



**Vent-Axia®**

Improving Indoor Air Quality since 1936

# Lo-Carbon Sentinel Econiq for New Build Residential

Edition 1

[www.vent-axia.com/econiq](http://www.vent-axia.com/econiq)





# Sentinel Econiq

## Built for your Future Homes Standard

Protecting your health and indoor air quality, sustainably

As the drive towards carbon neutrality continues to push forward, the challenge of further lowering Dwelling Emission Rates (DER) requires continuous improvement from all within the building services industry. Compliance to tightening regulations is paramount and it is the duty of the manufacturer to look forward and deliver an offering, which is not only compliant for today, but sets the standard for the future.

Looking beyond the targets set out by the Government for carbon neutrality, it is also vital not to lose sight of the key value offered to homeowners – good Indoor Air Quality (IAQ). The industry surveillance conducted to inform the Government's Future Homes Standard found that the majority of homes with continuous mechanical ventilation installed were below the acceptable IAQ levels outlined in Approved Document F. Further findings showed of the 25 homes with continuous mechanical extract systems installed, only 1 met the ventilation rates outlined in ADF. The cause of these issues can be reduced down to two key factors: poor installation of ventilation systems and a lack of fundamental understanding of ventilation from occupants.

It should also be noted that IAQ isn't just limited to the physical make-up of the air we breathe through particulate emissions, but also extends to other forms of emission and one in particular - noise. The World Health Organization (WHO) claims that increased exposure to noise can lead to cardiovascular disease, cognitive impairment and negative effects on sleep. As a result of these findings, local authorities are under ever increasing pressure to tighten planning requirements around noise in residential new builds.

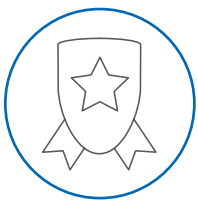
A reliable, highly efficient, quiet and easy to operate ventilation system is therefore the key to unlocking a healthier, sustainable future. The Mechanical Ventilation Heat Recovery (MVHR) system from Vent-Axia offers market leading energy-efficiency across a range of sizes with an easy-to-operate control platform and extremely low operating noise levels. Along with supplying market leading products for over 85 years, the Sentinel Econiq range from Vent-Axia has just made it even easier to select the right ventilation system for your project.





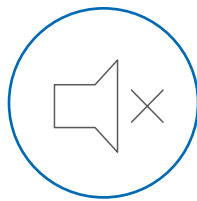
# Lo-Carbon Sentinel Econiq

for New Build Residential



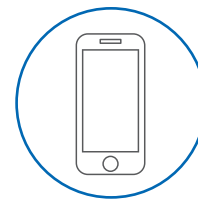
## Market Leading Efficiency

As ever, the MVHR range from Vent-Axia boasts market leading efficiencies allowing DER to be kept at a minimum.



## Ultra Quiet Performance

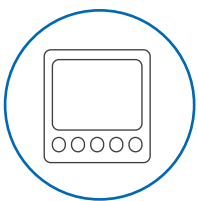
This MVHR range has been carefully designed to minimise noise levels across all performance points.



## Easy App Commissioning

Simplified and speedy commissioning through the intuitive new app.





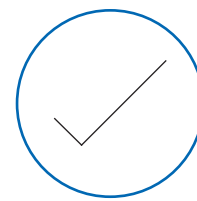
## Smart Controls

With a common digital control platform throughout the range, the new wired and wireless Sentinel-X smart controls automate the home environment.



## Future Homes Standard

A reliable, highly efficient, quiet and easy to operate ventilation system, designed with the Future Homes Standard in mind.



## Peace of Mind

Third party testing along with 85 years experience in the field, gives you the peace of mind that our new MVHR range is the number one choice for mechanical extract ventilation.

# Lo-Carbon Sentinel Econiq

## Product Breakdown



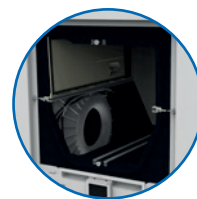
### Equipped with Display and App

On-board digital display and app connectivity providing an intuitive Part F commissioning wizard and report.



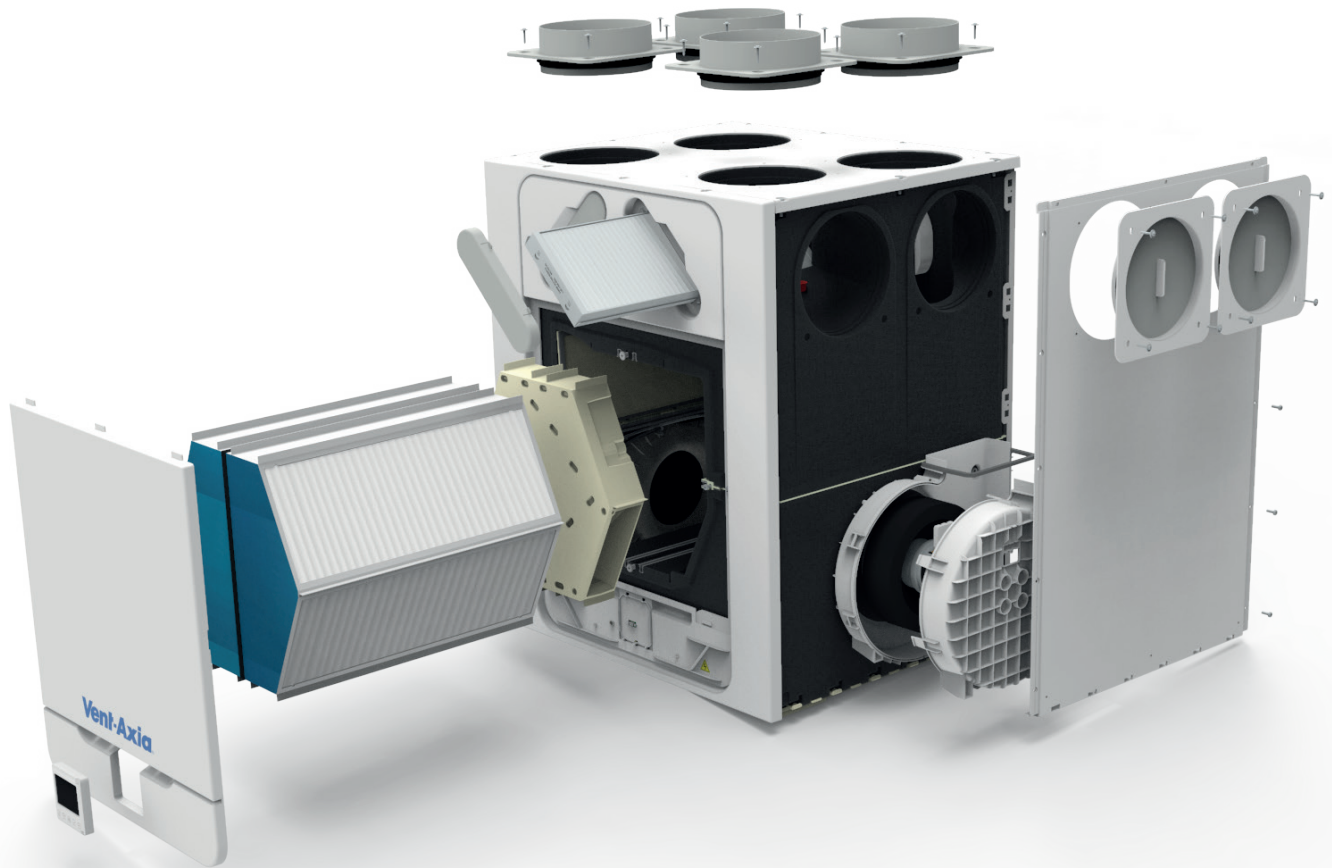
### Efficient Filtering of the Outside Air

G4 filters as standard or ISO ePM10 (M5) and ePM2.5 (F7) pollen filtration options for supply.



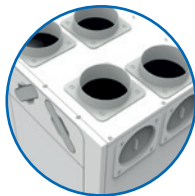
### Airtight and Silent Housing

Integral acoustic enclosure provides low noise levels and maximum thermal efficiencies, whilst ensuring vibration of no more than 1mm/s.



## Servicing and Maintenance

The units are designed to be fully accessible via the front for ease of servicing and maintenance.



## Flexible Installation

Digital reversibility along with top and side spigot connections provide even more flexibility during installation.



## Energy Efficient EC3 Motors

Powerful, quiet and energy-efficient EC3 motors supply filtered air with high performance.

# Lo-Carbon Sentinel Econiq

- Best in class SFP's and thermal efficiencies up to 93%
- Approved Document F aligned commissioning wizard
- New Sentinel-X wireless control platform
- Intelligent smart app control as standard
- Horizontal duct option for space-saving installations (M & L only)
- ISO ePM10 (M5) and ePM2.5 (F7) filtration options
- Sound levels as low as 15.5 dB(A) breakout - independently tested and verified by SRL
- Left/right handing via controls
- Developed and manufactured in the UK
- Acoustic enclosure and top box options (S only)



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.

## 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.

## 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 lifespan 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 CO<sub>2</sub> sensor located within a habitable room helps ensure a healthy and safe working environment. CO<sub>2</sub> levels managed at less than 1000ppm

help promote cognitive function. A humidity sensor located in the bathroom detects high levels of moisture can support good indoor air quality.

## Low Noise Levels

The Lo-Carbon Sentinel Econiq is one of the quietest systems on the market, with a noise level as low as 15.5 dB(A). 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 ensure minimal vibration transmission.

## 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 and summer bypass, providing comfort in the home.





## 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.

## Airtight Buildings

Low-energy buildings typically have very low leakage rates (below 3m<sup>3</sup>/(h.m<sup>2</sup>) at 50Pa). This reduces the effectiveness of the standard frost protection strategy which imbalances the airflows.

## Spigot Options (M & L only)

The inclusion of horizontal spigots allows for flexible installation in tight spaces. It is possible to use both vertical and horizontal connections.

### Model

| Description       | Stock Ref |
|-------------------|-----------|
| Sentinel Econiq S | 499883    |
| Sentinel Econiq M | 499632    |
| Sentinel Econiq L | 499641    |

### Accessories

| Description  | Stock Ref |
|--|-----------|
| Acoustic Purge Fan                                 | 477988    |
| Acoustic Purge Fan XL                              | 479829    |
| Wall Mounting Kit for Controller                   | 411628    |
| Econiq S Acoustic Solution Enclosure Kit           | 414012    |
| Econiq S Acoustic Solution Top Box Kit             | 414013    |
| Econiq S Acoustic Solution Top Box & Enclosure Kit | 414014    |

## Sensor Overview

| Power   | Colour | CO <sub>2</sub> | PIR | Temp. | Humidity | Wireless | 4<br>Speed<br>Switch | Stock Ref |
|---------|--------|-----------------|-----|-------|----------|----------|----------------------|-----------|
| Battery | White  |                 | ✓   | ✓     | ✓        |          |                      | 496431    |
| Battery | White  |                 | ✓   | ✓     | ✓        | ✓        |                      | 496437    |
| Battery | Black  |                 | ✓   | ✓     | ✓        | ✓        |                      | 497689    |
| 0-10V   | White  | ✓               |     | ✓     | ✓        |          |                      | 496432    |
| 240V    | White  |                 | ✓   | ✓     | ✓        |          |                      | 496429    |
| 240V    | White  | ✓               |     | ✓     | ✓        | ✓        |                      | 496433    |
| 240V    | White  |                 | ✓   |       |          | ✓        |                      | 496438    |
| 240V    | White  |                 | ✓   | ✓     | ✓        | ✓        |                      | 496620    |
| 240V    | Black  |                 | ✓   | ✓     | ✓        | ✓        |                      | 497693    |
| 240V    | White  |                 | ✓   | ✓     |          |          | ✓                    | 496621    |
| 240V    | Black  |                 | ✓   | ✓     |          |          | ✓                    | 497697    |

## Spare Filters

### Sentinel Econiq S

| Description                           | Stock Ref |
|---------------------------------------|-----------|
| ISO 60% Coarse (G4) Filter 2 per Pack | 411689    |
| ISO ePM10 50% (M5) Filter 1 per Pack  | 472669    |
| ISO ePM2.5 70% (F7) Filter 1 per Pack | 472671    |

### Sentinel Econiq M & L

| Description                           | Stock Ref |
|---------------------------------------|-----------|
| ISO 60% Coarse (G4) Filter 2 per Pack | 411690    |
| ISO ePM10 50% (M5) Filter 1 per Pack  | 411691    |
| ISO ePM2.5 70% (F7) Filter 1 per Pack | 411692    |

## SEC Class

| Model    | SEC Class |
|----------|-----------|
| Econiq S | A+        |
| Econiq M | A+        |
| Econiq L | A+        |

## SAP PCDB Test Results

### Econiq S

|     | Thermal Efficiency % | SFP (W/l/s) |
|-----|----------------------|-------------|
| K+1 | 93                   | 0.39        |
| K+2 | 92                   | 0.46        |
| K+3 | 91                   | 0.55        |
| K+4 | 91                   | 0.70        |
| K+5 | 90                   | 0.85        |
| K+6 | 89                   | 1.07        |
| K+7 | 89                   | 1.31        |

### Econiq M

|     | Thermal Efficiency % | SFP (W/l/s) |
|-----|----------------------|-------------|
| K+1 | 93                   | 0.41        |
| K+2 | 93                   | 0.41        |
| K+3 | 92                   | 0.46        |
| K+4 | 92                   | 0.55        |
| K+5 | 91                   | 0.66        |
| K+6 | 91                   | 0.81        |
| K+7 | 90                   | 1.00        |

### 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        |

## Model Range Overview



Sentinel Econiq S



Sentinel Econiq M



Sentinel Econiq L

| Recommended max system flow (l/s) @ Pressure (Pa)                        | 97 @ 150      | 125 @ 150             | 167 @ 150             |
|--|---------------|-----------------------|-----------------------|
| Acoustic Enclosure   | ○             | X                     | X                     |
| Acoustic Top Box   | ○             | X                     | X                     |
| Part F Compliant App Commissioning Certificate                           | ✓             | ✓                     | ✓                     |
| RF858 connectivity, 802.11b/g/n Wi-Fi and Bluetooth low energy 4.2       | ✓             | ✓                     | ✓                     |
| Spigot Options Vertical - Horizontal                                     | Vertical      | Vertical & Horizontal | Vertical & Horizontal |
| Spigot size 125mm or 200mm   | 125           | 200                   | 200                   |
| 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)                                  | ○             | ○                     | ○                     |
| Easy Access Filters: ISO ePM2.5 70% (F7)                                 | ○             | ○                     | ○                     |
| Clean Filter Indicator (Time frame)                                      | ✓             | ✓                     | ✓                     |
| PIN Number Lock  | ✓             | ✓                     | ✓                     |
| Running Time Indicator   | ✓             | ✓                     | ✓                     |
| Enthalpy Heat Exchanger  | ○             | ○                     | ○                     |
| Soft-Start Boost   | ✓             | ✓                     | ✓                     |
| Delay-On   | ✓             | ✓                     | ✓                     |
| Number of controllable speeds  | 4             | 4                     | 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 | ○             | ○                     | ○                     |
| BMS - modbus supported over RS485  | ✓             | ✓                     | ✓                     |
| Operating ambient temperature (°C)                                       | -20 to +40    | -20 to +40            | -20 to +40            |
| Operating Humidity (%RH)   | 0 to 95       | 0 to 95               | 0 to 95               |
| Mounting   | Wall or Floor | Wall or Floor         | Wall or Floor         |
| Maintenance access   | From Front    | From Front            | From Front            |

○ - Denote Optional



## Consultant's Specification

### Specification

The Mechanical Ventilation Heat Recovery Unit shall be the Lo-Carbon Sentinel Econiq S, M or 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 extract and supply with the facility to accommodate ePM2.5 (F7) and ISO ePM10 (M5), 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 Sentinel Econiq 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 fascia 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<sub>2</sub>, 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 Controls

The Lo-Carbon Sentinel Econiq 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, eg 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).

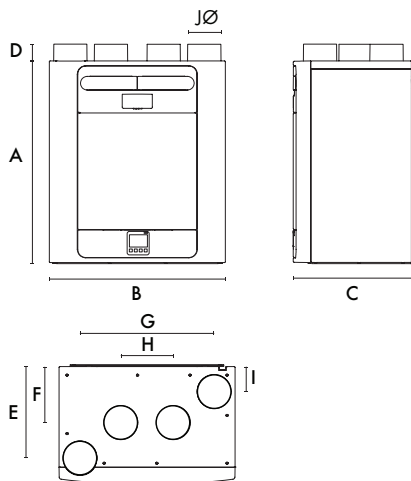
Independently acoustically tested to BS EN 13141-7:2010

---

# Sentinel Econiq S

## Dimensions (mm)

Unit



| A   | B   | C   | D  | E   | F   | G   | H   | I  | JØ  | kg |
|-----|-----|-----|----|-----|-----|-----|-----|----|-----|----|
| 760 | 660 | 443 | 63 | 343 | 210 | 503 | 197 | 93 | 125 | 27 |

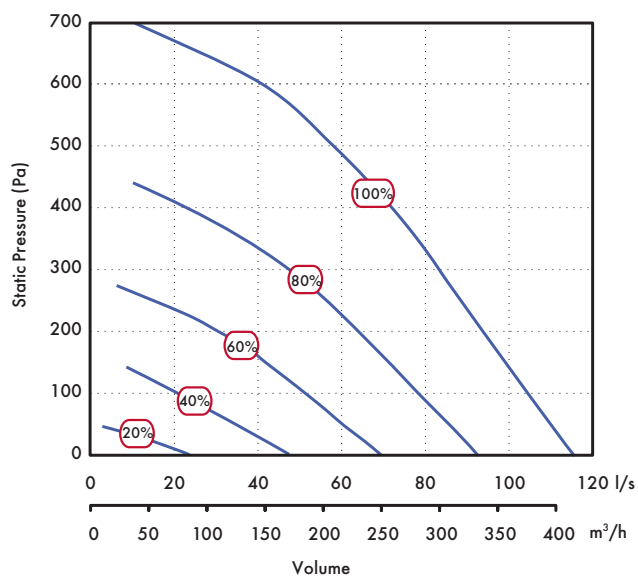
Packed weight: 32kg

## Sound Spectrum (Unit only)

| Speed | Test mode | Octave Band (Hz) Sound Power Levels, dB |      |      |      |      |      |      |      | SPL dB(A) |      |
|-------|-----------|---|------|------|------|------|------|------|------|-----------|------|
|       |           | 63                                      | 125  | 250  | 500  | 1k   | 2k   | 4k   | 8k   | LwA       | @ 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 |

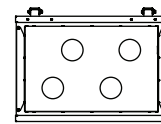
Tested according to BS EN 13141-7:2010. Breakout quoted spherical. Supply and Extract quoted hemispherical. For in-duct data, end reflections are added based on the spigot size of the unit.

## Performance

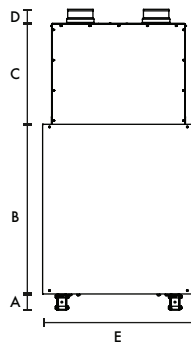


## Acoustic Solution

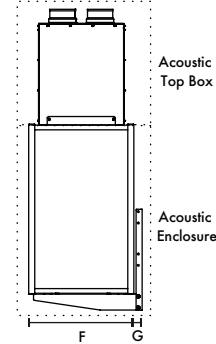
Top



Front



Side



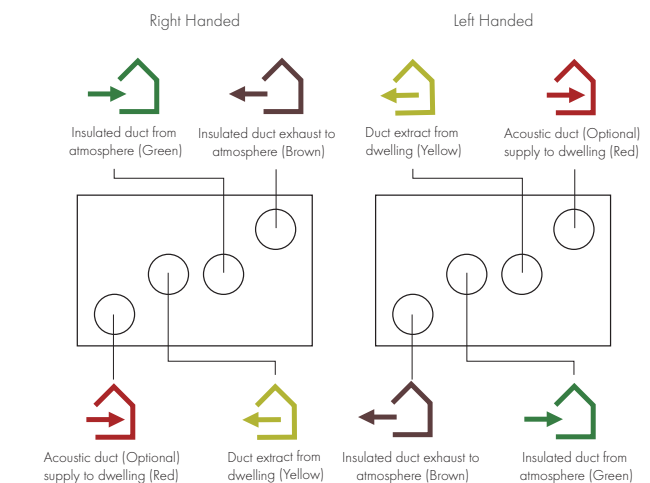
Acoustic Top Box  
Acoustic Enclosure

| A  | B   | C   | D  | E   | F   | G  | kg | kg | Spigot |
|----|-----|-----|----|-----|-----|----|----|----|--------|
| 80 | 840 | 501 | 68 | 750 | 520 | 40 | 14 | 27 | 125    |

## Sound Spectrum (Solution Top Box & Enclosure Kit)

| Speed | Test mode | Octave Band (Hz) Sound Power Levels, dB |      |      |      |      |      |      |      | SPL dB(A) |      |
|-------|-----------|---|------|------|------|------|------|------|------|-----------|------|
|       |           | 63                                      | 125  | 250  | 500  | 1k   | 2k   | 4k   | 8k   | LwA       | @ 3m |
| 20%   | Supply    | 54.7                                    | 50.5 | 41.5 | 30.8 | 18.6 | 14.7 | 18.2 | 24.0 | 38.0      | 20.5 |
|       | Extract   | 54.8                                    | 41.7 | 31.4 | 20.2 | 15.2 | 13.8 | 18.3 | 24.3 | 31.9      | 14.4 |
|       | Breakout  | 36.6                                    | 47.3 | 38.0 | 24.7 | 19.3 | 16.6 | 19.1 | 23.6 | 34.0      | 13.5 |
| 40%   | Supply    | 61.0                                    | 57.7 | 56.0 | 39.0 | 27.5 | 16.6 | 18.4 | 24.1 | 48.9      | 31.4 |
|       | Extract   | 55.7                                    | 50.8 | 44.6 | 26.8 | 19.1 | 15.0 | 18.2 | 24.0 | 39.2      | 21.7 |
|       | Breakout  | 55.9                                    | 55.2 | 48.2 | 35.5 | 29.9 | 20.9 | 20.4 | 25.3 | 42.6      | 22.1 |
| 60%   | Supply    | 64.5                                    | 64.3 | 56.2 | 48.6 | 36.0 | 22.8 | 19.0 | 24.2 | 52.3      | 34.8 |
|       | Extract   | 59.4                                    | 57.3 | 46.6 | 36.0 | 25.6 | 17.4 | 18.6 | 24.5 | 43.9      | 26.4 |
|       | Breakout  | 43.5                                    | 60.5 | 49.5 | 43.5 | 39.0 | 32.0 | 23.8 | 23.7 | 47.6      | 27.1 |
| 80%   | Supply    | 68.9                                    | 65.9 | 59.9 | 53.9 | 41.4 | 29.3 | 21.6 | 24.7 | 55.9      | 38.4 |
|       | Extract   | 63.1                                    | 69.3 | 52.6 | 43.0 | 33.4 | 23.7 | 20.2 | 24.6 | 54.5      | 37.0 |
|       | Breakout  | 48.3                                    | 69.8 | 52.7 | 48.3 | 44.7 | 39.8 | 33.2 | 25.9 | 57.1      | 36.6 |
| 100%  | Supply    | 72.5                                    | 70.5 | 63.1 | 56.1 | 43.9 | 33.0 | 23.7 | 25.2 | 59.3      | 41.8 |
|       | Extract   | 70.3                                    | 61.9 | 56.2 | 45.4 | 36.6 | 28.0 | 22.9 | 24.6 | 51.5      | 34.0 |
|       | Breakout  | 54.3                                    | 67.1 | 63.3 | 51.3 | 47.9 | 43.9 | 38.5 | 28.7 | 57.7      | 37.2 |

## Spigot Configuration

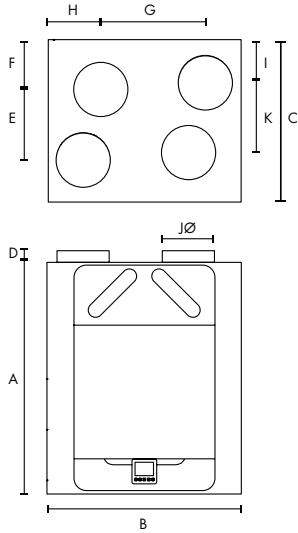


Hand-able through controller (except if pre-heater fitted)



# Sentinel Econiq M & L

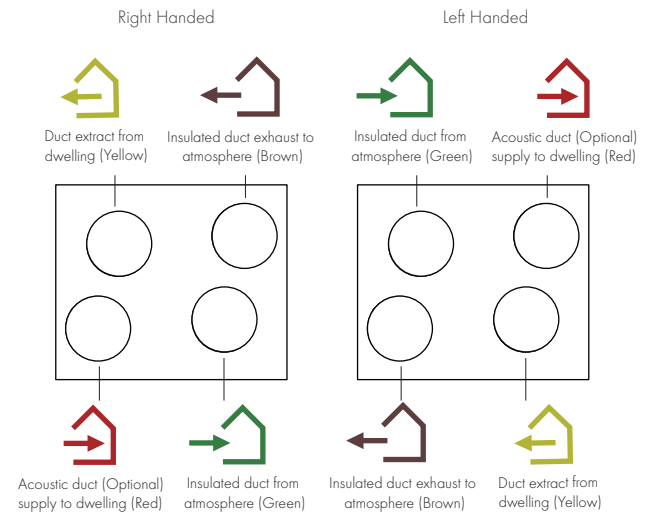
## Dimensions (mm) (Sentinel Econiq M & L)



| A   | B   | C   | D  | E   | F   | G   | H   | I   | JØ  | K   | kg |
|-----|-----|-----|----|-----|-----|-----|-----|-----|-----|-----|----|
| 881 | 728 | 608 | 50 | 261 | 187 | 394 | 200 | 160 | 200 | 261 | 50 |

Packed weight: 55kg

## Spigot Configuration (Sentinel Econiq M & L)



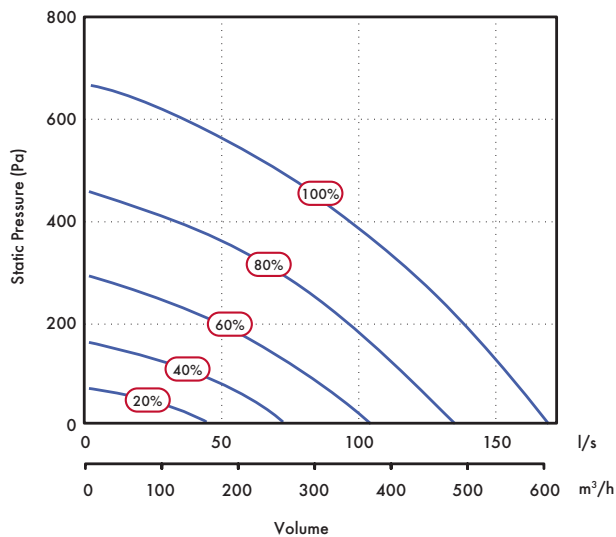
## Sound Spectrum (Sentinel Econiq M)

| Speed | Test mode | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k | SPL dB(A) @ 3m |
|-------|-----------|----|-----|-----|-----|----|----|----|----|----------------|
| 20%   | Breakout  | 32 | 41  | 35  | 31  | 24 | 17 | 19 | 23 | 12             |
|       | Inlet     | 48 | 42  | 33  | 23  | 19 | 14 | 17 | 22 | 13             |
|       | Outlet    | 55 | 55  | 48  | 41  | 34 | 23 | 18 | 22 | 27             |
| 40%   | Breakout  | 36 | 45  | 46  | 42  | 36 | 25 | 19 | 23 | 22             |
|       | Inlet     | 54 | 45  | 43  | 33  | 31 | 20 | 18 | 22 | 21             |
|       | Outlet    | 64 | 58  | 57  | 52  | 49 | 40 | 26 | 22 | 37             |
| 60%   | Breakout  | 43 | 50  | 51  | 48  | 44 | 36 | 22 | 23 | 29             |
|       | Inlet     | 59 | 51  | 51  | 39  | 39 | 29 | 20 | 22 | 28             |
|       | Outlet    | 69 | 64  | 65  | 58  | 58 | 51 | 38 | 26 | 45             |
| 80%   | Breakout  | 48 | 55  | 56  | 53  | 50 | 43 | 30 | 24 | 34             |
|       | Inlet     | 65 | 56  | 57  | 46  | 44 | 37 | 26 | 22 | 34             |
|       | Outlet    | 73 | 68  | 67  | 64  | 63 | 59 | 47 | 35 | 50             |
| 100%  | Breakout  | 60 | 60  | 57  | 58  | 55 | 47 | 36 | 29 | 38             |
|       | Inlet     | 69 | 59  | 54  | 48  | 48 | 41 | 31 | 24 | 35             |
|       | Outlet    | 76 | 70  | 67  | 69  | 66 | 63 | 53 | 42 | 53             |

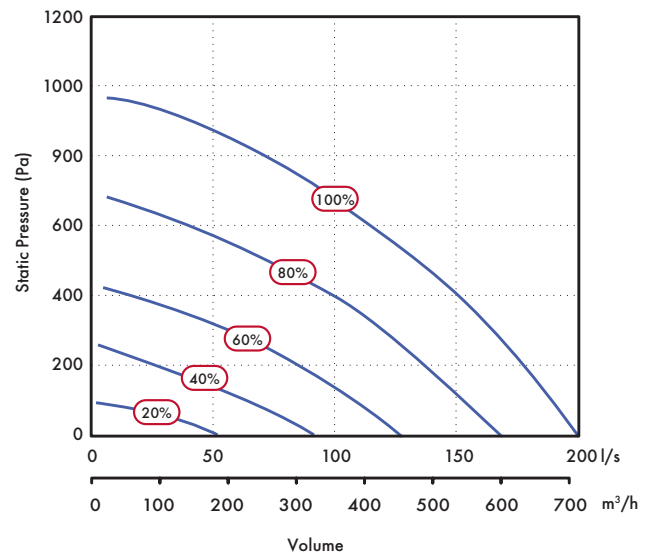
## Sound Spectrum (Sentinel Econiq L)

| Speed | Test mode | 63 | 125 | 250 | 500 | 1k | 2k | 4k | 8k | SPL dB(A) @ 3m |
|-------|-----------|----|-----|-----|-----|----|----|----|----|----------------|
| 20%   | Breakout  | 41 | 41  | 51  | 47  | 40 | 18 | 19 | 23 | 26             |
|       | Inlet     | 50 | 43  | 42  | 38  | 31 | 16 | 18 | 23 | 21             |
|       | Outlet    | 57 | 56  | 53  | 47  | 40 | 29 | 19 | 24 | 31             |
| 40%   | Breakout  | 41 | 44  | 53  | 52  | 43 | 32 | 20 | 23 | 31             |
|       | Inlet     | 60 | 48  | 50  | 38  | 37 | 26 | 19 | 23 | 27             |
|       | Outlet    | 68 | 62  | 62  | 56  | 55 | 49 | 33 | 24 | 42             |
| 60%   | Breakout  | 44 | 50  | 55  | 56  | 48 | 42 | 27 | 23 | 34             |
|       | Inlet     | 63 | 54  | 59  | 44  | 43 | 37 | 24 | 23 | 35             |
|       | Outlet    | 71 | 67  | 67  | 62  | 62 | 59 | 46 | 34 | 49             |
| 80%   | Breakout  | 55 | 54  | 54  | 60  | 52 | 47 | 36 | 24 | 38             |
|       | Inlet     | 69 | 60  | 55  | 50  | 48 | 43 | 33 | 24 | 36             |
|       | Outlet    | 78 | 72  | 66  | 70  | 67 | 65 | 56 | 44 | 54             |
| 100%  | Breakout  | 67 | 67  | 58  | 72  | 58 | 50 | 42 | 27 | 50             |
|       | Inlet     | 81 | 64  | 58  | 57  | 51 | 47 | 39 | 27 | 42             |
|       | Outlet    | 91 | 76  | 69  | 74  | 70 | 69 | 62 | 50 | 58             |

## Performance (Sentinel Econiq M)



## Performance (Sentinel Econiq L)



# 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

Stock Ref

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

White

Black

Stock Ref

496437

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

Stock Ref

411628

## 0-10V Sensors



### 0-10V CO<sub>2</sub>, Temperature and Humidity - Wired

Room mounted CO<sub>2</sub> 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<sub>2</sub> 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

Stock Ref

496432



# Sentinel-X Controllers

## 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

Stock Ref  
**496429**



### 240V - CO<sub>2</sub>, Temperature and Humidity - Wireless

Room mounted CO<sub>2</sub> 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<sub>2</sub> 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

Stock Ref  
**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  
White  
Black

Stock Ref  
**496621**  
**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  
White  
Black

Stock Ref  
**496620**  
**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

Stock Ref  
**496438**

# A Wide Range of Solutions

More than just an innovative ventilation manufacturer



## Support

Our expert ventilation consultants are always on-hand to assist with queries, offer their expert advice, or even assist installers on trials of new ventilation products. Backed up by a knowledgeable and friendly technical support department, you can rest assured that Vent-Axia will always offer first class support.

tech@vent-axia.com  
Tel: +44 (0)344 856 0594



## Training

The ventilation industry is constantly changing and evolving. So are our customer's challenges and that is why we are on hand to offer practical, engaging and informative training. From the NICEIC Domestic Ventilation training course to hands-on toolbox talks on installation, we can help you to stay ahead of the knowledge curve.

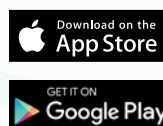
[www.vent-axia.com/niceic](http://www.vent-axia.com/niceic)  
[www.vent-axia.com/cpd](http://www.vent-axia.com/cpd)  
[www.vent-axia.com/toolbox](http://www.vent-axia.com/toolbox)



## Downloads

Vent-Axia has simplified the way you can access information. Knowledge Hub provides you with our literature and comprehensive product information all in one place, at the touch of a button.

Watch our video now to find out more:  
[www.vent-axia.com/knowledge-hub](http://www.vent-axia.com/knowledge-hub)



## Fan Selector

Whatever your application or selection criteria you can easily select products and add them to a quote, enabling the complete list of ventilation materials to be defined.

To make it simple we have also included the recommended ancillary items with many of the products, ensuring that you automatically build the necessary components to complete the installation.

[www.vent-axia.com/fanselector](http://www.vent-axia.com/fanselector)







## VENT-AXIA CONTACT NUMBERS

Free technical, installation and sales advice is available

|                     |  |
|---------------------|--|
| Sales Tel:          | 0344 856 0590  |
| Tech Support Tel:   | 0344 856 0594  |
| Tech Support Email: | <a href="mailto:tech@vent-axia.com">tech@vent-axia.com</a>   |
| Web:                | <a href="http://www.vent-axia.com">www.vent-axia.com</a>     |
| Email:              | <a href="mailto:sales@vent-axia.com">sales@vent-axia.com</a> |

## Supply & Service

All sales made by Vent-Axia Limited are made only upon the terms of the Company's Conditions of Sale, a copy of which may be obtained on request. As part of the policy of continuous product improvement Vent-Axia reserves the right to alter specifications without notice.



Download our Knowledge Hub app - Your new pocket expert.

Search, View, Share - It's that easy!



Made in Britain

0724