

Designing ComfoCool Q

Overheating is becoming a more and more common issue with properties in the UK. Although temperature is subjective, overheating is a term used when a property becomes uncomfortably warm. Such overheating problems are most prevalent during sudden spikes in temperature or during prolonged periods of time.



What is ComfoCool Q

ComfoCool Q is an air temperation device used in conjunction with the ComfoAir Q600 MVHR unit. The ComfoCool Q reduces the humidity of the incoming fresh air before distributing it to the habitable rooms. In addition to this dehumidification it also helps to temper the incoming air, resulting in comfortable supply air during warm periods.

The ComfoAir Q600 also has a unique modulating summer bypass. If the external temperature is lower than that of the internal temperature then it will activate to bring the cooler air into the property without the need for activating the ComfoCool Q. This can activate down to much lower temperatures than a standard summer bypass whilst avoiding hitting the dew point due to it being able to partially recover some of the heat. The ComfoAir Q600 also has 3 temperature profiles which react to the average external temperature. This means during spikes in external temperature the unit is more inclined to react to these sudden changes by opening the bypass or activating the ComfoCool Q accordingly. The ComfoConnect KNX C or LAN C enable the end user to control and monitor the unit using the KNX building automation infrastructure or the ComfoControl free app (available on iOS and Android). These can be used to set activation points including an activation schedule of the ComfoCool Q in addition to enabling remote activation and support via the ComfoControl app.

ComfoCool Q
in conjunction
with the
ComfoAir
Q600



ComfoCool Q cannot be compared to air conditioning since air conditioning recirculates the stale cooled air, whilst the ComfoCool Q delivers fresh filtered air. This helps to meet ADF ventilation rates whilst having the added benefit of dehumidification and air temperation. The ComfoCool Q also doesn't require any external unit like an air conditioner would.

Design out overheating

The ComfoCool Q can help to temper the incoming 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:

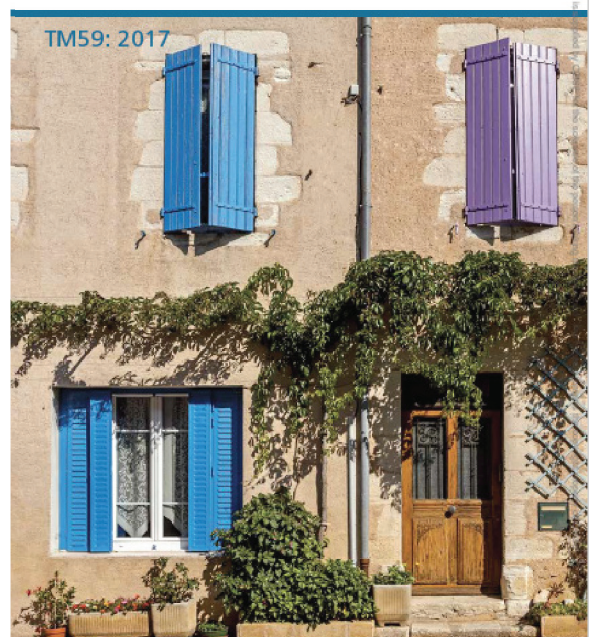
- Improve thermal mass
- Options to cool thermal mass such as false ceiling or hollow core concrete flooring
- Reduce the size of windows and avoid too much south-facing glazing
- Solar shading through overhangs or external shutters
- Window glass type such as reflective, photochromic, thermochromic or electrochromic
- Insulate hot water pipes and tanks
- Reduce electrical appliances
- Use higher efficiency appliances that emit lower heat levels such as LED lighting
- Openable windows for purge ventilation without a security risk

Thermal modelling

It's important that thermal modelling is carried out to ensure the ComfoCool Q is sufficient to meet the cooling demands of the property. Thermal modelling is entirely reliant on the model inputs, we recommend modelling to the new TM59 guidance which draws from TM52 and CIBSE Guide A. Modelling should be based on the unit running at a minimum of 360m³/hr (100l/s) to provide 1.5kW of cooling capacity to the incoming air. With Temperature profile NORMAL and RMOT (Running Mean Outdoor Temperature) of 15°C, the setpoint for the extract temperature is 23°C.

The ComfoCool activates as soon as the ventilation system notices that passive cooling with summer bypass cannot maintain the indoor climate as cool as 23°C. With Temperature profile COOL and WARM the setpoint is 21.5°C and 24.5°C respectively. When modelling the property it's important that any solar shading requiring user intervention, such as blinds, is modelled with and without them. Window opening modelling should also include any restrictions and take into account noise, security and air quality issues which would reduce the opening area. The windows should also only be modelled as open when rooms are scheduled to be occupied unless security isn't an issue.

Design methodology for the assessment of overheating risk in homes





ComfoAir Q600

Additional notes

Cooling capacity is improved when the unit is also used in conjunction with the ComfoFond-L Q to provide a more constant intake into the unit. When used with the ComfoFond-L the cooling potential is extended to external temperature $>31^{\circ}\text{C}$.

All equipment should be installed by a competent person, poor or incorrect installation could result in the unit not achieving its desired cooling capacity.

The ISO ePM1 $>55\%$ (F7) filters within the ComfoAir Q600 helps to reduce fine pollen and carbon black particles in the supply air, however additional filtration such as NOx filters may be required. These need to be factored into the design pressure drop and are available from Zehnder.

The ComfoCool Q has no motor of its own and subsequently doesn't carry an energy rating label (EER). In addition to this it cannot be accurately modelled in SAP and so no information can be entered into the SAP calculator. If SAP is showing the property as a high risk of overheating then the ComfoCool Q will unlikely provide the necessary cooling capacity to reduce this.

Key design considerations

- Minimum design rate of $360\text{m}^3/\text{hr}$ (100l/s/hr) with pipework velocity $<3\text{m/s}$
- 200mm circular or equivalent duct size for external terminations
- 200mm circular or equivalent duct size for internal terminations
- Refrigerant temperature range circa $16 - 32^{\circ}\text{C}$
- 12 x 90mm semi-rigid duct alternative for internal terminations (all ports used)
- Thermal modelling to achieve a maximum capacity of 1.5kW of cooling capacity split across all habitable rooms
- 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 13mm of insulating material, with a thermal conductivity of 0.04W/Mk .
- Enthalpy cube for the ComfoAir Q600 used as standard
- 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
- Unit must be floor mounted, the floor stand is ordered separately
- Locate the unit on an external wall if possible
- If a switch live boost is desired, then a relay linked to the Option Box is required.
- The ComfoCool Q can only be used in conjunction with the ComfoAir Q600 and can only be installed directly above 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 ComfoCool Q condensate drain
- Use a dry trap on the ComfoAir Q capable of achieving 500Pa of pressure
- Access for maintenance is required, typically 1m in front of the unit and circa 250mm to the condensate drain side



Filters

Contact information

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zehnder

Zehnder ComfoCool Q600 with ComfoAir Q600

The Zehnder ComfoCool Q600 is an air temperation device designed to help reduce the risk of overheating in homes. It combines with the ComfoAir Q600 and compliments its features to ensure it automatically activates and deactivates to provide a comfortable, healthy and energy-efficient indoor climate.



CCRZ Radio Frequency



ComfoSense C67



ComfoSwitch C67



Zehnder ComfoControl
App

Key Features

ComfoCool Q

- 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.

ComfoAir Q

- 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.

Article Numbers

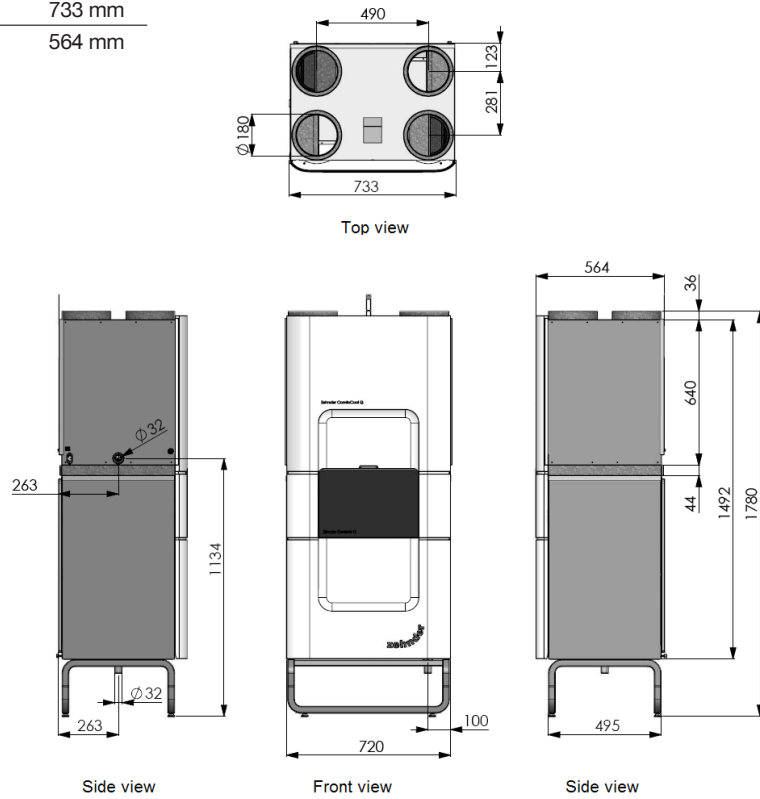
Description	Product Code
Zehnder ComfoCool Q600, left handed	471410005
Zehnder ComfoCool Q600, right handed	471410006
Support frame for Zehnder ComfoAir Q350/450/600, height 252mm	471502008
Condensation water drain kit for Zehnder ComfoCool Q	736000085
Recommended to be used with MVHR unit: Zehnder ComfoAir Q600 with enthalpy exchanger	471502026
Suitable for use with MVHR unit: Zehnder ComfoAir Q600	471502023
Zehnder ComfoAir Q600 with pre-heater, right handed	471502024
Zehnder ComfoAir Q600 with pre-heater, left handed	471502025
Zehnder ComfoSense C 67 remote display for Zehnder ComfoAir Q350/450/600, incl. mounting box	655010235
Zehnder ComfoSwitch C 67 speed controller for Zehnder ComfoAir Q350/450/600, incl. mounting box	655010255
Zehnder ComfoControl RFZ wireless controller for use with Zehnder ComfoSense 67/C67	CCRZ
Zehnder ComfoConnect KNX C for ComfoAir Q350/450/600	655011120
Zehnder ComfoConnect LAN C for ComfoAir Q350/450/600	655011100
Zehnder Option Box with additional connectivity for Zehnder ComfoAir Q350/450/600	471502105
Zehnder ComfoSplitter for ComfoAir Q350/450/600	655010275
Zehnder RF-PCB to offer wireless connectivity to the CCRZ without the use of a ComfoSense C67	400502016

Technical Specification

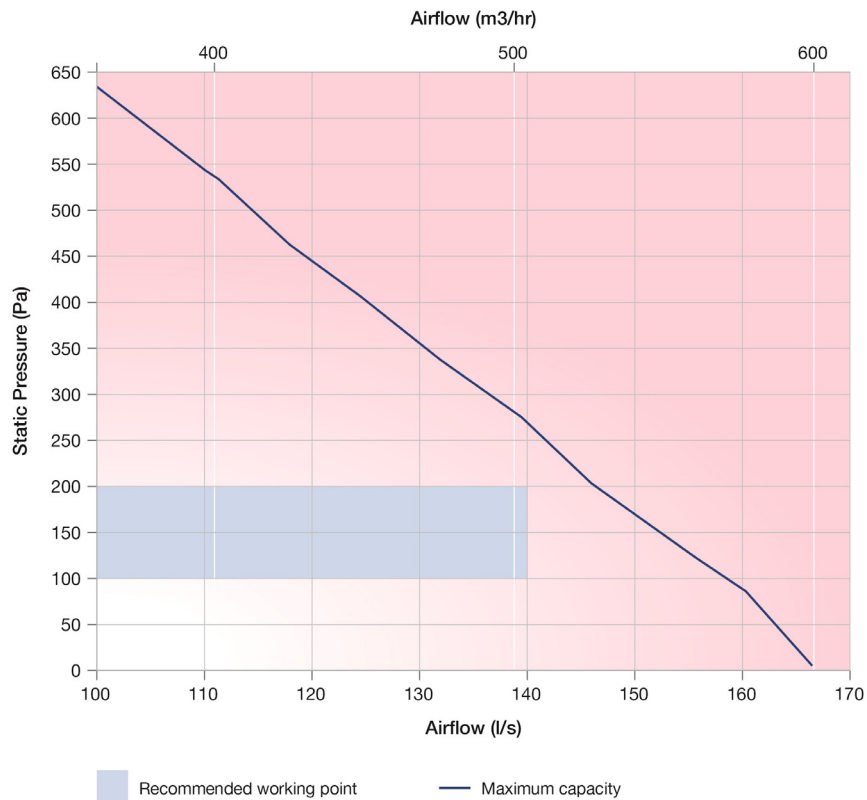
Weight (ComfoCool Q / Combined with ComfoAir Q600)	47 / 97 Kg
Ducting ø	Internal - 180 mm External - 200 mm
Condensate connection ø	32 mm
Materials	Internal EPP / ABS External coated sheet steel
ComfoCool Q	
Supply voltage	230V / single-phase / 50Hz
Maximum power consumption	1026W
Current draw	6.3A
Fuse rating	10 amp
Refrigerant	R134a
Refrigerant volume	0.5kg
COP	up to 3.3
Cooling capacity	1.5kW
Refrigerant temperature range circa	16 – 32°C
ComfoAir Q600	
Supply voltage	230V / single-phase / 50Hz
Maximum power consumption including / excluding pre-heater	2620W / 350W
Current draw including / excluding pre-heater	2.7A / 2.77A
Fuse rating including / excluding pre-heater	13 / 3 amp
Specific Fan Power	0.48 W/l/s
Heat Recovery Efficiency	96%
Preheater power	2.4kW

Dimensions

Height	1780 mm
Width	733 mm
Depth	564 mm



Pressure Curve

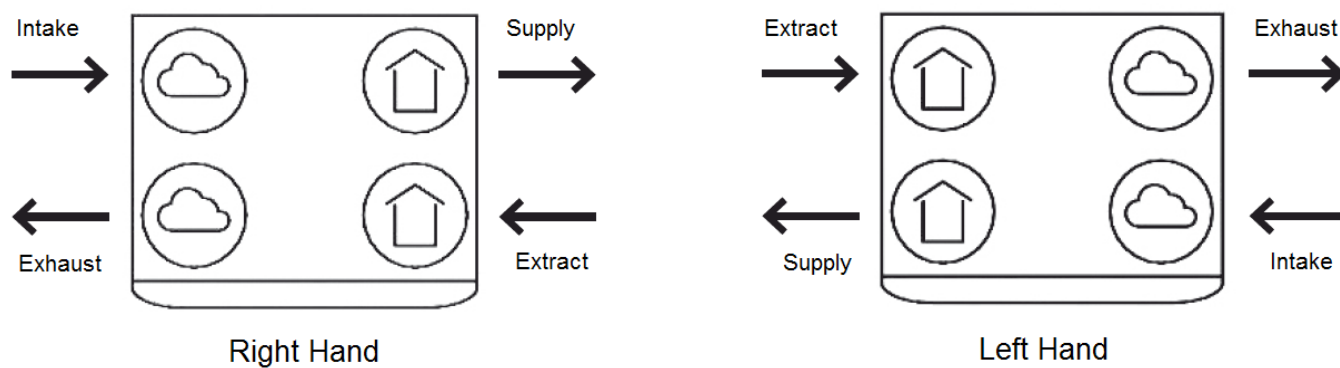


Sound Data

Test Point		Test Area	Octave Band (Hz) Sound Power Level, dB							dB(A) @ 3m
Pst (Pa)	Qv (m³/h)		125	250	500	1000	2000	4000	8000	
25	250	Casing ComfoCool Q on	58.8	59	51.1	46.2	43.2	35.9	25.3	36.7
		Supply ComfoCool Q off	50	51	35.2	22.7	21.9	24.1	31.6	
		Supply ComfoCool Q on	58.3	50.8	36.1	26.4	22.7	24.7	31.6	
		Extract ComfoCool Q on	43.8	41.5	23.1	8.2	6.2	9.5	26.1	
25	300	Casing ComfoCool Q on	60.2	61	53.8	48.5	45.9	39.4	29.4	39.0
		Supply ComfoCool Q off	52.3	52.3	36.6	24.9	25.6	23.8	29.6	
		Supply ComfoCool Q on	55.1	53.5	36.9	26.7	25.8	24.2	29.7	
		Extract ComfoCool Q on	45.9	42.5	24.4	10.1	9.2	8.2	20.9	
50	350	Casing ComfoCool Q on	62.1	63.7	57.2	51.5	49.3	43.8	34.4	42.0
		Supply ComfoCool Q off	54.5	55.1	40.1	27.9	29	28.3	34.8	
		Supply ComfoCool Q on	57.2	56.3	40.4	29.7	29.2	28.7	34.9	
		Extract ComfoCool Q on	48.2	44.8	27.7	12.5	11.8	11.3	22.3	
50	400	Casing ComfoCool Q on	63.6	65.8	60	53.9	52.1	47.3	38.6	44.5
		Supply ComfoCool Q off	56.9	57.9	47.2	30.7	32.4	30.3	29.7	
		Supply ComfoCool Q on	57.1	58.3	46.5	31.3	32.1	30.6	29.9	
		Extract ComfoCool Q on	50.9	47.2	34.6	14.9	14.4	12.3	14.1	
50	420	Casing ComfoCool Q on	64.3	66.7	61.1	54.8	53.2	48.8	40.3	45.5
		Supply ComfoCool Q off	57.6	58.8	48.3	31.7	33.5	31.8	31.4	
		Supply ComfoCool Q on	57.8	59.2	47.6	32.3	33.3	32	31.6	
		Extract ComfoCool Q on	51.6	48	35.7	15.6	15.2	13.3	14.5	
100	450	Casing ComfoCool Q on	65.8	68.9	63.8	57.2	55.9	52.2	44.4	48.0
		Supply ComfoCool Q off	59.3	61	51	34	36.1	35.2	35.5	
		Supply ComfoCool Q on	59.5	61.4	50.3	34.6	35.9	35.4	35.7	
		Extract ComfoCool Q on	53.4	49.8	38.2	17.5	17.2	15.7	15.6	
100	500	Casing ComfoCool Q on	67.4	71	66.5	59.5	58.6	55.7	48.6	50.5
		Supply ComfoCool Q off	60	63.6	54.4	37.2	39.5	39.1	35.9	
		Supply ComfoCool Q on	60.5	64	54.1	37.3	39.3	39.1	35.9	
		Extract ComfoCool Q on	54.4	52.1	41.5	20.2	19.9	18.5	12.9	
150	450	Casing ComfoCool Q on	66.4	69.6	64.8	58	56.9	53.5	45.9	48.9
		Supply ComfoCool Q off	59.9	61.8	52	34.8	37.1	36.4	37	
		Supply ComfoCool Q on	60.1	62.2	51.3	35.5	36.9	36.7	37.1	
		Extract ComfoCool Q on	54.1	50.5	39.2	18.2	17.9	16.5	16	
200	450	Casing ComfoCool Q on	67	70.4	65.7	58.8	57.8	54.7	47.4	49.8
		Supply ComfoCool Q off	60.5	62.6	53	35.7	38.1	37.7	38.5	
		Supply ComfoCool Q on	60.7	63	52.2	36.3	37.9	38	38.6	
		Extract ComfoCool Q on	54.8	51.2	40.1	18.9	18.7	17.4	16.3	
200	500	Casing ComfoCool Q on	68.5	72.5	68.3	61	60.4	58	51.2	52.2
		Supply ComfoCool Q off	61.1	65.1	56.2	38.7	41.3	41.3	38.6	
		Supply ComfoCool Q on	61.6	65.4	55.9	38.8	41.1	41.4	38.6	
		Extract ComfoCool Q on	55.6	53.3	43.2	21.5	21.2	20.1	13.6	
150	550	Casing ComfoCool Q on	17.7	76.8	73.6	65.6	65.6	64.8	59.3	57.3
		Supply ComfoCool Q off	63.5	68.2	60	42	45.1	46.2	44.4	
		Supply ComfoCool Q on	63.5	68.2	60	42	45.1	46.2	44.4	
		Extract ComfoCool Q on	58.2	55.9	46.8	24.1	24.1	23.5	15.1	

Casing tested according to ISO 3741:2010. Supply and Extract tested according to ISO 5135:1997 showing induct sound power level corrected for end duct reflection according EN13053:2006. Casing dB(A) @ 3m given as hemispherical.

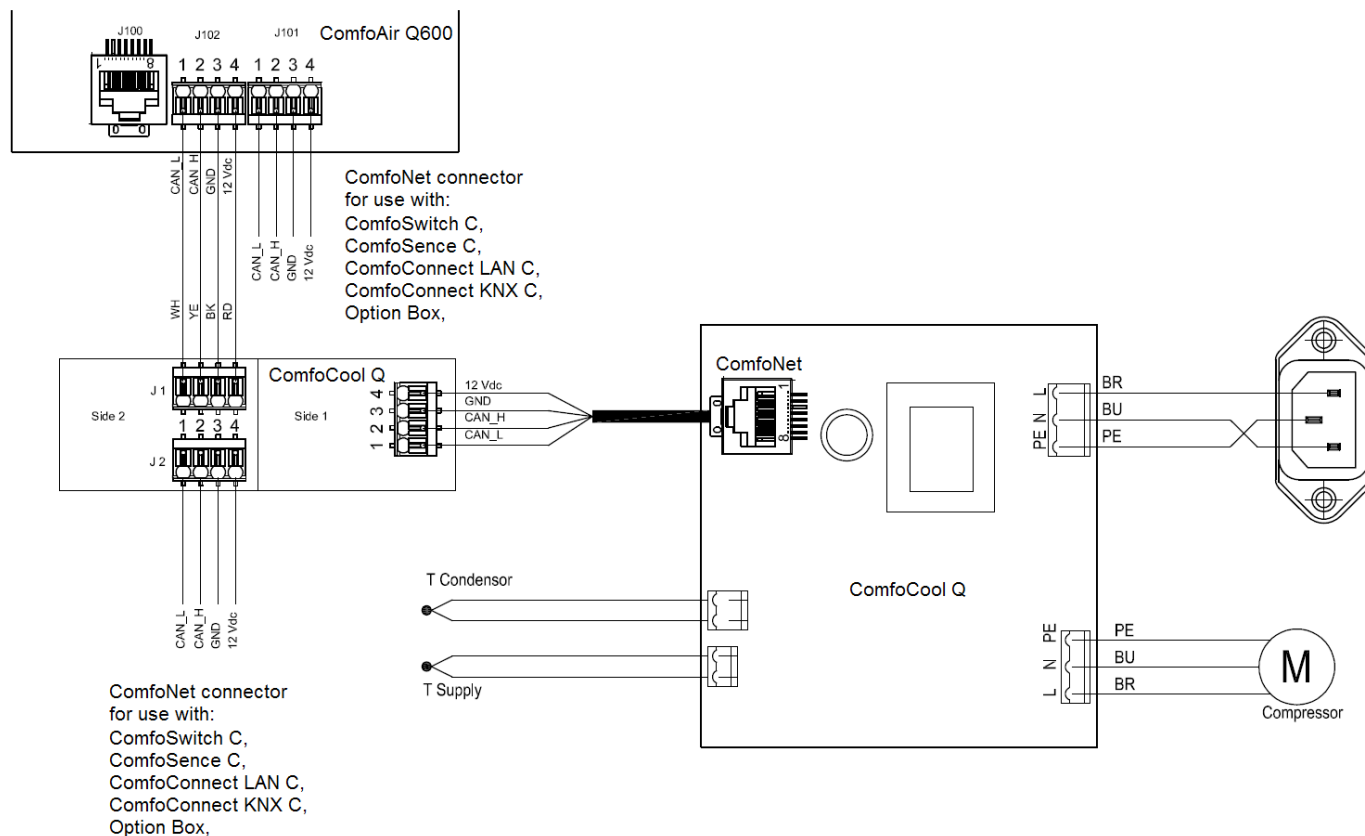
Air Direction/Connection



Wiring

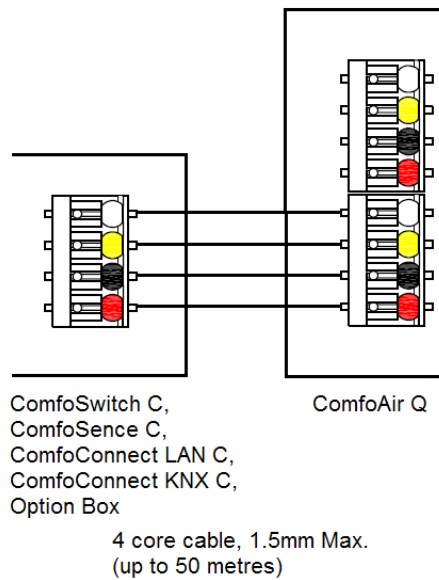
Electrical connections should be carried out in accordance to IEE regulations by a qualified electrician. The unit is supplied with a flying lead for connection to the mains supply.

ComfoCool Q



Wiring

CAQ ancillary wiring



Condensate



Right Hand



Left Hand

Consultant Specification

Specification

The units shall consist of a body manufactured in powder coated steel. The units shall be fully insulated using high quality EPP to maintain excellent thermal characteristics and prevent shrinkage over time.

The air temperation unit shall be capable of working in conjunction with the whole house ventilation system with heat recovery ComfoAir Q600, utilising the fresh and filtered external air. The air temperation unit shall temper the supply air from the ComfoAir Q600 unit utilising a compression air temperation system. The air temperation unit shall contain a non-flammable and non-toxic coolant R134a with a refrigerant temperature range of circa 16 - 32°C.

The air temperation unit shall be controlled by the average return temperature from the ComfoAir Q600 unit.

The air temperation unit shall be constructed to have a removable cover to allow full maintenance access. The removable cover shall enable access to the electrical connections, sensors and cooling skid. The entire cooling skid shall be suitable for removal without the requirement for the unit to be removed from situ and be available as spare parts for a minimum of 10 years even after ceasing manufacture of the unit.

The ventilation unit shall have DC motors with sealed for life bearings. The fans impellers should be low pressure centrifugal type with backward curved blades within ABS scroll housing and flow ring to provide accurate pressure measurement and incorporate a flow grid to optimise the airflow into the fan. The heat exchanger shall be a diamond shaped multi-plate, counter flow design constructed from Polystyrene with laser welded joints and shall retain up to 96% of the temperature differential of outgoing air with the option to upgrade to an enthalpy heat exchanger for latent and sensible heat transfer plus moisture recovery negating the need for a condensate drain.

The ventilation unit shall contain filters manufactured from recyclable material which has been tested to a minimum of ISO Coarse >65% (G4) standard with the option to upgrade to ISO ePM1 >55% (F7). The filters shall be pleated to reduce the pressure drop and required cleaning time. The ventilation unit shall have 180mm duct connections, and be suitable for vertical wall mounting or floor stand with the ability to allow left or right hand configuration through the unit's software alone – no mechanical reconfiguration shall be required. Integrated modulating preheater options shall be available to regulate its output to enable balanced ventilation with external air temperatures -10°C.

The ventilation unit shall have a 100% full summer bypass using an in-line modulating mechanism to provide filtered supply air 365 days of the year, even under bypass conditions. It shall provide fresh filtered air to aid night time cooling and prevent condensation within the supply pipework, regardless of the external air temperature. The ventilation unit shall contain a temperature sensor for each air stream to ensure correct and logical operation of the bypass damper by evaluating differential as well as absolute temperature to maximise the opportunity for free cooling. The ventilation unit shall control air flow to react to prolonged, sustained increased pressure drops to best achieve the commissioned flow rate even when filter degradation occurs. Airflow should not react to short term 'wind gusts' to avoid nuisance running.

The ventilation unit shall be constructed to have a removable cover to allow full maintenance access. The removable cover shall enable access to the supply/extract fan, heat exchanger and access to electrical connections. The motors shall be suitable for removal without the requirement for the unit to be removed from situ and be available as spare parts for a minimum of 10 years even after ceasing manufacture of the unit.

The units shall conform to LVD and EMC standards and be CE Marked in addition to having an EU compliant energy rating label (SEC) with a minimum grade of A. The units shall be manufactured by Zehnder.

Operation

The air temperation unit shall be a ComfoCool manufactured by Zehnder and shall be suitable to mount directly onto a ComfoAir Q600 supply and extract unit mounted onto a floor stand in accordance with the specification.

The air temperation unit shall remove heat energy and moisture from the supply air up to a maximum of circa 32°C. The heat energy shall be transferred from the supply air to the exhaust air and directed to outside via the ComfoAir Q600 system with enthalpy cube. The units shall not require external units but instead only rely on the intake and exhaust terminations of the ComfoAir Q600 unit. The dehumidification of the air creates condensation which shall be drained to the waste water system.

The air temperation unit shall have the ability to activate or deactivate automatically based on the selected temperature profile with the ability to automatically increase the ventilation rate if required. The air temperation unit shall only be active in summer and automatically disable during the winter months.

The supply and extract ventilation unit shall be a ComfoAir Q manufactured by Zehnder and shall be suitable to mount on a floor stand, wall or in a cupboard in accordance with the specification.

The fresh filtered air from outside shall be supplied to each of the habitable rooms and pre-heated by the warm extract air from the wet areas, such as kitchen or bathroom, via the plastic counter flow heat exchanger. The ventilation unit shall vary its speed of the EC motors automatically when it receives a signal from one of the inbuilt sensors or via external switches.

Consultant Specification

Controls

The ComfoCool Q unit shall contain the following functions within the unit pre-wired and factory fitted by the manufacturer:

- Temperature sensors to monitor internal and external conditions in addition to the supply air to determine when to activate

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

- Dial-a-duty motor control
- 4 Variable speed flow rate set points
- Automatic filtered modulating summer bypass with timed manual override option
- Heat exchanger frost protection
- Commissioning wizard to enable commissioning of the unit
- Integral service, fault and operation indicators
- Control panel PIN protection
- Tool free filter access
- Humidity sensors to operate the unit in response to humidity spikes above natural background humidity levels as opposed to a single threshold humidity point to activate the high set point
- Automatic passive boost for night time cooling
- Variable overrun timer relative to high speed activation period

All ComfoAir Q units shall contain the following options when combined with relevant ancillaries:

- BMS compatibility via KNX protocol option (ComfoConnect KNX C)
- Wi-Fi connectivity option (ComfoConnect LAN C)
- RFZ wireless connectivity option (RF-PCB or ComfoSense C 67)
- Switched live input option (Option Box)
- Volt free contact option (Option Box)
- 0-10V input option (Option Box)
- Pre-heater frost protection option
- Post-heater control option (Option Box)
- Control input for single or multiple capacitive touch speed controllers with 7 day programmer capabilities (ComfoSense C 67)
- Control input for single or multiple 4 speed manual/auto controller with filter alert (ComfoSwitch C 67)

ComfoControl RFZ



The Zehnder CCRFZ is a three position switch designed to enable the user to manually select the desired ventilation systems flow rate and provide system notifications. This controller can only be used in conjunction with the ComfoSense 67, ComfoSense C67 or with the RF-PCB.

Key Benefits

- Wireless controller
- 3 separate ventilation flow rate options to select in 1 controller
- 2 temporary high speed activation settings
- Service and Maintenance alert

Technical Specification

Mounting options	Surface
Supply voltage	Powered by a coincell lithium battery (type: CR 2032)
IP rating	IP40
RAL colour	9010

Dimensions (surface mounted)

Height	80mm
Width	80mm
Depth	14mm

Description

Suitable for use with MVHR units:

Product Code

Article

CCRFZ

Zehnder ComfoAir 160 Luxe	471218960
Zehnder ComfoAir 160 Luxe with pre-heater	471218915
Zehnder ComfoAir 180 Luxe	471212380
Zehnder ComfoAir 180 Luxe with pre-heater	471212385
Zehnder ComfoAir 200 Luxe, left handed	471226210
Zehnder ComfoAir 200 Luxe, right handed	471226215
Zehnder ComfoAir 200 Luxe with pre-heater, left handed	471226310
Zehnder ComfoAir 200 Luxe with pre-heater, right handed	471226315
Zehnder ComfoAir Q350	471502015
Zehnder ComfoAir Q350 with pre-heater, right handed	471502016
Zehnder ComfoAir Q350 with pre-heater, left handed	471502017
Zehnder ComfoAir Q350 with enthalpy exchanger	471502018
Zehnder ComfoAir Q450	471502019
Zehnder ComfoAir Q450 with pre-heater, right handed	471502020
Zehnder ComfoAir Q450 with pre-heater, left handed	471502021
Zehnder ComfoAir Q450 with enthalpy exchanger	471502022
Zehnder ComfoAir Q600	471502023
Zehnder ComfoAir Q600 with pre-heater, right handed	471502024
Zehnder ComfoAir Q600 with pre-heater, left handed	471502025
Zehnder ComfoAir Q600 with enthalpy exchanger	471502026

ComfoSense C 67

The Zehnder ComfoSense C 67 is a four position switch designed to enable the user to manually select the desired ventilation systems flow rate and provide system notifications.



Key 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

Technical Specification

Mounting options	Recessed / Surface
Supply voltage	Low voltage direct from the MVHR units ComfoNET connector
IP rating	IP44
Recommended cable	4 core cable, 1mm Max. (up to 50 metres)
RAL colour	9016

Dimensions (recessed)

Height	80mm
Width	80mm
Depth	12mm

Dimensions (surface mounted)

Height	80mm
Width	80mm
Depth	48.5mm

Description

Suitable for use with MVHR units:

Product Code

Article

655010235

Zehnder ComfoAir Q350	471502015
Zehnder ComfoAir Q350 with pre-heater, right handed	471502016
Zehnder ComfoAir Q350 with pre-heater, left handed	471502017
Zehnder ComfoAir Q350 with enthalpy exchanger	471502018
Zehnder ComfoAir Q450	471502019
Zehnder ComfoAir Q450 with pre-heater, right handed	471502020
Zehnder ComfoAir Q450 with pre-heater, left handed	471502021
Zehnder ComfoAir Q450 with enthalpy exchanger	471502022
Zehnder ComfoAir Q600	471502023
Zehnder ComfoAir Q600 with pre-heater, right handed	471502024
Zehnder ComfoAir Q600 with pre-heater, left handed	471502025
Zehnder ComfoAir Q600 with enthalpy exchanger	471502026

ComfoSwitch C 67



The Zehnder ComfoSwitch C 67 is a four position switch designed to enable the user to manually select the desired ventilation systems flow rate and provide system notifications.

Key Benefits

- 4 separate ventilation flow rate options to select in 1 controller
- Temporary high speed activation setting
- Service and Maintenance alert

Technical Specification

Mounting options	Recessed / Surface
Supply voltage	Low voltage direct from the MVHR units ComfoNET connector
IP rating	IP44
Recommended cable	4 core cable, 1mm Max. (up to 50 metres)
RAL colour	9016

Dimensions (recessed)

Height	80mm
Width	80mm
Depth	12mm

Dimensions (surface mounted)

Height	80mm
Width	80mm
Depth	48.5mm

Description

Suitable for use with MVHR units:

Product Code

Article

655010255

Zehnder ComfoAir Q350	471502015
Zehnder ComfoAir Q350 with pre-heater, right handed	471502016
Zehnder ComfoAir Q350 with pre-heater, left handed	471502017
Zehnder ComfoAir Q350 with enthalpy exchanger	471502018
Zehnder ComfoAir Q450	471502019
Zehnder ComfoAir Q450 with pre-heater, right handed	471502020
Zehnder ComfoAir Q450 with pre-heater, left handed	471502021
Zehnder ComfoAir Q450 with enthalpy exchanger	471502022
Zehnder ComfoAir Q600	471502023
Zehnder ComfoAir Q600 with pre-heater, right handed	471502024
Zehnder ComfoAir Q600 with pre-heater, left handed	471502025
Zehnder ComfoAir Q600 with enthalpy exchanger	471502026

ComfoConnect KNX C

The Zehnder ComfoConnect KNX C enables the connection between the ventilation system and the KNX building management system.



Key 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

Technical Specification

Supply voltage	Low voltage direct from the MVHR units ComfoNET connector
IP rating	IP30
Recommended cable	4 core cable, 1mm Max. (up to 50 metres)
RAL colour	9010
Device model	System B
Supported configuration mode	S-Mode
Supported ETS version	5
Zehnder KNX library available at	www.zehnder.co.uk

Dimensions (surface mounted)

Height	120mm
Width	76mm
Depth	24mm

Description

Suitable for use with MVHR units:

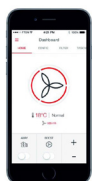
Product Code

Article

655011120

Zehnder ComfoAir Q350	471502015
Zehnder ComfoAir Q350 with pre-heater, right handed	471502016
Zehnder ComfoAir Q350 with pre-heater, left handed	471502017
Zehnder ComfoAir Q350 with enthalpy exchanger	471502018
Zehnder ComfoAir Q450	471502019
Zehnder ComfoAir Q450 with pre-heater, right handed	471502020
Zehnder ComfoAir Q450 with pre-heater, left handed	471502021
Zehnder ComfoAir Q450 with enthalpy exchanger	471502022
Zehnder ComfoAir Q600	471502023
Zehnder ComfoAir Q600 with pre-heater, right handed	471502024
Zehnder ComfoAir Q600 with pre-heater, left handed	471502025
Zehnder ComfoAir Q600 with enthalpy exchanger	471502026

ComfoConnect LAN C



Zehnder ComfoControl
App

The Zehnder ComfoConnect LAN C enables the connection between the ventilation system and the ComfoControl app for iPhone and Android devices.

Key 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

Technical Specification

Supply voltage	Low voltage direct from the MVHR units ComfoNET connector
IP rating	IP30
Recommended cable	4 core cable, 1mm Max. (up to 50 metres)
RAL colour	9010

Dimensions (surface mounted)

Height	120mm
Width	76mm
Depth	24mm

Description

Suitable for use with MVHR units:

Product Code

Article

655011100

Zehnder ComfoAir Q350	471502015
Zehnder ComfoAir Q350 with pre-heater, right handed	471502016
Zehnder ComfoAir Q350 with pre-heater, left handed	471502017
Zehnder ComfoAir Q350 with enthalpy exchanger	471502018
Zehnder ComfoAir Q450	471502019
Zehnder ComfoAir Q450 with pre-heater, right handed	471502020
Zehnder ComfoAir Q450 with pre-heater, left handed	471502021
Zehnder ComfoAir Q450 with enthalpy exchanger	471502022
Zehnder ComfoAir Q600	471502023
Zehnder ComfoAir Q600 with pre-heater, right handed	471502024
Zehnder ComfoAir Q600 with pre-heater, left handed	471502025
Zehnder ComfoAir Q600 with enthalpy exchanger	471502026

Option Box

The Zehnder Option Box enables the connection between the ventilation system and various other external components.



Key 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

Technical Specification

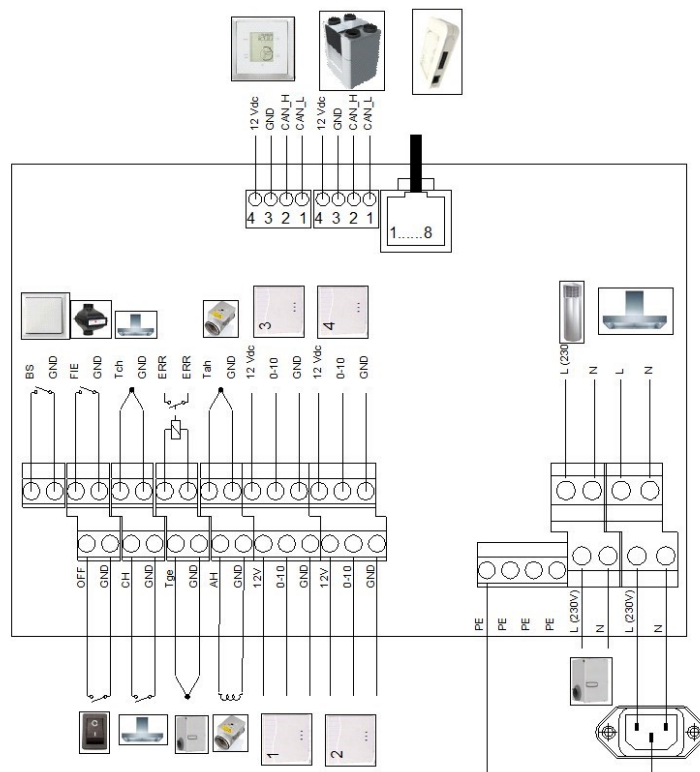
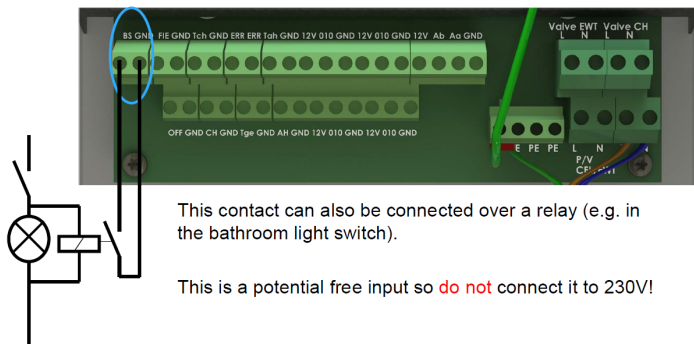
Supply voltage	Low voltage direct from the MVHR units ComfoNET connector Mains power - 230V / single-phase / 50Hz
IP rating	IP40
Recommended cable	4 core cable, 1mm Max. (up to 50 metres)
RAL colour	9018

Dimensions (surface mounted)

Height	253mm
Width	178mm
Depth	60mm

Wiring

The Bathroom Switch connection option - II



Description

Suitable for use with MVHR units:

Product Code

Article

471502105

Zehnder ComfoAir Q350	471502015
Zehnder ComfoAir Q350 with pre-heater, right handed	471502016
Zehnder ComfoAir Q350 with pre-heater, left handed	471502017
Zehnder ComfoAir Q350 with enthalpy exchanger	471502018
Zehnder ComfoAir Q450	471502019
Zehnder ComfoAir Q450 with pre-heater, right handed	471502020
Zehnder ComfoAir Q450 with pre-heater, left handed	471502021
Zehnder ComfoAir Q450 with enthalpy exchanger	471502022
Zehnder ComfoAir Q600	471502023
Zehnder ComfoAir Q600 with pre-heater, right handed	471502024
Zehnder ComfoAir Q600 with pre-heater, left handed	471502025
Zehnder ComfoAir Q600 with enthalpy exchanger	471502026

ComfoSplitter



The Zehnder ComfoSplitter enables 5 additional ComfoNet connectivity options to the ventilation system.

Key Benefits

- 2 additional ComfoNet connectivity options when unpowered
- 5 additional ComfoNet connectivity options when powered

Technical Specification

Supply voltage	Low voltage direct from the MVHR units ComfoNET connector Mains power - 230V / single-phase / 50Hz
IP rating	IP22
Recommended cable	4 core cable, 1mm Max. (up to 50 metres)
RAL colour	9018

Dimensions (surface mounted)

Height	108mm
Width	53mm
Depth	23mm

Description

Suitable for use with MVHR units:

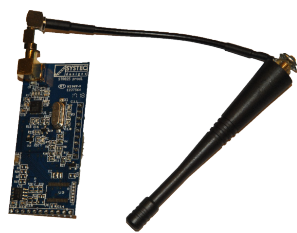
Product Code

Article

655010275

Zehnder ComfoAir Q350	471502015
Zehnder ComfoAir Q350 with pre-heater, right handed	471502016
Zehnder ComfoAir Q350 with pre-heater, left handed	471502017
Zehnder ComfoAir Q350 with enthalpy exchanger	471502018
Zehnder ComfoAir Q450	471502019
Zehnder ComfoAir Q450 with pre-heater, right handed	471502020
Zehnder ComfoAir Q450 with pre-heater, left handed	471502021
Zehnder ComfoAir Q450 with enthalpy exchanger	471502022
Zehnder ComfoAir Q600	471502023
Zehnder ComfoAir Q600 with pre-heater, right handed	471502024
Zehnder ComfoAir Q600 with pre-heater, left handed	471502025
Zehnder ComfoAir Q600 with enthalpy exchanger	471502026

RF-PCB



The Zehnder RF-PCB enables the CCRFZ to be used with the ventilation system without the need for the ComfoSense C67.

Key Benefits

- Acts as a wireless receiver to the CCRFZ without the need for the ComfoSense C67
- Built into the unit and not visible from the outside

Technical Specification

Mounting options Inside the unit direct to the PCB

Description	Product Code	Article
For use with MVHR		400502016
Zehnder ComfoAir Q350	471502015	
Zehnder ComfoAir Q350 with pre-heater, right handed	471502016	
Zehnder ComfoAir Q350 with pre-heater, left handed	471502017	
Zehnder ComfoAir Q350 with enthalpy exchanger	471502018	
Zehnder ComfoAir Q450	471502019	
Zehnder ComfoAir Q450 with pre-heater, right handed	471502020	
Zehnder ComfoAir Q450 with pre-heater, left handed	471502021	
Zehnder ComfoAir Q450 with enthalpy exchanger	471502022	
Zehnder ComfoAir Q600	471502023	
Zehnder ComfoAir Q600 with pre-heater, right handed	471502024	
Zehnder ComfoAir Q600 with pre-heater, left handed	471502025	
Zehnder ComfoAir Q600 with enthalpy exchanger	471502026	