2	57.4	
	Extract/Intake	63.8	61.6	63.7	51.3	45.6	44	35.5	31.1	

Airflow (m³/hr)

Pressure(Pa) / Airflow (l/s)

SAP Performance***

Exhaust terminal configuration K+n (Kitchen + wet rooms)	Specific fan power (w/l/s) (2009)	Heat recovery efficiency (%) (2009)	Specific fan power w/l/s (2012)	Heat recovery efficiency (%) (2012)
K+1	0.5	93	0.57	92
K+2	0.55	92	0.71	91
K+3	0.65	91	0.92	90
K+4	0.8	90	-	-

*** Information extracted from the full PCDB report (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

Installation

Wiring: Must comply with IEE Regulations

Fuse: 3 amp (when unit is supplied from a 6A lighting circuit, no local fuse is required)

Electrical specification: 230V~50Hz Class II

Installation:
• Supplied with fixing brackets to allow screw fixing for increased support
• Install using rigid aluminium, PVC, galvanised or semi-rigid plastic ducting
• Install in ceiling void
• Installation and user manuals supplied with each unit

Product codes

CA155CM-GB

Controls

Ancillaries

GIP GUARANTEED INSTALLED PERFORMANCE

COMPLIES WITH **SYSTEM 4**

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

2 YEAR WARRANTY

emc COMPLIES TO STANDARDS

CE UKCA MARKED

SEC Class **A⁺**

UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

ComfoAir CA155WM
SMART ventilation

The Zehnder ComfoAir CA155WM is a heat recovery unit designed to enable easier specification of ventilation in new properties.

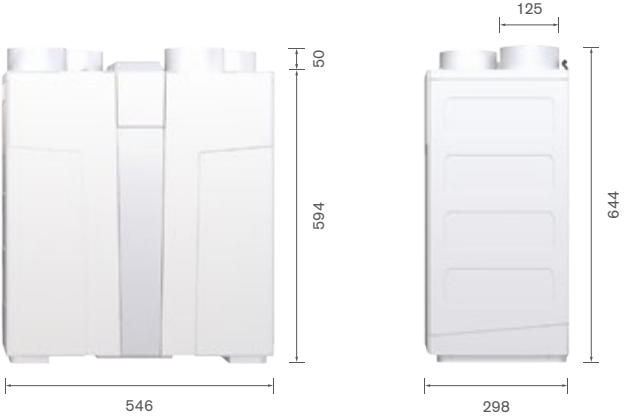## Physical specification

Weight: 18kg

Ducting: Ø 125mm

Condensate connection: 21.5mm

Materials:
Internal body - PP/EPS
Unit housing - ABS

Fans: EC

Filters: (G3) ISO Coarse >45% /(G4) Optional

Dimensions

All measurements in millimetres unless otherwise indicated

125
50
594
546

644
298

Features and benefits

With features such as its automatic true summer by-pass, high heat recovery efficiency and integrated humidity sensor to provide a comfortable, healthy and energy-efficient indoor climate.

➤ Left or right hand configuration through software alone, no mechanical alteration required

➤ 100% full and filtered summer bypass

➤ Modern, discreet design

➤ Easy installation to wall, cupboard or kitchen cupboard

➤ Light to handle

➤ BMS capability

➤ Tool free filter access

➤ Volt free contact boost capability

➤ CommissionSMART is a commissioning wizard that enables a quick and simple set-up process

➤ SummerSMART ensures automatic full by-pass activation providing filtered supply air 365 days a year

➤ TimerSMART eliminates nuisance noise and overventilation by determining the duration of occupancy and allocating a suitable overrun time

➤ HumidiSMART continuously monitors the humidity level within the home and looks for a man-made spike before boosting the unit, irrespective of distance or dilution

➤ 100% variable AUX speed for use as away mode, medium speed or purge boost

➤ Independently tested sound data

Performance

| Speed | Test Area | Octave Band (Hz) Sound Power Level, dB | | | | | | | | dB(A) @3m |
		63	125	250	500	1000	2000	4000	8000	
20%	Casing	27.3	26.1	23.9	26.6	20.6	15.4	18.1	23.1	10.7
	Supply/Exhaust	49.4	42.6	33.8	33.7	26.7	16.4	18.1	23.1	
	Extract/Intake	49.9	42.5	31.4	26	20	14.5	17.9	23	
40%	Casing	34	41.1	40.8	43.3	41.4	34.7	28.8	24.6	27.4
	Supply/Exhaust	63.9	60.8	52.7	53.2	53.6	45.7	37.6	34	
	Extract/Intake	53.1	50.8	43.7	40	40.1	31.3	22.7	23.3	
60%	Casing	37.9	47.7	47.6	48.3	46.2	42.7	37.1	31.3	33.1
	Supply/Exhaust	68.3	66.6	58.9	57.4	58.6	55.3	45.9	44.8	
	Extract/Intake	54.7	55.7	51	44.8	44.5	38.6	29.1	26.2	
80%	Casing	41	50.1	49.4	50.7	47.5	45.4	39.9	34.8	35.2
	Supply/Exhaust	69.7	70	60.9	60	59.7	58	48.8	48.4	
	Extract/Intake	56.8	58.4	52.6	47.2	46	40.9	32.1	28.5	
100%	Casing	42	55.1	54	55.6	50.5	50.1	44.6	39.9	39.5
	Supply/Exhaust	73.1	73.5	65.1	63.9	62.5	61.8	53.6	53.9	
	Extract/Intake	58.4	61.2	57.6	51.6	48.8	45.2	37.1	34.1	

Airflow (m³/hr)

Pressure (Pa)

Airflow (l/s)

SAP Performance***

Exhaust terminal configuration K+n (Kitchen + wet room)	Specific fan power (w/l/s) (2009)	Heat recovery efficiency (%) (2009)	Specific Fan Power (w/l/s) (2012)	Heat recovery efficiency (%) (2012)
K+1	0.5	93	0.56	92
K+2	0.54	92	0.69	91
K+3	0.64	91	0.88	90
K+4	0.78	90	1.15	89
K+5	0.95	89	1.41	88
K+6	1.13	89	-	-
K+7	1.35	88	-	-

*** Information extracted from the full PCDB report (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

Installation

Wiring: Must comply with IEE Regulations

Fuse: 3 amp (when unit is supplied from a 6A lighting circuit, no local fuse is required)

Electrical specification: 230V~50Hz Class II

Installation:
• Supplied with fixing bracket to allow screw fixing for increased support
• Install using rigid aluminium, PVC, galvanised or semi-rigid plastic ducting
• Install in wall or cupboard space
• Installation and user manuals supplied with each unit

Product codes

CA155WM-GB

Controls

Three position switch - ZGS1	Page 203
Two position switch - ZGS2	Page 203
Duel speed controller with operational and service indicators - ZGRC1	Page 203
Remote air quality sensor - AQR	Page 208
Remote humidity sensor - HHRW	Page 208
Remote passive infra-red movement sensor - PIRR	Page 209
Remote temperature sensor - THR	Page 209

Ancillaries

Heat exchanger for Zehnder ComfoAir 155 WM - CA155EX	Page 186
Filter for ComfoAir 155 WM, ISO Coarse >45% (G3), 2 Pieces - CA155FIL	Page 194
Filter for ComfoAir 155 WM, ISO Coarse >60% (G4), 2 Pieces - CA155FIL.UPG	Page 194

Zehnder HumidiSMART · Zehnder CommissionSMART · Zehnder WinterSMART · Zehnder TimerSMART · Zehnder SummerSMART · Zehnder CarbonSMART low energy · GIP GUARANTEED INSTALLED PERFORMANCE

COMPLIES WITH
SYSTEM 4

COMPLIES TO:
LOW VOLTAGE DIRECTIVE
EMC COMPATIBILITY DIRECTIVE

2YEAR WARRANTY

emc COMPLIES TO STANDARDS

CE UKCA MARKED

SEC Class A⁺

UKAS ACCREDITATION | INDEPENDENTLY ACCREDITED TEST INFORMATION

ComfoAir CA155WMe
SMART ventilation

The Zehnder ComfoAir CA155WMe is a heat recovery unit designed to enable easier specification of ventilation in new properties.

Physical specification

Weight: 17.5kg

Ducting: Ø 125mm

Condensate connection: 21.5mm

Materials:
Internal body - PP/EPS
Unit housing - ABS

Fans: EC

Filters: (G3) ISO Coarse >45% /(G4) Optional

Dimensions

All measurements in millimetres unless otherwise indicated

125
50
594
546

644
298

Features and benefits

With features such as its automatic true summer by-pass, high heat recovery efficiency and integrated humidity sensor to provide a comfortable, healthy and energy-efficient indoor climate.

➤ Left or right hand configuration through software alone, no mechanical alteration required

➤ 100% full and filtered summer bypass

➤ Modern, discreet design

➤ Easy installation to wall, cupboard or kitchen cupboard

➤ Light to handle

➤ BMS capability

➤ Tool free filter access

➤ Volt free contact boost capability

➤ CommissionSMART is a commissioning wizard that enable a quick and simple set-up process

➤ SummerSMART ensures automatic full by-pass activation providing filtered supply air 365 days a year

➤ TimerSMART eliminates nuisance noise and overventilation by determining the duration of occupancy and allocating a suitable overrun time

➤ HumidiSMART continuously monitors the humidity level within the home and looks for a man-made spike before boosting the unit, irrespective of distance or dilution

➤ 100% variable AUX speed for use as away mode, medium speed or purge boost

➤ Independently tested sound data

Performance

| Speed | Test Area | Octave Band (Hz) Sound Power Level, dB | | | | | | | | dB(A) @3m |
		63	125	250	500	1000	2000	4000	8000	
20%	Casing	26.6	25.5	23.4	26.1	20.8	15.1	17.9	22.6	10.4
	Supply/Exhaust	47.8	40.9	33.9	33.1	26.6	16.6	17.8	22.7	
	Extract/Intake	47	38.6	30.7	25.6	19.7	14.2	17.7	22.6	
40%	Casing	33.6	44	41	43.2	40.4	34.6	28.8	24.4	27.0
	Supply/Exhaust	63.4	60.2	53.7	52.5	53.9	46.8	38.5	35.3	
	Extract/Intake	55.8	51.4	45.2	41	40.9	32.9	23.1	23.3	
60%	Casing	37.6	50.2	47.1	49.3	45	42.4	36.8	31.4	32.9
	Supply/Exhaust	67.6	66.4	60.1	59.8	58.9	56	46.6	45.9	
	Extract/Intake	54.3	57	51.5	46.6	45.2	39.7	29.8	27.3	
80%	Casing	40.5	53.2	49	51.2	46.5	44.8	39.7	34.8	35.0
	Supply/Exhaust	69.6	69.3	62	60.9	60.2	58.6	49.4	49.4	
	Extract/Intake	57.9	59.1	53.8	48.9	46.5	42	32.7	30.1	
100%	Casing	41.5	55.9	53.2	55.3	50.9	49.4	44.3	40	39.3
	Supply/Exhaust	71.9	72.7	65.3	64	62.4	61.9	53.7	54	
	Extract/Intake	59	61.5	57.8	52.4	49.1	45.9	37.2	34.9	
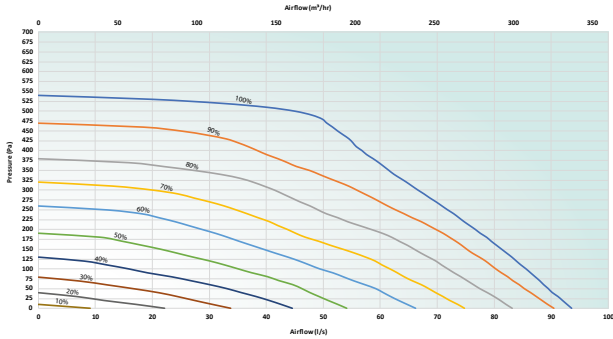
SAP Performance***

Exhaust terminal configuration K+n (Kitchen + wet room)	Specific fan power (w/l/s) (2009)	Heat recovery efficiency (%) (2009)	Specific Fan Power (w/l/s) (2012)	Heat recovery efficiency (%) (2012)
K+1	0.45	92	0.5	90
K+2	0.47	90	0.62	88
K+3	0.56	88	0.8	86
K+4	0.7	87	1.05	85
K+5	0.85	86	1.31	84
K+6	1.03	85	-	-
K+7	1.26	84	-	-

*** Information extracted from the full PCDB report (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

Installation

Wiring: Must comply with IEE Regulations

Fuse: 3 amp (when unit is supplied from a 6A lighting circuit, no local fuse is required)

Electrical specification:
230V~50Hz Class II

Installation:
• Supplied with fixing bracket to allow screw fixing for increased support
• Install using rigid aluminium, PVC, galvanised or semi-rigid plastic ducting
• Install in wall or cupboard space
• Installation and user manuals supplied with each unit

Product codes

CA155WMe-GB

Controls

Ancillaries

COMPLIES WITH SYSTEM 4

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

2 YEAR WARRANTY

emc **COMPLIES TO STANDARDS**

CE **UKCA MARKED**

SEC Class A⁺

UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

ComfoAir CA185WM

SMART ventilation

The Zehnder ComfoAir CA185WM is a heat recovery unit designed to enable easier specification of ventilation in new properties.

Physical specification

Weight: 30kg

Ducting: Ø 150mm

Condensate connection: 21.5mm

Materials:
Internal body - EPS
Unit housing - ABS

Fans: EC

Filters: (G3) ISO Coarse >45% /(G4) Optional

Dimensions

All measurements in millimetres unless otherwise indicated

Features and benefits

With features such as its automatic true summer by-pass, high heat recovery efficiency and integrated humidity sensor to provide a comfortable, healthy and energy efficient indoor climate.

➤ Left or right hand configuration through software alone, no mechanical alteration required

➤ 100% full and filtered summer bypass

➤ Modern, discreet design

➤ Easy installation to wall, cupboard or tallboy kitchen cupboard

➤ Light to handle

➤ BMS capability

➤ Tool free filter access

➤ Volt free contact boost capability

➤ CommissionSMART is a commissioning wizard that enable a quick and simple set-up process

➤ SummerSMART ensures automatic full by-pass activation providing filtered supply air 365 days a year

➤ TimerSMART eliminates nuisance noise and overventilation by determining the duration of occupancy and allocating a suitable overrun time

➤ HumidiSMART continuously monitors the humidity level within the home and looks for a man-made spike before boosting the unit, irrespective of distance or dilution

➤ 100% variable AUX speed for use as away mode, medium speed or purge boost

➤ Independently tested sound data

Performance

Speed	Test Area	Octave Band (Hz) Sound Power Level, dB								dB(A) @3m
		63	125	250	500	1000	2000	4000	8000	
20%	Casing	32.8	33.9	34.7	30	25.6	18.3	18	24	14.5
	Supply/Exhaust	52.7	41.8	37.8	34.7	26.3	17	18.2	24.3	
	Extract/Intake	56.1	40.3	35.4	23.8	16.6	13.4	18.2	24.3	
40%	Casing	40.3	45.2	45	43.2	38.4	30	21.7	24.1	26.0
	Supply/Exhaust	64.6	54.2	49.6	50.3	44.8	37.2	31	26.4	
	Extract/Intake	53.6	49.3	46.8	37.2	31	22.4	19.7	24.3	
60%	Casing	47.9	54.5	52.7	50.5	48.4	41.1	33.2	26.3	35.0
	Supply/Exhaust	70.2	62.4	57	58	55.5	49.3	44.9	39	
	Extract/Intake	59.5	57.9	54.2	44.9	40.8	34.2	28.9	25.8	
80%	Casing	52.4	60.8	59.2	56.1	54.9	48.8	41	32.1	41.0
	Supply/Exhaust	76	69.1	63.3	63	62	57	52.9	48	
	Extract/Intake	64.3	64.2	60.4	50.5	47	42	37	30.9	
100%	Casing	56.4	65.1	63.7	60.3	59.2	53.8	46.5	38.1	45.5
	Supply/Exhaust	80.3	72.9	68	67.2	66.8	62.4	58.6	54.2	
	Extract/Intake	68.5	68.3	65.4	54.5	51.5	47.4	42.6	36.5	
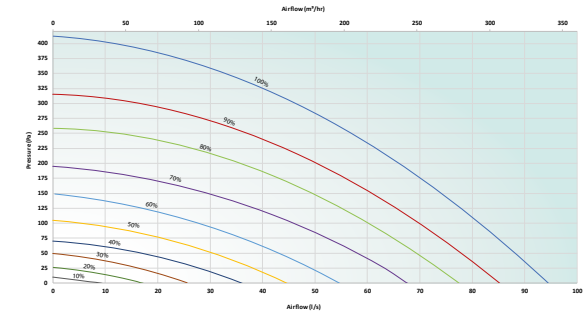
SAP Performance***
K+n wet rooms

Exhaust terminal configuration K+n (Kitchen + wet rooms)	Specific fan power (w/l/s) (2009)	Heat recovery efficiency (%) (2009)	Specific fan power w/l/s (2012)	Heat recovery efficiency (%) (2012)
K+1	0.60	92	0.57	92
K+2	0.57	92	0.64	91
K+3	0.62	91	0.76	91
K+4	0.70	91	0.96	91
K+5	0.81	91	-	-
K+6	0.95	91	-	-
K+7	1.14	90	-	-

*** Information extracted from the full PCDB report (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

Installation

Wiring: Must comply with IEE Regulations

Fuse: 3 amp (when unit is supplied from a 6A lighting circuit, no local fuse is required)

Electrical specification: 230V~50Hz Class II

Installation:
• Supplied with fixing bracket to allow screw fixing for increased support
• Install using rigid aluminium, PVC, galvanised or semi-rigid plastic ducting
• Install in wall or cupboard space
• Installation and user manuals supplied with each unit

Product codes

CA185WM-GB

Controls

Three position switch - ZGS1	Page 203
Two position switch - ZGS2	Page 203
Duel speed controller with operational and service indicators - ZGRC1	Page 203
Remote air quality sensor - AQR	Page 208
Remote humidity sensor - HHRW	Page 208
Remote passive infra-red movement sensor - PIRR	Page 209
Remote temperature sensor - THR	Page 209

Ancillaries

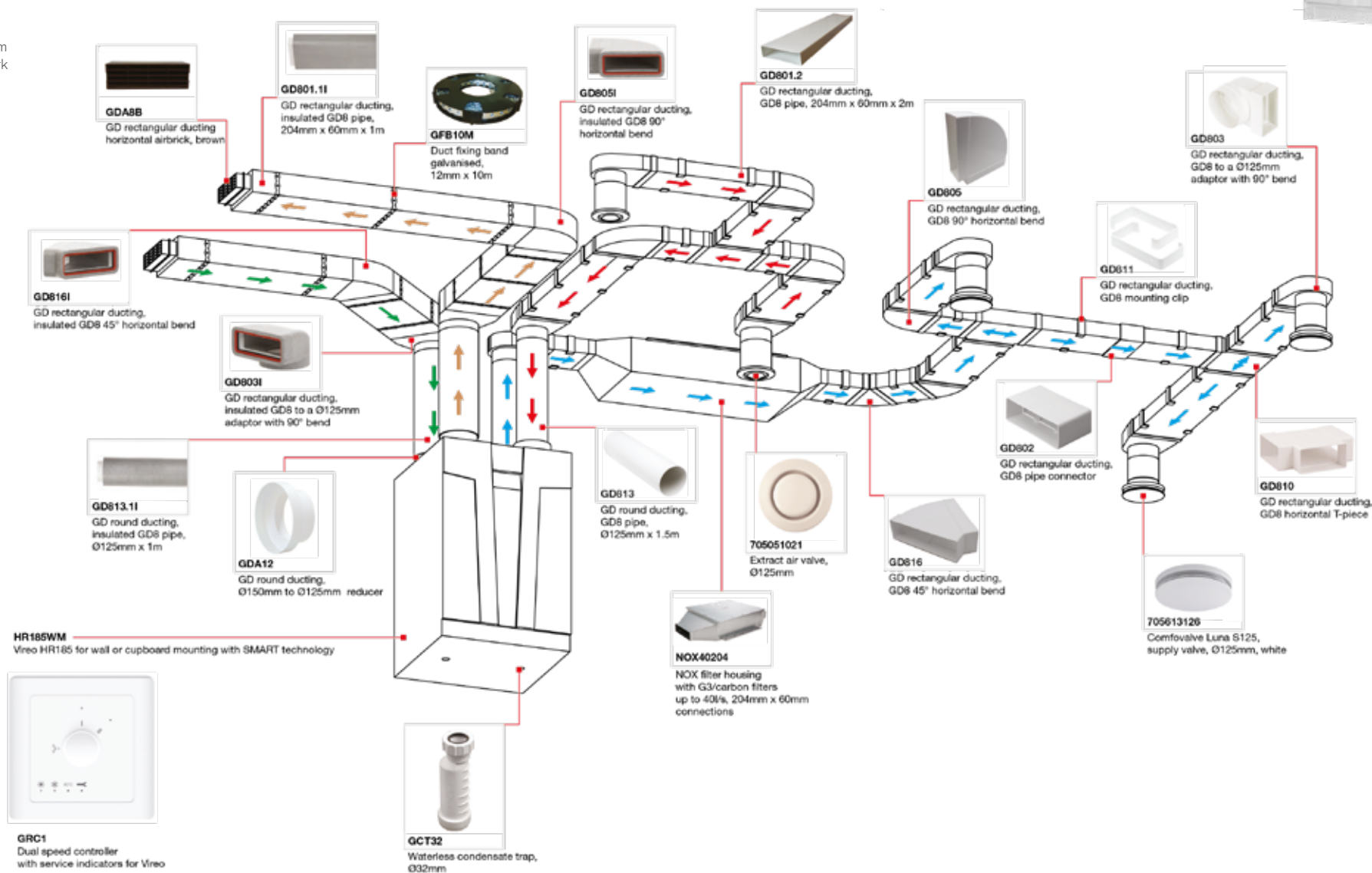| Heat exchanger for Zehnder ComfoAir 185 WM - CA185EX	Page 186
Filter for ComfoAir 185 WM, ISO Coarse >45% (G3), 2 Pieces - CA185FIL	Page 194

ComfoAir CA185WM

System diagram - generic example

GD8 - 204mm x 60mm
Rectangular Dutchwork

GDA8B
GD rectangular ducting
horizontal airbrick, brown

GD801.1I
GD rectangular ducting,
insulated GD8 pipe,
204mm x 60mm x 1m

GFB10M
Duct fixing band
galvanised,
12mm x 10m

GD805I
GD rectangular ducting,
insulated GD8 90°
horizontal bend

GD801.2
GD rectangular ducting,
GD8 pipe, 204mm x 60mm x 2m

GD805
GD rectangular ducting,
GD8 90° horizontal bend

GD803
GD rectangular ducting,
GD8 to a Ø125mm
adaptor with 90° bend

GD811
GD rectangular ducting,
GD8 mounting clip

GD816I
GD rectangular ducting,
insulated GD8 45° horizontal bend

GD803I
GD rectangular ducting,
insulated GD8 to a Ø125mm
adaptor with 90° bend

GD802
GD rectangular ducting,
GD8 pipe connector

GD810
GD rectangular ducting,
GD8 horizontal T-piece

GD813.1I
GD round ducting,
insulated GD8 pipe,
Ø125mm x 1m

GD813
GD round ducting,
GD8 pipe,
Ø125mm x 1.5m

705051021
Extract air valve,
Ø125mm

GD816
GD rectangular ducting,
GD8 45° horizontal bend

705613126
Comfovalve Luna S125,
supply valve, Ø125mm, white

GDA12
GD round ducting,
Ø150mm to Ø125mm reducer

HR185WM
Vireo HR185 for wall or cupboard mounting with SMART technology

NOX40204
NOX filter housing
with G3/carbon filters
up to 40l/s, 204mm x 60mm
connections

GRC1
Dual speed controller
with service indicators for Vireo

GCT32
Waterless condensate trap,
Ø32mm

Zehnder
ComfoAir 350

Zehnder ComfoAir-GB*

A comfortable indoor climate

A unit for all property sizes from smart, urban apartments to large luxury dwellings.

As with everything in life, it is important to have the right tool for the job. As individual buildings come in many shapes and sizes, it is critical each is designed to provide the same level of indoor air quality irrespective of the size or layout of the property.

Zehnder has a comprehensive range of units which can be tailored to meet the requirements of a broad spectrum of homes from smart, urban apartments to large, luxury dwellings.

Zehnder ComfoAir-GB comfort ventilation range ensure the perfect level of ventilation is achieved and that the air which we breathe whilst indoors is continuously replaced.

Health

Fresh air promotes well-being and a healthy lifestyle. Poor indoor air quality can lead to a rise in asthma and allergic symptoms due to the increased concentration of allergens such as dust mites, VOCs, pollen and mould.

With optional fine filters, which capture fine dust and pollen, even allergy sufferers can breathe easily.

➤ Optimum oxygen supply and draught-free air promote wellbeing

➤ CO_2 content below max. 1000 ppm (Pettenkofer method)

➤ Hypoallergenic and reduces respiratory disorders. Prevents outdoor pollutants entering rooms thanks to fine filters and extraction of indoor pollutants

➤ Prevents mildew formation

Energy savings

Building services cannot be supplied to a home without an input of energy. Zehnder ComfoAir-GB products use recovered and renewable energy sources to heat and ventilate our increasingly airtight properties in an energy efficient and environmentally friendly manner.

Whole house heat recovery ventilation technology can recover up to 96% of the heat which would have otherwise been lost through exhausted air.

➤ Energy savings of up to 50%

➤ Heat recovery up to 96%

➤ Use of renewable energies for air temperation

100%

0%

30-50% saving

50-70% heating costs

Heating costs for conventional ventilation

Heating costs with Zehnder Comfosystems
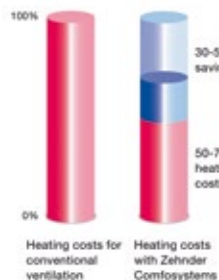
* The CA160/180 models have the suffix -GB (version).

Comfort

On average, we spend approximately 90% of our time indoors. Therefore the provision of a comfortable environment is very important to both our health and sense of wellbeing.

Zehnder ComfoAir-GB products can offer:

➤ Good air quality through continuous extract of humid, stale air from wet rooms and a continuous supply of clean tempered air to habitable rooms

➤ Low velocity air supply eliminating draughts around the home

➤ Products designed to be installed in a loft, cupboard or specifically dedicated plant room which, as well as minimising noise associated with the system's operation, can also help to reduce ingress of noise from the outside of the building

➤ Optional pre-cooled or pre-tempered supply air for whole house heat recovery

➤ Systems that are simple to control

Retention of value

The installation of a Zehnder ComfoAir-GB product offers a tangible investment in the future value of your home. Our products will help prevent degradation of the fabric of the building from mould and mildew formation as well as reducing heating and ventilation costs.

Our forward-thinking technologies will ensure that the property is upgraded to tomorrow's standards, today.

➤ Protection against mildew

➤ Protection of the building against moisture damage caused by a lack of ventilation

➤ Comfort ventilation systems already meet the requirements of future building standards (energy performance certificate)

Aesthetics

All products can be installed away from the visible interior of the house – usually in a loft space or specific dedicated plant room – so the only noticeable components of the system are aesthetically designed supply or extract grilles.

These discreet and stylish solutions can be mounted in a wall, ceiling or floor depending on the air distribution system chosen.

➤ Designer grilles discreetly conceal the outlets for supply air and extract air

➤ Suits any style

➤ Various wall, ceiling and floor options

Did you know?

Zehnder's efficient counterflow heat exchangers can recover up to 96% of heat, which otherwise would have been exhausted to the atmosphere.
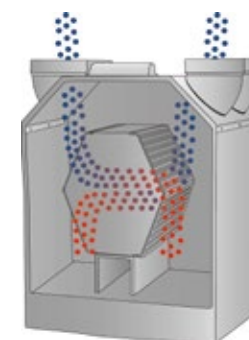
Independently tested and approved ensuring quality, performance and energy efficiency

Passive House is an internationally recognised standard for high quality, low energy buildings.

The standard requires that only those components which have been rigorously tested and approved can be used within the building. It is imperative when building to a Passive House specification that certified MVHR units are used, as poorly performing, uncertified products which don't live up to their claims can disrupt the performance of the whole property. Meeting stringent Passive House standards for quality, performance and energy efficiency, all four domestic units in the Zehnder ComfoAir-GB range have been certified by the Passive House Institute ensuring reliable and effective performance with minimum running costs.

CERTIFIED COMPONENT
Passive House Institute

zehnder

always the best climate

ComfoAir-GB 160

Year round comfort

**Zehnder Comfosystems: heat recovery ventilation from the experts in energy efficient, healthy and comfortable indoor climate solutions.**

Physical specification

Weight: 28kg

Spigots:
External Ø - 125mm
Internal Ø - 100mm

Condensate connection: 32mm

Materials:
Internal body - EPP
Unit housing - Coated Steel

Fans: EC

Filters:
Standard - ISO Coarse >65% /ISO Coarse >65% (G4 / G4)

Optional - ISO Coarse >65% / ISO ePM1 >65% (G4 / F7) filter combination as standard for pre-heater version.

Dimensions

All measurements in millimetres unless otherwise indicated

Ancillaries

Condensate trap for vertical installation of Zehnder ComfoAir 160 - 990 202 050	Page 186
Heat exchanger for ComfoAir 160 - 400 400 036	Page 186
Enthalpy exchanger for Zehnder ComfoAir 160 - 400 400 037	Page 186
Filter for ComfoAir 160, ISO Coarse >65% (G4), 2 Pieces - 400 100 023	Page 194
Filter for ComfoAir 160, ISO Coarse >65% / ISO ePM1 >65% (G4 / F7), 2 Pieces - 400 100 024	Page 194

Features and benefits

The flexibility to install horizontally or vertically makes the Zehnder CA160 ideal for flats and apartments and its excellent energy performance offers real rewards in SAP.

➤ Specific fan power (SFP) of 0.81 w/l/s

➤ Designed specifically for flats and apartments up to 100m² (ADF 2010)

➤ Comfort ventilation up to 160 m³/h at 100 Pa

➤ Heat recovery efficiency of up to 85%

➤ Low energy consumption thanks to EC motors

➤ Automatic 100% filtered summer bypass

➤ Constant volume motors ensure guaranteed installed performance (GIP)

➤ Can be mounted on either walls or ceilings

➤ Has a 100% variable air volume setting

➤ Dual-handed unit

➤ Enthalpy exchanger upgrade available

➤ Certified as an official Passive House component by the Passivhaus Institute

670

268

770

864

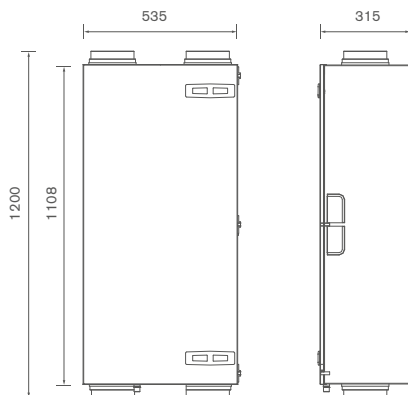## Passive House Certification

CERTIFIED COMPONENT
Passive House Institute
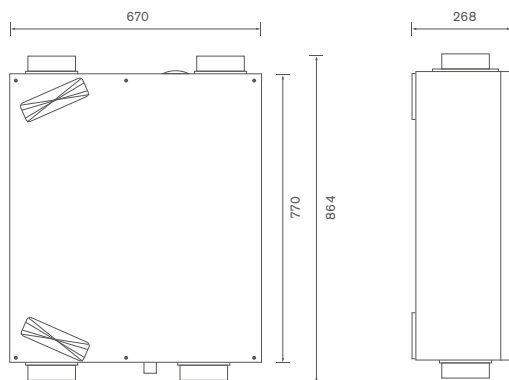
	Standard heat exchanger	Enthalpy heat exchanger
Air flow range	73-109m³/h	73-115m³/h
Heat recovery rate	nHR = 89%	nHR = 85%
Specific electric power	Pel,spec = 0.36 Wh/m³	Pel,spec = 0.33Wh/m³
Humidity recovery		nx = 64%

Performance

Speed	Test Area	Octave Band (Hz) Sound Power Level, dB								dB(A) @3m
		63	125	250	500	1000	2000	4000	8000	
20%	Casing	39.5	32.9	31.7	22.2	13.3	9.9	16	23.7	10.4
	Supply	66.7	51.2	43.1	36.9	32.3	18.3	15	20.8	
	Extract	53.1	36.2	28	19	8	6.8	6.1	5.1	
40%	Casing	42.5	35.7	32.6	28.2	22.8	18.3	17.4	23.7	13.4
	Supply	72	59.1	53.1	46	43.7	33.5	26.8	22.4	
	Extract	58.3	44.1	37.9	28.1	19.4	14.4	11.9	8.3	
60%	Casing	42	40.1	38.1	33.8	32	27.2	24.2	24.6	19.6
	Supply	75.9	66.5	60.5	52.1	52.6	43.7	39.1	31.8	
	Extract	62.3	51.4	45.3	34.2	28.2	19.5	18.1	13.1	
80%	Casing	44.8	46.5	43.3	40.7	38.2	34.8	31.9	28.2	26.0
	Supply	82.2	71.7	67.6	57.7	58.9	50.7	47.7	42.5	
	Extract	68.5	56.7	52.4	39.8	34.6	23	22.4	18.4	
100%	Casing	47.7	46.7	47.2	47.2	41.3	40.1	37.6	35.2	30.9
	Supply	86.2	75.8	72	63.3	62.8	57.1	54.1	50.8	
	Extract	72.5	60.8	56.9	45.3	38.5	26.2	25.6	22.6	
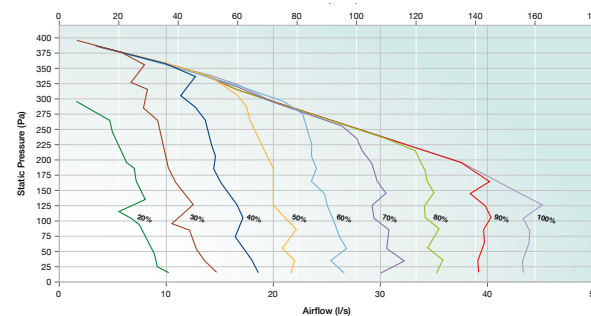
SAP Performance*

Exhaust terminal configuration K+n (Kitchen + wet rooms)	SFP (W/l/s) 2009	2012	Efficiency (%) 2009	2012
K+1	0.85	0.84	85%	85%
K+2	0.81	0.96	85%	83%
K+3	0.88	1.15	84%	82%
K+4	1.02		83%	
K+5	1.16		82%	

* Information extracted from the full PCDB report (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

Installation

Wiring: Must comply with IEE Regulations

Fuse: 3 amp; 6 amp with pre-heater

Electrical specification: 230V ~ 50Hz Class II

Maximum power consumption:
Including pre-heater - 1067W
Excluding pre-heater - 67W

Orientation:
Wall or ceiling mounting

Product codes

Zehnder ComfoAir 160 CA160-GB

Zehnder ComfoAir 160 Luxe CA160LUXE-GB

Zehnder ComfoAir 160 Luxe with pre-heater CA160LUXEPH-GB

Controls

Three position switch (CCB) - 659 000 120	Page 204
Three position switch (CCBL) - 659 000 300	Page 204
Zehnder ComfoSense 67 controller (CCS) - 655 010 215	Page 204
ComfoControl RFZ wireless controller (CCRFZ) - 655 000 755	Page 205
Remote air quality sensor - AQR	Page 208
Remote humidity sensor - HHRW	Page 208
Remote passive infra-red movement sensor - PIRR	Page 209
Remote temperature sensor - THR	Page 209
2V 0-10V CO2 sensor and combined three position switch - 655 000 855	Page 210
12V 0-10V RH sensor - 659 000 330	Page 210
Zehnder RF-PCB - 655 000 770	Page 211

COMPLIES WITH SYSTEM 4

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

2 YEAR WARRANTY

emc COMPLIES TO STANDARDS

CE UKCA MARKED

SEC Class A⁺

UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

ComfoAir-GB 180

Year round comfort

Zehnder Comfosystems: heat recovery ventilation from the experts in energy efficient, healthy and comfortable indoor climate solutions.

Physical specification

Weight: 27kg

Spigots:
4 x 220 x 60mm spigots
1 x Ø 125mm optional supply air connector

Condensate connection: 20mm

Materials:
Internal body - EPP / PA
Unit housing - Coated steel

Fans: EC

Filters:
Standard - ISO Coarse >65% / ISO ePM1 >55% (G4 / F7)"ISO ePM1 >55% (F7) filter option

Optional - ISO Coarse >65% / ISO Coarse >65% (G4 / G4)

Ducting:
ComfoPipe Plus Twin Duct

Dimensions

All measurements in millimetres unless otherwise indicated

Ancillaries

Heat exchanger for ComfoAir 180 - 400 400 038	Page 186
Enthalpy exchanger for Zehnder ComfoAir 180 - 400 400 039	Page 186
Filter for ComfoAir 180, ISO Coarse >65% (G4), 2 Pieces - 400 100 090	Page 194
Filter for ComfoAir 180, ISO Coarse >65% / ISO ePM1 >55% (G4 / F7), 2 Pieces - 400 100 091	Page 194
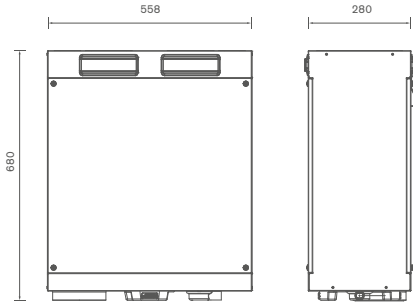
Features and benefits

The Zehnder ComfoAir 180 heat recovery ventilation system is an ultra compact unit which is highly suited to renovation projects for flats or apartments.

➤ Specific fan power (SFP) of 0.70 w/l/s

➤ Designed specifically for flats and apartments up to 110m² (ADF 2010)

➤ Comfort ventilation up to 180 m³/h at 160 Pa

➤ Heat recovery efficiency of up to 89%

➤ Low energy consumption thanks to highly efficient EC motors

➤ Automatic 100% filtered summer bypass

➤ Controlled by the Zehnder ComfoSense unit (supplied separately)

➤ Compact dimensions making CA180 ideal for installation in a kitchen or bathroom

➤ The unit can be left or right handed

➤ Designed for use with the unique Zehnder ComfoPipe Plus Twin Duct system

➤ Offers particular benefits for refurbishment projects

➤ IP rated for bathroom outer zones

➤ Features an additional supply air connection at the bottom of the unit for added installation flexibility

➤ Enthalpy exchanger upgrade available

➤ Certified as an official Passive House component by the Passivhaus Institute

558

280

680

Passive House Certification
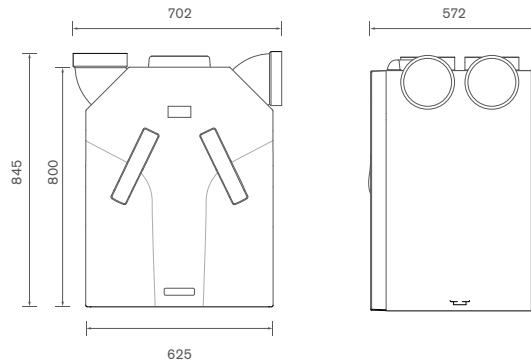
CERTIFIED COMPONENT Passive House Institute

	Standard heat exchanger
Air flow range	90-145m³/h
Heat recovery rate	nHR = 82%
Specific electric power	Pel,spec = 0.27 Wh/m³

Performance

Speed	Test Area	Octave Band (Hz) Sound Power Level, dB								dB(A) @3m
		63	125	250	500	1000	2000	4000	8000	
20%	Casing	38.3	29	30.6	21.1	15.2	11.7	16.1	24.3	10.0
	Supply	63.1	48.1	38.4	27	26.8	13.8	14.3	24	
	Extract	61.5	45	34.1	21.9	19.3	9.1	13.4	23.9	
40%	Casing	39.9	33.4	36.4	31.2	24	16.4	16.3	24.4	15.2
	Supply	67.2	57.4	49.2	39.5	38.3	29.2	23.1	24.6	
	Extract	63.1	49.7	42.1	33	29.8	16.3	17.5	24.3	
60%	Casing	43.9	41	45	36.1	31.8	22.6	17.7	24.4	21.9
	Supply	71.4	65.3	58.2	49.8	47.6	41.4	32.2	28.5	
	Extract	64.8	54.9	49.9	43	39	24.2	22.1	24.7	
80%	Casing	46.2	47	51	43.7	37.7	29.2	22.6	25.2	28.2
	Supply	75.8	71.7	65.2	57.7	54.6	50	41.6	36	
	Extract	66.4	60	56.2	50.2	45.1	31.9	26.5	25	
100%	Casing	52	51.4	55.5	47.6	41.8	33.8	27.7	27.7	32.5
	Supply	79.7	76	69.6	62.4	58.5	54.3	50.1	45.9	
	Extract	68	64.7	61.1	54.6	48.4	39.2	30.6	25.4	
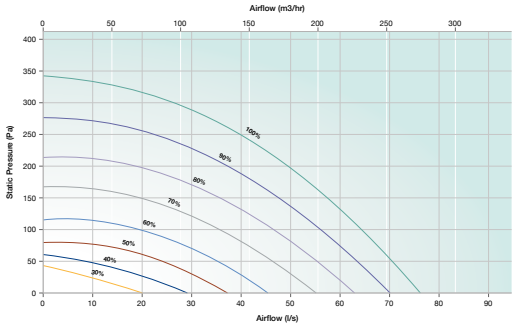
SAP Performance*

Exhaust terminal configuration K+n (Kitchen + wet rooms)	SFP (W/l/s) 2009	2012	Efficiency (%) 2009	2012
K+1	0.73	0.72	89%	89%
K+2	0.70	0.79	89%	86%
K+3	0.74	0.94	86%	84%
K+4	0.86	1.20	85%	82%
K+5	0.98	1.66	84%	
K+6	1.16		82%	

* Information extracted from the full PCDB report (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

Installation

Wiring: Must comply with IEE Regulations

Fuse: 3 amp; 6 amp with pre-heater

Electrical specification: 230V ~ 50Hz Class II

Maximum power consumption:
Including pre-heater - 1250W
Excluding pre-heater - 100W

Orientation:
Wall mounting

Product codes

Zehnder ComfoAir 180 Luxe with pre-heater CA180LUXEPH-GB

Controls

Zehnder ComfoSense 67 controller (CCS) - 655 010 215	Page 204
ComfoControl RFZ wireless controller (CCRFZ) - 655 000 755	Page 205

ComfoAir 200

Year round comfort

Zehnder Comfosystems: heat recovery ventilation from the experts in energy efficient, healthy and comfortable indoor climate solutions.

Physical specification

Weight: 30kg

Spigots:
Internal Ø - 125mm
Two step external Ø - either 150mm or 160mm

Condensate connection: 20mm

Materials:
Internal body - EPP
Unit housing - Coated steel

Fans: EC

Filters:
Standard - ISO Coarse >65% /ISO Coarse >65% (G4 / G4)
Optional - ISO Coarse >65% /ISO ePM1 >55% (G4 / F7)

Dimensions

All measurements in millimetres unless otherwise indicated

Ancillaries

Heat exchanger for Zehnder ComfoAir 200 - 400 400 012	Page 186
Enthalpy exchanger for Zehnder ComfoAir 200 – 400 400 017	Page 186
Filter for ComfoAir 200, ISO Coarse >65% (G4), 2 Pieces - 400 100 014	Page 194
Filter for ComfoAir 200, ISO Coarse >65% / ISO ePM1 >55% (G4 / F7), 2 Pieces - 400 100 013	Page 194
Filter for ComfoAir 200, ISO ePM1 >55% (F7), 2 Pieces - 400 100 017	Page 194

Features and benefits

The Zehnder ComfoAir 200 slimline, high quality heat recovery ventilation system is highly suited to new build and renovation projects offering outstanding pressure handling, airflow performance and heat exchange efficiency.

➤ Specific fan power (SFP) of 0.90 w/l/s

➤ Designed specifically for flats and apartments up to 120m² (ADF 2010)

➤ Comfort ventilation up to 200 m³/h at 200 Pa

➤ Heat recovery efficiency of up to 93%

➤ Low energy consumption thanks to highly efficient EC motors

➤ Automatic 100% filtered summer bypass

➤ Can be mounted on either walls or ceilings

➤ The particularly quiet fans can be adjusted in 1% increments for total occupant comfort control

➤ Integrates simply and flexibly into building services

➤ Enthalpy exchanger upgrade available

➤ Best Passive House certified performance in the range

Dimensions diagram

535 · 315 · 1200 · 1108

Passive House Certification

CERTIFIED COMPONENT
Passive House Institute

	Standard heat exchanger
Air flow range	60-150 m³/h
Heat recovery rate	nHR = 92%
Specific electric power	Pel,spec = 0.42 Wh/m³

Performance

Speed	Test Area	Octave Band (Hz) Sound Power Level, dB								dB(A) @3m
		63	125	250	500	1000	2000	4000	8000	
40%	Casing		36.8	35.0	27.7	20.3	12.2			12.4
	Supply	64.7	56.0	54.8	50.7	48.3	39.4	33.7	24.6	
	Extract	66.4	47.5	43.6	28.2	24.7	11.5	11.5	19.0	
60%	Casing		45.3	45.9	36.1	28.7	24.3			22.2
	Supply	74.9	66.5	65.4	58.1	58.6	51.8	48.1	43.5	
	Extract	67.3	57.0	53.4	35.9	34.4	22.8	14.5	18.8	
80%	Casing		51.2	51.6	41.7	34.0	31.9			27.9
	Supply	81.0	73.2	72.2	63.8	63.4	60.9	56.4	53.6	
	Extract	69.5	63.1	60.8	41.7	38.5	30.5	22.2	19.6	
100%	Casing		54.4	53.7	43.7	36.4	35.4			30.2
	Supply	85.5	75.9	75.9	67.5	65.7	64.8	60.1	58.1	
	Extract	83.0	65.2	63.9	46.3	41.3	34.3	27.3	21.0	
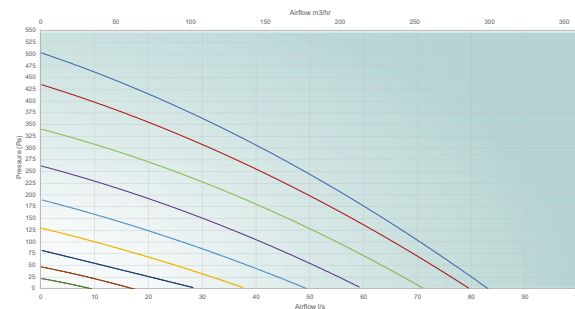
Airflow/Pressure graph

Airflow m3/hr · Pressure (Pa) · Airflow l/s

SAP Performance*

Exhaust terminal configuration K+n (Kitchen + wet rooms)	SFP (W/l/s) 2009	2012	Efficiency (%) 2009	2012
K+1	0.91	0.91	93%	93%
K+2	0.90	1.02	93%	93%
K+3	0.93	1.20	92%	91%
K+4	1.05	1.42	92%	90%
K+5	1.22	1.66	91%	88%
K+6	1.36		90%	

* Information extracted from the full PCDB report (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

Installation

Wiring: Must comply with IEE Regulations

Fuse: 3 amp; 6 amp with pre-heater

Electrical specification: 230V ~ 50Hz Class II

Maximum power consumption:
Including pre-heater - 1479W
Excluding pre-heater - 143W

Orientation:
Wall or ceiling mounting

Product codes

Zehnder ComfoAir 200, left handed CA200L

Zehnder ComfoAir 200 Luxe with pre-heater, left handed CA200LLUXEPH

Zehnder ComfoAir 200, right handed CA200R

Zehnder ComfoAir 200 Luxe with pre-heater, right handed CA200RLUXEPH

Controls

Zehnder ComfoSense 67 controller (CCS) - 655 010 215	Page 204
Three position switch (CCB) - 659 000 120	Page 204
Three position switch with service indicator (CCBL) - 659 000 300	Page 204
ComfoControl RFZ (CCRFZ) - 655 000 755	Page 205
Remote air quality sensor - AQR	Page 208
Remote humidity sensor - HHRW	Page 208
Remote passive infra-red movement sensor - PIRR	Page 209
Remote temperature sensor - THR	Page 209
12V 0-10V CO2 sensor - 655 000 855	Page 210
12V 0-10V RH sensor - 659 000 330	Page 210
Zehnder RF-PCB - 655 000 770	Page 211

COMPLIES WITH SYSTEM 4

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

2 YEAR WARRANTY

emc COMPLIES TO STANDARDS

CE UKCA MARKED

SEC Class A⁺

ComfoAir 350

Year round comfort

Zehnder Comfosystems: heat recovery ventilation from the experts in energy efficient, healthy and comfortable indoor climate solutions.

Physical specification

Weight: 39kg

Spigots:
Two step internal Ø - either 150mm or 160mm
External Ø - 180mm

Condensate connection: 32mm

Materials:
Internal body - EPP/PA
Unit housing - Coated steel/ABS

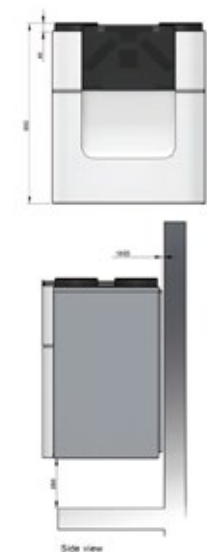**Fans:** EC

Filters:
Standard - ISO Coarse >65% /ISO Coarse >65% (G4 / G4)

Optional - ISO Coarse >65% /ISO ePM1 >55% (G4 / F7)

Features and benefits

The Zehnder ComfoAir 350 heat recovery ventilation system is highly suited to new build residential or light commercial projects.

➤ Specific fan power (SFP) of 0.69 w/l/s

➤ Designed specifically for residential dwellings up to 150m² (ADF 2010)

➤ Comfort ventilation up to 400 m³/h at 100 Pa

➤ Heat recovery efficiency of up to 88%

➤ Low energy consumption thanks to EC motors

➤ Automatic 100% filtered summer bypass

➤ The insulated, sound-absorbing ducting connections can be rotated individually to simplify the installation

➤ High specification PCB featuring 4 x 10V inputs for greater system control

➤ Can be mounted either on the wall or free-standing on the optional assembly base

➤ Input available for the connection of a post-heater which can be activated without the need for a separate controller

➤ Enthalpy exchanger upgrade available

➤ Certified as an official Passive House component by the Passivhaus Institute

Dimensions

All measurements in millimetres unless otherwise indicated

Ancillaries

Heat exchanger for Zehnder ComfoAir 350 - 400 400 010	Page 186
Enthalpy exchanger for Zehnder ComfoAir 350 - 400 400 013	Page 186
Filter for ComfoAir 350, ISO Coarse >60% (G4), 2 Pieces - 400 100 085	Page 194
Filter for ComfoAir 350, ISO Coarse >60% / ISO ePM1 >50% (G4 / F7), 2 Pieces - 400 100 084	Page 194
Filter for ComfoAir 350, ISO ePM1 >50%(F7), 2 Pieces - 400 100 086	Page 194

702
845
800
625
572

Passive House Certification

CERTIFIED COMPONENT
Passive House Institute

	Standard heat exchanger
Air flow range	71-293m³/h
Heat recovery rate	nHR=84%
Specific electric power	Pel,spec=0.29 Wh/m³

Performance

Speed	Test Area	Octave Band (Hz) Sound Power Level, dB								dB(A) @3m
		63	125	250	500	1000	2000	4000	8000	
20%	Casing		27.4	16.5	17.8	14.5	13			2.6
	Supply	57.2	48	39.6	28	17.8	4.5	5	12.2	
	Extract	63.5	49.8	33.6	23.3	19	10.4	7.1	11.8	
40%	Casing		35.9	37.2	33.3	30.7	28.7			18.5
	Supply	65.2	59.6	58.9	49	43	34.5	25	11.8	
	Extract	66.1	52.8	49.3	35.5	28.3	21.9	10.3	10.6	
60%	Casing		45.7	44	44.4	42.7	41.6			29.9
	Supply	68.2	70.5	68.4	61.7	56	48.8	41.6	29.4	
	Extract	66	57.3	56.4	50.8	38.9	34.1	24.8	13.2	
80%	Casing		51	49.2	52.3	50.4	49.4			37.6
	Supply	72.2	76	73	68.8	63.9	57.2	51.2	39	
	Extract	67.6	62.6	61	57	45.9	41.5	33.2	23.1	
100%	Casing		52.3	52.5	55.2	54.6	53.6			41.4
	Supply	75.5	78.5	76	73.5	69.4	62.4	56.9	44.9	
	Extract	72.2	65.1	64.8	60.8	50.3	45.7	38	29.9	
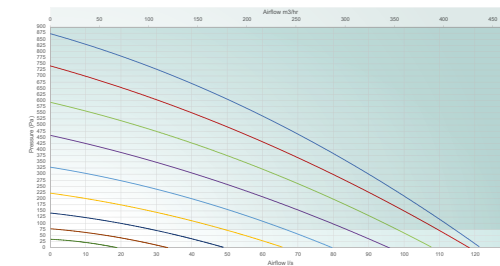
SAP Performance*

Exhaust terminal configuration K+n (Kitchen + wet rooms)	SFP (W/l/s) 2009	2012	Efficiency (%) 2009	2012
K+1	0.77	0.71	88%	88%
K+2	0.70	0.71	88%	88%
K+3	0.69	0.80	88%	87%
K+4	0.72	0.93	87%	86%
K+5	0.79	1.07	87%	86%
K+6	0.88	1.23	86%	85%
K+7	1.00		86%	

* Information extracted from the full PCDB report (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

Installation

Wiring: Must comply with IEE Regulations

Fuse: 3 amp

Electrical specification: 230V ~ 50Hz Class II

Consumption:
Minimum – 10W   Maximum – 243W

Orientation:
Wall mounting or free-standing (with optional assembly base)

Product codes

Zehnder ComfoAir 350, left handed CA350L

Zehnder ComfoAir 350, right handed CA350R

Controls

Three position switch (CCB) - 659 000 120	Page 204
Three position switch with service indicator (CCBL) - 659 000 300	Page 204
Remote air quality sensor - AQR	Page 208
Remote humidity sensor - HHRW	Page 208
Remote passive infra-red movement sensor - PIRR	Page 209
Remote temperature sensor - THR	Page 209

ComfoAir Q
Driving system performance through innovation

With a full range of components designed to work together, Zehnder ComfoAir Q can be integrated into a home simply and effectively to provide fresh air and comfort.
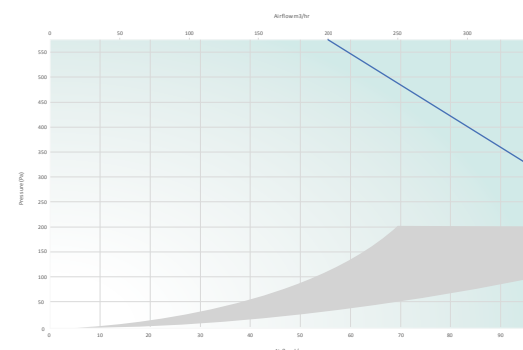
Zehnder ComfoAir Q is the NEXT generation of heat recovery ventilation units; with state of the art design and intelligent technology, regardless of whether you are working on a new build or an old building, with Zehnder comfortable ventilation you have an innovative, tried and tested complete system.

Zehnder Comfosystems ensure the perfect level of ventilation is achieved and that the indoor air is continuously replaced.

Heat recovery performance

Heat Recovery Performance is an important factor in unit specification as it has a direct impact on the heating load and offers savings to the homeowner.

When comparing two MVHR units with 87% and 94% heat recovery efficiency you can achieve up to a 25% reduction in heating costs (from ventilation loss) if selecting the higher performing unit.

Noise reduction

Did you know that for every increase of 3dB (A) the sound you hear is doubled?

ComfoAir Q's sound performance of 28*dB(A) means one competitor unit is equivalent to 8 ComfoAir Q units in operational noise!

Unique, ultra-powerful heat exchanger – for maximum energy efficiency

The unique diamond heat exchanger features an especially large surface which allows it to achieve a higher level of efficiency. Variable channel heights ensure a constant flow and lower pressure loss. As a result, less energy is required to overcome the air resistance.

State-of-the-art fan technology – for quiet, energy-saving operation

The flow grid, scroll housing, and impeller ensure the best possible air flow. This guarantees not only extremely quiet operation, but also particularly low power consumption. A high-quality, future-proof solution, based on tried-and-tested technology.
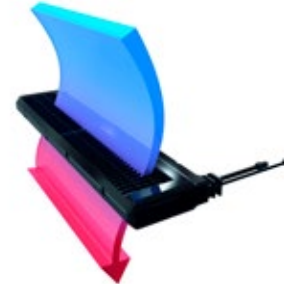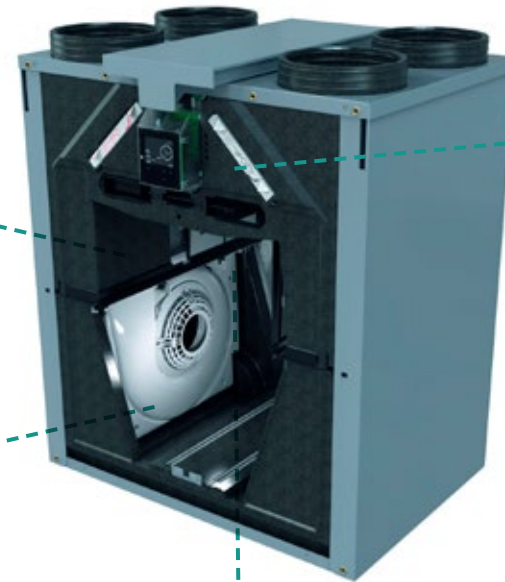
Intelligent temperature control of the intake air – for the best possible energy efficiency

The pre-heater adapts its operation taking into consideration temperature, air flow and humidity to ensure consistent supply air temperature is achieved no matter what is going on outside. Thanks to its large surface and delta shape, the level of pressure loss is negligible – and that also reduces the power consumption.

Innovative air volume balancing – for maximum heat recovery

New and patented: innovative sensor technology automatically ensures balanced supply air and extract air volumes. This flow control guarantees maximum heat recovery. What's more, you save time during commissioning because there is no need to adjust the speed manually and the air volumes are balanced automatically.

Did you **know?**

Anything is possible – from a simple display on the unit, to a practical app that can be used on the go, right through to fully automated, demand-based ventilation using sensors. You can also integrate Zehnder ComfoAir Q into a building control system via the KNX interface.

zehnder
always the best climate

COMPLIES WITH SYSTEM 4 | **COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE** | **2 YEAR WARRANTY** | **emc COMPLIES TO STANDARDS** | **CE UKCA MARKED** | **SEC Class A⁺** | **UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION**

ComfoAir Q350

Driving system performance through innovation

The Zehnder ComfoAir Q is the NEXT generation of heat recovery ventilation units, with state of the art design and intelligent technology.

Physical specification

Weight: 50kg

Ducting:
Ø Internal - 160 mm
Ø External - 190 mm

Condensate connection: 32mm

Materials:
Internal EPP / ABS
External coated sheet steel
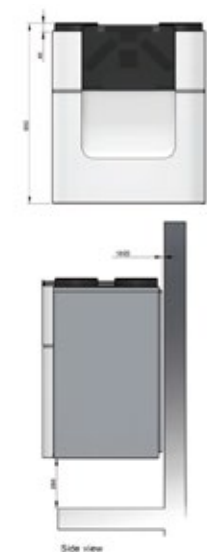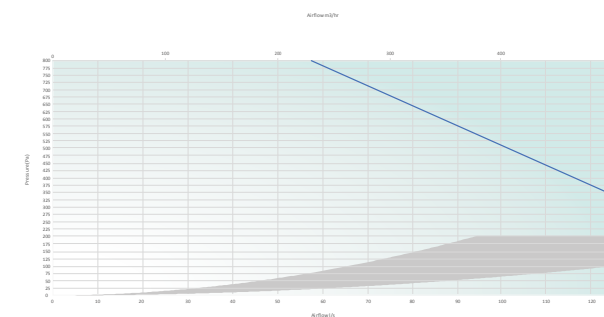
Fans: EC

Filters: Standard - ISO Coarse >65% / ISO Coarse >65% (G4 / G4)

Optional - ISO Coarse >65% / ISO ePM1 >55% (G4 / F7)

Dimensions

All measurements in millimetres unless otherwise indicated

Side view

Features and benefits

➤ World class 96% efficiency

➤ 100% full and filtered modulating summer bypass

➤ Left or right hand configuration through software alone, no mechanical alteration required

➤ Commissioning wizard for a quick and simple set-up process

➤ Flow control to maintain commissioned flow rates

➤ Adaptive comfort technology

➤ Automatic passive temperature boost in summer

➤ Tool free filter access

➤ ISO ePM1 >65% (F7) filter option

➤ Humidity boost continuously monitors the humidity level within the home and looks for a man-made spike before boosting the unit, irrespective of distance or dilution

➤ App for installer and end user option

➤ Wireless commissioning option

➤ Remote access option

➤ KNX compatibility option

➤ 0-10V input option

➤ Internal pre-heater option

➤ Post heater control option

➤ Enthalpy cube option

➤ Passive House certified

➤ First unit to be recognised by the PHI for its "cold recovery" efficiency

Ancillaries

Heat exchanger for Zehnder ComfoAir Q350/450/600 - 400 502 008	Page 186
Enthalpy exchanger for Zehnder ComfoAir Q350/450/600 - 400 502 010	Page 186
Support frame for Zehnder ComfoAir Q350/450/600, height 252mm - 471 502 008	Page 186
Filter for Zehnder ComfoAir Q350/450/600, ISO Coarse >65% (G4), 2 Pieces - 400 502 012	Page 194
Filter for Zehnder ComfoAir Q350/450/600, ISO Coarse >65% (G4), 10 Pieces - 400 502 014	Page 194
Filter for Zehnder ComfoAir Q350/450/600, ISO Coarse >65% (G4), 50 Pieces - 400 502 021	Page 194
Filter for Zehnder ComfoAir Q350/450, ISO Coarse >65% / ISO ePM1 >65% (G4 / F7), 2 Pieces - 400 502 013	Page 194
Filter for Zehnder ComfoAir Q350/450, ISO ePM1 >65% (F7), 10 Pieces - 400 502 015	Page 194
Filter for Zehnder ComfoAir Q350/450, ISO ePM1 >65% (F7), 50 Pieces -400 502 022	Page 194

Passive House Certification

	Standard heat exchanger	Enthalpy heat exchanger
Air flow range	70-460m³/hr	70-460m³/hr
Heat recovery rate	nHR=87%	nHR=80%
Specific electric power	Pel,spec=0.24 Wh/m³	Pel,spec=0.22 Wh/m³
Humidity recovery		nx = 68%

CERTIFIED COMPONENT Passive House Institute

Performance

Speed	Test Area	Octave Band (Hz) Sound Power Level, dB								dB(A) @3m
		63	125	250	500	1000	2000	4000	8000	
20%	Casing	40.2	35.2	31.2	25.5	19.6	14.8	10.6	16.7	10.4
	Supply/Exhaust	55.7	50.7	43.8	39.4	31.9	24.7	13.8	12.3	
	Extract/Intake	46.3	41.3	33.5	24.1	18.6	16.3	11.8	18.5	
40%	Casing	47.5	42.5	40.8	35.0	28.9	26.1	20.6	19.0	19.6
	Supply/Exhaust	62.1	57.1	54.8	49.4	42.7	38.3	29.4	22.9	
	Extract/Intake	52.5	47.5	43.5	33.2	26.1	22.6	17.1	18.7	
60%	Casing	53.3	48.3	48.4	42.5	36.3	35.1	28.6	20.8	27.1
	Supply/Exhaust	67.2	62.2	63.6	57.4	51.2	49.1	41.8	31.3	
	Extract/Intake	57.4	52.4	51.3	40.3	32.1	27.6	21.3	18.9	
80%	Casing	59.1	54.1	56.1	50.2	43.8	44.1	36.6	22.7	34.9
	Supply/Exhaust	72.4	67.4	72.4	65.5	59.8	60.0	54.3	39.8	
	Extract/Intake	62.4	57.4	59.3	47.5	38.2	32.7	25.6	19.1	
100%	Casing	60.0	55.0	57.2	51.3	44.9	45.5	37.8	22.9	36.1
	Supply/Exhaust	73.1	68.1	73.7	66.7	61.1	61.6	56.2	41.1	
	Extract/Intake	63.2	58.2	60.5	48.6	39.1	33.4	26.2	19.1	19.1

SAP Performance***

Exhaust terminal configuration K+n (Kitchen + wet rooms)	Specific fan power (w/l/s) (2009)	Heat recovery efficiency (%) (2009)	Specific fan power w/l/s (2012)	Heat recovery efficiency (%) (2012)
K+1	-	-	0.60	96
K+2	0.60	96	0.53	95
K+3	0.51	95	0.57	94
K+4	0.50	95	0.64	94
K+5	0.54	94	0.72	93
K+6	0.60	94	0.89	93
K+7	0.68	94	1.03	93

*** Information extracted from the full PCDB report (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

Installation

Wiring: Must comply with IEE Regulations

Fuse: 3 amp; 10 amp with pre-heater

Electrical specification:
230V~50Hz Class II

Maximum power consumption:
Including pre-heater - 1850W
Excluding pre-heater - 180W

Orientation:
Wall mounting or free-standing (with optional assembly base)

Product codes

Zehnder ComfoAir Q350 471 502 015

Zehnder ComfoAir Q350 with pre-heater, right handed 471 502 016

Zehnder ComfoAir Q350 with pre-heater, left handed 471 502 017

Zehnder ComfoAir Q350 with enthalpy exchanger 471 502 018

Controls

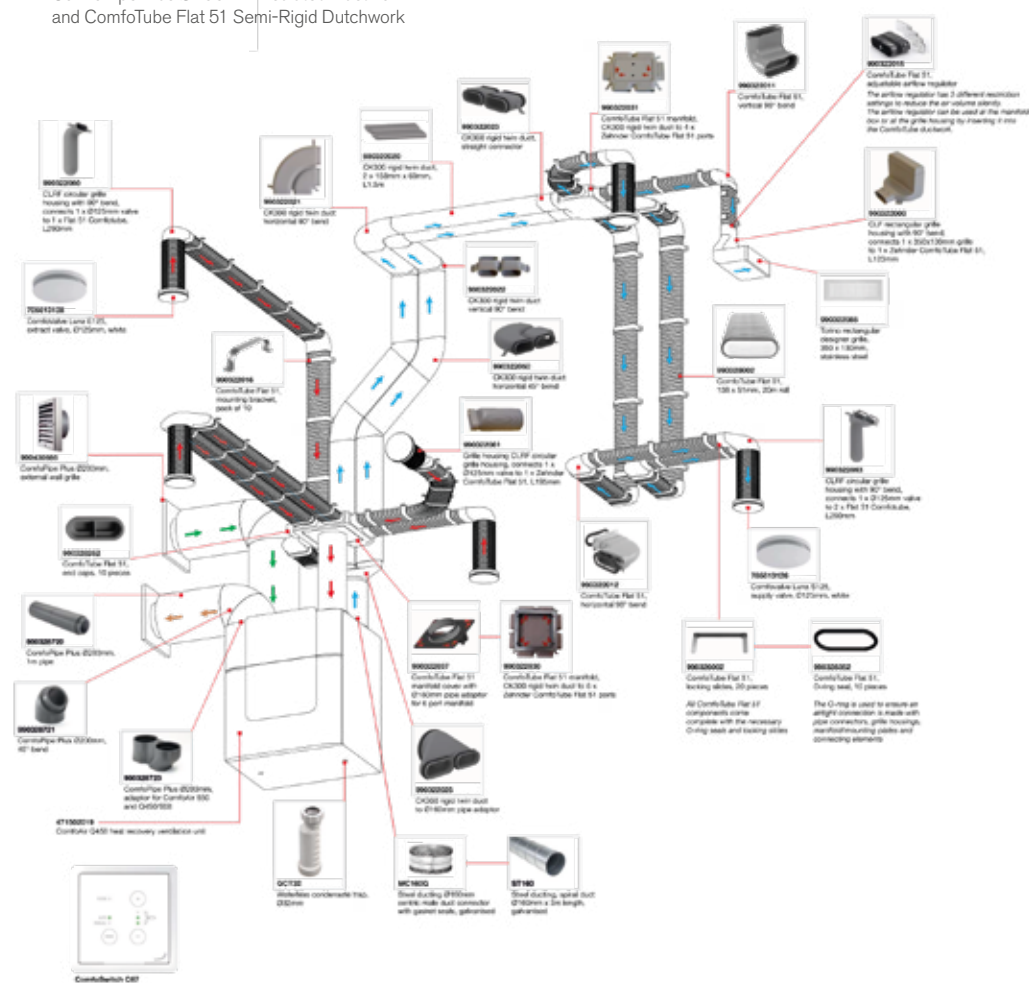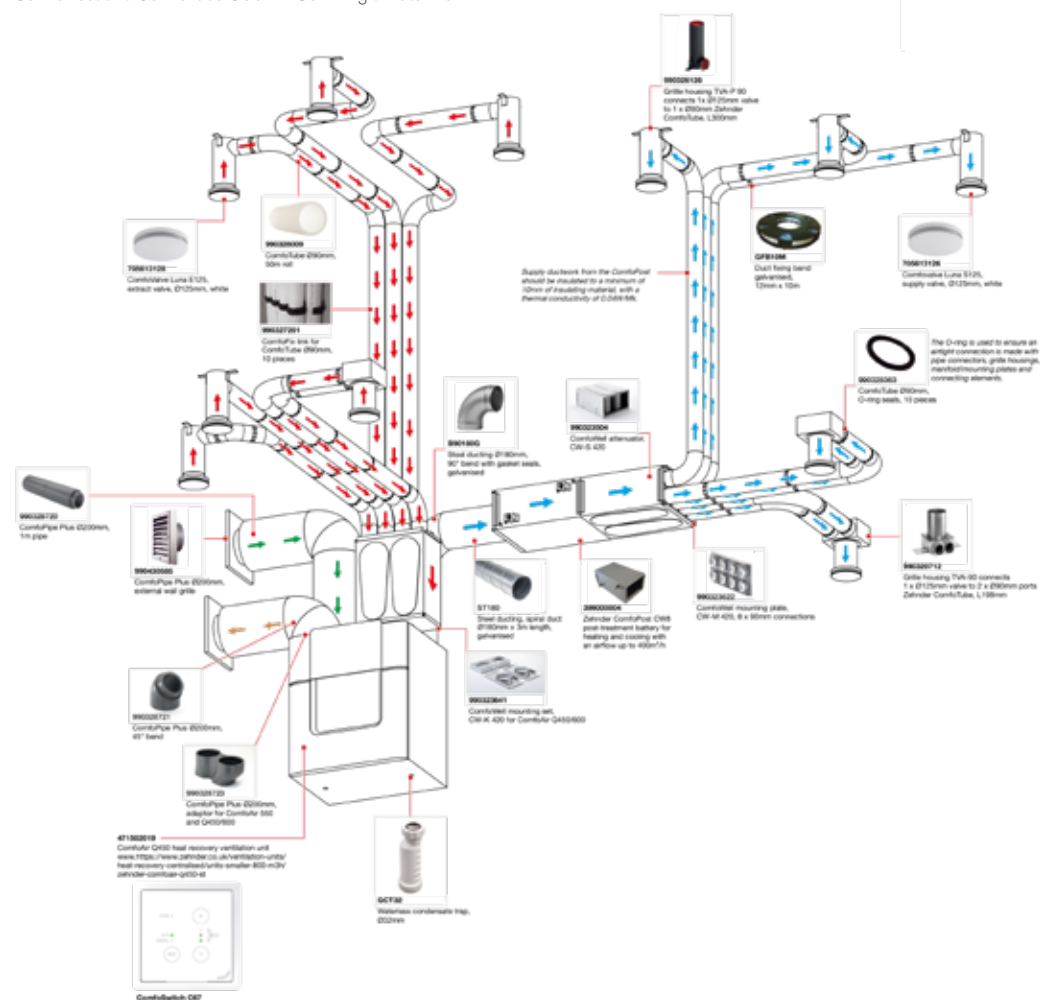|	
Zehnder ComfoSense C 67 remote display - 655 010 235	Page 205
Zehnder ComfoSwitch C 67 speed controller - 655 010 255	Page 206
ComfoControl RFZ wireless controller (CCRFZ) - 655 000 755	Page 205
Zehnder ComfoConnect KNX C - 655 011 120	Page 206
Zehnder ComfoConnect LAN C - 655 011 100	Page 207
Zehnder Option Box - 471 502 105	Page 207
12V 0-10V CO2 sensor and combined three position switch - 655 000 855	Page 210
Zehnder ComfoSplitter - 655 010 275	Page 211
Zehnder RF-PCB to offer wireless connectivity to the CCRFZ without the use of a ComfoSense C67 - 400 502 016	Page 211

ComfoAir Q350

System diagram - generic example

GD8 - Ø125mm and GD9 - Ø150mm Dutchwork

990430584
ComfoPipe Plus Ø160mm, external wall grille

GD924I
GD round ducting, insulated GD9 90° bend

GD813
GD round ducting, GD8 pipe, Ø125mm x 1.5m

GD831
GD round ducting, GD8 mounting clip

GD830
GD round ducting, GD8 T-piece

GD826
GD round ducting, GD8 45° bend

GD824
GD round ducting, GD8 90° bend

GD930
GD round ducting, GD9 T-piece

705051021
Extract air valve, Ø125mm

GD913.1I
GD round ducting, insulated GD9 pipe, Ø160mm x 1m

GFB10M
Duct fixing band galvanised, 12mm x 10m

MC160G
Steel duct Ø160mm, centric male pipe connector, gasket seals

CAQ350
ComfoAir Q350 heat recovery ventilation unit

CR160150G
Steel duct Ø160mm to Ø150mm reducer, gasket seals

GD931
GD round ducting, GD9 mounting clip

GD913
GD round ducting, GD9 pipe, Ø150mm x 1.5m

GDA12
GD round ducting, Ø150mm to Ø125mm reducer

705613126
Comfovalve Luna S125, supply valve, Ø125mm, white

GD924
GD round ducting, GD9 90° bend

GCT32
Waterless condensate trap, Ø32mm

ComfoAir Q450

Driving system performance through innovation

The Zehnder ComfoAir Q is the NEXT generation of heat recovery ventilation units, with state of the art design and intelligent technology.

Physical specification

Weight: 50kg

Ducting:
Ø Internal - 180 mm
Ø External - 200 mm

Condensate connection: 32mm

Materials:
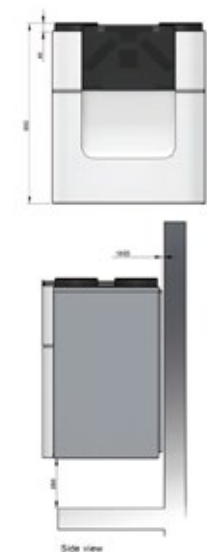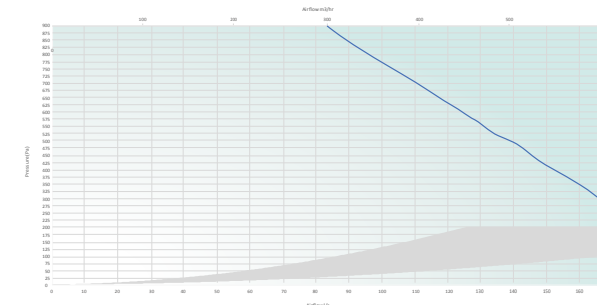Internal EPP / ABS
External coated sheet steel

Fans: EC

Filters:
Standard - ISO Coarse >65% /
ISO Coarse >65% (G4 / G4)
Optional - ISO Coarse >65% /
ISO ePM1 >55% (G4 / F7)

Dimensions

All measurements in millimetres
unless otherwise indicated

Side view

Features and benefits

➤ World class 96% efficiency

➤ 100% full and filtered modulating summer bypass

➤ Left or right hand configuration through software alone, no mechanical alteration required.

➤ Commissioning wizard for a quick and simple set-up process

➤ Flow control to maintain commissioned flow rates

➤ Adaptive comfort technology

➤ Automatic passive temperature boost in summer

➤ Humidity boost continuously monitors the humidity level within the home and looks for a man-made spike before boosting the unit, irrespective of distance or dilution

➤ Tool free filter access

➤ ISO ePM1 >65% (F7) filter option

➤ App for installer and end user option

➤ Wireless commissioning option

➤ Remote access option

➤ KNX compatibility option

➤ 0-10V input option

➤ Internal pre-heater option

➤ Post heater control option

➤ Enthalpy cube option

➤ Passive House certified

Ancillaries

Heat exchanger for Zehnder ComfoAir Q350/450/600 - 400 502 008	Page 186
Enthalpy exchanger for Zehnder ComfoAir Q350/450/600 - 400 502 010	Page 186
Support frame for Zehnder ComfoAir Q350/450/600, height 252mm - 471 502 008	Page 186
Filter for Zehnder ComfoAir Q350/450/600, ISO Coarse >65% (G4), 2 Pieces - 400 502 012	Page 194
Filter for Zehnder ComfoAir Q350/450/600, ISO Coarse >65% (G4), 10 Pieces - 400 502 014	Page 194
Filter for Zehnder ComfoAir Q350/450/600, ISO Coarse >65% (G4), 50 Pieces - 400 502 021	Page 194
Filter for Zehnder ComfoAir Q350/450, ISO Coarse >65% / ISO ePM1 >65% (G4 / F7), 2 Pieces - 400 502 013	Page 194
Filter for Zehnder ComfoAir Q350/450, ISO ePM1 >65% (F7), 10 Pieces - 400 502 015	Page 194
Filter for Zehnder ComfoAir Q350/450, ISO ePM1 >65% (F7), 50 Pieces -400 502 022	Page 194

Passive House Certification

CERTIFIED COMPONENT
Passive House Institute

	Standard heat exchanger	Enthalpy heat exchanger
Air flow range	70-460m³/hr	70-460m³/hr
Heat recovery rate	nHR=87%	nHR=80%
Specific electric power	Pel,spec=0.24 Wh/m³	Pel,spec=0.22 Wh/m³
Humidity recovery		nx = 68%

Performance

Speed	Test Area	Octave Band (Hz) Sound Power Level, dB								dB(A) @3m
		63	125	250	500	1000	2000	4000	8000	
20%	Casing	42.0	37.0	40.8	28.0	24.7	22.2	12.0	10.2	16.6
	Supply/Exhaust	54.9	49.9	50.9	41.1	36.9	33.4	22.6	2.6	
	Extract	46.8	41.8	43.5	27.2	20.2	15.1	9.5	15.5	
40%	Casing	49.0	44.0	46.3	36.8	32.1	30.7	22.8	17.8	23.4
	Supply	61.1	56.1	57.9	50.1	44.4	42.2	33.9	19.7	
	Extract	53.6	48.6	49.1	35.8	27.5	23.2	17.5	18.1	
60%	Casing	55.7	50.7	51.5	45.2	39.1	38.7	33.0	25.1	30.2
	Supply	67.0	62.0	64.6	58.6	51.6	50.6	44.5	35.9	
	Extract	60.1	55.1	54.4	44.0	34.5	30.7	25.0	20.6	
80%	Casing	61.6	56.6	56.2	52.6	45.3	45.8	42.1	31.5	36.7
	Supply	72.3	67.3	70.5	66.1	57.9	58.0	54.0	50.3	
	Extract	65.8	60.8	59.1	51.2	40.7	37.5	31.7	22.8	
100%	Casing	64.2	59.2	58.2	55.9	48.0	48.9	46.1	34.3	39.6
	Supply	74.5	69.5	73.0	69.4	60.7	61.3	58.1	56.5	
	Extract	68.3	63.3	61.1	54.4	43.4	40.4	34.6	23.7	

Airflow m3/hr

Airflow l/s

SAP Performance***

Exhaust terminal configuration K+n (Kitchen + wet rooms)	Specific fan power (w/l/s) (2009)	Heat recovery efficiency (%) (2009)	Specific fan power w/l/s (2012)	Heat recovery efficiency (%) (2012)
K+1	-	-	0.54	96
K+2	0.56	96	0.53	95
K+3	0.48	95	0.55	94
K+4	0.49	95	0.62	94
K+5	0.53	94	0.73	93
K+6	0.60	94	0.86	93
K+7	0.68	94	1.04	93

*** Information extracted from the full PCDB report (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

Installation

Wiring: Must comply with IEE Regulations

Fuse: 3 amp; 13 amp with pre-heater

Electrical specification:
230V~50Hz Class II

Maximum power consumption:
Including pre-heater - 2240W
Excluding pre-heater - 250W

Orientation:
Wall mounting or free-standing (with optional assembly base)

Product codes

Zehnder ComfoAir Q450 471 502 019

Zehnder ComfoAir Q450 with pre-heater, right handed 471 502 020

Zehnder ComfoAir Q450 with pre-heater, left handed 471 502 021

Zehnder ComfoAir Q450 with enthalpy exchanger 471 502 022

Controls

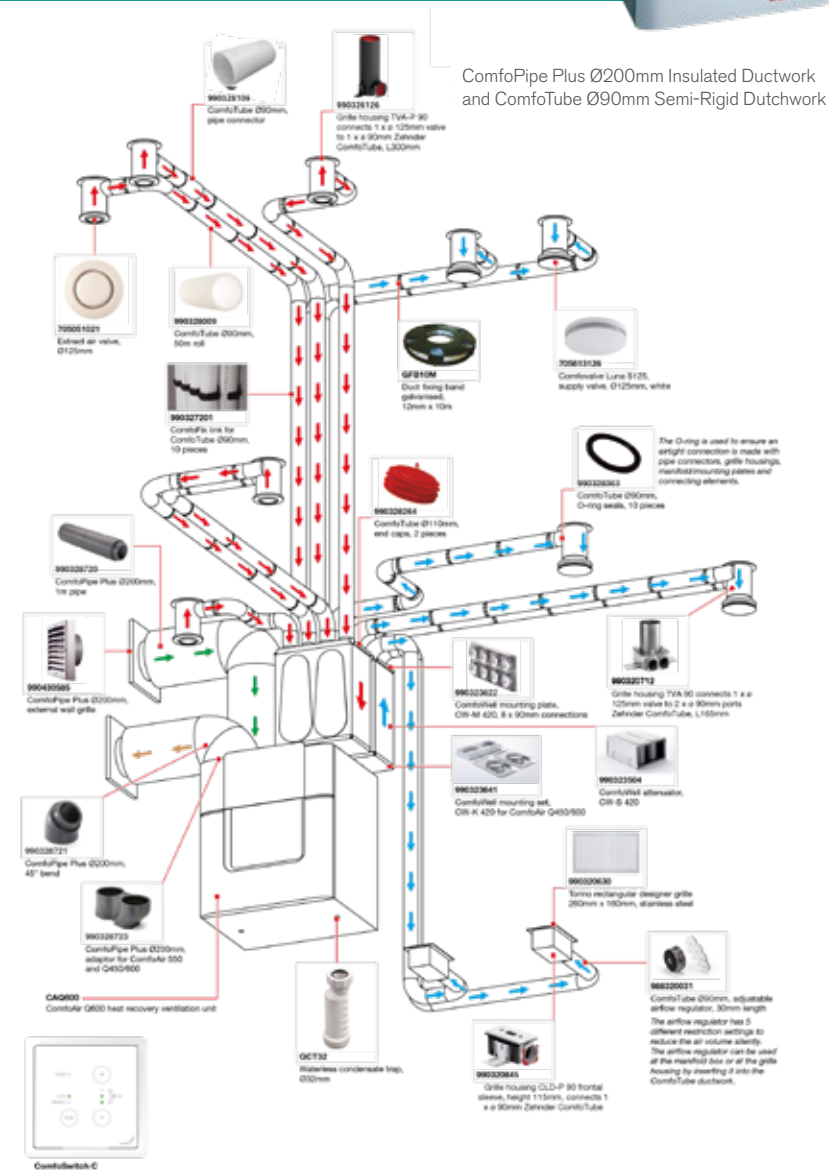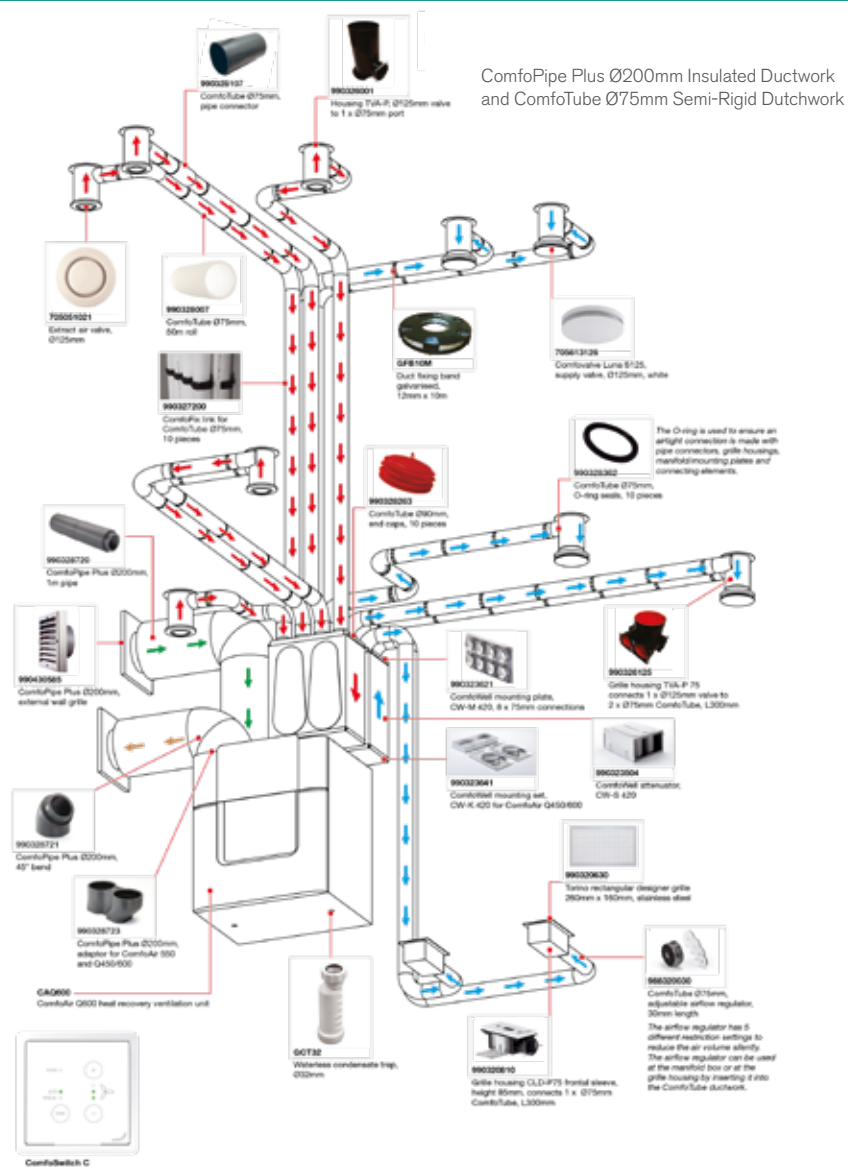|	
Zehnder ComfoSense C 67 remote display - 655 010 235	Page 205
ComfoControl RFZ wireless controller (CCRFZ) - 655 000 755	Page 205
Zehnder ComfoSwitch C 67 speed controller - 655 010 255	Page 206
Zehnder ComfoConnect KNX C - 655 011 120	Page 206
Zehnder ComfoConnect LAN C - 655 011 100	Page 207
Zehnder Option Box - 471 502 105	Page 207
12V 0-10V CO2 sensor and combined three position switch - 655 000 855	Page 210
Zehnder ComfoSplitter - 655 010 275	Page 211
Zehnder RF-PCB to offer wireless connectivity to the CCRFZ without the use of a ComfoSense C67 - 400 502 016	Page 211

ComfoAir Q450

System diagram - generic example

ComfoPost and ComfoTube Ø90mm Semi-Rigid Dutchwork

ComfoPipe Plus Ø200mm Insulated Ductwork
and ComfoTube Flat 51 Semi-Rigid Dutchwork

ComfoAir Q450

System diagram - generic example

ComfoPost and ComfoTube Ø90mm Semi-Rigid Dutchwork

ComfoPipe Plus Ø200mm Insulated Ductwork
and ComfoTube Flat 51 Semi-Rigid Dutchwork

COMPLIES WITH SYSTEM 4 | **COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE** | **2 YEAR WARRANTY** | **emc COMPLIES TO STANDARDS** | **CE UKCA MARKED** | **SEC Class A⁺** | **UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION**

ComfoAir Q600

Driving system performance through innovation

The Zehnder ComfoAir Q is the NEXT generation of heat recovery ventilation units, with state of the art design and intelligent technology.

Physical specification

Weight: 50kg

Ducting:
Ø Internal - 180 mm
Ø External - 200 mm

Condensate connection: 32mm

Materials:
Internal EPP / ABS
External coated sheet steel

Fans: EC

Filters: Standard - ISO Coarse >65% / ISO Coarse >65% (G4 / G4)

Optional - ISO Coarse >65% / ISO ePM1 >55% (G4 / F7)

Dimensions

All measurements in millimetres unless otherwise indicated

Side view

Features and benefits

➤ World class 96% efficiency

➤ 100% full and filtered modulating summer bypass

➤ Left or right hand configuration through software alone, no mechanical alteration required

➤ Commissioning wizard for a quick and simple set-up process

➤ Flow control to maintain commissioned flow rates

➤ Adaptive comfort technology

➤ Automatic passive temperature boost in summer

➤ Humidity boost continuously monitors the humidity level within the home and looks for a man-made spike before boosting the unit, irrespective of distance or dilution

➤ Tool free filter access

➤ ISO ePM1 >55% (F7) filter option

➤ App for installer and end user option

➤ Wireless commissioning option

➤ Remote access option

➤ KNX compatibility option

➤ 0-10V input option

➤ Internal pre-heater option

➤ Post heater control option

➤ Enthalpy cube option

➤ Passive House certified

Ancillaries

Heat exchanger for Zehnder ComfoAir Q350/450/600 - 400 502 008	Page 186
Enthalpy exchanger for Zehnder ComfoAir Q350/450/600 - 400 502 010	Page 186
Support frame for Zehnder ComfoAir Q350/450/600, height 252mm - 471 502 008	Page 186
Filter for Zehnder ComfoAir Q350/450/600, ISO Coarse >65% (G4), 2 Pieces - 400 502 012	Page 194
Filter for Zehnder ComfoAir Q350/450/600, ISO Coarse >65% (G4), 10 Pieces - 400 502 014	Page 194
Filter for Zehnder ComfoAir Q350/450/600, ISO Coarse >65% (G4), 50 Pieces - 400 502 021	Page 194
Filter for Zehnder ComfoAir Q350/450, ISO Coarse >65% / ISO ePM1 >65% (G4 / F7), 2 Pieces - 400 502 013	Page 194
Filter for Zehnder ComfoAir Q350/450, ISO ePM1 >65% (F7), 10 Pieces - 400 502 015	Page 194
Filter for Zehnder ComfoAir Q350/450, ISO ePM1 >65% (F7), 50 Pieces - 400 502 022	Page 194

Passive House Certification

CERTIFIED COMPONENT Passive House Institute

	Standard heat exchanger	Enthalpy heat exchanger
Air flow range	70-460m³/hr	70-460m³/hr
Heat recovery rate	nHR=87%	nHR=80%
Specific electric power	Pel,spec=0.24 Wh/m³	Pel,spec=0.22 Wh/m³
Humidity recovery		nx = 68%

Call: 01276 408404   **Email:** ventilation@zehnder.co.uk   **Visit:** www.zehnder.co.uk

Performance

Speed	Test Area	Octave Band (Hz) Sound Power Level, dB								dB(A) @3m
		63	125	250	500	1000	2000	4000	8000	
20%	Casing	48.3	43.3	42.9	34.2	30.3	24.2	15.6	12.1	20.2
	Supply/Exhaust	57.8	52.8	51.9	42.9	39.2	35.2	25.6	12.9	
	Extract/Intake	50.7	45.7	43.5	31.3	26.1	21.5	14.1	16.3	
40%	Casing	52.4	47.4	48.2	41.8	36.7	32.3	26.0	21.0	26.5
	Supply/Exhaust	63.3	58.3	59.2	51.9	46.9	44.1	37.0	26.4	
	Extract/Intake	56.8	51.8	49.6	39.7	32.4	28.2	22.1	19.8	
60%	Casing	57.3	52.3	54.6	50.8	44.2	42.1	38.5	31.8	34.5
	Supply/Exhaust	69.9	64.9	67.9	62.6	56.2	54.7	50.7	42.7	
	Extract/Intake	64.0	59.0	56.9	49.9	39.9	36.1	31.7	24.0	
80%	Casing	61.8	56.8	60.4	59.1	51.1	51.0	49.8	41.5	42.4
	Supply/Exhaust	75.9	70.9	75.8	72.4	64.6	64.4	63.2	57.4	
	Extract/Intake	70.6	65.6	63.5	59.2	46.7	43.3	40.4	27.8	
100%	Casing	62.9	57.9	61.8	61.1	52.8	53.2	52.5	43.9	44.4
	Supply/Exhaust	77.4	72.4	77.7	74.7	66.6	66.8	66.2	61.0	
	Extract/Intake	72.3	67.3	65.1	61.4	48.3	45.1	42.5	28.8	28.8

SAP Performance***

Exhaust terminal configuration K+n (Kitchen + wet rooms)	Specific fan power (w/l/s) (2009)	Heat recovery efficiency (%) (2009)	Specific fan power w/l/s (2012)	Heat recovery efficiency (%) (2012)
K+1	-	-	0.63	96
K+2	0.63	96	0.60	95
K+3	0.57	95	0.63	94
K+4	0.57	95	0.71	94
K+5	0.61	94	0.79	93
K+6	0.67	94	0.91	93
K+7	0.75	94	1.06	93

*** Information extracted from the full PCDB report (previously known as SAP Appendix Q) on www.ncm-pcdb.org.uk

Installation

Wiring: Must comply with IEE Regulations

Fuse: 3 amp; 13 amp with pre-heater

Electrical specification:
230V~50Hz Class II

Maximum power consumption:
Including pre-heater - 2240W
Excluding pre-heater - 350W

Orientation:
Wall mounting or free-standing (with optional assembly base)

Product codes

Zehnder ComfoAir Q600 471 502 023

Zehnder ComfoAir Q600 with pre-heater, right handed 471 502 024

Zehnder ComfoAir Q600 with pre-heater, left handed 471 502 025

Zehnder ComfoAir Q600 with enthalpy exchanger 471 502 026

Controls

Zehnder ComfoSense C 67 remote display - 655 010 235	Page 205
ComfoControl RFZ wireless controller (CCRFZ) - 655 000 755	Page 205
Zehnder ComfoSwitch C 67 speed controller - 655 010 255	Page 206
Zehnder ComfoConnect KNX C - 655 011 120	Page 206
Zehnder ComfoConnect LAN C - 655 011 100	Page 207
Zehnder Option Box - 471 502 105	Page 207
12V 0-10V CO2 sensor and combined three position switch - 655 000 855	Page 210
Zehnder ComfoSplitter - 655 010 275	Page 211
Zehnder RF-PCB to offer wireless connectivity to the CCRFZ without the use of a ComfoSense C67 - 400 502 016	Page 211

ComfoAir Q600

System diagram - generic example

ComfoPipe Plus Ø200mm Insulated Ductwork
and ComfoTube Ø75mm Semi-Rigid Dutchwork

ComfoPipe Plus Ø200mm Insulated Ductwork
and ComfoTube Ø90mm Semi-Rigid Dutchwork

To optimise year round comfort within the home.

Zehnder ComfoCool

A comfortable indoor climate

Overheating hasn't always been an issue with UK homes - low levels of insulation and gaps in the building envelope have provided accidental ventilation.

Today's new homes are highly insulated and tested for their airtightness. This is causing a rise in reports of unpleasantly high temperatures within homes - and this is whilst our summers are still relatively moderate.

In combination with a Zehnder ComfoAir Q600 heat recovery unit, the Zehnder ComfoCool is designed to reduce the temperature and humidity of fresh air supplied into the home to comfortable levels, thereby creating a pleasant indoor climate.

Zehnder ComfoCool shown with ComfoAir 600

How does it work?

Zehnder ComfoCool is equipped with a compression cooling system, as is used in refrigerators. This process releases energy that is discharged in the air exhausted from the dwelling. The result is that energy is transferred from the supply air (which becomes cooler and drier as a result) to the exhaust air (which heats up as a result).

The combination of Zehnder ComfoCool and MVHR cools more efficiently, as the heat recovery unit then behaves more like a 'cold recovery unit' in warm weather. Warm fresh air is pre-cooled by the heat recovery unit and then cooled further by Zehnder ComfoCool.

fresh supply air

stale exhaust air

compressor

compression

evaporator

evaporation

condensation

condensor

Air Flow

Air Flow

expansion

expansion valve

zehnder

always the best climate

Did you know?

A study by CIBSE and Arup* indicates that 25°C is when we start to feel 'warm' and 28°C makes people feel 'hot'. It's amazing that 3°C can have such an impact on our comfort.

Traditional

Highly insulated

Practical values

A case study using Zehnder ComfoCool Q in conjunction with the Zehnder ComfoAir Q450 was conducted during 2018/19. The cooling capacity varies dependent on both the internal and external conditions however one example would be when the outdoor temperature was 28oC @61% humidity, the with post-supply temperature was 17oC @97% humidity. This shows not only a decrease in the supply air temperature, but also dehumidification from an outdoor humidity of 61%, 14.5 g/kg and supply of 97%, 11.8 g/kg. In cooling terms this relates to:

➤ t 1400W sensible cooling

➤ t 770W latent cooling

➤ t 2170W total cooling

The property monitored was a typical newly built four bedroomed detached family home and the built-in air distribution method was Zehnder ComfoTube ducting.

The study also concluded that the effects of Zehnder ComfoCool Q would have been felt even more had the conditions been more humid during these months. Nonetheless, the family reported that the benefits of the cooling had been greatly noticed when compared to their comfort levels during previous summers.
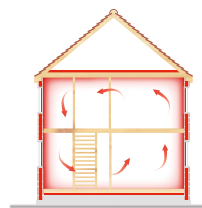
Why not air-con?

Zehnder ComfoCool is designed to work differently to an air conditioner.

➤ An air conditioner recirculates air present in the dwelling but does not help to ventilate it

➤ Single air conditioning units only work in the room in which they are located, whereas Zehnder ComfoCool cools the air supplied to all habitable rooms within the dwelling

➤ Zehnder ComfoCool offers low energy consumption and low noise

➤ It offers a compact, unobtrusive cooling solution

➤ The condensate drainage is combined with the ventilation unit

➤ Zehnder ComfoCool is easily integrated with the ventilation system – no additional installations

➤ No outside unit is required

➤ Zehnder ComfoCool starts automatically when the indoor temperature is higher than the preset internal comfort temperature, and when passive cooling with outside air does not provide enough cooling

* Chartered Institution of Building Services Engineers (CIBSE). Environmental design, Guide A. London, CIBSE 2006.

COMPLIES WITH **SYSTEM 4** | COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE | **2** YEAR WARRANTY | emc STANDARDS | CE UKCA MARKED | UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

Zehnder ComfoCool Q

A comfortable indoor climate

It is possible to achieve a comfortable summer indoor environment using the combination of Zehnder ComfoAir Q and active air temperation with ComfoCool.

Physical specification

Weight: 47kg

Spigots:
180mm Ø connections

Condensate connection:
32mm

Dimensions

490
733
Top view

Side view Front view Side view

Airflow (m3/hr)
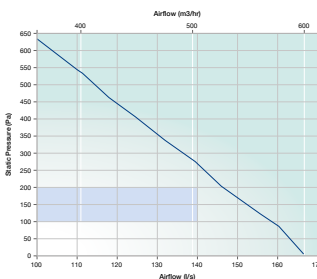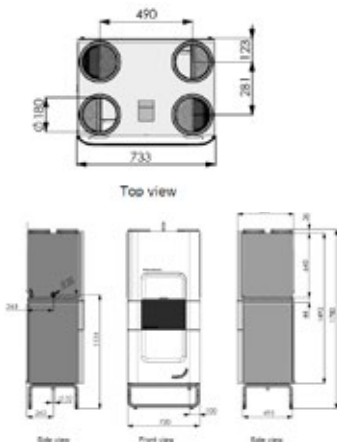
Features at a glance

Zehnder ComfoCool provides the optimum balance between a comfortable, high quality indoor environment and reduced CO_2 emissions; a task that is essential when building the air-tight homes of today.

➤ 1.5kW cooling capacity

➤ Fully automatic activation of ComfoCool and increased ventilation rate in summer, with automatic disabling of the unit during winter months without the need for user intervention

➤ Easy and space-saving installation of left or right handed units directly on top of the Zehnder ComfoAir Q600

➤ No external device required, just utilise the ventilation units ductwork

➤ Filtered fresh supply air, not recycled stale air, using ISO Coarse >65% (G4) as standard with the option to upgrade to ISO ePM1 >55% (F7)

➤ Over 4000 units sold and successfully installed world wide

➤ Integral sensor for activation based on whole house internal temperature, no risk of false readings due to external sensors cited near appliances, radiators or in direct sunlight

➤ Simple maintenance only once every 4 years

➤ Front access for ease of service/ maintenance or in situ end of life replacement

➤ Controlled via the CAQ600's variety of controller options including ComfoSense C, KNX or ComfoControl app for IOS or Android

Performance

Casing Radiation			Sound power levels, dB								
Number	Target	Comfo-Cool	63	125	250	500	1000	2000	4000	8000	dB(A)
[-]	[m³/h]	[Pa]	[-]								
1a	550	150	Off	62.2	58.2	59.0	57.9	49.8	47.4	42.1	31.1	57.5
1b	550	150	On	65.0	61.2	66.0	58.1	49.8	47.4	42.1	31.3	60.5
2a	500	200	Off	63.0	58.0	58.6	57.0	49.4	46.7	41.4	30.5	57.0
2b	500	200	On	65.4	60.5	66.7	57.4	49.5	46.6	41.5	30.8	61.0
3a	500	100	Off	67.3	57.0	58.2	57.4	47.4	45.9	40.7	28.9	56.5
3b	500	100	On	67.8	58.4	66.3	57.5	47.5	45.9	40.6	29.1	60.5
4a	457	200	Off	65.8	56.3	57.9	56.0	46.8	44.9	39.4	28.4	55.5
4b	457	200	On	67.9	57.8	66.5	56.0	47.0	44.9	39.5	28.6	60.0
5a	450	150	Off	55.2	56.0	57.2	54.6	46.4	44.4	38.8	26.9	54.5
5b	450	150	On	63.4	57.9	69.4	55.4	46.4	44.4	38.8	27.2	62.5
6a	450	100	Off	58.0	55.6	56.9	56.8	45.3	43.9	38.2	26.0	55.0
6b	450	100	On	64.5	57.4	69.1	57.0	45.5	44.0	38.3	26.4	62.5
7a	420	50	Off	63.4	54.3	57.9	52.0	42.9	41.9	35.7	**22.5**	53.0
7b	420	50	On	67.0	56.6	68.6	53.1	43.0	41.9	35.7	**23.0**	61.5
8a	400	50	Off	54.7	53.7	57.3	50.4	41.6	40.7	34.3	**21.1**	52.0
8b	400	50	On	64.8	56.1	68.7	51.9	41.8	40.8	34.4	**21.8**	61.0
9a	350	50	Off	49.7	51.6	54.9	47.7	39.7	38.4	31.0	**18.2**	50.0
9b	350	50	On	64.4	56.8	68.4	50.4	40.0	38.5	31.3	**19.5**	61.5
10a	300	25	Off	46.6	50.3	53.0	44.5	37.3	35.1	26.7	**14.8**	47.0
10b	300	25	On	64.5	55.1	69.6	49.5	38.1	35.4	27.3	**18.4**	62.0
11a	250	25	Off	38.9	51.3	49.4	42.0	39.6	31.3	21.3	**8.8**	45.0
11b	250	25	On	64.7	57.4	72.9	50.2	40.9	32.0	23.0	**14.9**	66.0
12a	126	200	Off	53.7	58.8	58.0	46.5	38.6	33.1	25.1	**13.7**	51.0
12b	126	200	On	65.0	62.5	69.6	54.3	40.2	34.0	26.0	**19.9**	62.5
13a	140	200	Off	53.0	58.9	58.7	46.6	37.9	33.3	25.3	**14.2**	51.5
13b	140	200	On	63.9	61.7	70.0	53.5	39.5	33.9	26.1	**19.8**	63.0

Performance

Casing Radiation			Sound power levels, dB								
Number	Target	Comfo-Cool	63	125	250	500	1000	2000	4000	8000	dB(A)
[-]	[m³/h]	[Pa]	[-]								
1a	550	150	Off	74,1	62,4	59,6	63,4	44,5	41,6	37,5	28,1	61.0
1b	550	150	On	79,2	67,1	63,1	62,7	44,6	41,7	37,6	28,2	61.5
2a	500	200	Off	73,3	61,9	58,8	60,1	43,8	40,8	36,6	27,1	58.5
2b	500	200	On	79,1	66,8	63,2	59,6	43,9	40,9	36,7	27,2	59.5
3a	500	100	Off	74,4	61,2	58,9	58,1	42,6	40,1	35,9	**26,0**	56.5
3b	500	100	On	79,5	66,7	62,5	58,7	42,7	40,1	35,9	**26,1**	59.0
4a	457	200	Off	71,6	60,0	57,2	57,5	41,2	38,6	34,3	**23,9**	55.5
4b	457	200	On	78,9	66,0	62,5	57,2	41,4	38,6	34,5	**24,1**	58.0
5a	450	150	Off	71,1	59,3	57,3	57,2	40,9	38,2	34,0	**23,2**	55.0
5b	450	150	On	78,8	65,9	62,1	57,3	41,0	38,3	34,1	**23,6**	58.0
6a	450	100	Off	74,6	59,4	57,3	55,2	40,6	38,1	33,8	**22,8**	54.5
6b	450	100	On	79,6	65,8	61,0	54,8	40,7	38,0	33,8	**23,3**	57.0
7a	420	50	Off	71,9	57,4	56,6	55,8	38,4	36,1	31,3	**19,9**	54.0
7b	420	50	On	79,2	65,9	63,5	55,7	38,6	36,2	31,4	**20,4**	58.0
8a	400	50	Off	70,4	56,5	57,5	50,0	37,1	34,8	29,8	**17,9**	52.0
8b	400	50	On	77,3	65,6	64,0	50,4	37,5	34,9	30,1	**18,6**	57.5
9a	350	50	Off	63,9	53,7	59,7	46,3	34,3	31,8	25,1	**12,3**	53.5
9b	350	50	On	77,1	64,9	65,2	47,1	35,2	32,0	25,9	**14,8**	58.5
10a	300	25	Off	59,0	50,7	52,0	43,6	31,1	28,1	20,0	**8,4**	45.5
10b	300	25	On	77,2	65,6	62,9	45,9	32,4	28,6	22,2	**14,5**	56.5
11a	250	25	Off	54,0	47,1	50,8	40,6	29,4	23,5	**14,3**	**7,2**	43.0
11b	250	25	On	76,7	64,7	62,3	46,0	31,6	24,6	20,3	**16,0**	55.5
12a	126	200	Off	62,2	64,2	60,5	44,7	31,3	27,1	**17,8**	**8,2**	53.5
12b	126	200	On	78,1	67,4	64,0	48,7	34,7	28,4	22,5	**16,5**	57.5
13a	140	200	Off	61,9	63,6	61,2	45,4	31,7	27,0	**18,0**	**8,2**	54.0
13b	140	200	On	79,2	66,5	63,8	47,8	33,5	27,8	22,0	**18,7**	57.5

Casing Radiation			Sound power levels, dB								
Number	Target	Comfo-Cool	63	125	250	500	1000	2000	4000	8000	dB(A)
[-]	[m³/h]	[Pa]	[-]								
1a	550	150	Off	62,7	63,0	60,0	56,8	50,0	49,9	47,1	36,2	58.5
1b	550	150	On	71,4	63,5	64,8	57,3	49,9	49,8	47,2	36,4	60.5
2a	500	200	Off	63,4	62,3	59,3	56,3	49,2	49,2	46,4	35,4	57.5
2b	500	200	On	70,4	63,1	66,7	57,0	49,1	49,1	46,4	35,6	61.0
3a	500	100	Off	60,8	62,7	59,8	57,3	49,6	49,6	46,7	35,7	58.0
3b	500	100	On	70,5	63,1	64,3	57,6	49,5	49,5	46,7	35,8	60.0
4a	457	200	Off	61,7	61,7	58,9	56,4	48,3	48,2	45,3	34,1	57.0
4b	457	200	On	69,6	61,9	65,3	56,8	48,2	48,2	45,3	34,4	60.0
5a	450	150	Off	63,9	61,3	58,3	56,2	47,7	47,7	44,7	33,1	56.5
5b	450	150	On	70,3	61,9	66,4	57,2	47,8	47,8	44,8	33,6	60.5
6a	450	100	Off	61,0	60,6	57,9	60,9	47,0	47,1	43,8	31,7	58.5
6b	450	100	On	68,9	62,0	66,8	60,7	47,1	47,1	43,8	32,4	61.5
7a	420	50	Off	61,9	58,8	57,1	52,9	44,6	44,7	40,9	27,8	54.0
7b	420	50	On	68,2	60,0	66,5	53,7	44,8	44,8	41,0	29,1	61.0
8a	400	50	Off	61,8	57,9	55,6	51,3	43,4	43,5	39,4	25,5	53.0
8b	400	50	On	68,1	59,3	63,2	52,5	43,7	43,7	39,8	27,7	57.0
9a	350	50	Off	58,6	56,7	55,0	50,0	41,1	41,6	36,6	**22,0**	51.5
9b	350	50	On	67,7	58,2	66,2	51,7	41,5	41,9	37,3	25,8	59.5
10a	300	25	Off	56,9	54,1	54,7	46,1	38,1	37,6	31,6	**16,9**	49.0
10b	300	25	On	67,6	57,9	66,8	49,2	38,9	38,6	33,7	24,3	59.5
11a	250	25	Off	55,7	50,9	52,8	42,7	36,0	33,0	25,3	**9,6**	45.5
11b	250	25	On	66,8	55,2	68,6	49,3	37,7	35,7	30,7	24,0	61.0
12a	126	200	Off	59,1	59,2	59,0	46,7	37,7	35,6	30,2	**16,7**	52.0
12b	126	200	On	64,8	61,5	67,0	52,4	39,1	37,4	32,3	24,1	60.0
13a	140	200	Off	53,0	60,1	59,6	47,2	37,7	35,8	30,4	**16,7**	52.5
13b	140	200	On	63,5	62,1	67,3	52,3	38,4	37,6	32,2	24,1	60.5

Bold and cursive values are maximum values. The real value is lower but cannot be calculated due to a limited correction for background noise.

Installation

Wiring: Must comply with IEE Regulations

Fuse: 10 Amp

Current: 6.3A

Consumption: 1026W

Electrical specification: 230V ~ 50Hz Class II

Installation:
The Zehnder ComfoCool should be mounted on top of the heat recovery unit. The heat recovery unit must be mounted onto its support frame that is level and stands on a suitably solid floor.

Product codes

Zehnder ComfoCool Q600, left handed 471 410 005

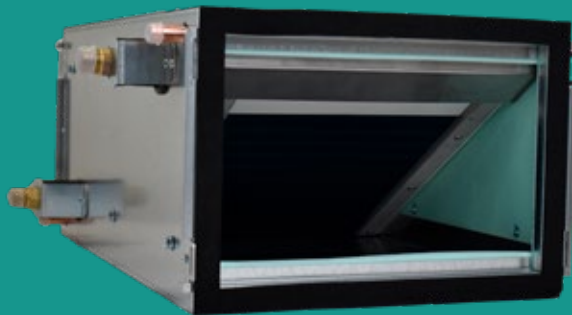Zehnder ComfoCool Q600, right handed 471 410 006

Controls

Zehnder ComfoPost

Ideal to meet SAP10 and TM59 requirements

Tackling the issue of overheating requires an integrated solution, incorporating a suite of innovative products that each play their part in ensuring that indoor air quality and comfort levels are delivered throughout the year.

The Zehnder ComfoPost is a range of air to water exchangers for use with ComfoWell air distribution connections.

In combination with a Zehnder ComfoAir Q600 heat recovery unit, the Zehnder ComfoCool is designed to reduce the temperature and humidity of fresh air supplied into the home to comfortable levels, thereby creating a pleasant indoor climate.

Design out overheating

The ComfoPost range can help to temper the supply air. However if the gains exceed the cooling capacity of the unit then the property will still overheat. Things to consider to combat overheating would be as follows:

- Improve thermal mass
- Options to cool thermal mass such as false ceiling or hollow core concrete flooring
- Reduce the size of windows and avoid too much south-facing glazing
- Solar shading through overhangs or external shutters
- Window glass type such as reflective, photochromic, thermochromic or electrochromic
- Insulate hot water pipes and tanks
- Reduce electrical appliances
- Use higher efficiency appliances that emit lower heat levels such as LED lighting

Key Features

- Ideal for use with reversible heat pumps or chillers to meet SAP 10 or TM59 overheating demands
- Low pressure losses
- Filtered fresh supply air, not recycled stale air
- Suitable for use with the unique modular ComfoWell manifolds
- Suitable for horizontal or vertical installation
- Condensation water tray and drain as standard
- Suitable for Passive House application
- Corrosion resistant

Zehnder ComfoPost in conjunction with the ComfoWell 320

Key design considerations

- Minimum and maximum air flow design rates for the ComfoPost can be found within the Performance Data Table, ventilation pipework velocity must be < 3m/s
- Ductwork should be sized accordingly to equate to the ComfoAir units spigot size.
- Thermal modelling to achieve the cooling/heating capacity for the specified ComfoPost relevant to the design flow temperatures within the appropriate Performance Data table. The recommended operating water temperature range is between 7 and 55°C
- Maximum operating water pressure 6 bar
- The ComfoPost can be installed horizontally or vertically but the condensate drain must always be in the lower position with the water connection on the side and not on the top or bottom. When installing vertically the airflow must NOT be directed downwards

- Insulate intake/exhaust ductwork to a minimum of 25mm of insulating material, with a thermal conductivity of 0.04W/Mk
- Insulate supply ductwork to a minimum of 10mm of insulating material, with a thermal conductivity of 0.04W/Mk
- Insulate the water IN and water OUT pipework with the appropriate thickness and material
- Enthalpy cube for the relevant ComfoAir Q or ComfoAir 160/180/200/350 unit used as standard
- A buffer tank can be used to reduce the peak phases and ensure a quicker reaction time, requirement to be confirmed by thermal modeller
- Ensure adequate attenuation is factored in at the higher flow rate
- Ensure the intake/exhaust terminations are separated by a minimum of 2m and terminate to the external façade

- Locate the MVHR unit on an external wall if possible
- If a switch live boost is desired, then a relay linked to the Option Box is required when using the ComfoAir Q
- The ComfoPost can be used in conjunction with corresponding ComfoWell, which can only be installed directly to it
- Intake air from north facing orientation if possible
- Don't intake air from south facing orientation
- Don't intake air from underneath roof tiles or solar panels
- Use a water filled siphon with a water lock of at least 100mm for the ComfoPost condensate drain
- Use a dry trap on the ComfoAir MVHR units capable of achieving 500Pa of pressure
- Due to the increased risk of corrosion, installations near the coast should be avoided

zehnder

always the best climate

Four models

Zehnder ComfoPost CW6	The ComfoPost units are suitable for a wide range of airflows up to 166l/s (600m³/hr)
Zehnder ComfoPost CW8	
Zehnder ComfoPost CW10	
Zehnder ComfoPost CW12	

COMPLIES WITH **SYSTEM 4**

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

2 YEAR WARRANTY

CE MARKED

UKAS ACCREDITATION — INDEPENDENTLY ACCREDITED TEST INFORMATON

Zehnder ComfoPost CW6

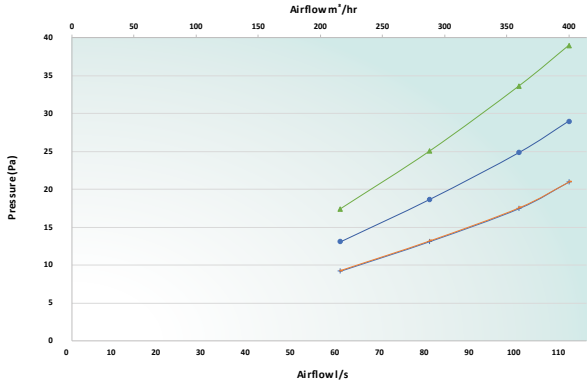*Ideal to meet SAP10 and TM59 requirements*

ComfoPost is a range of air to water exchangers designed to decrease or increase the supply air temperature of the ComfoAir Q MVHR unit, dependent on the season.

Physical specification

ComfoPost CW6

Weight: 13.5kg

Maximum thermal heating output: 3.13kW*

Maximum thermal cooling output: 2.8kW*

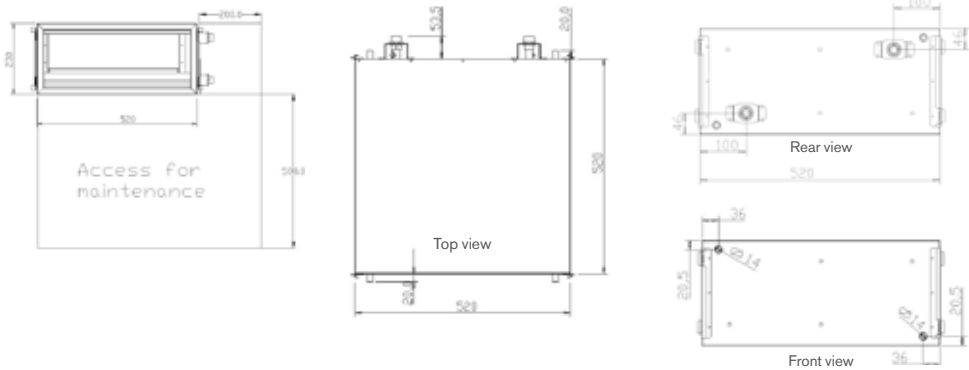**Water connection diameter (ø):** 1/2"

Water connection type: BSPT male thread

Condensate drain diameter OD (ø): 14mm

Condensate connection type: Worm drive clip to fix to hose or crimped to copper pipe

ComfoWell range: ComfoWell 320

Material:
Casing: Galvanised sheet steel
Tubes: Copper
Fins: Aluminium with hydrophilic treatment

Water volume capacity: 0.6 Litres
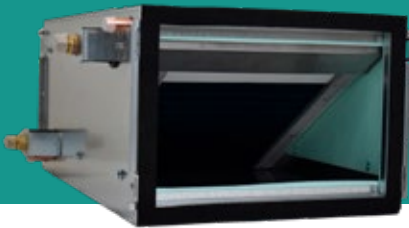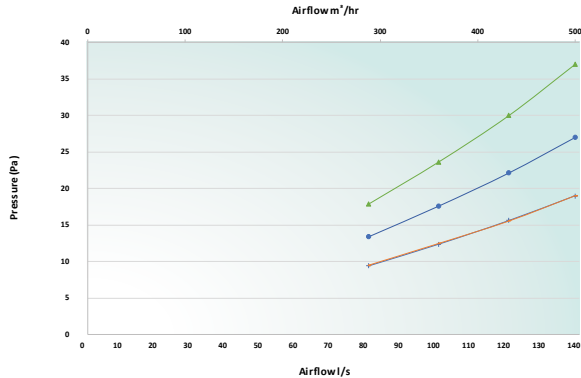
Recommended operating water temp range: 7 to 55 °C

Recommended maximum operating air flow: <83.3l/s (<300m3hr)

Dimensions
ComfoPost CW6

All measurements in millimetres unless otherwise indicated
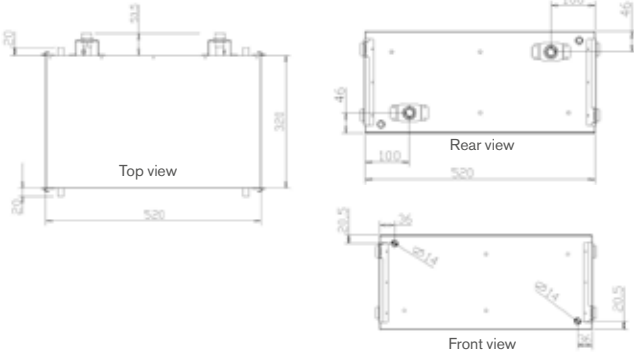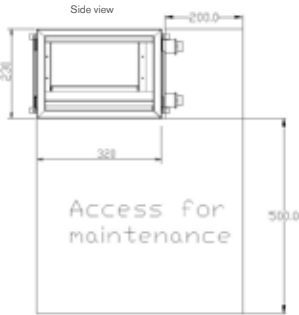
Side view
200.0
228
328
500.0
Access for maintenance

31.5
20
328
520
520
Top view

100
46
46
100
520
Rear view

36
20.5
ø14
ø14
ø20.5
Front view

*Total capacity (sensible and latent) based on test conditions shown in the Performance Data table

Features at a glance

Zehnder ComfoPost is an air to water exchanger for use with ComfoWell air distribution connections.

➤ Ideal for use with reversible heat pumps or chillers to meet SAP 10 or TM59 overheating demands

➤ Low pressure losses

➤ Filtered fresh supply air, not recycled stale air

➤ Suitable for use with the unique modular ComfoWell manifolds

➤ Suitable for horizontal or vertical installation

➤ Condensation water tray and drain as standard

➤ Suitable for Passive House application

➤ Corrosion resistant

Performance

Air conditions IN to ComfoPost		Heating								Cooling	
		HRV exchanger				ERV exchanger				HRV	ERV
	T °C	18 °C				17 °C				27°C	28°C
	RH %	25%				60%				80%	55%
	AH	3.2 g/kg				7.3 g/kg				18.1 g/kg	13.1 g/kg
Water temperature IN	°C	55	50	45	40	55	50	45	40	7	7
MINIMUM Air flow 40l/s (144m³/hr)	H₂O flow l/h		600				600			600	600
	H₂O temperature OUT °C	52	48	43	39	52	48	43	38	10	9
	H₂O ΔP kPa	9	10	10	10	9	10	10	10	12	12
	Air temperature OUT °C	53	48	43	38	52	47	43	38	12	11
	Air RH OUT %	4	5	6	8	9	11	14	17	100	96
	Air AH OUT g/kg	3.2	3.2	3.2	3.2	7.2	7.2	7.2	7.2	9.1	7.9
	Air ΔP Pa	9	9	9	9	9	9	9	9	17	13
	Condensation l/h	-	-	-	-	-	-	-	-	1.7	2.1
	Sensible power kW	-	-	-	-	-	-	-	-	0.74	0.4
	TOTAL POWER kW	1.73	1.5	1.26	1.03	1.79	1.55	1.32	1.08	1.88	1.52
At Flow 69l/s (250m³/hr)	H₂O flow l/h		600				600			600	600
	H₂O temperature OUT °C	52	47	43	38	51	47	42	38	10	10
	H₂O ΔP kPa	9	10	10	10	9	10	10	10	12	12
	Air temperature OUT °C	50	46	41	37	50	46	41	37	14	13
	Air RH OUT %	4	5	7	8	9	12	15	19	100	93
	Air AH OUT g/kg	3.2	3.2	3.2	3.2	7.2	7.2	7.2	7.2	10.3	8.6
	Air ΔP Pa	15	14	14	14	15	14	14	14	28	21
	Condensation l/h	-	-	-	-	-	-	-	-	2.1	2.1
	Sensible power kW	-	-	-	-	-	-	-	-	0.94	0.63
	TOTAL POWER kW	2.35	2.03	1.71	1.39	2.43	2.1	1.78	1.46	2.35	1.94
Air flow 80l/s (280m³/hr)	H₂O flow l/h		600				600			600	600
	H₂O temperature OUT °C	51	46	42	38	51	46	42	37	11	10
	H₂O ΔP kPa	9	10	10	10	9	10	10	10	12	12
	Air temperature OUT °C	48	44	40	36	48	44	40	36	16	14
	Air RH OUT %	5	6	7	9	11	13	17	20	99	90
	Air AH OUT g/kg	3.2	3.2	3.2	3.2	7.2	7.2	7.2	7.2	11.3	9.2
	Air ΔP Pa	21	21	21	21	21	21	21	21	41	30
	Condensation l/h	-	-	-	-	-	-	-	-	2.4	2.2
	Sensible power kW	-	-	-	-	-	-	-	-	1.1	0.85
	TOTAL POWER kW	2.93	2.53	2.13	1.73	3.03	2.62	2.22	1.82	2.74	2.29
MAXIMUM Air flow 83.3l/s (300 m³/hr)	H₂O flow l/h		600				600			600	600
	H₂O temperature OUT °C	51	46	42	37	51	47	42	38	11	10
	H₂O ΔP kPa	10	10	10	10	10	10	10	10	12	12
	Air temperature OUT °C	48	44	40	36	48	43	39	35	16	15
	Air RH OUT %	5	6	7	9	10	12	15	19	99	90
	Air AH OUT g/kg	3.2	3.2	3.2	3.2	7.2	7.2	7.2	7.2	11.4	9.3
	Air ΔP Pa	23	23	23	22	23	23	23	22	44	32
	Condensation l/h	-	-	-	-	-	-	-	-	2.4	2.2
	Sensible power kW	-	-	-	-	-	-	-	-	1.12	0.89
	TOTAL POWER kW	3.03	2.62	2.2	1.79	3.13	2.71	2.29	1.88	2.8	2.34

Initial temperature and humidity outdoor/indoor: winter 2°C 70% R.H. / 20°C 60% R.H.; summer 35°C 50% R.H. / 25°C 50% R.H.
The calculations include the cold recovery efficiency of an enthalpy exchanger as extrapolated from the results provided by the PHI certification

Airflow m³/hr

Pressure (Pa)

Airflow l/s
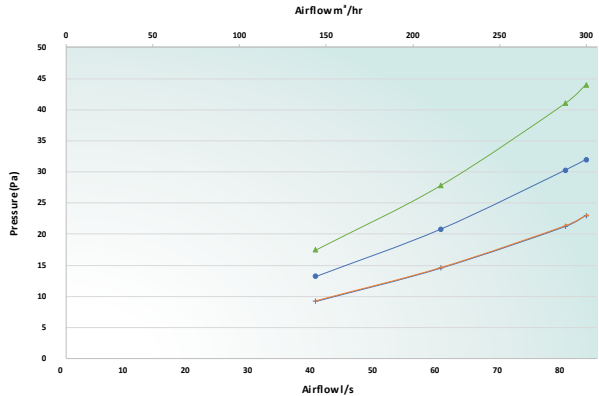
Installation

Installation:
Supplied with fixing brackets

Orientation:
Wall or ceiling mounted

Combines with:
ComfoWell 320 manifold

Ideal for use with:
Reversible heat pumps
Chillers

Product codes

Zehnder ComfoPost CW6
398 480 002

COMPLIES WITH **SYSTEM 4** COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE **2** YEAR WARRANTY CE MARKED UKAS ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

Zehnder ComfoPost CW8

Ideal to meet SAP10 and TM59 requirements

ComfoPost is a range of air to water exchangers designed to decrease or increase the supply air temperature of the ComfoAir Q MVHR unit, dependent on the season.

Physical specification

ComfoPost CW8

Weight: 16kg

Maximum thermal heating output:
3.65kW*

Maximum thermal cooling output:
4.5kW*

Water connection diameter (ø):
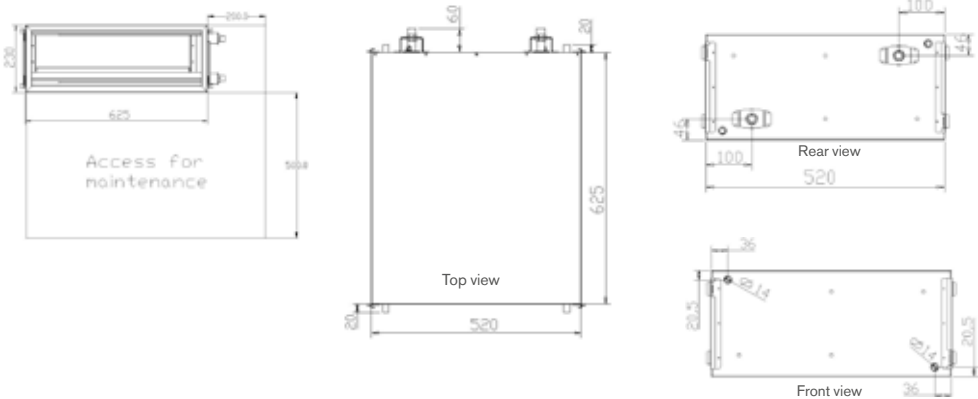1/2"

Water connection type:
BSPT male thread

Condensate drain diameter OD (ø):
14mm

Condensate connection type:
Worm drive clip to fix to hose or crimped to copper pipe

ComfoWell range:
ComfoWell 420

Material:
Casing: Galvanised sheet steel
Tubes: Copper
Fins: Aluminium with hydrophilic treatment

Water volume capacity:
0.8 Litres

Recommended operating water temp range:
7 to 55 °C

Recommended maximum operating air flow:
<111.1l/s (<400m3hr)

Dimensions

ComfoPost CW8

All measurements in millimetres unless otherwise indicated

Access for maintenance

Top view

Rear view

Front view

Features at a glance

Zehnder ComfoPost is an air to water exchanger for use with ComfoWell air distribution connections.

➤ Ideal for use with reversible heat pumps or chillers to meet SAP 10 or TM59 overheating demands

➤ Low pressure losses

➤ Filtered fresh supply air, not recycled stale air

➤ Suitable for use with the unique modular ComfoWell manifolds

➤ Suitable for horizontal or vertical installation

➤ Condensation water tray and drain as standard

➤ Suitable for Passive House application

➤ Corrosion resistant

Performance

Air conditions IN to ComfoPost		Heating									Cooling	
		HRV exchanger				ERV exchanger					HRV	ERV
	T °C	19 °C				17 °C					27°C	28°C
	RH %	25%				60%					85%	55%
	AH	3.2 g/kg				7.3 g/kg					18.1 g/kg	13.1 g/kg
Water temperature IN °C		55	50	45	40	55	50	45	40		7	7
MINIMUM Air flow 60l/s (216m³/hr)												
H₂O flow	l/h	600				600					600	600
H₂O temperature OUT	°C	51	47	42	38	51	47	42	38		11	10
H₂O ΔP	kPa	11	11	11	11	11	11	11	12		13	14
Air temperature OUT	°C	52	47	43	38	52	47	43	38		13	11
Air RH OUT	%	4	5	6	8	9	11	14	18		100	95
Air AH OUT	g/kg	3.2	3.2	3.2	3.2	7.2	7.2	7.2	7.2		9.3	8.0
Air ΔP	Pa	9	9	9	9	9	9	9	9		17	13
Condensation	l/h	-	-	-	-	-	-	-	-		2.3	1.3
Sensible power	kW	-	-	-	-	-	-	-	-		1.03	1.23
TOTAL POWER	kW	2.48	2.14	1.8	1.47	2.56	2.22	1.88	1.54		2.64	2.15
Air flow 80l/s (288m³/hr)												
H₂O flow	l/h	600				600					600	600
H₂O temperature OUT	°C	50	46	42	37	50	46	42	37		12	11
H₂O ΔP	kPa	11	11	11	11	11	11	11	12		13	14
Air temperature OUT	°C	50	46	42	37	50	46	41	37		14	13
Air RH OUT	%	4	5	6	8	9	12	15	19		100	93
Air AH OUT	g/kg	3.2	3.2	3.2	3.2	7.2	7.2	7.2	7.2		10.3	8.6
Air ΔP	Pa	13	13	13	13	13	13	13	13		25	19
Condensation	l/h	-	-	-	-	-	-	-	-		2.7	1.6
Sensible power	kW	-	-	-	-	-	-	-	-		1.26	1.74
TOTAL POWER	kW	3.14	2.72	2.29	1.86	3.25	2.82	2.39	1.96		3.13	2.58
Air flow 100l/s (360m³/hr)												
H₂O flow	l/h	600				600					600	600
H₂O temperature OUT	°C	50	45	41	37	49	45	41	37		12	
H₂O ΔP	kPa	11	11	11	11	11	11	11	12		14	
Air temperature OUT	°C	49	45	40	36	49	44	40	36		16	14
Air RH OUT	%	4	6	7	9	10	13	16	20		99	91
Air AH OUT	g/kg	3.2	3.2	3.2	3.2	7.2	7.2	7.2	7.2		11.1	9.1
Air ΔP	Pa	18	17	17	17	18	17	17	17		34	25
Condensation	l/h	-	-	-	-	-	-	-	-		3.1	1.7
Sensible power	kW	-	-	-	-	-	-	-	-		1.42	1.74
TOTAL POWER	kW	3.74	3.23	2.72	2.21	3.87	3.35	2.83	2.32		3.53	2.94
MAXIMUM Air flow 111.1 l/s (400 m³/hr)												
H₂O flow	l/h	600				600					600	600
H₂O temperature OUT	°C	49	45	41	37	49	45	41	38		11	11
H₂O ΔP	kPa	11	11	12	12	11	11	12	12		14	14
Air temperature OUT	°C	48	44	40	36	48	44	40	35		16	15
Air RH OUT	%	5	6	7	9	11	13	16	20		99	90
Air AH OUT	g/kg	3.2	3.2	3.2	3.2	7.2	7.2	7.2	7.2		9.1	9.3
Air ΔP	Pa	21	21	20	20	21	21	20	20		39	29
Condensation	l/h	-	-	-	-	-	-	-	-		1.7	1.8
Sensible power	kW	-	-	-	-	-	-	-	-		1.5	1.8
TOTAL POWER	kW	4.96	3.5	2.95	2.4	4.18	3.63	3.07	2.51		3.73	3.11

Initial temperature and humidity outdoor/indoor: winter 2°C 70% R.H. / 20°C 60% R.H.; summer 35°C 50% R.H. / 25°C 50% R.H.
The calculations include the cold recovery efficiency of an enthalpy exchanger as extrapolated from the results provided by the PHI certification

Airflow m³/hr

Pressure (Pa) vs *Airflow l/s*

Installation

Installation:
Supplied with fixing brackets

Orientation:
Wall or ceiling mounted

Combines with:
ComfoWell 420 manifold

Ideal for use with:
Reversible heat pumps
Chillers

Product codes

Zehnder ComfoPost CW8
399 000 004
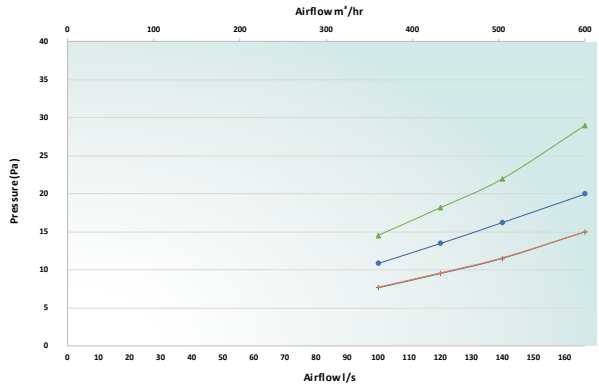
*Total capacity (sensible and latent) based on test conditions shown in the Performance Data table

COMPLIES WITH **SYSTEM 4**

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

2 YEAR WARRANTY

CE MARKED

UKAS ACCREDITATION — INDEPENDENTLY ACCREDITED TEST INFORMATION

Zehnder ComfoPost CW10

Ideal to meet SAP10 and TM59 requirements

ComfoPost is a range of air to water exchangers designed to decrease or increase the supply air temperature of the ComfoAir Q MVHR unit, dependent on the season.

Physical specification

ComfoPost CW10

Weight: 19kg

Maximum thermal heating output: 4.76kW*

Maximum thermal cooling output: 5.29kW*

Water connection diameter (ø): 1/2"

Water connection type: BSPT male thread

Condensate drain diameter OD (ø): 14mm

Condensate connection type: Worm drive clip to fix to hose or crimped to copper pipe

ComfoWell range: ComfoWell 520

Material: Casing: Galvanised sheet steel Tubes: Copper Fins: Aluminium with hydrophilic treatment

Water volume capacity: 1 Litres

Recommended operating water temp range: 7 to 55 °C

Recommended maximum operating air flow: <138.9l/s (<500m3hr)

Dimensions

ComfoPost CW10

All measurements in millimetres unless otherwise indicated

Access for maintenance

Top view

Rear view

Front view

Features at a glance

Zehnder ComfoPost is an air to water exchanger for use with ComfoWell air distribution connections.

➤ Ideal for use with reversible heat pumps or chillers to meet SAP 10 or TM59 overheating demands

➤ Low pressure losses

➤ Filtered fresh supply air, not recycled stale air

➤ Suitable for use with the unique modular ComfoWell manifolds

➤ Suitable for horizontal or vertical installation

➤ Condensation water tray and drain as standard

➤ Suitable for Passive House application

➤ Corrosion resistant

Installation

Installation: Supplied with fixing brackets

Orientation: Wall or ceiling mounted

Combines with: ComfoWell 520 manifold

Ideal for use with: Reversible heat pumps Chillers

Product codes

Zehnder ComfoPost CW10 398 480 003

Performance

		Heating								Cooling	
Air conditions IN to ComfoPost		HRV exchanger				ERV exchanger				HRV	ERV
	T °C	18 °C				17 °C				27°C	28°C
	RH %	25%				69%				50%	55%
	AH	3.2 g/kg				7.3 g/kg				18.1 g/kg	13.1 g/kg
Water temperature IN	°C	55	50	45	40	55	50	45	40	7	7
MINIMUM — Air flow 80l/s (288m³/hr)											
H2O flow	l/h	600				600				600	600
H2O temperature OUT	°C	50	46	42	37	50	46	41	37	12	11
H2O ΔP	kPa	12	12	13	13	12	13	13	13	16	16
Air temperature OUT	°C	52	47	42	38	51	47	42	38	13	12
Air RH OUT	%	4	5	6	8	9	11	14	18	100	95
Air AH OUT	g/kg	3.2	3.2	3.2	3.2	7.2	7.2	7.2	7.2	9.6	8.2
Air ΔP	Pa	9	9	9	9	9	9	9	9	18	13
Condensation	l/h	-	-	-	-	-	-	-	-	3	1.7
Sensible power	kW	-	-	-	-	-	-	-	-	1.33	1.59
TOTAL POWER	kW	3.27	2.82	2.38	1.94	3.38	2.93	2.48	2.04	3.41	2.78
Air flow 100l/s (360m³/hr)											
H2O flow	l/h	600				600				600	600
H2O temperature OUT	°C	49	45	41	37	49	45	41	36	13	12
H2O ΔP	kPa	12	12	13	13	12	13	13	13	15	15
Air temperature OUT	°C	50	46	41	37	50	46	41	37	15	13
Air RH OUT	%	4	5	6	8	9	12	15	19	99	93
Air AH OUT	g/kg	3.2	3.2	3.2	3.2	7.2	7.2	7.2	7.2	10.4	8.7
Air ΔP	Pa	12	12	12	12	12	12	12	12	24	18
Condensation	l/h	-	-	-	-	-	-	-	-	3.4	1.9
Sensible power	kW	-	-	-	-	-	-	-	-	1.55	1.86
TOTAL POWER	kW	3.93	3.39	2.86	2.32	4.05	3.52	2.98	2.44	3.86	3.19
Air flow 120l/s (432m³/hr)											
H2O flow	l/h	600				600				600	600
H2O temperature OUT	°C	48	44	40	36	48	44	40	36	13	12
H2O ΔP	kPa	12	13	13	13	12	12	13	13	15	15
Air temperature OUT	°C	49	45	41	36	49	45	40	36	16	14
Air RH OUT	%	4	5	7	9	10	12	16	19	99	92
Air AH OUT	g/kg	3.2	3.2	3.2	3.2	7.2	7.2	7.2	7.2	11.0	9.1
Air ΔP	Pa	16	15	15	15	16	16	15	15	30	22
Condensation	l/h	-	-	-	-	-	-	-	-	3.7	2.1
Sensible power	kW	-	-	-	-	-	-	-	-	1.7	2.09
TOTAL POWER	kW	4.52	3.91	3.29	2.67	4.67	4.05	3.43	2.81	4.25	3.54
MAXIMUM — Air flow 138.9l/s (500 m³/hr)											
H2O flow	l/h	600				600				600	600
H2O temperature OUT	°C	48	44	40	36	47	44	40	36	14	12
H2O ΔP	kPa	13	13	13	13	13	13	13	13	16	16
Air temperature OUT	°C	48	44	40	36	48	44	39	35	16	15
Air RH OUT	%	5	6	7	9	11	13	16	20	99	90
Air AH OUT	g/kg	3.2	3.2	3.2	3.2	7.2	7.2	7.2	7.2	11.6	9.4
Air ΔP	Pa	19	19	19	19	19	19	19	19	37	27
Condensation	l/h	-	-	-	-	-	-	-	-	3.9	2.2
Sensible power	kW	-	-	-	-	-	-	-	-	1.83	2.3
TOTAL POWER	kW	5.06	4.37	3.67	2.98	5.21	4.52	3.82	3.13	4.57	3.82

Initial temperature and humidity outdoor/indoor: winter 2°C 70% R.H. / 20°C 60% R.H.; summer 35°C 50% R.H. / 25°C 50% R.H.
The calculations include the cold recovery efficiency of an enthalpy exchanger as extrapolated from the results provided by the PHI certification

Airflow m³/hr

Pressure (Pa)

Airflow l/s

*Total capacity (sensible and latent) based on test conditions shown in the Performance Data table

COMPLIES WITH **SYSTEM 4**

COMPLIES TO: LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE

2 YEAR WARRANTY

CE MARKED

UKAS ACCREDITATION — INDEPENDENTLY ACCREDITED TEST INFORMATION

Zehnder ComfoPost CW12

Ideal to meet SAP10 and TM59 requirements

ComfoPost is a range of air to water exchangers designed to decrease or increase the supply air temperature of the ComfoAir Q MVHR unit, dependent on the season.

Physical specification

ComfoPost CW12

Weight: 22.4kg

Maximum thermal heating output: 6.51kW*

Maximum thermal cooling output: 5.64kW*

Water connection diameter (ø): 1/2"

Water connection type: BSPT male thread

Condensate drain diameter OD (ø): 14mm

Condensate connection type: Worm drive clip to fix to hose or crimped to copper pipe

ComfoWell range: ComfoWell 625

Material: Casing: Galvanised sheet steel Tubes: Copper Fins: Aluminium with hydrophilic treatment

Water volume capacity: 1 Litres

Recommended operating water temp range: 7 to 55 °C

Recommended maximum operating air flow: <166.6l/s (<600m3hr)

Features at a glance

Zehnder ComfoPost is an air to water exchanger for use with ComfoWell air distribution connections.

➤ Ideal for use with reversible heat pumps or chillers to meet SAP 10 or TM59 overheating demands

➤ Low pressure losses

➤ Filtered fresh supply air, not recycled stale air

➤ Suitable for use with the unique modular ComfoWell manifolds

➤ Suitable for horizontal or vertical installation

➤ Condensation water tray and drain as standard

➤ Suitable for Passive House application

➤ Corrosion resistant

Dimensions

ComfoPost CW12

All measurements in millimetres unless otherwise indicated

Access for maintenance

625

Top view

520

Rear view

520

Front view

*Total capacity (sensible and latent) based on test conditions shown in the Performance Data table

Performance

Air conditions IN to ComfoPost			Heating								Cooling	
			HRV exchanger				ERV exchanger				HRV	ERV
	T °C		18 °C				17 °C				27°C	28°C
	RH %		35%				60%				89%	55%
	AH		3.2 g/kg				7.3 g/kg				18.1 g/kg	13.1 g/kg
Water temperature IN	°C	55	50	45	40	55	50	45	40	7	7
MINIMUM Air flow 100 l/s (360m³/h) — H₂O flow	l/h	600				600				600	600
H₂O temperature OUT	°C	49	45	41	36	49	45	40	36	13	12
H₂O ΔP	kPa	15	15	16	16	15	15	16	16	19	19
Air temperature OUT	°C	52	47	43	38	52	47	43	38	13	12
Air RH OUT	%	4	5	6	8	9	11	14	18	100	96
Air AH OUT	g/kg	3.2	3.2	3.2	3.2	7.2	7.2	7.2	7.2	9.5	8.1
Air ΔP	Pa	8	8	8	7	8	8	8	7	15	11
Condensation	l/h	-	-	-	-	-	-	-	-	3.7	2.2
Sensible power	kW	-	-	-	-	-	-	-	-	1.69	2.01
TOTAL POWER	kW	4.14	3.57	3.01	2.45	4.27	3.71	3.14	2.56	4.31	3.52
Air flow 120 l/s (432m³/h) — H₂O flow	l/h	600				600				600	600
H₂O temperature OUT	°C	48	44	40	36	48	44	40	36	14	13
H₂O ΔP	kPa	16	16	16	16	15	16	16	16	19	19
Air temperature OUT	°C	51	47	42	38	51	46	42	37	14	12
Air RH OUT	%	4	5	6	8	9	11	14	18	100	95
Air AH OUT	g/kg	3.2	3.2	3.2	3.2	7.2	7.2	7.2	7.2	10.2	8.5
Air ΔP	Pa	10	9	9	9	10	9	9	9	18	14
Condensation	l/h	-	-	-	-	-	-	-	-	4.1	2.4
Sensible power	kW	-	-	-	-	-	-	-	-	1.92	2.29
TOTAL POWER	kW	4.81	4.16	3.5	2.85	4.98	4.31	3.65	3	4.78	3.94
Air flow 140 l/s (504m³/h) — H₂O flow	l/h	600				600				600	600
H₂O temperature OUT	°C	47	43	39	35	47	43	39	35	14	13
H₂O ΔP	kPa	15	16	16	16	15	16	16	16	19	19
Air temperature OUT	°C	50	46	41	37	50	45	41	37	15	13
Air RH OUT	%	4	5	7	8	10	12	15	19	100	93
Air AH OUT	g/kg	3.2	3.2	3.2	3.2	7.2	7.2	7.2	7.2	10.8	8.9
Air ΔP	Pa	12	11	11	11	12	11	11	11	22	16
Condensation	l/h	-	-	-	-	-	-	-	-	4.4	2.6
Sensible power	kW	-	-	-	-	-	-	-	-	2.07	2.55
TOTAL POWER	kW	5.44	4.7	3.96	3.22	5.62	4.87	4.13	3.38	5.17	4.31
MAXIMUM Air flow 166.6 l/s (600m³/h) — H₂O flow	l/h	600				600				600	600
H₂O temperature OUT	°C	46	42	38	35	46	42	38	34	15	14
H₂O ΔP	kPa	16	16	16	16	16	16	16	16	19	19
Air temperature OUT	°C	48	44	40	36	48	44	40	36	16	14
Air RH OUT	%	5	6	7	9	10	13	16	20	99	92
Air AH OUT	g/kg	3.2	3.2	3.2	3.2	7.2	7.2	7.2	7.2	11.3	9.3
Air ΔP	Pa	15	15	15	15	15	15	15	15	29	20
Condensation	l/h	-	-	-	-	-	-	-	-	4.8	2.7
Sensible power	kW	-	-	-	-	-	-	-	-	2.26	2.84
TOTAL POWER	kW	6.3	5.44	4.59	3.73	6.51	5.64	4.78	3.92	5.64	4.73

Initial temperature and humidity outdoor/indoor: winter 2°C 70% R.H. / 20°C 60% R.H.; summer 35°C 50% R.H. / 25°C 50% R.H.
The calculations include the cold recovery efficiency of an enthalpy exchanger as extrapolated from the results provided by the PHI certification

Airflow m³/hr

Pressure (Pa) vs Airflow l/s

Installation

Installation: Supplied with fixing brackets

Orientation: Wall or ceiling mounted

Combines with: ComfoWell 625 manifold

Ideal for use with: Reversible heat pumps Chillers

Product codes

Zehnder ComfoPost CW12 399 000 003

ComfoFond L-Q
with optional stand

Zehnder ComfoFond L-Q

An easy to install sub-soil heat exchanger making it suitable for a wide range of property types.

Zehnder Comfosystems offer solutions for a wide range of domestic applications. Whether using a standalone heat recovery system, or combining with a sub-soil heat exchanger, Zehnder's extensive product portfolio covers every budget and technical requirement.

Products and systems that are full of advantages

Zehnder truly believe that if you are creating a system solution then you need integrated products which are designed to fit together in order to give a refined, cohesive approach.

Streamlining the number of suppliers and equipment sources ensures that procurement is simplified, the number of potential deliveries reduced and the opportunity for error minimised. Choosing a system which is designed to fit together simplifies and reduces installation time, improves system efficiencies and ensures availability of all components needed to do the job.

Zehnder's high quality products are designed to service the low energy house of tomorrow.

Employing renewable energy sources to improve indoor comfort

The Zehnder ComfoFond L-Q sub-soil heat exchangers are designed to complement our heat recovery units. When connected to a Zehnder ComfoAir Q system, it augments the optimum comfort of the supply air to the dwelling throughout the year – even when the temperature falls below zero. This can help improve the efficiency of the heat recovery units as the incoming air requires less energy to meet the desired comfort temperature.

By saving energy and providing an optimised indoor climate, benefits are felt by the building, the homeowner and the environment.

Did you know?

The Zehnder ComfoFond L-Q offers exceptional energy efficiency. By using the renewable energy from the ground, it reduces the need for additional heating or cooling of the supply air throughout the year.

ComfoFond L-Q unit

Sub-soil heat exchanger

How does it work?

The Zehnder ComfoFond L-Q earth-brine sub-soil heat exchanger uses the relatively constant annual temperature of the earth at a depth of one to one and a half metres. This 'passive store' of energy remains at a temperature of 8-12°C all year round and can be used to temper incoming supply air in winter and summer months.

➤ A brine filled ground loop is buried one to one and a half metres below the surface of the ground

➤ The integrated water pump moves the brine through the ground loop at 8 l/min

➤ The temperature of the brine is then modified by the temperature of the surrounding earth

➤ The brine loop is connected to the ComfoFond L-Q which draws in air through an external wall

➤ The incoming air is filtered and passed through a liquid-to-air heat exchanger

➤ The tempering energy of the brine loop is passed to this air which is then delivered into the ComfoAir Q heat recovery unit for further tempering before being supplied to the habitable rooms of the home

Exhaust air · supply air · Extract air
+6.5°C supply air temp
-12°C air temp · Intake air
CF · CAQ 600
Brine filled ground loop
ground temperature +10°C (average)
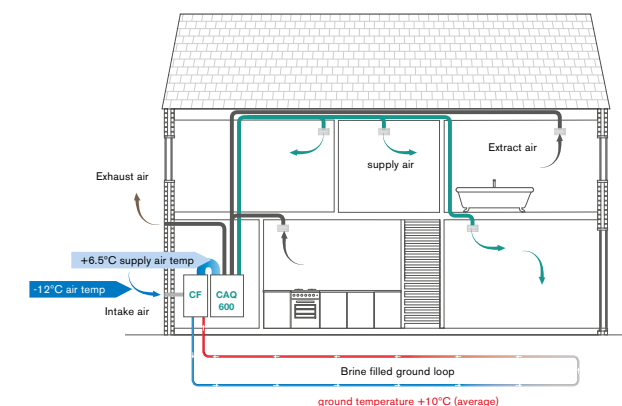
Winter - external air temperature at -12°C - brine solution flow rate at 8 l/min
- airflow rate at 250 m³/h - supply air temperature at +6.5°C

Exhaust air · supply air · Extract air
+17°C supply air temp
+35°C air temp · Intake air
CF · CAQ 600
Brine filled ground loop
ground temperature +10°C (average)
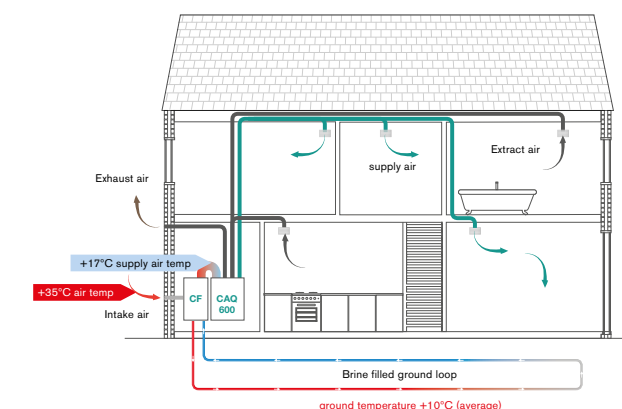
Summer - external air temperature at +35°C - brine solution flow rate at 8 l/min
- airflow rate at 250 m³/h - supply air temperature at +17°C

zehnder

always the best climate

COMPLIES WITH **SYSTEM 4** | **COMPLIES TO:** LOW VOLTAGE DIRECTIVE EMC COMPATIBILITY DIRECTIVE | **2** YEAR WARRANTY | **emc** STANDARDS COMPLIES TO | **CE** **UK CA** MARKED | SEC Class **A⁺** | **UKAS** ACCREDITATION INDEPENDENTLY ACCREDITED TEST INFORMATION

Zehnder ComfoFond L-Q
350, 450 & 600
A comfortable indoor climate

All-in-one solution meaning reduced installation time – the pump, pressure tank and battery are mounted together in one unit. Design and supply from one manufacturer ensures compatibility and ease of integration.

Physical specification

ComfoFond L-Q 350, 450 & 600
(units shown with optional support frames)

Weight: 47 Kg

Condensate connection: 32 mm

Materials: Internal EPP / ABS
External coated sheet steel

Maximum head circulation pump:
7 m

Ideal brine pressure: 1.5 bar

Brine flow rate @ maximum:
350m³/h - 6-8 l/min
450m³/h - 8-10 l/min
600m³/h - 8-10 l/min

Dimensions

**ComfoFond L-Q 350, 450 & 600
[Right handed]**

All measurements in millimetres
unless otherwise indicated

**ComfoFond L-Q 350, 450 & 600
[Left handed]**

All measurements in millimetres
unless otherwise indicated

Top view

Front view   Side view

Top view

Front view   Side view

Features and benefits

➤ Tempered supply air throughout the year

➤ Designed to integrate easily and effectively with the Zehnder ComfoAir Q heat recovery range

➤ Operates automatically thanks to its integrated temperature sensor

➤ Ideal for use in high-water table and extremely effective in water bearing sand/gravel and granite soil types

➤ Exceptional energy efficiency due to utilisation of renewable energy from the ground

➤ The system is low maintenance and all serviceable parts are easily accessible

➤ Frost-free permanent operation, even at external temperatures of less than -25ºC (as shown in the case study opposite)

➤ Zehnder ComfoFond L-Q provides a closed loop system which offers improved hygiene over open loop versions

➤ The closed loop system offered by Zehnder ComfoFond L-Q delivers lower air resistance than an open loop system leading to lower running costs and enhanced efficiency

➤ Design and supply from one manufacturer ensures compatibility and ease of integration

Performance - ComfoFond L-Q 350

Speed	Test Area	Octave Band (Hz) Sound Power Level, dB							dB(A) @3m
		125	250	500	1000	2000	4000	8000	
20%	Casing	34.4	30.2	24.5	18.6	13.6	9.5	16.4	9.4
	Supply/Exhaust	50.1	42.7	38.3	30.8	23.3	12.1	11.1	
	Extract/Intake	40.6	32.5	23.2	17.8	15.6	11.2	18.5	
40%	Casing	38.4	35.5	29.8	23.7	19.8	15.1	17.7	14.4
	Supply/Exhaust	53.6	48.7	43.9	36.7	30.8	20.8	17.0	
	Extract/Intake	44.0	38.0	28.2	21.9	19.1	14.2	18.6	
60%	Casing	42.4	40.7	34.9	28.8	26.0	20.5	19.0	19.5
	Supply/Exhaust	57.1	54.8	49.4	42.6	38.2	29.3	22.8	
	Extract/Intake	47.4	43.4	33.1	26.1	22.6	17.1	18.7	
80%	Casing	46.4	45.9	40.1	33.9	32.2	26.0	20.2	24.7
	Supply/Exhaust	60.6	60.8	54.8	48.4	45.6	37.8	28.6	
	Extract/Intake	50.8	48.8	38.0	30.2	26.0	20.0	18.8	
100%	Casing	50.4	51.2	45.3	39.0	38.4	31.5	21.5	29.9
	Supply/Exhaust	64.1	66.8	60.3	54.3	53.0	46.4	34.3	
	Extract/Intake	54.2	54.2	42.9	34.4	29.4	22.9	19.0	

ComfoFond L-Q 450

Speed	Test Area	Octave Band (Hz) Sound Power Level, dB							dB(A) @3m
		125	250	500	1000	2000	4000	8000	
20%	Casing	35.3	31.4	25.7	19.8	15.0	10.8	16.7	10.5
	Supply/Exhaust	50.9	44.0	39.6	32.1	25.0	14.1	12.5	
	Extract	41.4	33.7	24.3	18.7	16.4	11.9	18.5	
40%	Casing	41.0	43.9	33.0	28.8	27.0	18.1	14.5	20.3
	Supply	53.4	54.8	46.2	41.1	38.3	29.0	12.2	
	Extract	45.6	46.7	32.0	24.3	19.6	14.0	17.0	
60%	Casing	45.7	47.6	38.9	33.8	32.7	25.4	19.6	25.0
	Supply	57.6	59.6	52.2	46.2	44.3	36.6	23.8	
	Extract	50.2	50.4	37.8	29.3	25.1	19.4	18.7	
80%	Casing	50.5	51.3	44.9	38.8	38.4	32.7	24.8	29.9
	Supply	61.8	64.3	58.3	51.3	50.3	44.2	35.3	
	Extract	54.8	54.2	43.7	34.2	30.5	24.7	20.5	
100%	Casing	55.2	55.1	50.9	43.8	44.1	40.0	30.0	35.1
	Supply	66.0	69.1	64.3	56.4	56.3	51.8	46.9	
	Extract	59.5	58.0	49.5	39.2	35.9	30.1	22.2	

ComfoFond L-Q 600

Speed	Test Area	Octave Band (Hz) Sound Power Level, dB							dB(A) @3m
		125	250	500	1000	2000	4000	8000	
20%	Casing	36.7	33.3	27.6	21.6	17.2	12.7	17.2	12.3
	Supply/Exhaust	52.1	46.2	41.5	34.2	27.6	17.1	14.5	
	Extract/Intake	42.6	35.7	26.1	20.2	17.7	12.9	18.5	
40%	Casing	46.6	47.2	40.3	35.4	30.7	23.9	19.3	25.2
	Supply/Exhaust	57.2	57.7	50.1	45.4	42.3	34.7	23.7	
	Extract/Intake	50.5	48.4	38.0	31.1	26.8	20.5	19.1	
60%	Casing	50.0	51.5	46.5	40.6	37.4	32.4	26.6	30.6
	Supply/Exhaust	61.7	63.7	57.4	51.7	49.6	44.1	34.8	
	Extract/Intake	55.5	52.7	45.0	36.2	32.3	27.0	22.0	
80%	Casing	53.3	55.9	52.7	45.8	44.1	41.0	33.9	36.2
	Supply/Exhaust	66.2	69.6	64.8	58.0	56.9	53.5	45.9	
	Extract/Intake	60.5	58.3	52.0	41.4	37.7	33.6	24.9	
100%	Casing	56.7	60.2	58.9	51.0	50.8	49.5	41.3	42.2
	Supply/Exhaust	70.8	75.6	72.1	64.3	64.2	62.9	57.0	
	Extract/Intake	65.5	63.3	59.0	46.5	43.2	40.2	27.7	

Installation

Wiring: Must comply with IEE Regulations

Fuse: 3 amp

Maximum current: 0.58 A

Consumption:
Maximum – 70W

Electrical specification:
230V ~ 50Hz Class II

Installation:
Wall mounting or support frame (supplied separately)

Product codes

Zehnder ComfoFond-L Q, left handed 471 310 084

Zehnder ComfoFond-L Q, right handed 471 310 085
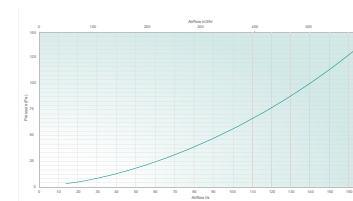
zehnder
always the
best climate

Enthalpy Exchanger

Year round comfort

A pleasant indoor climate is essential for a sense of well-being in the home. Room humidity can have a major impact on the quality of the living environment.

A relative humidity (RH) of 40-60% is generally considered to be optimal for a comfortable and healthy home.

Fluctuations in indoor RH are caused by the following factors:

➤ Everyday domestic activities

➤ Use of showers and baths

➤ Natural transpiration of people, animals and plants

➤ Temperature and weather conditions

What does Enthalpy involve?

The Zehnder Enthalpy Exchanger recovers both the thermal and the latent energy from the stale air extracted from wet rooms around the home. This additional energy, which would otherwise have been lost, is transferred into the incoming fresh air stream before being supplied to habitable rooms. Choosing the enthalpy exchanger, rather than the standard heat exchanger, means that the unit becomes an Energy Recovery Ventilation (ERV) system, as opposed to solely a Heat Recovery Ventilation (HRV) system.

How does it do this?

The Zehnder Enthalpy Exchanger is fitted with an innovative, proprietary polymer membrane which enables the crossover of moisture, as well as heat. As the humidity is transferred as water vapour, by diffusion, it means that it is perfectly suited to counteract both hot and humid indoor climates during the summer months as well as drier indoor environments through winter.

Health and comfort

This graph shows that by maintaining an optimal indoor RH of 40-60% the potential adverse effects for occupants, and the dwelling itself, are at their lowest levels.
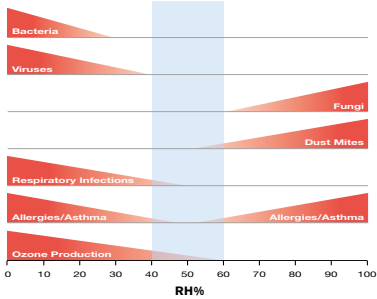
Summer - if outside air at 25ºC and 50% RH passes into a cooled room at 20ºC, the RH would rise to over 80%. The enthalpy exchanger transfers up to 65% of the difference in the moisture levels into the exhaust air preventing this uncomfortable increase from happening.
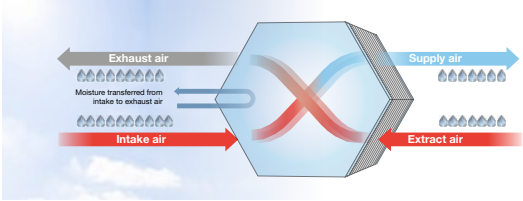
Winter - if the outside air at 0ºC and RH 50% is drawn into the home and warmed to 20ºC without the addition of any moisture, its RH level would drop to roughly 10%. The enthalpy exchanger retains some of the moisture from the extract air and transfers it into the supply air.
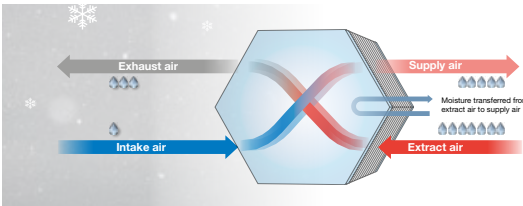
Compare this to a standard heat exchanger during the winter and it is clear how the indoor climate could become dry and uncomfortable for occupants.
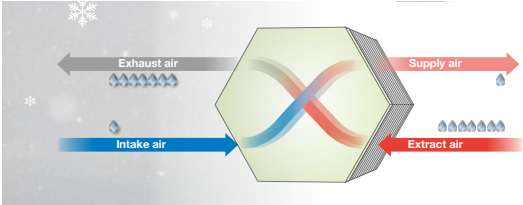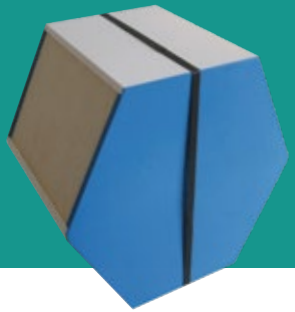
Performance

	Average HRV efficiency	Average ERV efficiency
Thermal efficiency	89%	88%
Humidity efficiency	0%	65%

Easy clean

The Enthalpy membrane

The membrane is so advanced that it blocks the transfer of any odour or contaminants without inhibiting the energy transfer. Furthermore, the membrane has built-in Microban® technology for mould and bacteria resistance, making the Zehnder Enthalpy Exchanger ultra-hygienic.

- Odours
- Contaminants
- Heat
- Water vapour

The unique Zehnder Enthalpy Exchanger membrane

Features and benefits

➤ Optimum indoor air quality in both winter and summer, while delivering energy savings

➤ High thermal and latent efficiency thanks to advanced polymer membrane

➤ Directly interchangeable with standard Zehnder heat exchanger to be fitted retrospectively

➤ Easy to clean, replace and service

➤ Built-in mould and bacteria resistant Microban® antimicrobial technology

➤ Blocks odours and contaminants from the extract air crossing over into the fresh supply air

➤ The membrane is is robust and tolerant to below freezing temperatures

➤ Eliminates the need for condensate drainage

Product codes

Enthalpy Exchanger for ComfoAir 200
400 400 037

Enthalpy Exchanger for ComfoAir 350
400 400 039

Enthalpy Exchanger for ComfoAir 200
400 400 017

Enthalpy Exchanger for ComfoAir 350
400 400 013

Enthalpy Exchanger for ComfoAir Q350/450/600
400 502 010

zehnder

always the best climate

Commercial Ventilation

Commercial Ventilation

Pubs, clubs and more
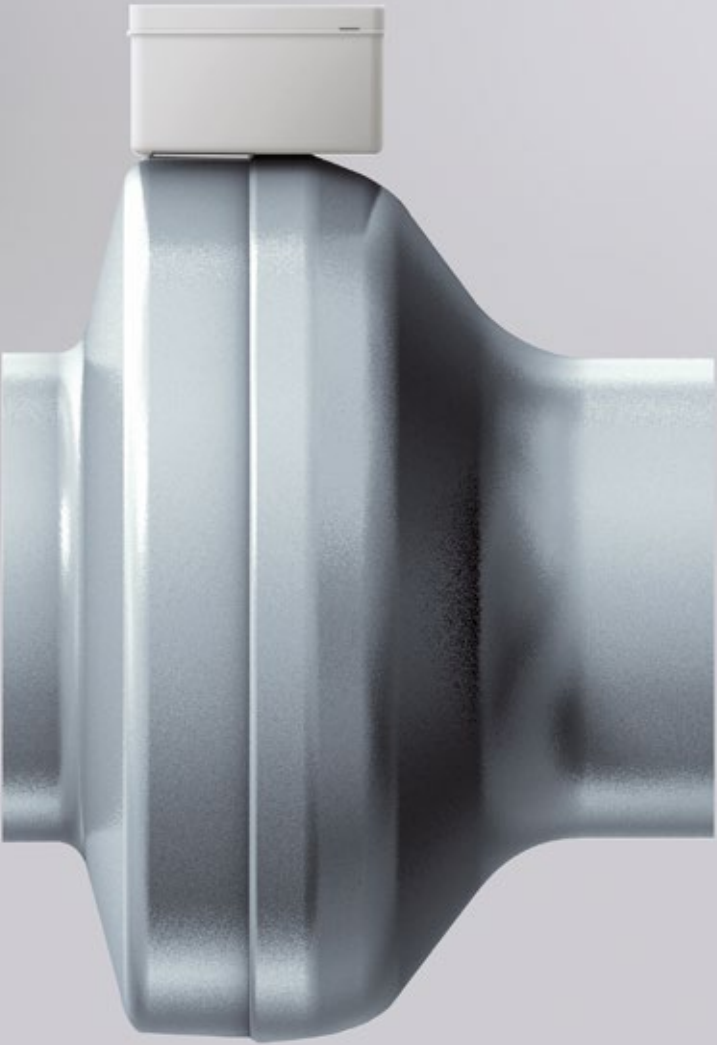
About Commercial Ventilation

Pub, club or restaurant – these fans will create a fresh environment throughout the day and night. With multiple control options from air quality to temperature sensors, this range is a sensible choice for all commercial environments.

Need help specifying a product?

If you can't work out which product you need, or how to provide ventilation in the most efficient way for your homes we can help you! Our dedicated team of Area Managers and Technical Advisors understand the impact of specifying products into new and existing homes.

Call us with your questions or email us at

ventilation@zehnder.co.uk

Head Office
01276 605800

Customer Services
01276 408404

Technical Services
01276 408402

Complying with Building Regulations and performance requirements

The Building Regulations require ventilation in all new-build or refurbishment commercial premises, where planning permission is required.

They work by identifying the technical requirements for:

Rapid ventilation, such as opening windows.

Background ventilation using window ventilators, airbricks, etc.

Mechanical Extract Ventilation by extractors operated mechanically and automatically.

Complying with Building Regulations

For maximum efficiency, careful planning for the installation, size and number of fans is required. This can be calculated by the following advice:

Performance requirements

1. Calculate the volume of room (length x width x height) in cubic metres.
2. Identify the room usage in the list below for the recommended number of air changes per hour.
3. Multiple the room volume by the number of air changes to obtain the required air extract rate (m^3/h).
4. Select the fan model that has a performance at least equal to this extract rate from the Commercial range.
5. If no single fan meets the required extract rate, divide the rate by the performance of selected fans to establish the quantity of fans required.

Offices: Table 6.1a ADF 2010 extract ventilation rates

Room	Extract rate
Rooms containing printers and photocopiers in substantial use (greater than 30 minutes per hour)	Air extract rate of 20 l/s per machine during use. Note that if the operators are continuously in the room, use the greater of the extract and whole building ventilation rates.
Office sanitary accommodation and washrooms	Intermittent air extract rate of: 15 l/s per shower/bath 6 l/s per WC/urinal
Food and beverage preparation areas	Intermittent air extract rate of: 15 l/s with microwave and beverages only 30 l/s adjacent to the hob with cooker(s) 60 l/s elsewhere with cooker(s) All to operate while food and beverages preparation is in progress
Specialist buildings and spaces (e.g. commercial kitchens, fitness rooms)	See Table 6.3 of ADF 2010

Offices: Table 6.1b ADF 2010 whole building ventilation rate for air supply to offices

Supply Rate	Extract rate
Total outdoor air supply rate for offices (no-smoking and no significant pollutant sources)	10 l/s per person

Ventilation of other buildings and spaces is detailed in Table 6.3 of ADF 2010, where reference is made to additional Regulations and guidance notes, e.g. CIBSE Guide B: 2005

CD
Window fans

Physical specification for complete CD window fan kit

All measurements in millimetres unless otherwise indicated

Weight: 3.6kg
5.2kg
7.4kg

Materials:
ABS plastic

Front

Glazing Hole F Ø

Side

	6"	9"	12"
A	272	342	420
B	160	158	167
C	37	37	41
D min	50	50	50
E	269	342	420
F Ø	184	260	337
G	138	175	215
H	135	171	207

Window Kit

Size	Fan	Window Kit
6" Window Kit	CD6	EW6
9" Window Kit	CD9	EW9
12" Window Kit	CD12	EW12

Features and benefits

- Self-adhesive external plate allows easy one person fix on-site
- Thermo-actuated backdraught shutters ensure silent operation and positive closure when fan is off
- Reversible supply or extract, variable speed operation
- Choice of controllers, remote and integral sensors
- Suitable for glazing thicknesses of up to 32mm and wall/panels of 360mm
- Low noise levels
- 6", 9" and 12" models available

Installation

Wiring:
Must comply with IEE Regulations

Cable:
Ø 1mm² max or min

Fuse:
3 amp (when fan is supplied from a 6A lighting circuit no local fuse is required)

Electrical specification:
230V~50Hz Class I

Consumption:
Boost = 38W, Eco = 20W
Boost = 50W, Eco = 37W
Boost = 100W, Eco = 70W

Performance

Key
CD6 Extract	CD9 Extract	CD12 Extract
CD6 Supply	CD9 Supply	CD12 Supply

Models and control options

Product code		Performance to BS 848 Pt1 in free air (m³/h)		Sound pressure level @ 3m dB(A)		Consumption (W)	
		Boost	Eco	Boost	Eco	Boost	Eco
CD6	6" commercial fan - installed within a window kit specification*	419	227	41	41	38	20
CD9	9" commercial fan - installed within a window kit specification*	830	724	41	41	50	37
CD12	12" commercial fan - installed within a window kit specification*	1690	1228	46	47	100	70

*See components table above Note: figures are extract only

Ancillaries for CD

For details of remote or integral sensor options/switches see page 161
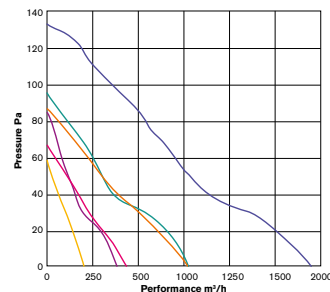
CD
Wall fans

Physical specification for complete CD wall fan kit

All measurements in millimetres unless otherwise indicated

Weight: 3.85kg
5.5kg
8.1kg

Materials:
ABS plastic
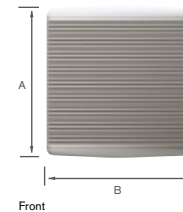
Front

Side

Ducting

G centre
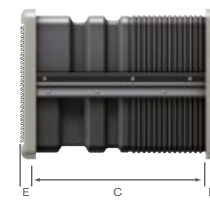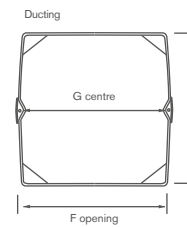
F opening

	6"	9"	12"
A	272	342	420
B	269	342	420
C min	200	200	200
C max	380	380	380
D	30	31	32
E	28	28	40
F	260	330	410
G	238	310	391

Wall Kit

Size	Fan	Wall Duct	External Grille
6" Wall Kit	CD6	ED6	ED6
9" Wall Kit	CD9	ED9	ED9
12" Wall Kit	CD12	ED12	ED12

Features and benefits

- Models include screw holes to allow easy fix of fan to duct and one person fix
- Thermo-actuated backdraught shutters ensure silent operation and positive closure when fan is off
- Reversible supply or extract, variable speed operation
- Calibration at 10mm intervals on wall duct to aid cutting to correct length
- Suitable for installation into walls up to 380mm
- 6", 9" and 12" models available
- Choice of controllers, remote and integral sensors
- Low noise levels

Installation

Wiring:
Must comply with IEE Regulations

Cable:
Ø 1mm² max or min

Fuse:
3 amp (when fan is supplied from a 6A lighting circuit no local fuse is required)

Electrical specification:
230V~50Hz Class I

Consumption:
Boost = 38W, Eco = 20W
Boost = 50W, Eco = 37W
Boost = 100W, Eco = 70W

Performance

Key
CD6 Extract	CD9 Extract	CD12 Extract
CD6 Supply	CD9 Supply	CD12 Supply

Models and control options

Product code		Performance to BS 848 Pt1 in free air (m³/h)		Sound pressure level @ 3m dB(A)		Consumption (W)	
		Boost	Eco	Boost	Eco	Boost	Eco
CD6	6" commercial fan - installed within a wall kit specification*	445	245	42	41	38	20
CD9	9" commercial fan - installed within a wall kit specification*	918	820	39	44	50	37
CD12	12" commercial fan - installed within a wall kit specification*	1820	1341	45	47	100	70

*See components table above Note: figures are extract only

Ancillaries for CD

For details of remote or integral sensor options/switches see page 161
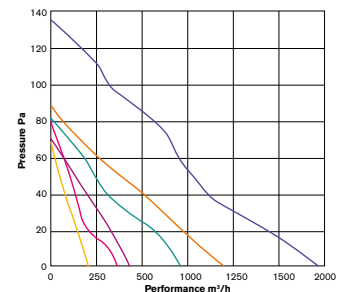
2 YEAR WARRANTY   CE UKCA MARKED   **IPX4 RATED**
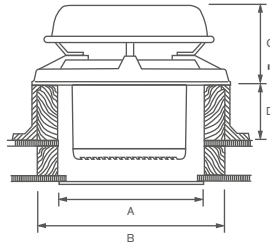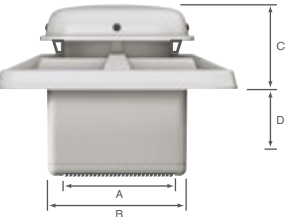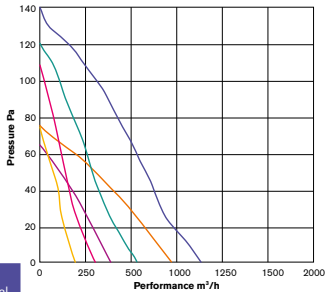
CD
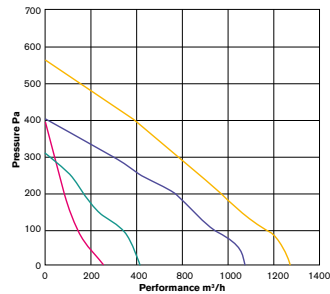*Refurbishment wall fans*

Physical specification for complete CD refurbishment wall fan kit

All measurements in millimetres unless otherwise indicated

Weight: 3.7kg
5.13kg
6.85kg

Materials:
ABS plastic

Front

Side
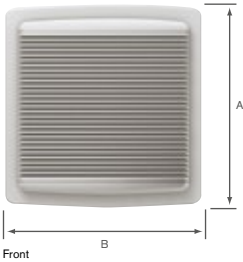
	6"	9"	12"
A	330	405	495
B	335	425	510
C	170	175	196

Features and benefits

➤ Designed to fix to existing T Series or Greenwood ED ducting

➤ Thermo-actuated backdraught shutters ensures silent operation and positive closure when fan is off

➤ Reversible supply or extract, variable speed operation

➤ Choice of controllers, remote and integral sensors

➤ No drilling or plugging required

➤ Can utilise existing T series, Rangemaster or Ecotronic controllers

➤ 6", 9" and 12" models available

Installation

Wiring:
Must comply with IEE Regulations

Cable:
Ø 1mm² max or min

Fuse:
3 amp (when fan is supplied from a 6A lighting circuit no local fuse is required)

Electrical specification:
230V~50Hz Class I

Consumption:
Boost = 38W, Eco = 20W
Boost = 50W, Eco = 37W
Boost = 100W, Eco = 70W

Performance

Refurb Wall Kit

Size	Fan	Picture Frame Adaptor
6" Refurb Wall Kit	CD6	PFA6
9" Refurb Wall Kit	CD9	PFA9
12" Refurb Wall Kit	CD12	PFA12

Key

CD6 Extract	CD9 Extract	CD12 Extract
CD6 Supply	CD9 Supply	CD12 Supply

Models and control options

Product code		Performance to BS 848 Pt1 in free air (m³/h)		Sound pressure level @ 3m dB(A)		Consumption (W)	
		Boost	Eco	Boost	Eco	Boost	Eco
CD6	6" commercial fan - installed within a refurbishment wall kit specification*	445	245	42	41	38	20
CD9	9" commercial fan - installed within a refurbishment wall kit specification*	918	820	39	44	50	37
CD12	12" commercial fan - installed within a refurbishment wall kit specification*	1820	1341	45	47	100	70

*See components table above Note: figures are extract only

Ancillaries for CD

For details of remote or integral sensor options/switches see page 161

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2 YEAR WARRANTY   CE UKCA MARKED   **IPX4 RATED**

CD
Ceiling fans

Physical specification for complete CD ceiling fan kit

All measurements in millimetres unless otherwise indicated

Weight: 2.6kg
3.7kg
5.2kg

Materials:
ABS plastic

B x B Opening Size

C x D Overall Size
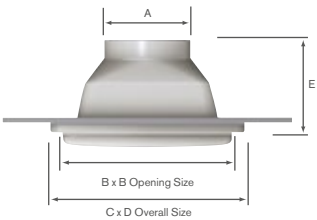
	6"	9"	12"
A	200	250	350
B	270	340	430
C	300	405	495
D	335	425	510
E	215	215	235

Features and benefits

➤ Designed for ceiling installation

➤ Picture frame adaptor for retro fit installation

➤ Fan can be disconnected with ease for replacement

➤ Thermo-actuated backdraught shutters ensures silent operation and positive closure when fan is off

➤ Choice of controllers, remote and integral sensors

➤ 6", 9" and 12" models available

Installation

Wiring:
Must comply with IEE Regulations

Cable:
Ø 1mm² max or min

Fuse:
3 amp (when fan is supplied from a 6A lighting circuit no local fuse is required)

Electrical specification:
230V~50Hz Class I

Consumption:
Boost = 38W, Eco = 20W
Boost = 50W, Eco = 37W
Boost = 100W, Eco = 70W

Performance

Ceiling Fan Kit

Size	Fan	Ceiling Adaptor Kit
6" Ceiling Kit	CD6	CK6
9" Ceiling Kit	CD9	CK9
12" Ceiling Kit	CD12	CK12

Key

CD6 Extract	CD9 Extract	CD12 Extract
CD6 Supply	CD9 Supply	CD12 Supply

Models and control options

Product code		Performance to BS 848 Pt1 in free air (m³/h)		Sound pressure level @ 3m dB(A)		Consumption (W)	
		Boost	Eco	Boost	Eco	Boost	Eco
CD6	6" commercial fan - installed within a ceiling kit specification*	470	222	42	42	38	20
CD9	9" commercial fan - installed within a ceiling kit specification*	933	804	42	38	50	37
CD12	12" commercial fan - installed within a ceiling kit specification*	1836	1395	48	46	100	70

*See components table above Note: figures are extract only

Ancillaries for CD

For details of remote or integral sensor options/switches see page 161

2 YEAR WARRANTY   CE UKCA MARKED   **IPX4** RATED

CD

Pitched roof fans
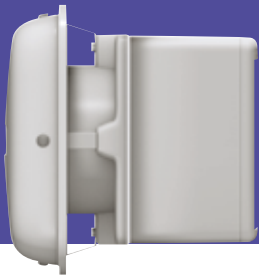
Physical specification for complete CD pitched roof fan kit

All measurements in millimetres unless otherwise indicated

Weight: 4.0kg
8.9kg
11.8kg

Materials:
ABS plastic
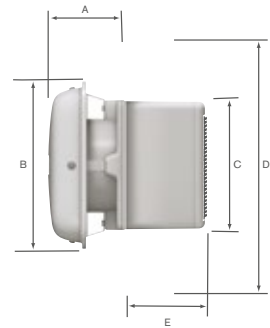
	6"	9"	12"
A	170	180	185
B	360	425	506
C	272	342	420
D	400	475	550
E	160	158	167
Trimmed	320	385	450
Opening	x	x	x
Size	320	385	450

Weathering supplied by others.

Features and benefits

➤ Reversible supply or extract, variable speed operation

➤ Thermo-actuated backdraught shutters ensures silent operation and positive closure when fan is off

➤ Choice of controllers, remote and integral sensors

➤ Kit enables components to be accessible from inside providing easy access for maintenance

➤ 6", 9" and 12" models available
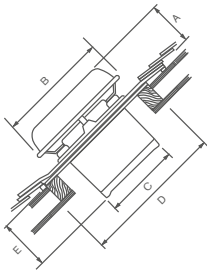
Pitched Roof Fan Kit

Size	Fan	Window Spacer	Weather Terminal	Wall Fixing Plate
6" Pitched Roof Kit	CD6	WS6	WT6	WFP6
9" Pitched Roof Kit	CD9	WS9	WT9	WFP9
12" Pitched Roof Kit	CD12	WS12	WT12	WFP12

Installation

Wiring:
Must comply with IEE Regulations

Cable:
Ø 1mm^2 max or min

Fuse:
3 amp (when fan is supplied from a 6A lighting circuit no local fuse is required)

Electrical specification:
230V~50Hz Class I

Consumption:
Boost = 38W, Eco = 20W
Boost = 50W, Eco = 37W
Boost = 100W, Eco = 70W

Performance

Key

■ CD6 Extract	■ CD9 Extract	■ CD12 Extract
■ CD6 Supply	■ CD9 Supply	■ CD12 Supply

Models and control options

Product code		Performance to BS 848 Pt1 in free air (m³/h)		Sound pressure level @ 3m dB(A)		Consumption (W)	
		Boost	Eco	Boost	Eco	Boost	Eco
CD6	6" commercial fan - installed within a pitched roof kit specification*	394	202	44	41	38	20
CD9	9" commercial fan - installed within a pitched roof kit specification*	700	597	43	40	50	37
CD12	12" commercial fan - installed within a pitched roof kit specification*	1149	775	45	48	100	70

*See components table above Note: figures are extract only

Ancillaries for CD

For details of remote or integral sensor options/switches see page 161

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2 YEAR WARRANTY   CE UKCA MARKED   **IPX4** RATED

CD

Flat roof fans

Physical specification for complete CD flat roof fan kit

All measurements in millimetres unless otherwise indicated

Weight: 6.15kg
9.10kg
11.0kg

Materials:
ABS plastic

	6"	9"	12"
A min	400	400	500
B	600	600	695
C	235	245	266
D min	150	150	150

Features and benefits

➤ Reversible supply or extract, variable speed operation

➤ Thermo-actuated backdraught shutters ensures silent operation and positive closure when fan is off

➤ Choice of controllers, remote and integral sensors

➤ 6", 9" and 12" models available

Flat Roof Fan Kit

Size	Fan	Wall Spacer	Roof Terminal
6" Pitched Roof Kit	CD6	WS6	RT6
9" Pitched Roof Kit	CD9	WS9	RT9
12" Pitched Roof Kit	CD12	WS12	RT12

Installation

Wiring:
Must comply with IEE Regulations

Cable:
Ø 1mm^2 max or min

Fuse:
3 amp (when fan is supplied from a 6A lighting circuit no local fuse is required)

Electrical specification:
230V~50Hz Class I

Consumption:
Boost = 38W, Eco = 20W
Boost = 50W, Eco = 37W
Boost = 100W, Eco = 70W

Performance

Key

■ CD6 Extract	■ CD9 Extract	■ CD12 Extract
■ CD6 Supply	■ CD9 Supply	■ CD12 Supply

Models and control options

Product code		Performance to BS 848 Pt1 in free air (m³/h)		Sound pressure level @ 3m dB(A)		Consumption (W)	
		Boost	Eco	Boost	Eco	Boost	Eco
CD6	6" commercial fan - installed within a flat roof kit specification*	394	202	44	41	38	20
CD9	9" commercial fan - installed within a flat roof kit specification*	700	597	43	40	50	37
CD12	12" commercial fan - installed within a flat roof kit specification*	1149	775	45	48	100	70

*See components table above Note: figures are extract only

Ancillaries for CD

For details of remote or integral sensor options/switches see page 161

2 YEAR WARRANTY CE UKCA MARKED IPX4 RATED

SD

Superduct centrifugal induct fans

Physical specification

All measurements in millimetres unless otherwise indicated

Weight:
SD100 = 2.5kg
SD150 = 2.8kg
SD200 = 4.1kg
SD250 = 4.9kg

Materials:
Galvanised steel
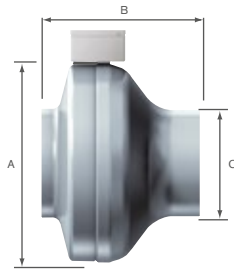
Side

Fixing brackets

240

30
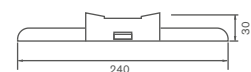
	SD100	SD150	SD200	SD250
A Ø	242	272	344	344
B	170	170	204	200
C Ø	100	150	200	250

Features and benefits

➤ High performance straight-flow centrifugal induct fans

➤ Superduct fans complement both Greenwood Airvac domestic fan ranges and commercial fan ranges

➤ Range of four Superduct fans available to suit all design requirements

➤ Designed for high pressure and long ducting systems

➤ SDC controllers and TAR overrun timer control option

➤ Ultra quiet operation and easy installation

➤ Constructed from galvanised steel to withstand high running temperatures

➤ Moisture proof units, IP44 rated

Installation

Wiring:
Must comply with IEE Regulations

Cable:
Ø 1mm^2 max or min

Fuse:
3 amp (when fan is supplied from a 6A lighting circuit no local fuse is required)

Electrical specification:
230V~50Hz Class I

Consumption:
SD100 = 41W
SD150 = 71W
SD200 = 115W
SD250 = 85W

Performance

Pressure Pa / Performance m³/h

Key

SD100	SD150
SD200	SD250

Models and control options

Product code	Performance to BS 848 Pt1 in free air		Sound pressure level @ 3m dB(A)	Consumption (W)	Amps
	(m³/h)	(l/s)			
SD100	298	83	44	41	0.18
SD150	540	150	52	71	0.31
SD200	1044	290	58	115	0.50
SD250	1260	350	60	185	0.81
SDC1	-	-	-	-	1
SDC2	-	-	-	-	2

Note: figures are extract only

2 YEAR WARRANTY CE UKCA MARKED IPX4 RATED

Sensors & switches

Range of integral and remote sensors and switches

Physical specification

All measurements in millimetres unless otherwise indicated

150

83

Front

60
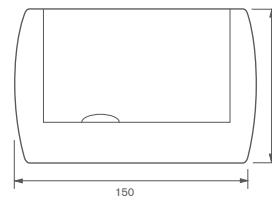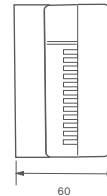
Side

Features and benefits

➤ Designed to control fan efficiently in response to changes in environment (depending on sensor selected) including Humidity, Air Quality, Passive Infrared, Temperature and Timer versions

➤ Switch options work in conjunction with integral and remote sensors including Forward/Reverse, Variable, Eco setting and Auto/Manual options

➤ Remote sensors are controlled by Eco switches and still allow fan to operate in response to changes in environment when sited in discreet locations

➤ Maximum operating temperature 45°C

➤ Ability to control multiple fans, depending on sensors and fan type

➤ More than one remote sensor can be connected to a fan

➤ Sensors fitted with adjustable overrun timers (temperature sensor has preset 2 minute overrun timer)

Installation

Wiring:
Must comply with IEE Regulations

Cable:
Ø 1mm^2 max or min

Fuse:
3 amp (when fan is supplied from a 6A lighting circuit no local fuse is required)

Remote sensors

Integral sensor

Remote sensor options

Product code	Function	Detail	Overrun	Siting
HHR	Humidity	30–90% RH	2–40mins	Mid wall height
AQR	Air quality	Hydrogen, CO, Methane, Ethanol, Iso-butane	2–40mins	Head height
PIRR	Passive infrared	Up to 7m detection	2–40mins	Max. 2.2m high
THR	Temperature	5–35°C	2mins	Head height
TAR	Timer	–	2–40mins	Anywhere

Switch options

Product code	Function	Detail	Overrun
RC4	Various	On/Off, eco, forward/reverse, auto/manual	–
HH6/HH9/HH12	Integral humidity sensor	30–90% RH	2–40mins
AQ6/AQ9/AQ12	Integral air quality sensor	See AQR	2–40mins
PIR6/PIR9/PIR12	Integral passive infrared sensor	Up to 7m detection	2–40mins
TH6/TH9/TH12	Integral temperature sensor	5–35°C	2mins
TA6/TA9/TA12	Integral overrun timer	–	2–40mins

Accessories

Commercial Ventilation range

Window installation accessories
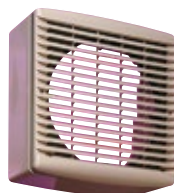
Product code	Application	Dimensions

Window kit

Used when installing eco fans into single or double glazed windows up to 32mm thick. Comprising spacer and external grille with unique self-adhesive pads. For glazing 4mm to 32mm. Spacer manufactured from ABS. Grille manufactured from ASA.

Product code	Application	Dimensions
EW6	For use with 6" fans	271 x 271 x 155mm, window hole: Ø 184mm
EW9	For use with 9" fans	341 x 347 x 151mm, window hole: Ø 260mm
EW12	For use with 12" fans	425 x 425 x 176mm, window hole: Ø 337mm
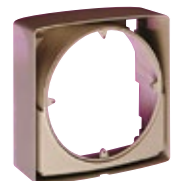
Window spacer

Used for exposed site window installation. Comprising one spacer.
For use in conjunction with weather terminals. Manufactured from ABS.

Product code	Application	Dimensions
WS6	For use with 6" fans	271 x 271 x 126mm
WS9	For use with 9" fans	341 x 347 x 123mm
WS12	For use with 12" fans	425 x 425 x 135mm

Weather terminal

Used for exposed site window installations. Comprising one weather terminal.
For use in conjunction with window spacers. Manufactured from HIPS.

Product code	Application	Dimensions
WT6	For use with 6" fans	360 x 360 x 170mm
WT9	For use with 9" fans	425 x 425 x 180mm
WT12	For use with 12" fans	506 x 506 x 185mm

Extended fixing rods

For glazing over 32mm and up to 360mm thick. May also be used for adapting wall ducts to fit walls from 390mm to 750mm wide. Comprising four rods 400mm long with M5 thread which can be cut to suit application. Manufactured from steel. Used in conjunction with window kits, window spacers and wall ducts.

Product code	Application	Dimensions
EFR	For use with all Eco fans	

Roofing installation accessories

Product code	Application	Dimensions

Roof terminals

For use in flat roof applications. Comprising one roof cowl and mounting plate. Used in conjunction with flexible ducting for flat roof termination and with window spacers for flat roof upstand (not ducted). Manufactured in HIPS.

Product code	Application	Dimensions
RT6	For use with 6" fans	657 x 657 x 235mm
RT9	For use with 9" fans	657 x 657 x 245mm
RT12	For use with 12" fans	742 x 742 x 266mm

Wall installation accessories

Product code	Application	Dimensions

Wall duct

Unique one piece Easyfix wall duct with cutting guide for cutting on-site. Used in conjunction with external grilles. Manufactured in HDPF.

Product code	Application	Dimensions
ED6	For use with 6" fans	249 x 249 x 390mm
ED9	For use with 9" fans	320 x 322 x 390mm
ED12	For use with 12" fans	400 x 402 x 390mm

External grille

Used for external brick wall applications. Comprising one external grille. Used in conjunction with wall ducts. Manufactured in ASA.

Product code	Application	Dimensions
EG6	For use with 6" fans	271 x 271 x 26mm
EG9	For use with 9" fans	341 x 347 x 30mm
EG12	For use with 12" fans	425 x 425 x 41mm

Wall fixing plate

Used for timber and thin walls, pitched roof and above ceiling applications comprising one fixing plate.
Used in conjunction with window kits, spacers and/or weather terminals. Manufactured in aluminium.

Product code	Application	Dimensions
WFP6	For use with 6" fans	400 x 400 x Ø 185mm
WFP9	For use with 9" fans	475 x 475 x Ø 260mm
WFP12	For use with 12" fans	550 x 550 x Ø 337mm

Ceiling/panel installation accessories

Product code	Application	Dimensions

Ceiling adaptor kits

Complete kits used for ducted ceiling applications. Kit comprises one ceiling kit duct, two mounting plates, two mounting screws, two M5 screws and two lock nuts. Manufactured in HIPS.

Product code	Application	Dimensions
CK6	For use with 6" fans	300 x 335 x 215mm. Ø 200mm spigot
CK9	For use with 9" fans	405 x 425 x 215mm. Ø 250mm spigot
CK12	For use with 12" fans	495 x 510 x 235mm. Ø 350mm spigot

Picture frame adaptors

For panel or ceiling applications and for retro fit installations where uneven wall installations need to be concealed. Comprising one picture frame adaptor. Manufactured in HIPS.

Product code	Application	Dimensions
PFA6	For use with 6" fans	330 x 335 x 20mm
PFA9	For use with 9" fans	405 x 425 x 20mm
PFA12	For use with 12" fans	495 x 510 x 20mm

Ancillaries

Ancillaries

For the perfect fit

About Ancillaries

All ventilation products need installation ancillaries whether they are through wall, through window, in ceiling or loft mounted and ducted throughout the entire property. The quality of installation and how ancillaries connect to the ventilation unit is also now crucial and part of Building Regulations' requirement to achieve Guaranteed Installed Performance (GIP).

Need help specifying a product?

If you can't work out which product you need, or how to provide ventilation in the most efficient way for your homes we can help you! Our dedicated team of Area Managers and Technical Advisors understand the impact of specifying products into new and existing homes.

Call us with your questions or email us at
ventilation@zehnder.co.uk

Head Office
01276 605800

Customer Services
01276 408404

Technical Services
01276 408402

How clean is your air?

Good indoor air quality is a basic necessity for a comfortable life indoors, especially in today's highly insulated homes and those being refurbished to improve energy efficiency. Whole house ventilation units provide the means to supply and extract air – but the unit is just part of the overall solution. A serious consideration for today, ducting not only impacts on ventilation performance but also on the quality of the air being introduced.

Why do we need to consider ducting?

With Building Regulations driving the development of highly efficient homes, e.g. Code Level 4 and above, systems such as MVHR could be the sole source of ventilation in a home. More than just hot air, heat recovery ventilation acts as a balanced ventilation system both supplying and extracting air within a property.

MVHR systems require maintenance at intervals during their lifecycle and it is part of the Building Regulation requirements that end users understand how to operate and maintain the systems that have been installed. Without the correct ducting system and components, periodic cleaning and maintenance is impossible. In addition, it is often difficult to achieve the correct airflow rates at the installation stage with a poorly designed and installed system. ComfoTube and Flat 51 ducting provide all the answers to allow simple, effective installation and ongoing maintenance.

The Zehnder Greenwood ancillaries range comprises a complete answer to allow a fuss-free and correct install. Please read on for further information.
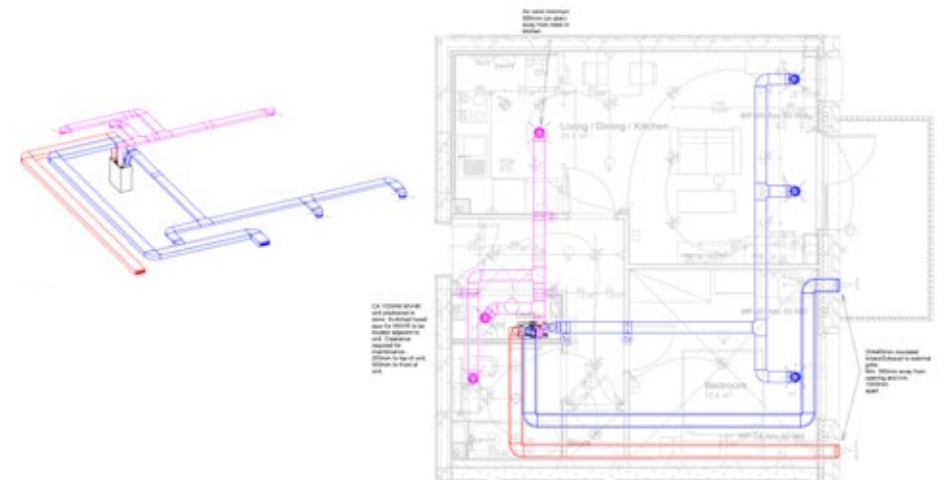
Whole house MVHR systems connect every room via the ducting network. In some instances there is a considerable path of ducting running through a property which should be maintained at regular intervals. Example layouts above show traditional ducting that branches off to rooms as required vs. ComfoFresh ducting which uses a radial approach which manages airflow through a central distribution manifold and then each room has an individual duct run.

Zehnder ComfoTube

How clean is your air?

Zehnder ComfoTube and Zehnder ComfoTube Flat 51 are premium, quality assured ducting ranges designed to make installation and Building Regulation compliance easier. They improve performance and, most importantly, have been designed with long-term effectiveness and maintenance in mind.

Zehnder ComfoTube and Zehnder ComfoTube Flat 51 offer a host of benefits to the developer, the installer and the homeowner.

Speed and flexibility

You need to be able to install a ducting system quickly, knowing that it will deliver the correct ventilation rate.

The installation process needs to be simple, repeatable and require the minimum of skills to ensure a good installation.

Zehnder ComfoTube is a semi-rigid ducting system which is supplied on rolls and has very few connecting parts.

It is flexible to work in and around obstacles such as joists within the building structure and minimise sharp bends.

It achieves this whilst maintaining performance. Zehnder ComfoTube is also designed with an airtight "locking system" so requires no glues or sealants on-site.

See page 172

Robust during installation

You need to install a system that, even in the sometimes harsh on-site environment, is robust enough to withstand all phases of the build process and perform correctly when the building is completed.

Zehnder ComfoTube is robust and able to handle the rigors of on-site conditions.

Developed and frequently used within concrete floors, it can safely be embedded within the structure or easily worked in, around or even through joists and studwork.

Zehnder ComfoTube is strong enough to withstand up to 8kN/m^2 of force.

These benefits combine to ensure that the risk of crushed, bent or distorted duct work is removed to maintain the effectiveness of the ventilation system.

Ease of installation

On-site is where design theory meets installation practice and it is here that things often go wrong. The reality is that the on-site environment is a tough place to be and, if a system is to be installed correctly, it will need to be easy and uncomplicated to fit together.

Zehnder ComfoTube provides the answer as its robust construction combines with easy to use features and fail safe connections.

➤ Zehnder ComfoTube can be trimmed with a knife

➤ It is strong enough to withstand being stood on

➤ No glues or sealants are required

➤ Simple pushfit joints and mechanical clips make for quick, airtight connections

➤ Long lengths minimise the number of components required - in fact, across a 4 bedroom property, connections can be reduced by up to 75%

Did you **know?**

Zehnder ComfoTube is one of the only ducting systems that can be cleaned. With this level of maintenance you can ensure a continued high performance in a highly insulated and efficient home, and the provision of good indoor air quality for occupants or tenants and protection of the building.

Guaranteed Installed Performance

With increased monitoring of all elements of the built environment, it is essential to know that what has been installed will be able to deliver the specified performance.

Zehnder ComfoTube has the facility to deliver individual, room by room airflow commissioning via a radial approach. This ensures that at the sign off stage there are no issues regarding meeting the specified rate. This radial approach also helps to reduce noise transfer within the home.

Branch/leg approach: traditional ducting
Over or under supply of airflow is a common flaw with this system type
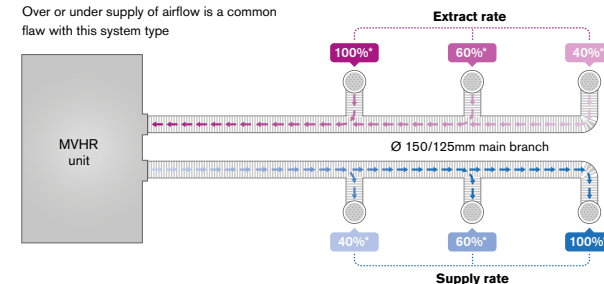
Radial approach: ComfoTube ducting
Correct airflow to specific rooms is possible to achieve
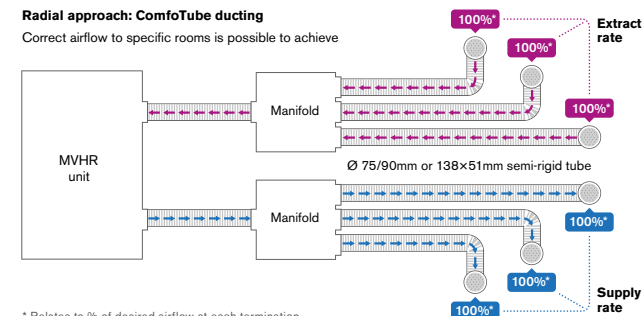
* Relates to % of desired airflow at each termination

Fit for life

Once designed, a heat recovery unit becomes an integral part of the home. Whilst the unit itself may be updated and replaced, the ducting network, which is embedded in the fabric of the building, must remain.

For the continued health of the building and its occupants, it is imperative that the system can be cleaned periodically.

Thanks to its minimal number of joints, robustly engineered components and radial installation, the Zehnder ComfoTube system allows for rigorous cleaning without the danger of misalignment or disconnection of parts.
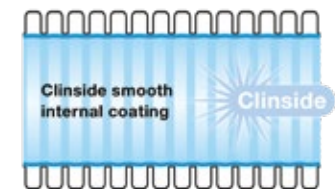
In addition the ducting has a patented, smooth 'Clinside' interior which prevents dirt and moisture getting trapped. This inhibits the growth of mould and bacteria.

Zehnder ComfoTube

Semi-rigid ducting system

Clinside

Features and benefits

➤ Crush resistant

➤ Flexible up to 90°

➤ No sealants required

➤ Easy to clean

➤ Easy to cut

Model options

Zehnder ComfoTube:
Ø 75mm
Available in 3 lengths
(2m, 20m & 50m rolls)

Ø 90mm
Available in 2 lengths
(20m & 50m rolls)

Ø 110mm
Available in 2 lengths
(20m & 50m rolls)

Installation

1 Cut the pipe to the required length

2 Place the O-ring in the second groove in from the end

3 Apply lubrication to the O-ring

4 Slide and fix the pipe onto the connecting piece

5 Push the fixing slide in to the end

Zehnder ComfoTube 75mm		Zehnder ComfoTube 90mm		Zehnder ComfoTube 110mm	
2m roll	990 328 081	20m roll	990 328 010	20m roll	990 328 019
20m roll	990 328 001	50m roll	990 328 009	50m roll	990 328 018
50m roll	990 328 007				

CTC110 Connector to fix Zehnder ComfoTube DN110 to GD413.CT		End caps		Zehnder ComfoTube connector	
CTA110 ComfoTube adaptor Ø110mm	TBA	Ø 75mm (10 pieces)	990 328 262	Click sleeve 75mm	990 328 107
		Ø 90mm (10 pieces)	990 328 263	Click sleeve 90mm	990 328 109
		Ø 110mm (2 pieces)	990 328 264		

5 port connector		Plastic manifold		Plastic manifold	
Airtight connection of ComfoTube 75mm	990 326 705	Ø 160mm connection, 10-port x Ø 75mm	TPDB16010	Ø 180mm connection, 15-port x Ø 75m	TPDB18015

Plastic manifold		Distribution box	
Ø 125mm connection, 5-port x Ø 75mm	TPDB1255	Distribution box 220, 1 x ø 125mm connection, 6 x ø 90mm ports with 4 x ø 110mm end caps	990 323 070
		Distribution box 350, 1 x ø 160mm connection, 9 x ø 90mm ports with 6 x ø 110mm end caps	990 323 071

Housing TVA-P 75		Housing TVA-P 75		Housing TVA-P75	
Ø 125mm valve to 2 x Ø 75mm tube L64mm	990 326 121	Ø 125mm valve to 2 x Ø 75mm tube L300mm	990 326 125	Ø 125mm valve to 1 x Ø 75mm tube L167mm	990 326 001

Housing TVA-P 90		Housing TVA-P 90		Housing TVA-P 75/90	
Ø 125mm valve to 1 x Ø 90mm tube L64mm	990 326 122	Ø 125mm valve to 1 x Ø 90mm tube L300mm	990 326 126	Mounting set for concrete application	990 326 127
		ø 125mm valve to 2 x ø 90mm ports L300 mm	990 320 725		

Housing CLD P 75 - frontal sleeve		Housing CLD-P-75 - lateral sleeve		Housing CLD P 90 - frontal sleeve	
Height = 85mm	990 320 810	Height = 85mm	990 320 811	Height = 115mm	990 320 845
Height = 115mm	990 320 812	Height = 115mm	990 320 813	Height = 140mm	990 320 851
Height = 140mm	990 320 849	Height = 140mm	990 320 850		

Housing CLD P 90 - lateral sleeve		Connecting junction		90° connecting junction	
Height = 115mm	990 320 846	Connects Flat 51 to ComfoTube 90/75mm	990 322 013	Vertical 90° bend for connecting Flat 51 to ComfoTube 90mm	990 322 046
Height = 140mm	990 320 852	Connects Flat 51 to 2 x Zehnder ComfoTube 75mm	990 322 150	90° bend for ComfoTube 75mm	990 322 152
				90° bend for ComfoTube 90mm	990 322 153
				Cross-piece for ComfoTube 75/90mm	990 322 155
		Includes 2 x O-rings and locking slides		*Includes 2 x O-rings and locking slides*	

Renoventil housing		Rectangular housing		Rectangular housing	
Length 400mm centric, connects to ComfoTube 90mm. Can only be used with 990326253	990 320 062	1 x Ø 75mm to Lamina or Bilamina 400	990 321 641	1 x Ø 75mm to Lamina or Bilamina 400	990 321 643
Renoventil rectangular decorative extract grille, 180 x 112mm, stainless steel	990 326 254	1 x Ø 75mm to Lamina or Bilamina 600	990 321 663	1 x Ø 90mm to Lamina or Bilamina 600	990 321 661
Renoventil round decorative supply grille, Ø 80mm, coanda effect, stainless steel				1 x ø 90mm, 2 x ø 75mm1 to Lamina/Bilamina/ComfoGrid 400	990 321 745
				1 x ø 110mm, 2 x ø 90mm to 1 x Lamina/Bilamina/ComfoGrid 600	990 321 746

Rectangular housing		Adjustable airflow regulator		O-ring seal	
2 x Ø 75mm to Lamina or Bilamina 400	990 321 642	For Ø 75mm, L75mm	990 320 026	For Ø 75mm 10 pieces	990 328 362
2 x Ø 75mm to Lamina or Bilamina 600	990 321 664	For Ø 90mm, L75mm	990 320 027	For Ø 90mm 10 pieces	990 328 363
		For Ø 90mm, L30mm	988 320 030	For Ø 110mm' (2 pieces)	990 328 364
		For Ø 90mm, L30mm	988 320 031		

ComfoFix link - 10 pieces

For Ø 75mm	990 327 200
For Ø 90mm	990 327 201

Locking slide – 10 pieces

For Ø 75mm	990 326 024
For Ø 90mm	990 326 025

Rectangular housing

2 x Ø 90mm to Lamina or Bilamina 600	990 321 662

Extract air valve

ComfoValve Luna E125, with filter	705 613 127
ComfoValve Luna E125	705 613 128
ComfoValve Luna E125, 24 PC	705 613 129

Supply air valve

ComfoValve Luna S125 supply air valve (1pc)	705 613 126
ComfoValve Luna S125 supply air valve (24pcs)	705 613 125
ComfoValve Luna S125 Air Blocker (1pc)	705 613 001

Coanda effect supply valve

Ø 90mm, plastic	990 326 254

Extract valve filter – 10 pieces

For Ø 100mm valve	990 320 031
For Ø 125mm valve	990 320 032

Filter for CLD housing - 10 Pieces

ISO Coarse >45% (G3)	990 320 573

Filter for CLF housing - 10 Pieces

ISO Coarse >45% (G3)	990 322 100

Ø 125mm supply valve housing

With 2 x Ø 75mm ports	TPSV1252
With 3 x Ø 75mm ports	TPSV1253

Air Distribution Cleaning Set

	990 000 106

Zehnder ComfoTube Flat 51

Semi-rigid ducting system

Clinside

Features and benefits

➤ Crush resistant

➤ Flexible up to 90°

➤ No sealants required

➤ Easy to clean

➤ Easy to cut

Model options

Zehnder ComfoTube Flat 51:
51mm x 138mm
Available in 3 lengths
(2m, 20m & 50m rolls)

Installation

1 Cut the pipe to the required length

2 Place the O-ring in the second groove in from the end

3 Apply lubrication to the O-ring

4 Slide and fix the pipe onto the connecting piece

5 Push the fixing slide in to the end

Zehnder ComfoTube Flat 51

2m roll	990 328 080
20m roll	990 328 002
50m roll	990 328 063

6 port manifold

6 x Flat 51 connectors, includes 6 x O-rings and locking slides	990 322 030

4 port manifold

4 x Flat 51 connectors, includes 4 x O-rings and locking slides	990 322 031

4 port manifold

4 x Flat 51 ports, 1x rigid twin duct connector	990 328 823

includes 4 x O-rings and locking slides

Manifold connector

Connects 6 port manifold to Ø 160mm duct	990 322 037

O-ring – 10 pieces

For sealing Flat 51	990 328 352
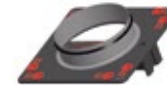
End cap – 10 pieces

For protecting Flat 51 during construction	990 328 252
twin duct, end caps, 2 pieces	990 322 024

Locking slide – 20 pieces

For connecting Flat 51	990 326 022

Adjustable airflow regulator

	990 322 015

Mounting bracket – 10 pieces

For supporting Flat 51	990 322 016

Connector

Includes 2 x O-rings and locking slides	990 322 014

Cross bracing floor insert

Use with CLF housing and long rectangular grille	990 322 095

Horizontal 45° bend

CK300 rigid twin duct, horizontal 45° bend   990 322 050

Horizontal 90° bend

Includes 2 x O-rings and locking slides   990 322 012

Vertical 90° bend

Includes 2 x O-rings and locking slides   990 322 011

Connecting junction

Connects Flat 51 to ComfoTube 90/75mm   990 322 013

Includes 2 x O-rings and locking slides

90° connecting junction

Vertical 90° bend for connecting Flat 51 to ComfoTube 90mm   990 322 046

ComfoTube Flat 51, Y-piece   990 322 151

ComfoTube Flat 51, cross-piece   990 322 154

ComfoTube Flat 51 to 2 x Zehnder ComfoTube Ø 75mm convertor 990 322 150

Includes 2 x O-rings and locking slides

90° rectangular grille housing

Wall, floor or ceiling installation, includes, O-ring and locking slide. For use with cross bracing floor insert for CLF grille housing 990 322 095 only.   990 322 000

ComfoTube Flat 51, cross bracing floor insert for CLF grille housing   990 322 095

90° circular grille housing

Wall or ceiling installation, includes, O-ring and locking slide   990 322 060

90° bend, connects 1 x Ø 125mm valve to 2 x Zehnder ComfoTube Flat 51, L290mm   990 322 063

Straight circular grille housing

Wall or ceiling installation, includes, O-ring and locking slide   990 322 061

Renoventil housing

Length 400mm eccentric, connects to Flat 51   990 322 062

Rigid twin duct – 1.5m

Connects unit manifolds to walls, floors and ceilings   990 322 020

Flexible connector

Bends up to 45° to connect to rigid twin duct   990 328 821

Rigid twin duct connector

Includes 4 seals   990 322 023

Rigid twin duct horizontal 90° bend

Includes 4 seals   990 322 021

Rigid twin duct vertical 90° bend

Includes 4 seals   990 322 022

Rigid twin duct adaptor

To convert rigid twin duct to Ø 160mm round pipe, includes 3 seals   990 322 025

Rigid twin duct adaptor

To convert rigid twin duct to Ø 125mm round pipe, includes 3 seals   990 322 029

Rigid twin duct seal – 10 pieces

For sealing twin duct   990 322 026

GIP
GUARANTEED INSTALLED PERFORMANCE

For information about **Guaranteed Installed Performance (GIP)** see page 26.

Zehnder ComfoPipe Plus

Airtight, rigid ducting system

Features and benefits

➤ For use on intake and exhaust air ports

➤ Polypropylene construction provides good thermal insulation and minimises heat losses and gains

➤ Available in 15mm and 43mm pipe wall thicknesses for airtight and Passive House constructions

➤ Friction fit, robust components with an airtight seal remove the need for additional sealants

➤ Closed cell, vapour tight material

Zehnder ComfoPipe Plus

Installation

1 Quick installation thanks to the plug-in connections

2 No additional sealing of joints required

3 Flexible use of components enables a reduction in their variety and number

4 Light and strong, retaining its form when installed

5 Simply cut to length on-site

Zehnder ComfoPipe Plus – length 1000mm

| 160 | Ø 246/160mm | 990 328 700 |
| 200 | Ø 286/200mm | 990 328 720 |

With integral connector

Zehnder ComfoPipe Plus – 45° bend

| 160 | Ø 246/160mm | 990 328 701 |
| 200 | Ø 286/200mm | 990 328 721 |

With integral connector

Zehnder ComfoPipe Plus connector

| 160 | Ø 286/246mm | 990 328 702 |
| 200 | Ø 326/286mm | 990 328 722 |

Zehnder ComfoPipe Plus ext. wall grille

| Ø 160 up to 350 m³/h | 990 430 584 |
| Ø 200mm up to 500 m³/h | 990 430 585 |

Combined external wall grille

| Right, 2 x Ø 160mm connections | 990 430 594 |
| Left, 2 x Ø 160mm connections | 990 430 595 |

Reducer – aluminium

Ø 180mm to Ø 150mm   990 328 662

Reducer – aluminium

Ø 180mm to Ø 150mm	990 328 662

Reducer – steel

Ø 180mm to Ø 160mm	990 328 664

Reducer – plastic

Ø 160mm to Ø 125mm	990 326 336
Ø 180mm to Ø 160mm	990 326 337
Ø 180mm to Ø 125mm	990 326 338

Zehnder ComfoPipe Plus adaptor 200

Connects ComfoPipe Plus to ComfoAir Q450/600	990 328 723

Male connector

Ø 125mm	990 326 330
Ø 160mm	990 326 331
Ø 180mm	990 326 332

Female connector

Ø 125mm	990 326 333
Ø 160mm	990 326 334
Ø 180mm	990 326 335
Ø 200mm	990 326 340

Zehnder ComfoPipe Plus Twin Duct

Low profile ducting system

Features and benefits

➤ Low profile design – only 20cm space required above the ComfoAir 180

➤ Excellent thermal insulation

➤ Employs a combination of axial and radial sealing to ensure a strong, airtight connection

➤ Converts easily to Flat 51 ducting for all of the supply and return duct runs

➤ Exhausts to a unique 2-in-1 external grille for additional space saving benefits

Dimensions

Height: 200mm

Width: 330mm

Length: 400mm

Zehnder ComfoPipe Plus twin duct

Length 400mm	990 328 800

Switching unit

For vertical/horizontal direction changes	990 328 803

Includes 2 end caps

Horizontal 90° connection unit

Right-hand	990 328 801
Left-hand	990 328 802

Vertical connection unit

	990 328 805

Joining set

Connects twin duct to Ø 125mm pipe	990 328 807

Length compensation element

Ensures spaces between ducting elements are filled	990 328 808

Fixing bracket

Wide	990 328 814
Narrow	990 328 815

Spacing rail

For vertical installation above a unit	990 328 816

Long attenuator

Left, length 712mm	990 328 819
Right, length 712mm	990 328 820

Combined external wall grille

Right, Ø 125 to 200 m³/h	990 430 591
Left, Ø 125 to 200 m³/h	990 430 592

Zehnder ComfoPipe

Ø 125mm, 1m pipe	990 328 690

Zehnder ComfoPipe adapter

2 x DN125	990 328 804

Square extract valve

Ø 90, plastic, white, fits to long attenuator	990 326 253

GD Ducting

Modular PVC ducting system
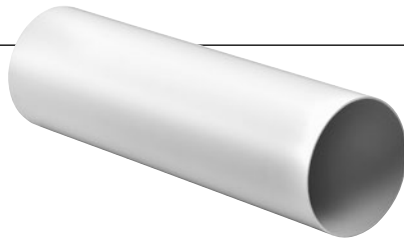
Features and benefits

➤ Non-corrosive light, rigid PVC for simple quick installation

➤ Versatile range of components for easy design and use with domestic ventilation systems

Model options

GD4: 110 x 54mm
  Ø 100mm round
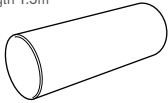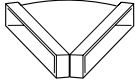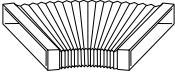
GD8: 204 x 60mm
  Ø 125mm round

GD9: 220 x 90mm
  Ø 150mm round
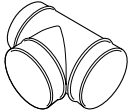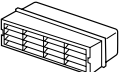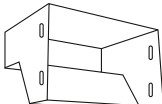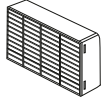
Material: White PVC

Installation

1 Cut components to length as required

2 Slide together and pin through mounting straps to ceiling slab

3 Use self-seal couplings or non-hardening sealant to join components

4 Remove anti-back draught shutters from fans before connection to GD ducting

Rectangular duct	
GD8 Length 2m	GD801.2
GD9 Length 2m	GD901

Round duct	
GD4 Length 1.5m	GD413
GD4.CT Length 350mm	GD413.CT
GD8 Length 1.5m	GD813
GD9 Length 1.5m	GD913

Rectangular connector	
GD8	GD802
GD9	GD902

Vertical 45° bend	
GD8	GD817
GD9	GD917

Rectangular mounting clip	
GD8	GD811
GD9	GD911

Rectangular 45° horizontal bend	
GD8	GD816
GD9	GD916

Rectangular flexible bend	
GD8 Length 1.5m	GD815

GD rectangular PVC ducting, GD9 (220mm x 90mm) flexible bend pipe connector with rigid end pieces x 0.5m length

Rigid end pieces

Rectangular 90° vertical bend	
GD8	GD806
GD9	GD906

Rectangular to round adaptor	
GD8	GD807
GD8	GD807.CT
GD9	GD907

Rectangular horizontal T-piece	
GD8	GD810
GD9	GD910

Round connector	
GD4	GF4C
GD8	GDA11
GD9	GDA13

Rectangular to round 90° bend	
GD8 OD 125mm	GD803
GD8 OD 100mm	GD804
GD9 OD 125mm	GD903
GD9 OD 100mm	GD904
GD9 OD 150mm	GD908

GD4 *GD8*

Rectangular 90° horizontal bend	
GD8	GD805
GD9	GD905

Round 90° bend	
GD4	GD424
GD8	GD824
GD9	GD924

Round 45° bend	
GD4	GD426
GD8	GD826

Round T-piece	
GD4	GD430
GD8	GD830
GD9	GD930

Round mounting clip	
GD4	GD431
GD8	GD831
GD9	GD931

Round duct with adaptor	
GD4 Ø 100mm x 350mm	SP13

Round reducer	
Ø 125mm to Ø 100mm	GDA10
Ø 150mm to Ø 125mm	GDA12

GDA10 &GDA12

Adhesive sealing tape	
W 50mm, L 4.6m	GDA1

Aluminium foil tape	
W 75mm, L 45m	GDA15

Horizontal airbrick	
GD8 Brown	GDA8B
GD8 Terracotta	GDA8T
GD8 Sand	GDA8S
GD8 For use in GD807.CT Adaptor, Sand	GDA8S.CT
GD8 For use in GD807.CT Adaptor, Terracotta	GDA8T.CT

Double Airbrick Adapter	
GD9	GDA9

Double Airbrick	
GD9 Brown	GDA9BR
GD9 Terracotta	GDA9TE
GD9 White	GD9AW

Condensation trap	
Ø 100mm	GCT100
Ø 125mm	GCT125
Ø 150mm	GCT150

Steel Ducting

Spiral wound galvanised steel system

Features and benefits

➤ Available with a range of diameters from 100–200mm

➤ Wide selection of components for whole house ducting networks

➤ Designed to simply connect together on-site

➤ Robust ducting solution ideal for whole house continuous systems
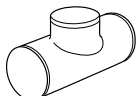
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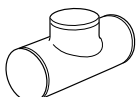
Ø 100mm
Ø 125mm
Ø 150mm
Ø 160mm
Ø 180mm
Ø 200mm

Installation

1 Cut components to length as required

2 Join together with appropriate gasket connector

3 Support with perforated steel banding at 1 metre intervals

4 Gasket seals remove the need for adhesive tapes or sealants

Spiral duct – 3m length	
Ø 100mm	ST100
Ø 125mm	ST125
Ø 150mm	ST150
Ø 160mm	ST160
Ø 180mm	ST180
Ø 200mm	ST200

90° bend – gasket seal	
Ø 100mm	B90100G
Ø 125mm	B90125G
Ø 150mm	B90150G
Ø 160mm	B90160G
Ø 180mm	B90180G
Ø 200mm	B90200G
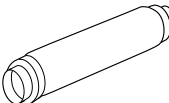
45° bend – gasket seal	
Ø 100mm	B45100G
Ø 125mm	B45125G
Ø 150mm	B45150G
Ø 160mm	B45160G
Ø 180mm	B45180G
Ø 200mm	B45200G

Male duct connector – gasket seal	
Ø 100mm	MC100G
Ø 125mm	MC125G
Ø 150mm	MC150G
Ø 160mm	MC160G
Ø 180mm	MC180G
Ø 200mm	MC200G

Female bend connector	
Ø 100mm	FC100
Ø 125mm	FC125
Ø 150mm	FC150
Ø 160mm	990 326 334
Ø 180mm	990 326 335
Ø 200mm	FC200

90° T-piece – gasket seal	
Ø 100mm	PT100100G
Ø 125mm	PT125125G
Ø 150mm	PT150150G
Ø 160mm	PT160125G
Ø 160mm	PT160150G
Ø 160mm	PT160160G
Ø 180mm	PT180125G
Ø 180mm	PT180150G
Ø 180mm	PT180160G
Ø 180mm	PT180180G

90° T-piece – gasket seal (continued)	
Ø 200mm	PT200125G
Ø 200mm	PT200150G
Ø 200mm	PT200200G

Supply valve	
Ø 100mm	KE100
Ø 125mm	KE125
Ø 150mm	KE150

Fire rated extract valve	
Ø 100mm	KSOP100
Ø 125mm	KSOP125
Ø 150mm	KSOP150

Extract valve	
Ø 100mm	KSO100
Ø 125mm	KSO125
Ø 150mm	KSO150

Male to male reducer – gasket seal	
Ø 125mm to Ø 100mm	CR125100G
Ø 125mm to Ø 80mm	CR12580G
Ø 150mm to Ø 100mm	CR150100G
Ø 150mm to Ø 125mm	CR150125G
Ø 160mm to Ø 150mm	CR160150
Ø 180mm to Ø 150mm	CR180150
Ø 200mm to Ø 150mm	CR200150
Ø 200mm to Ø 180mm	CR200180G

Reducer - gasket seal	
160mm to 125mm	990 326 336
180mm to 160mm	990 326 337
180mm to 125mm	990 326 338

Duct mounted attenuator	
Ø 100mm, L 600mm	CA100600
Ø 125mm, L 600mm	CA125600
Ø 150mm, L 600mm	CA150600
Ø 160mm, L 600mm	CA160600
Ø 160mm, L 900mm	CA160900
Ø 200mm, L 600mm	CA200600

Y piece – diameter shown as entry/ straight/branch	
Ø 125/125/125	990 326 300
Ø 160/160/160	990 326 301
Ø 160/160/125	990 326 302
Ø 160/125/160	990 326 303
Ø 160/125/125	990 326 304
Ø 180/160/160	990 326 305
Ø 180/160/125	990 326 306
Ø 180/125/160	990 326 307
Ø 180/125/125	990 326 308
Ø 180/180/180	990 326 310

Flexiduct

Flexible PVC and aluminium ducting

Features and benefits

➤ Lightweight – available in PVC and aluminium

➤ Range of diameters and lengths to suit a variety of installations

➤ Robust construction

Application

1 Ideal for refurbishment or short lengths in loft spaces

2 Centrifugal and inline fans where ducting is required

3 Axial fans with a maximum of 1.5m of ducting*

*Unless otherwise specified

Insulated aluminium flexible round duct	
Ø 100mm, length 5m	GFA4.5I
Ø 100mm, length 10m	GFA4.10I
Ø 125mm, length 5m	GFA5.5I
Ø 125mm, length 10m	GFA5.10I
Ø 150mm, length 5m	GFA6.5I
Ø 150mm, length 10m	GFA6.10I
Ø 160mm, length 6m	990 319 271
Ø 180mm, length 5m	GFA7.5I
Ø 180mm, length 10m	GFA7.10I

Aluminium flexible round duct	
Ø 80mm, length 10m	GFA80.10
Ø 100mm, length 3m	GFA4.3
Ø 100mm, length 10m	GFA4.10
Ø 125mm, length 3m	GFA5.3
Ø 125mm, length 10m	GFA5.10
Ø 150mm, length 3m	GFA6.3
Ø 150mm, length 10m	GFA6.10
Ø 160mm, length 10m	990 319 016
Ø 180mm, length 10m	990 319 270
Ø 200mm, length 10m	GFA8.10

PVC flexible round duct	
Ø 100mm, length 3m	GFP4.3

PVC flexible rectangular duct	
204 x 60mm, length 3m	GF8REC

Fixing clips	
Worm drive clip for GFA6	FC180
Worm drive clip, 10 pieces	990 319 321
Fixing worm drive clip, ø 250mm	FC250
Fixing worm drive clip, ø 350mm	FC350

Fastfix

PVC fast fix ducting system

Physical specification

All measurements in millimetres unless otherwise indicated

Ducting Material: Rigid PVC
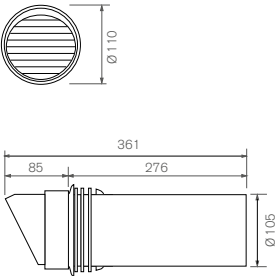
Features and benefits

➤ Comprises 100mm PVC duct with external wall duct seal and external grille

➤ Designed to save time and improve safety by allowing installations to be completed internally

➤ Seal between external grille and duct provides watertight seal

Installation

Push through 117mm diameter core drilled hole with external grille situated to outside of building.

Fastfix models

Brown external grille	FF100B
White external grille	FF100W

Easyfix

PVC easy fix duct

Physical specification

All measurements in millimetres unless otherwise indicated

Materials: Rigid black PVC to BS4514
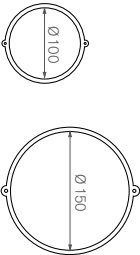
Features and benefits

➤ Efficient one-visit system designed to save installation time and storage cost

➤ Integral screw holes ensuring rapid fixing and secures fan direct to duct

➤ No need to drill and plug fixing holes

➤ Simply cut on-site to length required for installation

Installation

Cut duct to the length required. Install and make good. Fix fan and grille direct to duct.

ED150 hole size required: Ø 170mm

Easyfix models

Ø 150mm, length 375mm	ED150

Fixed blade louvred grille – 150mm

W 199 x H 215 x D 20mm

White ABS plastic	EG2W
Brown ABS plastic	EG2B

Attenuators

Easily installed, attenuators are used to absorb sound from the system

Acoustic attenuator

Physical specification

Casing material:
Galvanised mild steel

Inner lining:
Perforated galvanised mild steel

Sound absorbing material:
Mineral wool faced with polyester cloth preventing migration of fibres into the air stream

Features and benefits

➤ High quality construction throughout

➤ Complies with the requirements of DW144 Class B

➤ Excellent sound absorbing properties

Acoustic attenuator models and key data

Product code	Ø (mm)	OD (mm)	Length (mm)	Weight (Kg)	63	125	250	500	1000	2000	4000	8000
								Centre band frequency Hz				
CA100600	100	210	600	3	4	3	11	24	36	49	34	17
CA125600	125	235	600	4	3	3	9	23	30	40	22	14
CA150600	150	260	600	6	2	3	8	20	28	32	16	12
CA160600	160	270	600	6	2	3	7	19	27	29	14	11
CA160900	160	270	900	8	2	4	10	28	42	43	20	15
CA200600	200	310	600	7	2	3	7	16	21	23	9	8

Flexible and Rigid Attenuators

Product code	Ø (mm)	OD (mm)	Length (mm)	Weight (Kg)	125	250	500	1000	2000	4000	8000
							Centre band frequency Hz				
990 318 031	125	224	1120	7	13	24	41	45	29	28	
990 318 032	150	250	1120	6	12	22	40	39	27	26	
990 318 033	160	250	1120	5	10	21	39	30	20	18	
990 318 034	180	280	1120	4	10	19	36	28	18	17	

Flexible attenuator

Ø 125mm, length 1m	990 318 031
Ø 150mm, length 1m	990 318 032
Ø 160mm, length 1m	990 318 033
Ø 180mm, length 1m	990 318 034

Length excludes connections

Rigid attenuator

Ø 125mm	990 818 245
Ø 160mm	990 318 216

Height 280 x width 200 x length 900mm

Length excludes connections

Rigid attenuator

Ø 125mm	990 318 243
Ø 180mm eccentric	988 318 241
Ø 180mm centric	988 318 242

Height 300 x width 350 x length 900mm

Length excludes connections

Acoustic flexible duct

Physical specification

Inner core:
Multi-ply aluminium
and polyester laminate

Sound absorbing layer:
25mm high density fibreglass blanket

Outer layer:
Reinforced aluminium laminate fabric

Acoustic flexible duct models and key data		
Product code	Ø (mm)	Length (m)
TS400100	100	10
TS400125	125	10
TS400150	150	10
TS400200	200	10

Features and benefits

➤ Independently tested and certified acoustic performance

➤ Suitable for medium and low pressure applications

Installation

1 Fully extend ducting

2 Cut to length using sharp knife and pliers

3 Pull back fibreglass insulation

4 Tape inner core to spigot

5 Clamp the outer jacket and inner core to the spigot

Fire Sleeves and Collars

Fire rated duct sleeves

Horizontal application

Designed to protect ventilation duct that passes through fire rated walls made from block, brick, concrete or hollow plasterboard.

A reinforced covering contains intumescent material that expands inwards, crushing PVC duct in the heat of a fire.

They can be easily cut with a sharp knife and should be installed level with the surrounding wall.

Performance:
BS476 part 22 (1987):
• 130mins in solid walls
• 67mins in hollow walls
• 4hours in concrete or block walls

Vertical application

A surface mounted circular metal unit for use around PVC or steel duct that pass through fire rated ceilings or walls.

The unit consists of a hinged, two part metal collar containing intumescent material with a quick release pin for easy fitting around pipes.

Fixing lugs are supplied for simple attachment to block, brick concrete or plasterboard.

Performance:
BS476 parts 20 & 22 (1987):
• 4hours integrity

Horizontal fire sleeve installation					
Product code	Fits with	Ø (mm)	Height	Width	Length
FIROGD4.150H	GD4 rectangular	–	54mm	110mm	150mm
FIROGD4.200H	GD4 rectangular	–	54mm	110mm	200mm
FIROGD8.150H	GD8 rectangular	–	60mm	204mm	150mm
FIROGD8.200H	GD8 rectangular	–	60mm	204mm	200mm
FIROGD9.150H	GD9 rectangular	–	90mm	220mm	150mm
FIRO100.150H	Ø 100mm pipe	100mm	–	–	150mm
FIRO100.200H	Ø 100mm pipe	100mm	–	–	200mm
FIRO125.150H	Ø 125mm pipe	125mm	–	–	150mm
FIRO125.200H	Ø 125mm pipe	125mm	–	–	200mm
FIRO150.150H	Ø 150mm pipe	150mm	–	–	150mm
FIRO150.200H	Ø 150mm pipe	150mm	–	–	200mm
FIRO75.150H	ComfoTube 75	75mm	–	–	150mm
FIRO75.200H	ComfoTube 75	75mm	–	–	200mm
FIRO90.150H	ComfoTube 90	90mm	–	–	150mm
FIRO90.200H	ComfoTube 90	90mm	–	–	200mm
FIROFL51.150H	Flat 51	–	55mm	140mm	150mm
FIROFL51.200H	Flat 51	–	55mm	140mm	200mm

Vertical fire collar installation					
Product code	Fits with	Ø (mm)	Height	Width	Depth
FIRO100V	Ø 100mm pipe	100mm	–	–	40mm
FIRO125V	Ø 125mm pipe	125mm	–	–	40mm
FIRO150V	Ø 150mm pipe	150mm	–	–	40mm
FIRO100.SPV	Ø 100mm pipe	100mm	–	–	50mm
FIROGD4V	GD4 rectangular	–	54mm	110mm	50mm
FIROGD8V	GD8 rectangular	–	60mm	204mm	50mm

European standards

All options are tested to
**European standards
EN1363/1 (2020)** and
EN1366/3 (2009)

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Linkedin.com/company/greenwood-air-management**

Heat Recovery Ancillaries

Integrated functionality from components that are designed to fit together
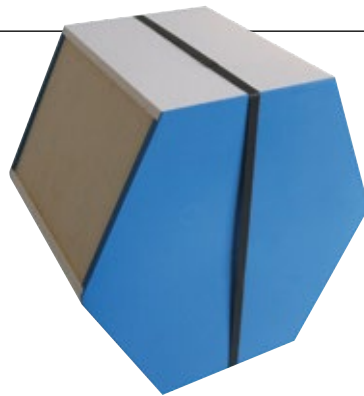
Features and benefits

➤ Coordinated system components

➤ Enabling simple, fast and economical installation

➤ Everything you need from one supplier

Zehnder ComfoAir 350 assembly base		Zehnder ComfoAir Q350/450/600 support frame		Zehnder ComfoFond-L Q support frame	
Height 300mm	642 300 135	Height 252mm	471 502 008	Support frame for ComfoFond-L Q	471 310 087

Dry siphon – 5/4"		Condensate drain	
Use with ComfoFond-L Eco CA350 /550	990 201 330	ComfoAir 160 for ceiling mounted applications	990 202 050
TBC	400 502 024	Condensation water drain kit for Zehnder ComfoCool Q	736 000 085

Heat Exchangers		Enthalpy Exchanger	
ComfoAir Q350/450/600	400 502 008	ComfoAir Q350/450/600	400 502 010
ComfoAir CA155	CA155EX	ComfoAir160	400 400 037
ComfoAir CA185	CA185EX	ComfoAir180	400 400 039
ComfoAir 160	400 400 036	ComfoAir 200	400 400 017
ComfoAir 180	527 004 990	ComfoAir 350	400 400 013
ComfoAir 200	400 400 012		
ComfoAir 350	400 400 010		
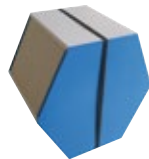
Zehnder Greenwood
Web Presence
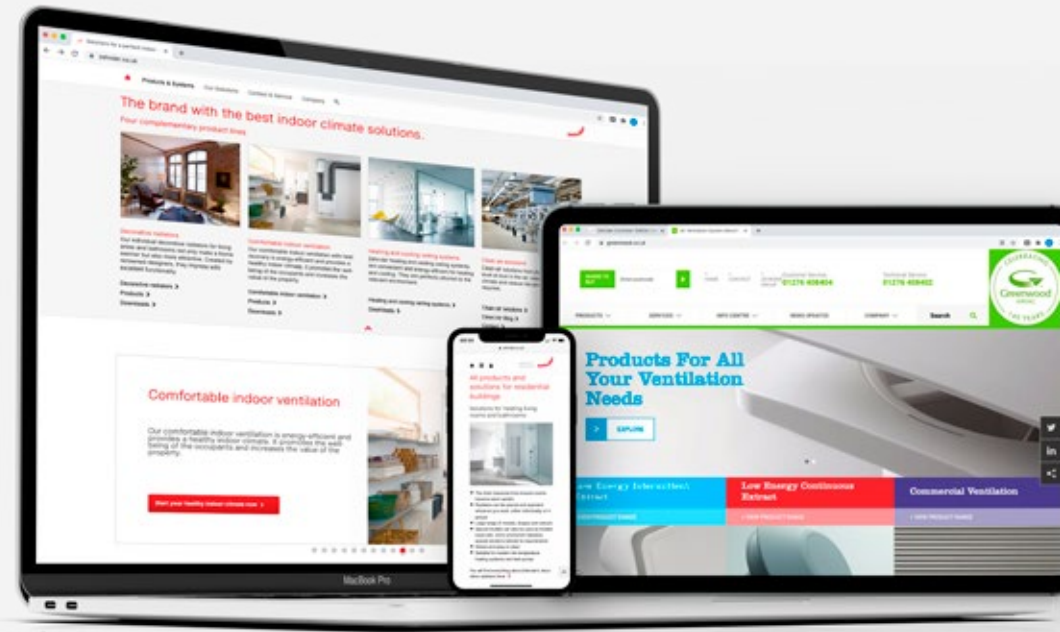
Visit our websites to access product documentation, regulatory guidance, BIM / DWG files, product selection tools and much more.

www.zehnder.co.uk
www.greenwood.co.uk

External Terminals

A wide range of external terminals to suit all building styles and ventilation requirements

Roof Terminals

Ideal to channel and direct outdoor and exhaust air in systems that are designed for comfortable indoor ventilation

Zehnder ComfoPipe ext. wall grille	
Ø 125 up to 200 m³/h	990 430 250
Ø 150 up to 300 m³/h	990 430 580
Ø 180 up to 500 m³/h	990 430 582

Zehnder ComfoPipe Plus ext. wall grille	
Ø 160 up to 350 m³/h	990 430 584
Ø 200 up to 500 m³/h	990 430 585

Combined external wall grille	
Right, Ø 125 to 200 m³/h	990 430 591
Left, Ø 125 to 200 m³/h	990 430 592
Right, 2 x Ø 160mm connections	990 430 594
Left, 2 x Ø 160mm connections	990 430 595

Universal roof terminal	
For Ø 100, 110, 125, 150 and 160mm	RTUB41

Stacked roof terminal	
For Ø 180mm	RT180UB48

Includes lead roof tile

Flat roof terminal	
Ø 160mm with flat roof collar	990 430 604

Includes lead roof tile

Pitched roof terminal – red	
Ø 125mm	990 430 610
Ø 160mm	990 430 612
Ø 200mm	990 430 614

Includes lead roof tile

Pitched roof terminal – black	
Ø 125mm	990 430 611
Ø 160mm	990 430 613
Ø 200m	990 430 615

Includes lead roof tile

Louvred external vent – Ø 100mm	
W 155 x H 155mm	
White ABS plastic	GG42W
Brown ABS plastic	GG42B

Louvred external vent – Ø 100mm	
Circular	
White ABS plastic	GG48W

Louvred external vent – Ø 125mm	
W 155 x H 155mm	
White ABS plastic	GG82W
Brown ABS plastic	GG82B

Louvred external vent – Ø 150mm	
W 184 x H 184mm	
White ABS plastic	GG84W
Brown ABS plastic	GG84B

Double airbrick	
W 214 x H 139 x D 35mm	
Brown ABS plastic	DABB
Sand ABS plastic	DABS

.Recessed double airbrick	
W 214 x H 139 x D 85mm	
Sand ABS plastic	RABS
Terracotta ABS plastic	RABT

Depth includes
50mm recess

Single airbrick	
W 214 x H 69 x D 35mm	
Sand ABS plastic	SABS
Terracotta ABS plastic	SABT

Low rise baffle for sheltered sites	
W 214 x H 220 x D 74mm	
Brown ABS plastic	LRBKB

Low rise baffle for sheltered sites	
W 214 x H 139 x D 42mm	
Brown ABS plastic	LRBB

Exposed site baffle	
W 214 x H 139 x D 92mm	
Brown ABS plastic	ESBB
Sand ABS plastic	ESBS
White ABS plastic	ESBW
Terracotta ABS plastic	ESBT

Depth includes
50mm recess

YouTube channel

Visit our dedicated channels to see our series of installation, maintenance and educational videos across our suite of solutions, to ensure you get the best out of our systems.

Visit the Zehnder United Kingdom Playlist
youtube.com/c/zehndersystems/featured
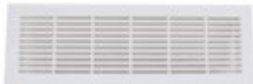**youtube.com/user/GreenwoodAirvac**

Decorative Grilles

A range of stylish and discreet solutions

Features and benefits

➤ Designer grilles discreetly conceal the outlets for supply and extract air

➤ Suits any style

➤ Various wall, ceiling and floor outlets to fit the chosen air distribution system

➤ Our unrivalled designs have won the internationally recognised IF Design Award

➤ A selection of options are showcased here, for every available model see our designer grilles brochure

Genua rectangular grille for CLD/P	
260mm x 160mm	
Stainless steel	990 320 660
White	990 320 661

Pisa rectangular grille for CLD/P	
260mm x 160mm	
Stainless steel	990 320 620
White	990 320 621

Pisa rectangular grille for CLD/P	
300mm x 200mm with 20mm edge covering	
Stainless steel	990 320 622

Roma rectangular grille for CLD/P	
260mm x 160mm	
Stainless steel	990 320 610
White	990 320 611

Roma rectangular grille for CLD/P	
300mm x 200mm with 20mm edge covering	
Stainless steel	990 320 612

Torino rectangular grille for CLD/P	
260mm x 160mm	
Stainless steel	990 320 630
White	990 320 631

Torino rectangular grille for CLD/P	
300mm x 200mm with 20mm edge covering	
Stainless steel	990 320 632

Venezia rectangular grille for CLD/P	
260mm x 160mm	
Stainless steel	990 320 640
White	990 320 641

Venezia rectangular grille for CLD/P	
300mm x 200mm with 20mm edge covering	
Stainless steel	990 320 642

Pisa rectangular grille for CLF	
350mm x 130mm	
Stainless steel	990 322 083
White	990 322 082

Roma rectangular grille for CLF	
350mm x 130mm	
Stainless steel	990 322 081
White	990 322 080

In-floor extension pin - 20 pieces	
25mm	990 320 687
40mm	990 320 688

Torino rectangular grille for CLF	
350mm x 130mm	
Stainless steel	990 322 085
White	990 322 084

Venezia rectangular grille for CLF	
350mm x 130mm	
Stainless steel	990 322 087
White	990 322 086

Torino square grille for TVA/P or CLRF	
160mm x 160mm, connection Ø 125mm	
Stainless steel	990 322 088
White	990 320 792

Venezia square grille for TVA/P or CLRF	
160mm x 160mm, connection Ø 125mm	
Stainless steel	990 322 089
White	990 322 090

Sacre Coeur round grille for TVA/P or CLRF	
Ø 160mm, connection Ø 125mm	
Stainless steel	990 322 118
White	990 322 119

Sans Soucis round grille for TVA/P or CLRF	
Ø 160mm, connection Ø 125mm	
Stainless steel	990 322 116
White	990 322 117

Torino round grille for TVA/P or CLRF	
Ø 160mm, connection Ø 125mm	
Stainless steel	990 320 790
White	990 320 791

Venezia round grille for TVA/P or CLRF	
Ø 160mm, connection Ø 125mm	
Stainless steel	990 320 780
White	990 320 781

Plastic rectangular grille for CLF	
335mm x 110mm	
White plastic	990 322 001

A selection of alternative decorative options can be found in our separate decorative grilles brochure

ComfoGrid

A stylish range of slot diffusers

Features and benefits

➤ Meets high design standards

➤ Provides extraordinary comfort with a low noise level and reduced pressure loss

➤ Low installation height of up to 6 mm

➤ Safe installation and additional fall-proof fixing

➤ Up to 25l/s (90 m³/h) possible

➤ Can be used for supply and extract air, available in two lengths (436 mm and 636 mm), universal connection options for round tubes with CSB-P housing

➤ Optional filters prevent dust from entering the air distribution system during extract air operation

Lamina grille	
Length 400mm	990 321 740
Length 400mm (white)	988 321 741
Length 600mm	990 321 760

Bilamina grille	
Length 400mm	990 321 640
Length 600mm	990 321 660

ComfoGrid replacement pin - 10 Pieces	
65mm	990 320 699

Slot diffuser, ComfoGrid Linea 400 for CSB-P 400	
Black	990 321 790
White	988 321 791
Stainless steel	990 321 792

Slot diffuser, ComfoGrid Linea 600 for CSB-P 600	
Black	990 321 793
White	988 321 794
Stainless steel	990 321 795

Filter sets

For optimised comfort and performance

A range of multi-grade filters to fit with:

➤ Heat recovery units
➤ RF90
➤ SF90
➤ Duct mounting
➤ Extract valves
➤ Grille housings

ComfoAir 155 CM/WM/WMe filter set

ISO Coarse >45% (G3), 2 Pieces	CA155FIL
ISO Coarse >60% (G4), 2 Pieces	CA155FIL.UPG

ComfoAir 185 WM filter set

ISO Coarse >45% (G3), 2 Pieces	CA185FIL

ComfoAir 160 filter set

ISO Coarse >65% (G4), 2 Pieces	400 100 023
ISO ePM1 >65% (F7), 2 Pieces	400 100 024
ISO Coarse >65% (G4), 10 Pieces	400 100 025
ISO ePM1 >65% (F7), 10 Pieces	400 100 026

ComfoAir 180 filter set

ISO Coarse >65% (G4), 2 Pieces	400 100 090
ISO Coarse >65%/ISO ePM1 >55% (G4/F7), 2 Pieces	400 100 091
ISO Coarse >65% (G4), 10 Pieces	400 100 088

ComfoAir 200 filter set

ISO Coarse >65% (G4), 2 Pieces	400 100 014
ISO Coarse >65%/ISO ePM1 >55% (G4/F7), 2 Pieces	400 100 013
ISO ePM1 >55% (F7), 2 Pieces	400 100 017
ISO Coarse >65% (G4), 10 Pieces	400 100 015
ISO ePM1 >55% (F7), 10 Pieces	400 100 018

ComfoAir 350 & 550 filter set

ISO Coarse >60% (G4), 2 Pieces	400 100 085
ISO Coarse >60%/ISO ePM1 >50% (G4/F7), 2 Pieces	400 100 084
ISO ePM1 >50% (F7), 2 Pieces	400 100 086
ISO Coarse >60% (G4), 10 Pieces	400 100 082
ISO ePM1 >50% (F7), 10 Pieces	400 100 083

ComfoAir Q350/450/600 filter sets

ISO Coarse >65% (G4), 2 Pieces	400 502 012
ISO Coarse >65% (G4), 10 Pieces	400 502 014
ISO Coarse >65% (G4), 50 Pieces	400 502 021
ISO ePM1 >65% (F7), 10 Pieces	400 502 015
ISO ePM1 >65% (F7), 50 Pieces	400 502 022
ISO Coarse >65% / ISO ePM1 >65% (G4 / F7), 2 Pieces	400 502 013

ComfoFond-L Q single filter

ISO Coarse >60% (G4)	400 100 066

RF90 single filter

Washable	RF90FIL

SF90 single filter

Washable	SF90FIL

Filter set for CLF housing

10 pieces	990 322 100

Filter for CLD75 housing

10 pieces	990 320 573

Filter for rectangular grille housing

CSB-P 400, ISO Coarse >55% (G3), 10 Pieces	990 321 768
CSB-P 600, ISO Coarse >55% (G3), 10 Pieces	990 321 769

Extract valve filter – 10 pieces

For Ø 100mm valve	990 320 031
For Ø 125mm valve	990 320 032

Valves

A large range of supply and extract valves for multiple applications

Sealants, tapes & clips

Fixing and sealing ancillaries for multiple applications

Steel extract valve	
Ø 100mm STB-1-100	705 510 021
Ø 125mm STB-1-125	705 512 521
Ø 125mm STB-2-125	705 522 521

Steel supply valve	
Ø 100mm KE 100	990 326 251
Ø 125mm KE 125	990 326 252

Plastic extract valve	
Ø 100/125mm STC100/125	705 051 021

Coanda effect supply valve	
Ø 90mm, plastic	990 326 254

Extract air valve	
ComfoValve Luna E125, extract valve with filter, 125mm, white	705 613 127
ComfoValve Luna E125, extract valve, 125mm, white	705 613 128
ComfoValve Luna E125, extract valve, 125mm, white, pack of 24	705 613 129

Exhaust ceiling valve	
125mm Round White Metal Fire Rated Exhaust Ceiling Valve	GG125FREV

Supply ceiling valve	
125mm Round White Metal Fire Rated Supply Ceiling Valve	GG125FRSV

Square extract valve	
Ø 90, plastic, white, fits to long attenuator	990 326 253

Extract valve	
Ø 100mm	KSO100
Ø 125mm	KSO125
Ø 150mm	KSO150

Supply air valve	
ComfoValve Luna S125, supply valve, 125mm, white, pack of 1	705 613 126
ComfoValve Luna S125, supply valve, 125mm, white, pack of 24	705 613 125
ComfoValve Luna S125 Air Blocker, pack of 1	705 613 001
ComfoValve Luna E125, extract valve, 125mm, white	705 613 128
ComfoValve Luna E125, extract valve, 125mm, white, pack of 24	705 613 129

Supply valve	
Ø 100mm	KE100
Ø 125mm	KE125
Ø 150mm	KE150

Fire rated extract valve	
Ø 100mm	KSOP100
Ø 125mm	KSOP125
Ø 150mm	KSOP150

Extract valve filter – 10 pieces	
For Ø 100mm valve	990 320 031
For Ø 125mm valve	990 320 032

Extract/supply ceiling valves	
Ø 100mm	GG47W
Ø 125mm	GG68
Ø 150mm	GG67W

Fixing clip	
For Ø 180mm pipe	FC180
Fixing worm drive clip, Ø 250mm 39502557	FC250
Fixing worm drive clip, Ø 350mm 39502366	FC350

Fixing clip – 10 pieces	
Worm drive clip for Ø 60-215mm	990 319 321

Adhesive sealing tape	
W 50mm x L 4.6m	GDA1

Aluminium foil tape	
W 75mm x L 45m	GDA15

Silicone sealant	
295ml, translucent	SST295

Galvanised fixing band	
W 12mm x L 10m	GFB10M
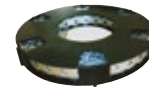
Window kits

Safe, secure and more

Materials

ASA and polycarbonate

Secured by Design

Police Preferred Specification

Omnique window kit is part of the Secured by Design (OF100SBD) bundle featured on pages 35, 37, 69 and 71.

Samika window kit

The best choice for windows

Secure extractor fan installations are crucial in window applications as they may be targeted as a means to gain access to a property.

Following consultation with Local Authorities, Housing Associations and those responsible for secure designs in housing, we offer a unique window kit with a dual-layered secure design and manufactured from a mix of durable materials.

Features and benefits

➤ The fans screw directly onto the internal fixing plate, enhancing the overall security of the whole product

➤ Rubber 'O' ring seals ensure that the product sits tight to the window, preventing scratching or damage to the glass

➤ Extremely versatile, these secure window kits can be installed through thicker glazing with longer countersunk screws (up to 28mm double glazing)

➤ The external cowls offer long-term quality assurance – they are manufactured from UV stabilised ASA material

Omnique specific benefits

➤ Unique grille design minimises backdraught helping to reduce heat loss in homes

➤ Solid front fascia design provides privacy for occupant once installed

Samika specific benefits

➤ Angled edge design helps deflect any external impact forces

➤ Louvered shutters prevent any backdraught, and their soft closing designs mean no 'clackety-clack' nuisance noise

Extra secure design

The dual-layered secure design is driven from the use of two polycarbonate fixing plates (the same material used in hard hats) one on the outside attached to the external cowl and one on the inside attached to your chosen fan. A 'sandwich' effect is created around the glass, helping add extra strength to the entire installation as the product is secured from inside to outside through the glass. In the event that the cowl is forced off, the polycarbonate external fixing plate will remain fixed to the window offering no further opportunity for access by potential intruders.

Window kit models and key data							
Product code	Fits with	Ø Glazing hole (mm)	Glazing thickness (mm)	Width (mm)	Height (mm)	Depth (mm)	Weight (Kg)
EWLE100	Samika LE100	118	up to 28	167	167	86	0.5
EWLE150	Samika LE150	167	up to 28	207	207	86	0.8
EW100	Elite EL100	118	up to 28	150	150	60	0.2
EW150	Elite EL150	167	up to 28	200	200	75	0.3
EWCV3	Unity CV3						
EWOF100	Ominque						
EWS100	SR100						

Additional Ancillaries

Complete your system requirements with our comprehensive portfolio

Unity picture frame adaptor

Material: White satin finish, ABS plastic

Description:
Designed to provide a perfect aesthetic finish when the Unity fan is used as a replacement in existing 150mm wall installations.
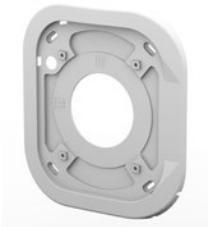
Unity picture frame adaptor key data			
Product code	Width	Height	Depth
PFACV2	246mm	246mm	22mm

Waterless condensate trap

Material: ABS Plastic

Description:
An innovative, hygienic, self-sealing waste valve for use in the vertical installation of MVHR units.

Waterless condensate trap key data	
Product code	Ø (mm)
GCT32	32
400 502 024 Zehnder ComfoAir Q350/450/600	32
736 000 085 Condensation water drain kit for Zehnder ComfoCool Q	32

Airflow meter

Housing material: ABS plastic

Description:
A compact instrument for measuring volumetric flow rates at inlets/outlets by means of an integrated 100mm rotating vane with temperature probe.

Airflow meter key data
Product code
AFM1

Omnique picture frame adaptor

Material: White satin finish, ABS plastic

Description:
Designed to provide a perfect aesthetic finish when an Omnique fan is used as a replacement in existing 150mm wall installations.

Omnique picture frame adaptor key data			
Product code	Width	Height	Depth
PFAOF100	256mm	287mm	23mm

Insulated duct wrap

Material:
Aluminium foil facing
Glass mineral wool insulation

Description:
Ideal for use on any diameter or length of duct, this strong, flexible and easy to handle insulation roll offers high levels of thermal performance whilst reducing installation time and cost.

Insulated duct wrap models and key data			
Product code	Width	Length	Depth
IDW25	1.2m	18m	25mm

Controls

Controls

About Controls

Intelligent ventilation control for customised year round comfort.
Power is nothing without control! Our MVHR units, MEV units and extraction fans can be simply and effectively controlled to ensure optimal performance around the clock.

Need help specifying a product?

If you can't work out which product you need, or how to provide ventilation in the most efficient way for your homes we can help you! Our dedicated team of Area Managers and Technical Advisors understand the impact of specifying products into new and existing homes.

Call us with your questions or email us at

ventilation@zehnder.co.uk

Head Office
01276 605800

Customer Services
01276 408404

Technical Services
01276 408402

These easy-to-use controls range from standard switches to fully integrated LCD displays. They can be linked with a variety of proprietary sensors to enhance comfort and offer total flexibility.

By combining a compatible product with its respective controller you are ensuring that the system can be truly tailored to become an integral and autonomous part of the home.

Standard switches

ZGS1

ZGS2

ZGSI

All measurements in millimetres unless otherwise indicated

Controller for:
Centair MEV range

Dimensions:
H84 x W84 x D22

Description:
Three position rocker switch to change unit speed between low, medium and high

ZGS2

All measurements in millimetres unless otherwise indicated

Controller for:
Centair MEV range and ComfoAir MVHR range

Dimensions:
H86 x W86 x D15

Description:
Two position switch to change unit speed between low and high

Product codes

ZGS1
ZGS2

Dual speed operational controller

All measurements in millimetres unless otherwise indicated

Controller for:
ComfoAir MVHR range

RAL colour:
9016

Dimensions:
when surface mounted:
H90 x W90 x D37
when recessed:
H90 x W90 x D21

Description:
Dual speed controller with operational and service indicators.

Product codes

ZGRC1

ComfoSense (CCS)

Physical specification

All measurements in millimetres unless otherwise indicated

Controller for:
All Zehnder ComfoAir Luxe and Luxe PH models

RAL colour:
9016

Dimensions:
when surface mounted:
H80 x W80 x D48.5
when recessed:
H80 x W80 x D12

Mounting options:
Either surface mounted with supplied mounting box or recessed

Features and benefits

➤ Clear buttons and easy menu layout for installer and homeowner convenience

➤ CapSense technology to enhance the modern look

➤ Quality look and feel adding value to the heat recovery system

➤ Can be used as an RF bridge to communicate with other Zehnder devices within the home such as CO_2 sensors or wireless switches

Product codes

655 010 215

Radio frequency (CCRFZ)

Physical specification

All measurements in millimetres unless otherwise indicated

Controller for:
Additional speed controller for use with Zehnder ComfoSense

RF transmission capacity:
140 metres maximum

RAL colour:
9010

Dimensions:
H80 x W80 x D14

Mounting options:
Surface mounted with mounting plate

Features and benefits

➤ Remote three position switch equipped with two adjustable overrun timers

➤ Its wireless operation allows it to be retrofitted

➤ Functioning just like Bluetooth, it can only be paired with its own unit

➤ Multiple units can be fitted within the home

Product codes

655 000 755

Upgrade RF kit for Zehnder ComfoAir 200/350/550 - 655 000 770

Standard switches

659000120

659000300

Physical specification

All measurements in millimetres unless otherwise indicated

Controller for:
All Zehnder ComfoAir standard models

RAL colour:
9010

Dimensions:
when surface mounted:
H80 x W80 x D40
when recessed:
H80 x W80 x D9

Mounting options:
Either surface mounted with mounting plate or recessed

Features and benefits

➤ Provides additional speed management for all standard ComfoAir models

➤ 659000120 is a standard three position switch offering low, medium and high speed options

➤ 659000300 offers the same but with the addition of an LED service indicator

Product codes

659 000 120

659 000 300

ComfoSense C67

Physical specification

All measurements in millimetres unless otherwise indicated

Controller for:
Most of ComfoAir MVHR range

RAL colour:
9016

Dimensions:
when surface mounted:
H80 x W80 x D48.5
when recessed:
H80 x W80 x D12

Mounting options:
Either surface mounted with mounting plate or recessed

Features and benefits

➤ 4 separate ventilation flow rate options to select in 1 controller

➤ 7 day flow rate programmer

➤ Summer bypass indicator

➤ Frost protection indicator

➤ Service and Maintenance alert

➤ Clock function

➤ User menu access

➤ RF bridge to enable use of the CCRFZ controller

Product codes

Zehnder ComfoSense C67 remote display for Zehnder ComfoAir Q350/450/600 - 655 010 230

Zehnder ComfoSense C67 remote display for Zehnder ComfoAir Q350/450/600, incl. mounting box - 655 010 235

ComfoSwitch C67

Physical specification

All measurements in millimetres unless otherwise indicated

Controller for:
ComfoAir Q MVHR range

RAL colour:
9016

Dimensions:
when surface mounted:
H80 x W80 x D48.5
when recessed:
H80 x W80 x D12

Mounting options:
Either surface mounted
or recessed

Features and benefits

➤ 4 separate ventilation flow rate options to select in 1 controller

➤ Temporary high speed activation setting

➤ Service and Maintenance alert

Product codes

Zehnder ComfoSwitch C67 speed controller for Zehnder ComfoAir Q350/450/600 - 655 010 250

Zehnder ComfoConnect LAN KIT C w/o WiFi for Zehnder ComfoAir Q350/450/600 - 655 010 255

ComfoConnect KNX C

Physical specification

All measurements in millimetres unless otherwise indicated

Controller for:
ComfoAir Q MVHR range

RAL colour:
Front: 9003
Back: 7024

Dimensions:
H120 x W76 x D25

Features and benefits

➤ Control and monitor the ventilation system via the KNX building management system

➤ Control ventilation flow rate, temperature profile, temporary high speed setting and external sensor set points

➤ Monitor ventilation flow rates, temperatures and external sensors

➤ 7 day flow rate programmer

➤ Service and Maintenance alert

➤ ETS5 compatible

Product codes

655 011 120

ComfoConnect LAN C

Zehnder ComfoControl App

Physical specification

All measurements in millimetres unless otherwise indicated

Controller for:
ComfoAir Q MVHR range

RAL colour:
Front: 9003
Back: 7024

Dimensions:
H120 x W76 x D25

Features and benefits

➤ Control and monitor the ventilation system via the ComfoControl app

➤ Control ventilation flow rate, temperature profile, temporary high speed setting and external sensor set points

➤ Monitor ventilation flow rates, temperatures and external sensors

➤ 7 day flow rate programmer

➤ Access the ventilation system remotely from anywhere in the world

➤ Service and Maintenance alert direct to your phone

➤ User menu access

➤ Installer menu access

Product codes

Zehnder ComfoConnect LAN C for Zehnder ComfoAir Q350/450/600 - 655 011 100

Zehnder ComfoConnect LAN KIT C w/o WiFi for Zehnder ComfoAir Q350/450/600 - 655 011 130

Option Box

Wiring

The Bathroom Switch connection option - II

This contact can also be connected over a relay (e.g. in the bathroom light switch).

This is a potential free input so do not connect it to 230v!

Physical specification

All measurements in millimetres unless otherwise indicated

Controller for:
ComfoAir Q MVHR range

RAL colour:
9018

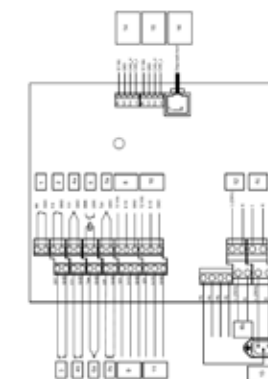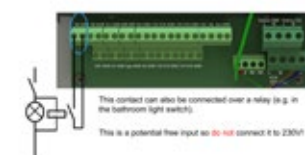**Dimensions:**
H253 x W178 x D60

Features and benefits

➤ 4 x 0-10V inputs for use with the 12V 0-10V RH sensor or 12V 0-10V CO2 sensor

➤ Volt free contact input

➤ Post heater integration

➤ ComfoFond-L Q or sub-soil heat exchanger valve integration

➤ External filter alert integration

➤ Service mode activation input to disable fans e.g. when fire alarm activated

Product codes

471 502 105

Remote Air Quality Sensor

Physical specification

All measurements in millimetres unless otherwise indicated

Sensor for:
All Greenwood Airvac extraction fans

Dimensions:
when surface mounted:
H86 x W93 x D37
when recessed:
H86 x W93 x D20

Mounting options:
Either surface mounted
or recessed

Features and benefits

➤ Set activation level covering a range of pollutants such as hydrogen, CO, methane, ethanol and isobutane

➤ Adjustable overrun timer between 2-40 minutes

➤ Can be fitted with locking security straps to prevent tampering

➤ Suitable for locating where temperatures don't exceed 45°C

Product codes

AQR

Remote Passive Infrared Sensor

Physical specification

All measurements in millimetres unless otherwise indicated

Sensor for:
All Greenwood Airvac extraction fans

Dimensions:
when surface mounted:
H86 x W93 x D37
when recessed:
H86 x W93 x D20

Mounting options:
Either surface mounted
or recessed

Features and benefits

➤ Senses movement up to 7m away

➤ Adjustable overrun timer between 2-40 minutes

➤ Can be fitted with locking security straps to prevent tampering

➤ Suitable for locating where temperatures don't exceed 45°C

Product codes

PIRR

Remote Fan Humidity Sensor

Physical specification

All measurements in millimetres unless otherwise indicated

Sensor for:
All Greenwood Airvac extraction fans

Dimensions:
when surface mounted:
H86 x W93 x D37
when recessed:
H86 x W93 x D20

Mounting options:
Either surface mounted
or recessed

Features and benefits

➤ Ideal for kitchen or bathroom ventilation

➤ Senses when RH exceeds preset activation level and triggers fan into boost mode

➤ Adjustable between 30-90% RH

➤ Features set-back facility to eliminate nuisance nighttime running

Product codes

HHRW

Remote Temperature Sensor

Physical specification

All measurements in millimetres unless otherwise indicated

Sensor for:
All Greenwood Airvac extraction fans

Dimensions:
when surface mounted:
H86 x W93 x D37
when recessed:
H86 x W93 x D20

Mounting options:
Either surface mounted
or recessed

Features and benefits

➤ Set temperature activation between 5-35°C

➤ Fixed 2 minute overrun timer

➤ Can be fitted with locking security straps to prevent tampering

➤ Suitable for locating where temperatures don't exceed 45°C

Product codes

THR

12V 0-10V RH sensor

Physical specification

All measurements in millimetres unless otherwise indicated

The Zehnder 12V 0-10V remote humidity sensor enables a signal to be sent to the ventilation system to control the corresponding flow rate.

RAL colour:
9010

Dimensions:
H95 x W97 x D30

Mounting options:
Surface mounted

Features and benefits

➤ Humidity measuring range 0-100% relative humidity

➤ 0-10V output corresponding to measured relative humidity

Product codes

659 000 330

12V 0-10V CO$_2$ sensor

Physical specification

All measurements in millimetres unless otherwise indicated

The Zehnder 12V 0-10V remote CO2 sensor and combined three position switch is designed to enable the user to manually select the desired ventilation systems flow rate based on the visual air quality indicator, or automatically adjust the unit relevant to the CO2 level.

RAL colour:
9016

Dimensions:
when surface mounted:
H80 x W80 x D12
when recessed:
H80 x W80 x D43.5

Mounting options:
Either surface mounted or recessed

Features and benefits

➤ Green, orange and red visual air quality indication light

➤ 3 separate ventilation flow rate options to temporarily select in 1 controller for manual 12hr override

➤ CO2 measuring range 0-2000ppm

➤ 0-10V output corresponding to measured CO2

➤ Discreet design

Product codes

655 000 855

ComfoSplitter

Physical specification

All measurements in millimetres unless otherwise indicated

RAL colour:
9018

Dimensions:
H108 x W53 x D23

Mounting options:
Surface mounted

Features and benefits

➤ 2 additional ComfoNet connectivity options when unpowered

➤ 5 additional ComfoNet connectivity options when powered

Product codes

655 010 275

RF-PCB

Physical specification

All measurements in millimetres unless otherwise indicated

Sensor for:
To be advised

Mounting options:
Inside the unit direct to the PCB

Features and benefits

The Zehnder RF-PCB enables the CCRFZ to be used with the ventilation system without the need for the ComfoSense 67

➤ Acts as a wireless receiver to the CCRFZ without the need for the ComfoSense 67

➤ Built into the unit and not visible from the outside

Product codes

For ComfoAir 200/350/550
- 655 000 770

For ComfoAir Q
- 400 502 016

Quality guaranteed every time

Our reputation for quality long-lasting products is credit to our 140 year history and continued specification amongst the UK's new build, refurbishment and retail sectors.

Product guarantees

Did you know that fewer than a quarter of 1% of our fans are ever returned to us through manufacturing fault? This is something that we are very proud of.

Each range of products is guaranteed as follows:

Intermittent Extract Fans

2 year warranty	5 year warranty
Samika	Omnique
Select 100/150	Elite 100/150
Select AXS100/AXSK	
P Fan	
SF90	
RF90	
Silent Fan	
Halo Fan	

Continuous Extract Fans

3 year guarantee	5 year guarantee
Unity	Omnique

Central Extract MEV
2 year warranty

Heat Recovery Ventilation MVHR
2 year warranty

Commercial Ventilation
2 year warranty

Ancillaries
2 year warranty

Controls
2 year warranty

This does not affect your statutory rights. Full details of our guarantees including braille and large format versions are available on request.

Terms of Business

A handling charge of £15 will be applied to all orders less than £350 nett.

All standard Greenwood branded products are available on a 3 day lead time unless specifically stated.

Comfosystems lead times

Ancillaries
2 weeks

ComfoAir and ComfoAir Q units
3-4 weeks

Deliveries of ducting may be subject to additional delivery times depending on volume and weight. This will be advertised at the time of ordering.

Morning and overnight deliveries are available subject to conditions and will incur a £25 minimum additional charge.

Orders must be placed before 11am to be eligible for overnight delivery.

Orders can be delivered to site providing a signed acknowledgement has been received. Zehnder does not accept responsibility for any items lost or damaged if the consignment note has been signed.

All quotations are valid for 30 days.

The basis for our offer, acceptance of orders, order confirmations or sales contracts is the current valid price list.

Sales are subject to our standard terms and conditions which are available on request.

Due to our policy of continuous change and improvement, product specification, price and availability may be subject to change without prior notice.

For full terms and conditions, please visit
www.zehnder.co.uk/company/legal

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Ventilation
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E: technical@greenwood.co.uk

Controls

Controls

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Standard switches

ZGS1

ZGS2

ZGSI

All measurements in millimetres unless otherwise indicated

Controller for:
Centair MEV range

Dimensions:
H84 x W84 x D22

Description:
Three position rocker switch to change unit speed between low, medium and high

ZGS2

All measurements in millimetres unless otherwise indicated

Controller for:
Centair MEV range and
ComfoAir MVHR range

Dimensions:
H86 x W86 x D15

Description:
Two position switch to change unit speed between low and high

Product codes

ZGS1	
ZGS2	

Dual speed operational controller

All measurements in millimetres unless otherwise indicated

Controller for:
ComfoAir MVHR range

RAL colour:
9016

Dimensions:
when surface mounted:
H90 x W90 x D37
when recessed:
H90 x W90 x D21

Description:
Dual speed controller with operational and service indicators.

Product codes

ZGRC1	

ComfoSense (CCS)

Physical specification

All measurements in millimetres unless otherwise indicated

Controller for:
All Zehnder ComfoAir Luxe and Luxe PH models

RAL colour:
9016

Dimensions:
when surface mounted:
H80 x W80 x D48.5
when recessed:
H80 x W80 x D12

Mounting options:
Either surface mounted with supplied mounting box or recessed

Features and benefits

➤ Clear buttons and easy menu layout for installer and homeowner convenience

➤ CapSense technology to enhance the modern look

➤ Quality look and feel adding value to the heat recovery system

➤ Can be used as an RF bridge to communicate with other Zehnder devices within the home such as CO_2 sensors or wireless switches

Product codes

655 010 215

Radio frequency (CCRFZ)

Physical specification

All measurements in millimetres unless otherwise indicated

Controller for:
Additional speed controller for use with Zehnder ComfoSense

RF transmission capacity:
140 metres maximum

RAL colour:
9010

Dimensions:
H80 x W80 x D14

Mounting options:
Surface mounted with mounting plate

Features and benefits

➤ Remote three position switch equipped with two adjustable overrun timers

➤ Its wireless operation allows it to be retrofitted

➤ Functioning just like Bluetooth, it can only be paired with its own unit

➤ Multiple units can be fitted within the home

Product codes

655 000 755

Upgrade RF kit for Zehnder ComfoAir 200/350/550 - 655 000 770

Standard switches

659000120

659000300

Physical specification

All measurements in millimetres unless otherwise indicated

Controller for:
All Zehnder ComfoAir standard models

RAL colour:
9010

Dimensions:
when surface mounted:
H80 x W80 x D40
when recessed:
H80 x W80 x D9

Mounting options:
Either surface mounted with mounting plate or recessed

Features and benefits

➤ Provides additional speed management for all standard ComfoAir models

➤ 659000120 is a standard three position switch offering low, medium and high speed options

➤ 659000300 offers the same but with the addition of an LED service indicator

Product codes

659 000 120

659 000 300

ComfoSense C67

Physical specification

All measurements in millimetres unless otherwise indicated

Controller for:
Most of ComfoAir MVHR range

RAL colour:
9016

Dimensions:
when surface mounted:
H80 x W80 x D48.5
when recessed:
H80 x W80 x D12

Mounting options:
Either surface mounted with mounting plate or recessed

Features and benefits

➤ 4 separate ventilation flow rate options to select in 1 controller

➤ 7 day flow rate programmer

➤ Summer bypass indicator

➤ Frost protection indicator

➤ Service and Maintenance alert

➤ Clock function

➤ User menu access

➤ RF bridge to enable use of the CCRFZ controller

Product codes

Zehnder ComfoSense C67 remote display for Zehnder ComfoAir Q350/450/600 - 655 010 230

Zehnder ComfoSense C67 remote display for Zehnder ComfoAir Q350/450/600, incl. mounting box - 655 010 235

ComfoSwitch C67

Physical specification

All measurements in millimetres unless otherwise indicated

Controller for:
ComfoAir Q MVHR range

RAL colour:
9016

Dimensions:
when surface mounted:
H80 x W80 x D48.5
when recessed:
H80 x W80 x D12

Mounting options:
Either surface mounted
or recessed

Features and benefits

➤ 4 separate ventilation flow rate options to select in 1 controller

➤ Temporary high speed activation setting

➤ Service and Maintenance alert

Product codes

Zehnder ComfoSwitch C67 speed controller for Zehnder ComfoAir Q350/450/600 - 655 010 250

Zehnder ComfoConnect LAN KIT C w/o WiFi for Zehnder ComfoAir Q350/450/600 - 655 010 255

ComfoConnect KNX C

Physical specification

All measurements in millimetres unless otherwise indicated

Controller for:
ComfoAir Q MVHR range

RAL colour:
Front: 9003
Back: 7024

Dimensions:
H120 x W76 x D25

Features and benefits

➤ Control and monitor the ventilation system via the KNX building management system

➤ Control ventilation flow rate, temperature profile, temporary high speed setting and external sensor set points

➤ Monitor ventilation flow rates, temperatures and external sensors

➤ 7 day flow rate programmer

➤ Service and Maintenance alert

➤ ETS5 compatible

Product codes

655 011 120

ComfoConnect LAN C

Zehnder ComfoControl App

Physical specification

All measurements in millimetres unless otherwise indicated

Controller for:
ComfoAir Q MVHR range

RAL colour:
Front: 9003
Back: 7024

Dimensions:
H120 x W76 x D25

Features and benefits

➤ Control and monitor the ventilation system via the ComfoControl app

➤ Control ventilation flow rate, temperature profile, temporary high speed setting and external sensor set points

➤ Monitor ventilation flow rates, temperatures and external sensors

➤ 7 day flow rate programmer

➤ Access the ventilation system remotely from anywhere in the world

➤ Service and Maintenance alert direct to your phone

➤ User menu access

➤ Installer menu access

Product codes

Zehnder ComfoConnect LAN C for Zehnder ComfoAir Q350/450/600 - 655 011 100

Zehnder ComfoConnect LAN KIT C w/o WiFi for Zehnder ComfoAir Q350/450/600 - 655 011 130

Option Box

Wiring

The Bathroom Switch connection option - II

This contact can also be connected over a relay (e.g. in the bathroom light switch).

This is a potential free input so do not connect it to 230v!

Physical specification

All measurements in millimetres unless otherwise indicated

Controller for:
ComfoAir Q MVHR range

RAL colour:
9018

Dimensions:
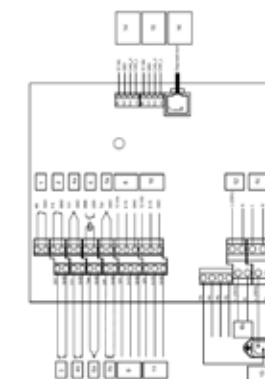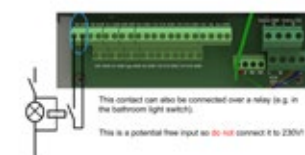H253 x W178 x D60

Features and benefits

➤ 4 x 0-10V inputs for use with the 12V 0-10V RH sensor or 12V 0-10V CO_2 sensor

➤ Volt free contact input

➤ Post heater integration

➤ ComfoFond-L Q or sub-soil heat exchanger valve integration

➤ External filter alert integration

➤ Service mode activation input to disable fans e.g. when fire alarm activated

Product codes

471 502 105

Remote Air Quality Sensor

Physical specification

All measurements in millimetres unless otherwise indicated

Sensor for:
All Greenwood Airvac extraction fans

Dimensions:
when surface mounted:
H86 x W93 x D37
when recessed:
H86 x W93 x D20

Mounting options:
Either surface mounted
or recessed

Features and benefits

➤ Set activation level covering a range of pollutants such as hydrogen, CO, methane, ethanol and isobutane

➤ Adjustable overrun timer between 2-40 minutes

➤ Can be fitted with locking security straps to prevent tampering

➤ Suitable for locating where temperatures don't exceed 45°C

Product codes

AQR

Remote Passive Infrared Sensor

Physical specification

All measurements in millimetres unless otherwise indicated

Sensor for:
All Greenwood Airvac extraction fans

Dimensions:
when surface mounted:
H86 x W93 x D37
when recessed:
H86 x W93 x D20

Mounting options:
Either surface mounted
or recessed

Features and benefits

➤ Senses movement up to 7m away

➤ Adjustable overrun timer between 2-40 minutes

➤ Can be fitted with locking security straps to prevent tampering

➤ Suitable for locating where temperatures don't exceed 45°C

Product codes

PIRR

Remote Fan Humidity Sensor

Physical specification

All measurements in millimetres unless otherwise indicated

Sensor for:
All Greenwood Airvac extraction fans

Dimensions:
when surface mounted:
H86 x W93 x D37
when recessed:
H86 x W93 x D20

Mounting options:
Either surface mounted
or recessed

Features and benefits

➤ Ideal for kitchen or bathroom ventilation

➤ Senses when RH exceeds preset activation level and triggers fan into boost mode

➤ Adjustable between 30-90% RH

➤ Features set-back facility to eliminate nuisance nighttime running

Product codes

HHRW

Remote Temperature Sensor

Physical specification

All measurements in millimetres unless otherwise indicated

Sensor for:
All Greenwood Airvac extraction fans

Dimensions:
when surface mounted:
H86 x W93 x D37
when recessed:
H86 x W93 x D20

Mounting options:
Either surface mounted
or recessed

Features and benefits

➤ Set temperature activation between 5-35°C

➤ Fixed 2 minute overrun timer

➤ Can be fitted with locking security straps to prevent tampering

➤ Suitable for locating where temperatures don't exceed 45°C

Product codes

THR

12V 0-10V RH sensor

Physical specification

All measurements in millimetres unless otherwise indicated

The Zehnder 12V 0-10V remote humidity sensor enables a signal to be sent to the ventilation system to control the corresponding flow rate.

RAL colour:
9010

Dimensions:
H95 x W97 x D30

Mounting options:
Surface mounted

Features and benefits

➤ Humidity measuring range 0-100% relative humidity

➤ 0-10V output corresponding to measured relative humidity

Product codes

659 000 330

ComfoSplitter

Physical specification

All measurements in millimetres unless otherwise indicated

RAL colour:
9018

Dimensions:
H108 x W53 x D23

Mounting options:
Surface mounted

Features and benefits

➤ 2 additional ComfoNet connectivity options when unpowered

➤ 5 additional ComfoNet connectivity options when powered

Product codes

655 010 275

12V 0-10V CO$_2$ sensor

Physical specification

All measurements in millimetres unless otherwise indicated

The Zehnder 12V 0-10V remote CO2 sensor and combined three position switch is designed to enable the user to manually select the desired ventilation systems flow rate based on the visual air quality indicator, or automatically adjust the unit relevant to the CO2 level.

RAL colour:
9016

Dimensions:
when surface mounted:
H80 x W80 x D12
when recessed:
H80 x W80 x D43.5

Mounting options:
Either surface mounted or recessed

Features and benefits

➤ Green, orange and red visual air quality indication light

➤ 3 separate ventilation flow rate options to temporarily select in 1 controller for manual 12hr override

➤ CO2 measuring range 0-2000ppm

➤ 0-10V output corresponding to measured CO2

➤ Discreet design

Product codes

655 000 855

RF-PCB

Physical specification

All measurements in millimetres unless otherwise indicated

Sensor for:
To be advised

Mounting options:
Inside the unit direct to the PCB

Features and benefits

The Zehnder RF-PCB enables the CCRFZ to be used with the ventilation system without the need for the ComfoSense 67

➤ Acts as a wireless receiver to the CCRFZ without the need for the ComfoSense 67

➤ Built into the unit and not visible from the outside

Product codes

For ComfoAir 200/350/550
- 655 000 770

For ComfoAir Q
- 400 502 016

Quality guaranteed every time

Our reputation for quality long-lasting products is credit to our 140 year history and continued specification amongst the UK's new build, refurbishment and retail sectors.

Product guarantees

Did you know that fewer than a quarter of 1% of our fans are ever returned to us through manufacturing fault? This is something that we are very proud of.

Each range of products is guaranteed as follows:

Intermittent Extract Fans

2 year warranty	5 year warranty
Samika	Omnique
Select 100/150	Elite 100/150
Select AXS100/AXSK	
P Fan	
SF90	
RF90	
Silent Fan	
Halo Fan	

Continuous Extract Fans

3 year guarantee	5 year guarantee
Unity	Omnique

Central Extract MEV
2 year warranty

Heat Recovery Ventilation MVHR
2 year warranty

Commercial Ventilation
2 year warranty

Ancillaries
2 year warranty

Controls
2 year warranty

This does not affect your statutory rights. Full details of our guarantees including braille and large format versions are available on request.

Terms of Business

A handling charge of £15 will be applied to all orders less than £350 nett.

All standard Greenwood branded products are available on a 3 day lead time unless specifically stated.

Comfosystems lead times

Ancillaries
2 weeks

ComfoAir and ComfoAir Q units
3-4 weeks

Deliveries of ducting may be subject to additional delivery times depending on volume and weight. This will be advertised at the time of ordering.

Morning and overnight deliveries are available subject to conditions and will incur a £25 minimum additional charge.

Orders must be placed before 11am to be eligible for overnight delivery.

Orders can be delivered to site providing a signed acknowledgement has been received. Zehnder does not accept responsibility for any items lost or damaged if the consignment note has been signed.

All quotations are valid for 30 days.

The basis for our offer, acceptance of orders, order confirmations or sales contracts is the current valid price list.

Sales are subject to our standard terms and conditions which are available on request.

Due to our policy of continuous change and improvement, product specification, price and availability may be subject to change without prior notice.

For full terms and conditions, please visit **www.zehnder.co.uk/company/legal**

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Notes

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