Lo-Carbon Sentinel Econiq Cool-Flow

- Up to 3.78kW of cooling provided
- Activated automatically at 24°C to prevent overheating to meet Part O and TM59
- Lowers fresh air supply temperature from ambient temperatures by up to 21°C
- R32 refrigerant with a GWP of 675, 50% lower than R134a
- EER up to 4.12
- App allowing full commissioning and control of activation
- Sentinel-X Wireless Temperature Sensors available
- Best in class SFP's and thermal efficiencies up to 93%
- Sound data independently tested and verified by SRL
- Wall mounted and Floor Standing options available
- Designed with 200mm spigots to provide maximum cooling and minimal noise levels all at low system pressures

CODE	DESCRIPTION
413887	Sentinel Econiq Cool-Flow Wall Mounted Kit
413888	Sentinel Econiq Cool-Flow Floor Mounted Kit
411628	Wall Mounting Kit for Controller
411690	ISO 60% Coarse (G4) Filter 2 per Pack
411691	ISO ePM10 50% (M5) Filter 1 per Pack
411692	ISO ePM2.5 70% (F7) Filter 1 per Pack

Code	Power	Colour	CO_2	PIR	Temp.	Humidity	Wireless	4 Speed Switch
496431	Battery	White			✓	✓	✓	
496437	Battery	White			✓	✓	✓	✓
497689	Battery	Black			✓	✓	✓	✓
496432	0-10V	White	✓		✓	✓		
496429	240V	White			✓	✓	✓	
496433	240V	White	✓		✓	✓	✓	
496438	240V	White		✓			✓	
496620	240V	White			✓	✓	✓	✓
497693	240V	Black			✓	✓	✓	✓
496621	240V	White			✓	✓		✓
497697	240V	Black			✓	✓		✓

For more Controller & Sensor information go to page 32

Designed to mitigate overheating conditions in the warmer months meeting the requirements of Residential Part O and TM59 standards. Lo-Carbon Sentinel Econiq Cool-Flow is Vent-Axia's latest flagship mechanical ventilation with heat recovery system combined with our Intelligent Econiq Cool-Flow Module. Designed in the UK, it offers the highest level of comfort and functionality all year round.

Vent-Axia's Lo-Carbon Sentinel Econiq Cool-Flow is a self-contained solution designed to fit within a POD or standard utility cupboard. Connection to the unit will be made utilising the 200mm spigots and Vent-Axia's Thermflow ducting which will have a thermal conductivity of no less than 0.038 W/(m·K).

In the cooler months the Lo-Carbon Sentinel Econiq Cool-Flow provides up to 93% Heat Recovery ensuring heating bills are kept to an absolute minimum, in the warmer months our Intelligent 100% summer bypass will ensure free cooling is used wherever possible to ensure the internal comfort temperature is not exceeded.

If the 100% automatic intelligent summer bypass is not able to utilise internal/external free cooling conditions to reduce overheating, Vent-Axia's Lo-Carbon Sentinel Econiq Cool-Flow will automatically detect excessive increase in temperature within the dwelling. This will operate until the internal dwelling comfort temperature is met to ensure the dwelling does not overheat beyond Part O and TM59 parameters or the comfort temperatures set by the user. Manual boost is also possible for the end user if they wish to override the automatic cooling mode as is the ability to turn then cooling on/off.

Air Quality and Health

The MVHR filter options offer numerous benefits, including improved indoor air quality by removing allergens and particulate matter. They maintain the system's energy efficiency, reduce heating and cooling costs, and enhance the overall longevity of the system. Additionally, they capture bacteria, viruses and VOCs, promoting a healthier living environment. Regular filter maintenance extends the system's life span and ensures uninterrupted operation.

Whatever the outside environment, the system can help improve the indoor air quality by filtering out impurities, with ISO 60% Coarse (G4) supplied as standard, which can filter out sand, fine hair and particles larger than 10µm. Additional filtration can be achieved with a selection of optional filters, such as ISO ePM10 (M5), which can filter pollen, stone dust and particles smaller or equal to 10µm and ISO ePM2.5 (F7), which can filter out mould spores, bacteria and particles smaller or equal to 2.5µm.

The various sensor options allow for flexible installation in individual rooms, supporting effective management of the air in the home. For example, a wireless temperature sensor located within a habitable room helps ensure a healthy and safe environment. A humidity sensor located in the bathroom detects

high levels of moisture can support good indoor air quality. CO_2 sensors can ensure the ppm levels are managed to help promote cognitive function.

Low Noise Levels

The Lo-Carbon Sentinel Econiq Cool-Flow is one of the quietest combined MVHR and cooling systems on the market. The range is designed with an integral acoustic enclosure, made of steel, foam and expanded polypropylene (EPP), minimising breakout noise. The highly efficient motors are mounted on anti-vibration mounts to mitigate vibration transmission.

MVHR Demand Control Ventilation

The Vent-Axia Connect smartphone application allows a multitude of functions to be adjusted from the comfort of the sofa, available on iOS and Android. With smartphone-compatible controls, the homeowner is in full control of their ventilation all year round. They have the flexibility to increase the ventilation rate during hot periods in the summer or reducing the speed to minimise running costs while away. The Sentinel control logic built within the MVHR ensures the system operates optimally with automated functions such as frost protection, summer bypass and cooling providing comfort in the home.

The Lo-Carbon Sentinel Econiq is Vent-Axia's latest flagship mechanical ventilation with heat recovery system. Designed and developed in the UK, it offers the highest level of comfort and functionality all year round.
Introducing a full range of products, with air performance suitable for all types of homes, the new Sentinel-X wireless controls platform delivers complete control over the home environment, provided through a full range of wired/wireless sensors and a smartphone app.

Download on the App Store

GET IT ON Google Play

Cooling Unit Control Strategy

The MVHR controller shall automatically switch between heat recovery, summer bypass and active cooling via the Econiq Cool-Flow Module, continuously measuring internal & external temperatures to maintain comfort thresholds efficiently. The Econiq Cool-Flow Module can only be activated if both MVHR fans are running. In addition to the standard automatic cooling, provision shall also be made to allow active cooling to be disabled and enabled:

- Cooling permanently switched off – the user may choose to isolate the Econiq Cool-Flow Module from the mains. As such the power supply should be monitored so as to not flag a fault under these (intentional) conditions
- Cooling disabled off by schedule – the user may choose either a weekly or databased schedule (e.g. Holiday mode) to prevent Econiq Cool-Flow Module to be active for the duration.
- Cooling enabled user override – Such as using a switch input on the MVHR overriding demand for cooling regardless of settings/schedules. The cooling unit will have additional temperature sensors built-in and flow rates may be increased automatically to ensure internal component temperatures are not exceeded, Econiq Cool-Flow Module may be temporarily disabled for a period to allow the compressor to cool down in extreme cases.

A Whole New Experience

The highly sculpted interior surfaces, designed using the latest CFD techniques, ensure airflows are maximised through the unit, minimising noise and energy use. This feature alone provides an experience, that will delight homeowners, providing the most discrete and highly efficient ventilation available.

Integral Humidity Sensor

The integral humidity sensor increases speed in proportion to relative humidity levels, saving energy and reducing noise. The sensor also reacts to small but rapid increases in humidity, even if the normal trigger threshold is not reached. This unique feature ensures adequate ventilation, even for the smallest wet room. The nighttime relative humidity setback feature suppresses nuisance tripping as humidity gradually increases with falling temperatures.

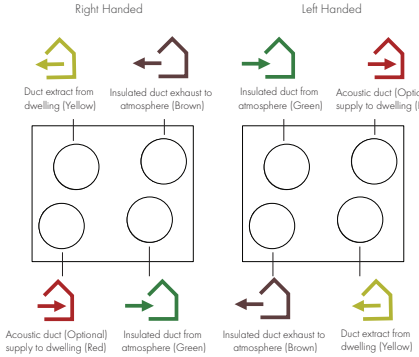
SEC Class

Model	SEC Class
Econiq L	A+

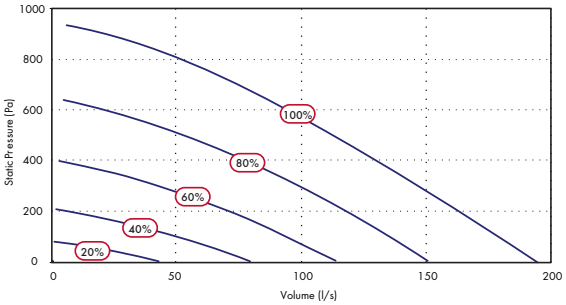
SAP PCDB Test Results (Econiq L)

	Thermal Efficiency %	SFP (W/l/s)
K+1	93	0.56
K+2	93	0.53
K+3	93	0.56
K+4	92	0.62
K+5	91	0.72
K+6	91	0.84
K+7	90	1.01

Spigot Configuration



Performance



Please note: The Econiq Cool-Flow Module must have a minimum of 83 l/s from the MVHR to ensure components do not overheat. 20% and 40% fan curves are only to be used for the MVHR running without cooling.

	External Conditions		Internal Conditions				Econiq Cool-Flow Module			Econiq Cool-Flow	
	Dry Bulb Temp (°C)	Wet Bulb Temp (°C)	Dry Bulb Temp (°C)	Wet Bulb Temp (°C)	Airflow (l/s)	Supply Air (°C)	Power In (kW)	EER	Cooling Capacity (kW)	EER	Cooling Capacity (kW)
*	35	24	27	19	83	14.06	1.15	1.72	1.97	1.99	2.15
					111	15.00	1.06	2.33	2.47	2.91	2.72
					139	16.02	1.01	2.85	2.88	4.15	3.26
					167	16.58	0.96	3.53	3.39	3.74	3.78
	31	22	27	19	83	12.84	1.10	1.38	1.80	1.66	1.86
					111	14.04	1.02	1.86	2.23	2.21	2.31
					139	15.18	0.97	2.29	2.67	2.71	2.71
					167	15.58	0.94	2.74	2.98	3.27	3.14
**	27	19	27	19	83	10.86	1.04	1.65	1.72	1.57	1.65
					111	11.98	0.98	2.23	2.18	2.09	2.05
					139	12.66	0.94	2.71	2.54	2.61	2.43
					167	13.68	0.90	3.22	2.91	3.02	2.74

* ErP & BS EN 13141-7:2021 Cooling performance test conditions
** BS EN 13141-7:2021 Cooling performance test condition

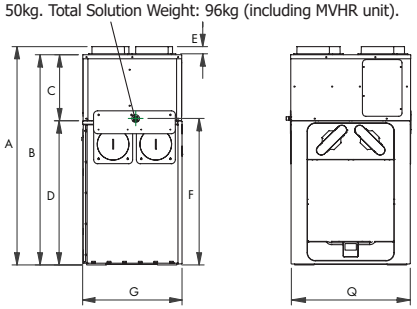
Sound Data (Sentinel Econiq Cool-Flow)

Conditions (Summer Bypass Closed)				Octave Band (Hz) Sound Power Levels (dB)								Sound Pressure dB(A)	
Airflow (l/s)	Supply Speed (%)	Extract Speed (%)	Test Mode	63	125	250	500	1k	2k	4k	8k	Lw(A)	Lp(A) @ 3m
83	53	51	Supply	66.6	62.5	61.3	56.1	53.7	47.3	37.5	28.1	58.8	41.3
			Extract	67.4	53	52.8	41.5	40.9	32.7	25.7	23.7	47.9	30.4
			Breakout	62	56.4	57.6	46.9	46.5	38.9	30.5	26.2	52.4	31.9
102	64	61	Supply	66.5	64.5	67.3	62	57.1	51.8	41.5	30.7	63.7	46.2
			Extract	70.9	56	54.2	43.8	42.5	35.5	28.5	24.5	50	32.5
			Breakout	61.3	59.7	56.7	51.3	49.3	43	35.3	29.3	54.3	33.8
111	74	71	Supply	67.7	66.4	62.4	66.6	59	54.3	44.9	33.8	65.4	47.9
			Extract	71.1	56.8	53.6	46.6	43.1	37.1	29	26.4	50.5	33
			Breakout	61.7	62.3	56.3	58	51	45.6	36.5	29.4	57.2	36.7
132	77	77	Supply	68.2	67.5	63	68.3	59.9	55.8	47.1	35.7	66.9	49.4
			Extract	71.4	57.5	55	48.5	44.8	38.9	30.5	25.8	51.8	34.3
			Breakout	62.3	61.8	56.6	59.6	52.2	47	37.7	29	58.2	37.7
139	88	84	Supply	70.1	68.9	65	69.7	62.1	58.2	51.1	40	68.7	51.2
			Extract	70.9	59.5	55.4	51	46.6	40.8	33.7	26.3	53.2	35.7
			Breakout	64.1	63.7	57.5	57.9	53.6	49	41.1	31.9	58.7	38.2
167	100	100	Supply	79.7	72.7	67.2	71.5	64.6	60.8	55.5	44.8	71.2	53.7
			Extract	76	63.1	57.8	52.5	49.2	43.8	38.2	27.2	56.1	38.6
			Breakout	68.7	66.4	58.8	62.4	57.2	52.3	45.9	34.7	62.8	42.3

Sound Data
(Sentinel Econiq L MVHR only)

Speed	Test mode	Octave Band (Hz) Sound Power Levels, dB 63	125	250	500	1k	2k	4k	8k	LwA	SPL dB(A) @ 3m
20%	Supply	52.9	50.9	46.8	43.0	34.6	27.1	19.2	25.4	43.9	26.4
	Extract	50.3	49.0	36.0	31.5	23.6	16.1	18.9	25.3	36.4	18.9
	Breakout	34.6	34.8	35.7	34.9	29.6	25.1	21.0	25.3	36.0	15.5
40%	Supply	59.5	56.5	59.4	55.0	48.2	42.6	31.8	26.1	55.9	38.4
	Extract	51.9	51.3	50.4	41.2	35.0	25.3	19.8	25.4	44.8	27.3
	Breakout	40.2	42.6	46.5	45.4	41.0	36.2	25.5	25.3	46.5	26.0
60%	Supply	66.9	62.4	63.3	62.0	57.9	53.5	43.4	34.2	63.2	45.7
	Extract	60.6	60.3	54.2	49.5	44.4	36.2	27.9	26.3	51.7	34.2
	Breakout	45.5	49.8	52.5	53.1	49.7	46.7	36.2	26.9	54.5	34.0
80%	Supply	82.4	67.6	65.2	67.6	64.2	60.8	50.8	43.2	69.2	51.7
	Extract	75.5	68.6	59.3	56.0	48.3	44.2	36.9	31.3	58.6	41.1
	Breakout	59.2	55.0	56.8	60.0	55.4	53.9	44.1	33.4	61.0	40.5
100%	Supply	79.4	69.6	66.6	75.1	64.9	63.6	53.4	45.7	73.7	56.2
	Extract	72.4	70.5	60.5	56.4	49.8	46.3	39.0	33.4	59.5	42.0
	Breakout	63.0	57.1	58.5	63.7	56.8	55.9	46.4	36.2	63.5	43.0

Unit Dimensions (mm)
Econiq Cool-Flow Module Weight: 50kg. Total Solution Weight: 96kg (including MVHR unit).

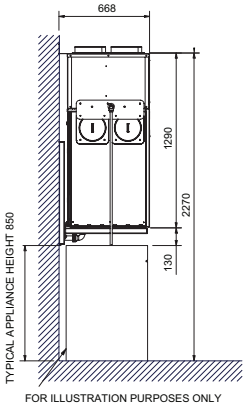


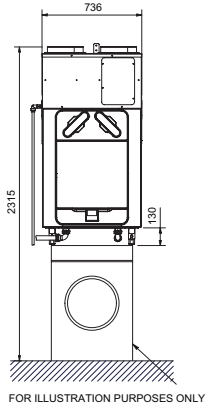
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1335	1285	403	881	45	895	608	451	184	138	531	157	200	424	597	204	736

Wiring connections front and back, allowing LH & RH fitting by rotating unit 180deg

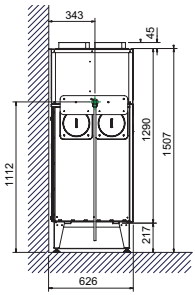
Mounting Dimensions (mm)

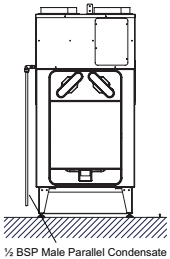
Wall





Floor





MVHR Overview

Feature	Sentinel Econiq L
Recommended max system flow	167 l/s @ 150 Pa
Part F Compliant App Commissioning Certificate	✓
RF858 connectivity, 802.11b/g/n WiFi and Bluetooth low energy 4.2	✓
Spigot Options	Vertical Only
Spigot size	200mm
Left/Right Hand Orientation Through Control	✓
Fully automatic 100% summer bypass	✓
Active Frost Protection to -20°C	✓
Fault Code Indicator	✓
Easy Access Filters: ISO Coarse 65% (G4)	✓
Easy Access Filters: ISO ePM10 50% (M5)	O
Easy Access Filters: ISO ePM2.5 70% (F7)	O
Clean Filter Indicator (Time frame)	✓
PIN Number Lock	✓
Running Time Indicator	✓
Enthalpy Heat Exchanger	O
Soft-Start Boost	✓
Delay-On	✓
Number of controllable speeds	4
Installer function to copy/load unit setup	✓
Inputs 2 x 0-10V; 2 x LS; 5 x Volt-Free	✓
Integral Humidistat	✓
Relay outputs - For example control heaters or geothermal heat exchanger	O
BMS - modbus supported over RS485	✓
Operating ambient temperature (°C)	-20 to +40
Operating Humidity (%RH)	0 to 95
Mounting	Wall or Floor
Maintenance access	From Front

O - Denote Optional

Econiq Cool-Flow Module Overview

Feature	Econiq Cool-Flow Module
Up to 3.78kW of cooling provided	✓
Activated automatically at 24C to prevent overheating to meet Part O and TM59	✓
Utilising R32 refrigerant providing a GWP of 675	✓
EER up to 4.12	✓
Lowers incoming air by up to 21°C	✓

Consultant's Specification

Specification - Econiq Cool-Flow Module
The Econiq Cool-Flow Module shall be manufactured with a RAL9003 powder coated mild steel outer case construction and be fully insulated for thermal and acoustic performance.

The unit shall have easy access to the front of the unit via the access panel for access to Controls (including Control PCBA, Run Capacitor, Relay and connections board).

The Econiq Cool-Flow Module shall include a factory fitted gasket creating an airtight seal with the MVHR. The Econiq Cool-Flow Module shall also be supplied with mounting brackets to mechanically fix the Econiq Cool-Flow Module to the MVHR along with an upper bracket to be fitted between the Econiq Cool-Flow Module and the wall, ensuring unit stability.

The maximum weight of the combined solution shall not exceed 100kg for the Econiq Cool-Flow Module and MVHR combined, the Lo-Carbon Sentinel Econiq Cool-Flow.

The MVHR and Cooling module assembly shall be supported on the specific floor-mounting stand or specific prefabricated steel brackets.

The Vent-Axia Econiq Cool-Flow Module shall operate in unison with the MVHR unit and never independently.

The Econiq Cool-Flow Module shall provide up to 3.78kW of Cooling, and utilise R32 refrigerant providing a GWP of 675 whilst providing an EER of up to 4.12.

The Lo-Carbon Sentinel Econiq Cool-Flow shall be capable of lowering fresh air supply temperature by up to 21°C.

The Econiq Cool-Flow Module shall be supplied with a two year (parts only) warranty.

Connection to the unit will be made at the 200mm spigots utilising Vent-Axia Thermflow ducting which will have a thermal conductivity of no less than 0.038 W/(m·K).

Condensate Connection will be via the single side which is a LH condensate as standard utilising ½ BSP Parallel, Male threaded connection.

All ducting throughout the system to be fully insulated

Specification - MVHR Unit
The Mechanical Ventilation Heat Recovery Unit shall be the Lo-Carbon Sentinel Econiq L as manufactured by Vent-Axia. It should be sized as indicated on the drawings and shall be in accordance with the particular specification.

The unit shall be fully insulated for thermal and acoustic performance and shall incorporate a high-efficiency composite plastic counter-flow heat exchanger with an independently verified thermal efficiency of up to 93% when tested to EN 308.

The heat exchanger shall be protected by ISO 60% Coarse (G4) grade filters on both exhaust and supply with the facility to accommodate ISO ePM10 (M5), ePM2.5 (F7) or an inline filter such as the Vent-Axia Pure Air Carbon Filter. The built-in filters shall be accessible via tool-free access doors. The heat exchanger, motors, summer bypass and all other serviceable parts shall be accessible through the front of the unit.

The Lo-Carbon Sentinel Econiq L shall automatically vary the ventilation rate via EC/DC motors, as it receives signals from optional or in-built sensor inputs. When a signal is received, the fans shall either vary their speed proportionally or on a normal/boost principle. The unit shall have the facility to commission the supply and extract fans individually via in-built minimum and maximum speed adjustment, alternative wired remote-control unit or via a compatible smartphone using the Vent-Axia Connect application. The fans themselves shall have independent, infinitely variable speed control.

The MVHR unit shall be manufactured with an ABS Outer case construction and an Expanded Polystyrene (EPS) inner chassis with custom motor and impeller mounting features. The inner chassis will assist in reducing noise and act as a large anti-vibration mount avoiding transmission through to the back mounting plate or the base of the unit. The MVHR unit shall be tested to ensure it meets the maximum allowable vibration of no more than 1mm/s, measured on the unit wall fixing points.

The unit shall have a fully automatic 100% summer bypass, integral minimum and maximum infinitely variable speed controls with facia mounted failure indication. The unit shall have low-energy, high efficiency EC/DC fan/motor assemblies with sealed for life bearings. The impellers shall be high-efficiency backward curved centrifugal type, achieving an SFP as low as 0.38W/l/s (EN 308).

The unit shall have two condensate drain outlets for handing to be defined onsite and during commissioning. The unit shall have wireless control capability options, using RF868 connectivity, 802.11b/g/n Wi-Fi and Bluetooth low energy 4.2. The unit shall use RF868 to connect to a wide ecosystem of wireless sensors including but not limited to CO_2 , temperature, and relative humidity. The unit shall be able to engage Wi-Fi to connect to local devices and create a local area network to allow for a larger network to be created for commissioning. The unit shall have Bluetooth low energy 4.2 to allow connectivity onto compatible smartphone devices. The unit shall be constructed with a removable tool free front panel which gives access to the removable on-board controller and other accessories. The EPS panel can then be removed with 4 screws allowing full maintenance access. This shall provide access to the following:

- ✓ Supply or extract fan
- ✓ Heat exchanger
- ✓ Access to the electrical connections

Access shall be provided for wiring termination and setup/commissioning. The unit can be supplied with either a backlit user interface or a blank plate, both of which shall be removable for remote mounting if required. Filters shall be accessed via the two filter drawers found near the top of the unit, the S shall have filter drawers and the M and L shall have filter caps.

Units shall be manufactured by Vent-Axia Ltd.

Standard MVHR Controls
The Lo-Carbon Sentinel Econiq L shall incorporate the following functions through a user interface fitted by the manufacturer or a paired smartphone with the Vent-Axia Connect application:

- ✓ Integral infinitely variable fan speed control on supply and extract.
- ✓ 6 speeds; 4 adjustable
- ✓ Left or Right hand spigot configuration, programmable during commissioning
- ✓ Tool free filter access
- ✓ Integral BMS interfaces – control and status indication
- ✓ Heating interlocks
- ✓ 24V external sensor supply, e.g. PIR sensor
- ✓ 0-10V proportional speed adjustment
- ✓ Volt free contacts
- ✓ Fully automatic summer bypass
- ✓ Filter check facility
- ✓ Control panel PIN number lock

The unit shall incorporate:

- ✓ An integral humidity sensor with the following features: Ambient Response; Raises the humidity trigger point as dwelling temperature reduces.
- ✓ Rapid Response: Monitors the rate of change in humidity and triggers increased airflow even if the humidity trigger threshold is not reached.
- ✓ Proportional Response; incrementally increases the fan speed to reduce noise and reduce energy consumption.
- ✓ RS485 connectivity – Long distance cabling to support multiple sensor connections.
- ✓ RF868 connectivity – Radio reference 868 MHZ for multiple wireless sensors pairing Bluetooth low energy 4.2 – Enable pairing within compatible smartphone device
- ✓ 802.11b/g/n Wi-Fi – Enable localised access point or connect to the local area network using the Vent-Axia Connect application, via a compatible smartphone device
- ✓ The unit shall incorporate an automatic 100% summer bypass damper which monitors internal and external temperatures to maintain the user comfort temperature (default 25°C): -
- ✓ 'Evening Fresh' turns the unit to maximum speed with the bypass operational for 2 hours or until the user comfort temperature is reached (default 25°C).
- ✓ 'Night Time Fresh' will run the unit at maximum speed with the bypass operational throughout the night or until the dwelling reaches minimum temperature (default 14°C).

Independently acoustically tested to BS EN 13141-7:2010

Econiq Cool-Flow Module Controls
The MVHR controller shall automatically switch between heat recovery, summer bypass and active cooling via the Econiq Cool-Flow Module, continuously measuring internal & external temperatures to maintain comfort thresholds efficiently. The Econiq Cool-Flow Module can only be activated if both MVHR fans are running.

In addition to the standard automatic cooling, provision shall also be made to allow active cooling to be disabled and enabled:

- ✓ Cooling permanently switched off – the user may choose to isolate the Econiq Cool-Flow Module from the mains. As such the power supply should be monitored so as to not flag a fault under these (intentional) conditions
- ✓ Cooling disabled off by schedule – the user may choose either a weekly or date-based schedule (e.g. holiday mode) to prevent Econiq Cool-Flow Module to be active for the duration.
- ✓ Cooling enabled user override – Such as using a switch input on the MVHR overriding demand for cooling regardless of settings/ schedules.

The Econiq Cool-Flow Module will have additional temperature sensors built-in and flow rates may be increased automatically to ensure internal component temperatures are not exceeded, Econiq Cool-Flow Module may be temporarily disabled for a period to allow the compressor to cool down in extreme cases.

Sentinel-X Controller

Battery Controllers & Sensors

Battery - Internal Temperature and Humidity - Wireless
Room mounted humidity and temperature sensor for wired or wireless communication with a compatible system. Using an in-built RF 868 MHz (Wireless radio frequency), or RS485 (Wired connection) communication method whilst being powered by batteries.

- Dimensions (HxWxD) (mm) 60 x 60 x 22
- 2 x AAA Batteries
- Temperature range 0~60°C
- Relative humidity range 0-90% RH
- Wireless range 20m closed/100m open
- RF 868MHz Wireless or RS485 Wired communication
- Status LED indicator for pairing, health check and fault conditions
- Mounted using provided back plate

Code
496431

Battery – 4 Speed Switch with Temperature and Humidity - Wireless
Room mounted Speed Switch for wireless communication with a compatible system. Using an in-built RF 868 MHz (Wireless radio frequency) communication whilst being powered by batteries.

- Dimensions (H x W x D) (mm) 90 x 90 x 17
- 2 x AAA Batteries
- Temperature range 0~60°C
- Relative humidity range 0-90% RH
- Wireless range 20m closed/100m open
- RF 868MHz Wireless
- Mounted using provided back plate or compatible with a standard single gang or surface mounted pattress box
- Status LED indicator for pairing, health check and fault conditions

Model	Code
White	496437
Black	497689

HMI Kit

Wall-mounted HMI Kit to suit Econiq models with full HMI
Includes HMI Blank controller, HMI backplate and cable.

- Dimensions (HxWxD) (mm) 90 x 90 x 17
- 240V local power supply required
- Wireless range 20m closed/100m open
- RF 868MHz Wireless or RS485 Wired communication
- Compatible with standard single gang or surface mounted pattress box

Code
411628

0-10V Sensors

0-10V $C0_2$, Temperature and Humidity - Wired
Room mounted CO_2 sensor with 0-10V signal output powered by an external 24V supply.

- Dimensions (HxWxD) (mm) 90 x 90 x 17
- 24V Power supply required
- Temperature range 0~60°C
- Relative humidity range 0-90% RH
- CO_2 range 0-2000PPM
- Compatible with standard single gang or surface mounted pattress box
- Status LED indicator for pairing, health check, faults & air quality traffic light index
- 0-10V Wired Communication

Code
496432

Sentinel-X Controller

240V Controllers & Sensors

240V - Internal Temperature and Humidity - Wireless
Room mounted humidity and temperature sensor for wired or wireless communication with a compatible system. Using an in-built RF 868 MHz (Wireless radio frequency), or RS485 (Wired connection) communication method whilst being powered by a local 240V supply.

- Dimensions (HxWxD) (mm) 90 x 90 x 17
- Power supply 240V
- Temperature range 0~60°C
- Relative humidity range 0-90% RH
- Wireless range 20m closed/100m open
- RF 868MHz Wireless or RS485 Wired communication
- Compatible with standard single gang or surface mounted pattress box
- Status LED indicator for pairing, health check, faults & air quality traffic light index

Code
496429

240V - CO_2, Temperature and Humidity - Wireless
Room mounted CO_2 sensor for wired or wireless communication with a compatible system. Using an in-built RF 868 MHz (Wireless radio frequency), or RS485 (Wired connection) communication method whilst being powered by a local 240V supply.

- Dimensions (HxWxD) (mm) 90 x 90 x 17
- Power supply 240V
- Temperature range 0~60°C
- Relative humidity range 0-90% RH
- CO_2 Range 0-2000 PPM
- Wireless range 20m closed/100m open
- RF 868MHz Wireless or RS485 Wired communication
- Compatible with standard single gang or surface mounted pattress box
- Status LED indicator for pairing, health check, faults & air quality traffic light index

Code
496433

240V - 4 Speed Switch with Temperature and Humidity - Wired
Room mounted Speed Switch for wired communication with a compatible system. Using an in-built RS485 communication method powered by a local 240V supply.

- Dimensions (HxWxD) (mm) 90 x 90 x 17
- Power Supply 240V
- Temperature range 0~60°C
- Relative humidity range 0-90% RH
- Mounted using provided back plate or compatible with standard single gang or surface mounted pattress box
- Status LED indicator for pairing, health check and fault conditions
- RS485 Wired Connection

Model	Code
White	496621
Black	497697

240V - 4 Speed Switch with Temperature and Humidity - Wireless
Room mounted Speed Switch for wireless communication with a compatible system. Using an in-built RF 868 MHz (Wireless radio frequency) communication whilst being powered by a local 240V supply.

- Dimensions (HxWxD) (mm) 90 x 90 x 17
- Power Supply 240V
- Temperature range 0~60°C
- Relative humidity range 0-90% RH
- Wireless range 20m closed/100m open
- RF 868MHz Wireless
- Mounted using provided back plate or compatible with standard single gang or surface mounted pattress box
- Status LED indicator for pairing, health check and fault conditions

Model	Code
White	496620
Black	497693

240V - PIR Sensor - Wireless
Room mounted PIR sensor for wired or wireless communication with a compatible system. Using an in-built RF 868 MHz (Wireless radio frequency), or RS485 (Wired connection) communication method whilst being powered by a local 240V supply. Room mounted presence detector for min/max or on/off control. Wall or ceiling mounting.

- Dimensions (HxWxD) (mm) 90 x 90 x 17
- Power supply 240V
- 5-25min run on timer
- PIR Range 3m
- Compatible with standard single gang or surface mounted pattress box
- Wireless range 20m closed/100m open
- RF 868MHz Wireless or RS485 Wired communication

Code
496438