

Zehnder ComfoAir Q 600

always the
best climate

The 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. It contains features such as its automatic modulating true summer by-pass, world class heat recovery efficiency and integrated humidity sensor to provide a comfortable, healthy and energy-efficient indoor climate.



CCRFZ Radio Frequency



ComfoSense C67



ComfoSwitch C67



Zehnder ComfoControl
App

Key Features

- 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.

SAP PCDB Test Results

SEC Class

	SFP (W/I/s)		Efficiency (%)	
	2009	2012	2009	2012
K+1		0.63		96%
K+2	0.63	0.60	96%	95%
K+3	0.57	0.63	95%	94%
K+4	0.57	0.71	95%	94%
K+5	0.61	0.79	94%	93%
K+6	0.67	0.91	94%	93%
K+7	0.75	1.06	94%	93%



Based on average climate with
local demand control

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%



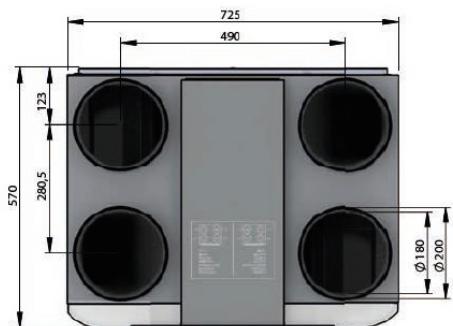
Technical Specification

Weight	50 Kg
Ducting ø	Internal - 180 mm External - 200 mm
Condensate connection ø	32 mm
Filter grade	Standard - ISO Coarse >65% / ISO Coarse >65% (G4 / G4) Optional - ISO Coarse >65% / ISO ePM1 >55% (G4 / F7)
Materials	Internal EPP / ABS External coated sheet steel
Supply voltage	230V / single-phase / 50Hz
Maximum power consumption including / excluding pre-heater	2620W / 350W
Current draw including / excluding pre-heater	12.7A / 2.77A
Fuse rating including / excluding pre-heater	13 / 3 amp
Specific Fan Power	0.6 W/l/s
Heat Recovery Efficiency	96%
Pre-heater power	2.4kW

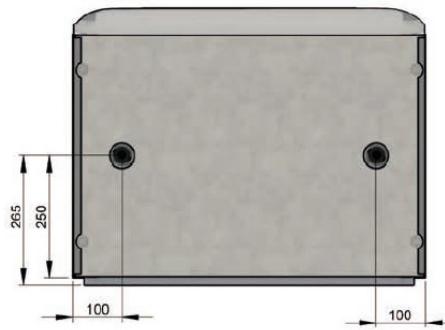
Dimensions

Height	850 mm
Width	725 mm
Depth	570 mm

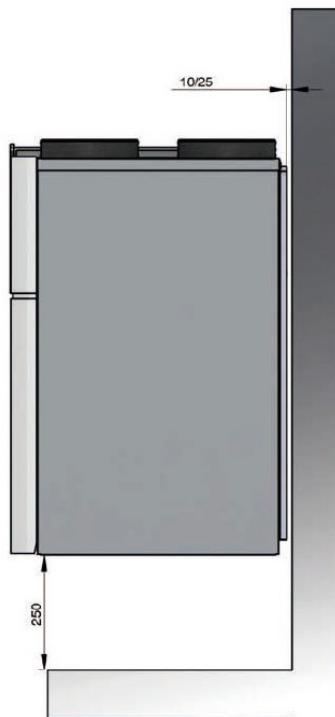
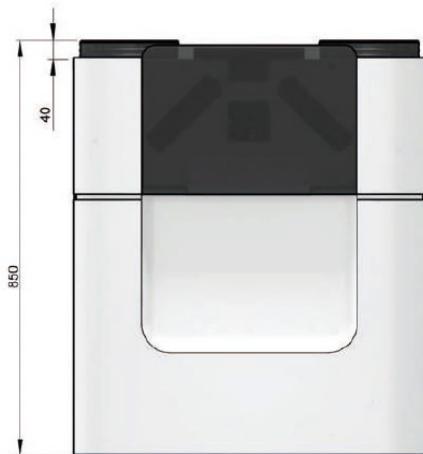
Dimensions



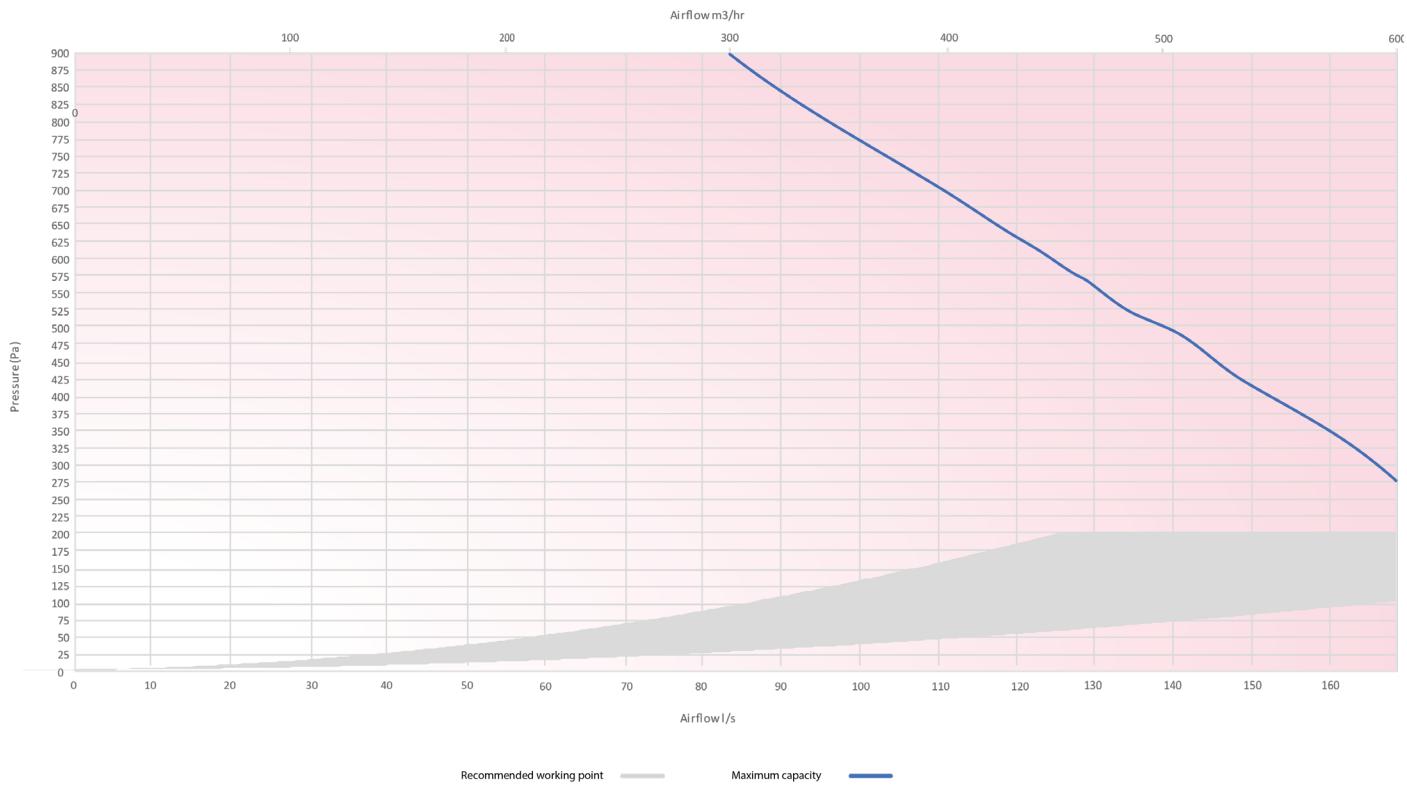
Top view



Rear view



Pressure Curve



Resistance Guard cap at 400Pa

Sound Data

Speed	Test area	Octave Band (Hz) Sound Power Level, dB							dB(A) @ 3m
		125	250	500	1000	2000	4000	8000	
20%	Casing	43.3	42.9	34.2	30.3	24.2	15.6	12.1	20.2
	Supply/Exhaust	52.8	51.9	42.9	39.2	35.2	25.6	12.9	
	Extract/Intake	45.7	43.5	31.3	26.1	21.5	14.1	16.3	
40%	Casing	47.4	48.2	41.8	36.7	32.3	26.0	21.0	26.5
	Supply/Exhaust	58.3	59.2	51.9	46.9	44.1	37.0	26.4	
	Extract/Intake	51.8	49.6	39.7	32.4	28.2	22.1	19.8	
60%	Casing	52.3	54.6	50.8	44.2	38.5	38.5	31.8	34.5
	Supply/Exhaust	64.9	67.9	62.6	56.2	50.7	50.7	42.7	
	Extract/Intake	59.0	56.9	49.9	39.9	31.7	31.7	24.0	
80%	Casing	56.8	60.4	59.1	51.1	49.8	49.8	41.5	42.4
	Supply/Exhaust	70.9	75.8	72.4	64.6	63.2	63.2	57.4	
	Extract/Intake	65.6	63.5	59.2	46.7	40.4	40.4	27.8	
100%	Casing	57.9	61.8	61.1	52.8	52.5	52.5	43.9	44.4
	Supply/Exhaust	72.4	77.7	74.7	66.6	66.2	66.2	61.0	
	Extract/Intake	67.3	65.1	61.4	48.3	42.5	42.5	28.8	

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.

Controls

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

Description

Product Code

Suitable for use with MVHR units:

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

Dimensions (recessed)

Height	80mm
Width	80mm
Depth	12mm

Dimensions (surface mounted)

Height	80mm
Width	80mm
Depth	48.5mm

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

Description

Product Code

Suitable for use with MVHR units:

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

Dimensions (recessed)

Height	80mm
Width	80mm
Depth	12mm

Dimensions (surface mounted)

Height	80mm
Width	80mm
Depth	48.5mm

Article

655010255

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

Description

Suitable for use with MVHR units:

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

Dimensions (surface mounted)

Height	80mm
Width	80mm
Depth	14mm

Article

CCRFZ

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	Front: 9003 Back: 7024
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	25mm

Description

Suitable for use with MVHR units:

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

Article

655011120

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	Front: 9003	Back: 7024

Dimensions (surface mounted)

Height	120mm
Width	76mm
Depth	25mm

Description

Suitable for use with MVHR units:

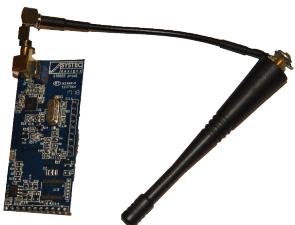
Product Code

Article

655011100

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
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Product Code

Article

400502016

Description	
For use with MVHR	
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

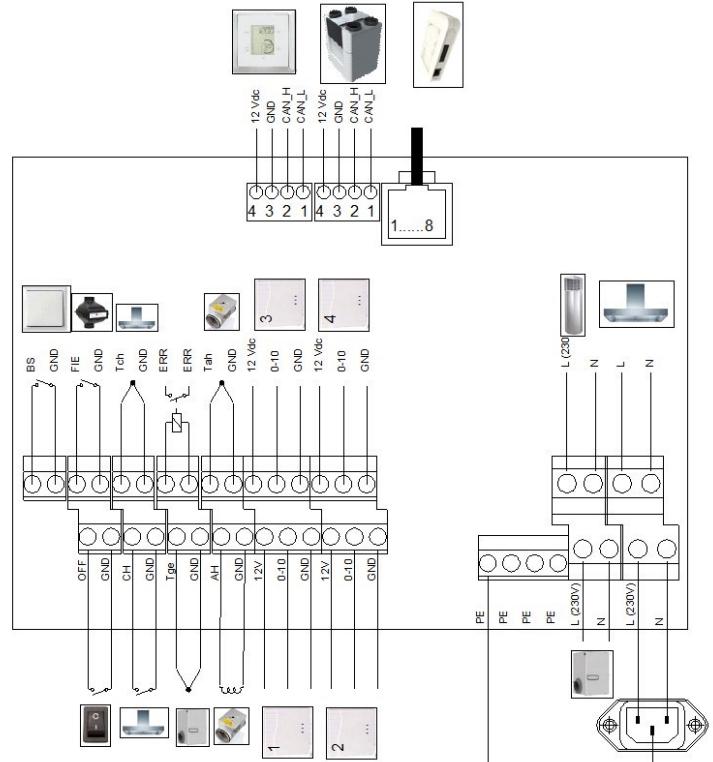
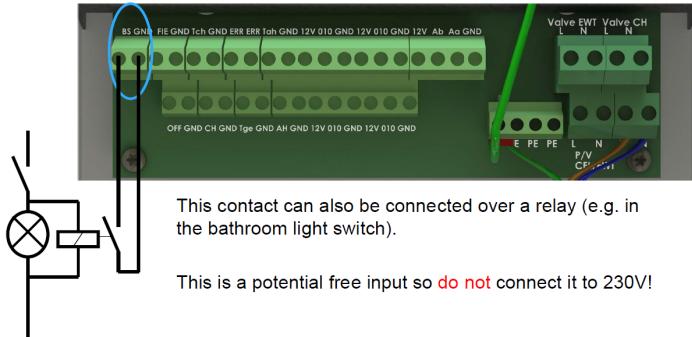
Supply voltage	Low voltage direct from the MVHR units ComfoNET connector Mains power - 230V / single-phase / 50Hz
IP rating	IP40
Recommended cable	4 core cable, 1mm Max. (up to 50 metres)
RAL colour	9018

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

Consultant Specification

Specification

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

Operation

The supply and extract 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 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.

The unit shall have the ability to adjust and commission the supply and extract motors independently via the front mounted in-built LCD interface. The motors shall both automatically adjust independently to the system pressure to achieve the input flow rate.

Controls

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)