Lo-Carbon Sentinel Kinetic Cooker Hood

- Acoustic Top Box option for reduced in-duct noise
- Recognised in SAP PCDB
- Includes Cooker Hood Canopy
- Horizontal duct option for space-saving installations
- Fits within a 600mm wide aperture (300mm deep)
- Integrated digital controller for simple and accurate commissioning
- Plug and play controls; Humidistat, Wireless Remote
- BMS connectivity
- LS inputs (Light Switch)
- Volt-free inputs
- Self diagnosis for simplified fault finding
- Adjustable delay On/delay Off timer

Easy Installation
Ducting can be attached to the unit horizontally, vertically or both. Minimum internal depth of kitchen cupboard: 300mm.

Horizontal and Vertical Spigots: The combination of spigot options allows installation in confined locations. If vertical and horizontal connection are required on the same outlet/inlet, additional spigots can be supplied.

The condensate connection can be taken through the rear of the unit or through the side of the unit into an adjacent cupboard prior to connection into a pre-installed domestic waste water system.

Cooker Hood Unit
The Sentinel Kinetic Cooker Hood is designed to fit in a 600mm wide aperture above a hob. The telescopic hood incorporates two flat removable metal grease filters, low energy light bulbs and is available with a White or Brushed Aluminium front trim.

The hood contains an integral fire damper in accordance with BRE Digest 398 and is connected to the heat recovery unit by a galvanised steel duct with access for cleaning. When the hood is opened, the heat recovery unit goes to boost speed and the summer bypass automatically opens to prevent cooking by-products entering the heat recovery cell. As an additional safety feature, the duct also contains a thermal cut-out fuse which turns off the MVHR unit in the event of excessive temperature in the airway. Cooker Hood units cannot be handed on-site and must be purchased as left hand (L) or right hand (R) models.

SELV Models
SELV cooker hoods allow the distance between the hood and an electric hob to be reduced from 650mm to 550mm.

Integral Humidity Sensor
The integral humidity (models with H suffix) 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 night time relative humidity setback feature suppresses nuisance tripping as humidity gradually increases with falling temperature.

Models
Lo-Carbon Sentinel Kinetic with summer bypass and humidity sensor.

<table>
<thead>
<tr>
<th>Model</th>
<th>Stock Ref</th>
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<tbody>
<tr>
<td>Kinetic CWH L [White Left]</td>
<td>446756</td>
</tr>
<tr>
<td>Kinetic CSH L [Brushed Aluminium Left]</td>
<td>446757</td>
</tr>
<tr>
<td>Kinetic CWH R [White Right]</td>
<td>446758</td>
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<tr>
<td>Kinetic CSH R [Brushed Aluminium Right]</td>
<td>446759</td>
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Accessories

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<tr>
<td>Wired Remote Controller</td>
<td>443283</td>
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<tr>
<td>Wireless Enable Kit</td>
<td>441865</td>
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<td>Wireless Transmitter Controller</td>
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<td>LED Alarm with 15m cable</td>
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<td>Opto-coupler for volt-free bms connection</td>
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<tr>
<td>ISO 45% Coarse (G3) Filter 2pk</td>
<td>441774</td>
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<tr>
<td>ISO ePM10 50% [M5] Filter 2pk</td>
<td>444200</td>
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<tr>
<td>Acoustic Purge Fan</td>
<td>477988</td>
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SAP PCDB Test Results

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<th>SAP 2012</th>
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<td>Thermal Efficiency %</td>
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<tr>
<td>K+4</td>
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</table>
SEC Class

Model SEC Class

Kinetic CWH/CSH A

Performance

Fan speeds are fully adjustable within the performance range.

0
100
200
300
400
Static Pressure (Pa)

20%
40%
60%
80%
100%

Volume

0 10 20 30 40 50 60 70

0 50 100 150 200 250 m³/h l/s

Figure relates to Wattage (both motors)

Horizontal Spigots

Volume

0 10 20 30 40 50 60 70

0 50 100 150 200 250 300 m³/h

Dimensions (mm)

Unit

Minimum clearance from the bottom of this unit to the top of the hob must be:

Gas: 750mm
Electric: 650mm/ 550mm (SELV)

Acoustic Top Box

Sound Data

Test

Octave band, Hz, dB SWL

SPL dB(A)

Flow l/s mode 63 125 250 500 1K 2k 4K 8K @ 3m

10 Supply 478 402 38 31.1 28.2 22.1 23.6 30.9 21.4
Extract 47 38.7 36 29.9 25 22.4 23.3 30.8 20.6
Breakout 43.6 36.2 37.4 30.9 27.4 23.3 24.2 31.4 18.6

20 Supply 54 46.6 50.2 44.5 44.4 38.3 28.8 31.9 31.2
Extract 45.9 39.9 40.6 35.7 33.5 28.4 25.3 31.2 21.3
Breakout 46.8 40.5 34.6 34.2 34.6 23.9 23.7 30.3 22.9

30 Supply 58.1 54.5 57.6 52.2 51.7 47.6 38.6 35.8 38.5
Extract 47.6 46.2 48.7 41.3 42.8 33.9 26.4 30.5 28.4
Breakout 45.2 42.4 48.2 40.8 47.7 35.2 30 31.4 25.2

40 Supply 65.2 58.4 60.3 58 56.5 52.5 44.1 41.4 43.6
Extract 53.5 53 44 47.7 48.1 39.7 31.5 31.3 33.5
Breakout 50.9 47.6 47.4 48.1 42.5 40.8 36.3 34.4 29.3

50 Supply 66.4 63.2 60.3 62.5 61.7 57.4 50 47.8 48.3
Extract 64.2 55.2 48 50.9 52.1 44.5 35.9 35 37.2
Breakout 55 51 51.3 51.6 46.9 46.0 42 38.3 33.2

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.
Consultant's Specification

Operation
The supply and extract ventilation unit shall be a Sentinel Kinetic as manufactured by Vent-Axia and shall be sized as indicated on the drawings and shall be in accordance with the particular specification.

Supply air to the room shall be pre-heated by the extract air via the integrated composite plastic counterflow heat recovery cell. The Sentinel Kinetic shall automatically vary the ventilation rate via EC/DC motors, as it receives signals from one of the optional interconnected sensors. When a signal is received, the fans shall either vary their speed proportionally or on a trickle and boost principle.

The unit shall have the facility to commission the supply and extract fans individually via in-built minimum and maximum speed adjustment, or alternative wired remote control unit. The fans themselves shall have independent, infinitely variable speed control.

Unit Specification
The unit shall be manufactured with an ABS outer case construction, and incorporate a metal duct to the cooker hood, intumescent fire damper and thermal switch, in accordance with BRE Digest 398.

The unit shall have a high efficiency composite plastic counterflow heat exchanger, supply and extract filters, automatic 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 forward curved centrifugal type.

The unit shall have a heat exchanger cell with a thermal efficiency of up to 92% when tested to EN 308. This shall be protected by ISO 45% Coarse (G3) Filter 2pk grade synthetic filters on supply and extract. Complete with a condensate drip tray and drain connection.

To reduce in-duct noise, the top of the MVHR shall be fitted with an Acoustic Top Box to provide attenuation to the 4 ducts of the unit. This Acoustic Top Box shall be of steel construction lined with acoustic class ‘O’ foam with the MVHR spigots linked to the Top Box via 4 separate attenuated ducts. The acoustic enclosure and top box shall each be independently tested for noise to BS EN 13141-7.

The unit shall be constructed with a removable Core allowing full maintenance access. The removable Core shall provide access to the following:

- Supply and extract filter
- Heat exchanger
- Access to the electrical connections

Access shall be provided for wiring termination and setup/commissioning. The backlit LCD user interface therein shall be removable for remote mounting if required.

Units shall be as manufactured by Vent-Axia Ltd.

Sound tested to BS EN 13141-7:2010

Standard Controls
All Sentinel Kinetic units shall incorporate the following functions integrally mounted, pre-wired and factory fitted by the manufacturer:

- 24V sensor supply
- Integral on/off or trickle boost function from remote switch e.g. PIR occupancy detector
- The unit shall be controlled by the ‘Sentinel’ control devices (enablers and sensors) as detailed in the schedule or on the drawings
- Fully automatic summer bypass
- Switched live input with adjustable ‘Delay-On’ feature
- Fan failure or component failure indicated via individual fault code display
- Running time counter
- Control panel PIN number lock
- Automatic frost protection effective to -20°C
- Tool free filter access

The unit shall incorporate (“H” models) 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

Integral Cooker Hood Specification
The Sentinel Kinetic Cooker Hood shall consist of a telescopic Hood and galvanised steel duct connection to the MVHR Unit.

The Hood construction shall be of grey powder coated steel with Brushed Aluminium or White painted fascia.

The Hood shall trigger the MVHR unit to a pre-defined boost speed and open the summer bypass when opened, and shall have two low-energy lamps illuminating the hob top.

Filter shall be a flat metal grease filter, removable for cleaning.

The galvanised steel ductwork shall provide a continuous fire barrier between the Hood and the MVHR unit. It shall contain an Intumescent fire damper, thermal cut-out and volume balancing damper. The thermal cut-out shall switch off the MVHR unit at a pre-defined safety temperature.

The duct shall have an access panel for cleaning by the end-user.

Mounting Option

Wall
Airflow Direction

Plan View

Front (LH)

Insulated duct exhaust to atmosphere (Brown)
Insulated duct from atmosphere (Green)
Acoustic duct (Optional)
Duct extract from dwelling (Yellow)

Front (RH)

Duct extract from dwelling (Yellow)
Acoustic duct (Optional)
supply to dwelling (Red)
Insulated duct from atmosphere (Green)
Insulated duct exhaust to atmosphere (Brown)

Electrical Connection

Please note: Electrical connection should be carried out by an appropriately qualified person and in accordance with current wiring regulations.

Trickle to Boost by a Light Circuit

N.B. PURGE VIA CONTROL ON FAN UNIT OR OPTIONAL WIRELESS CONTROLLER
INTEGRAL PLUG & PLAY HUMIDISTAT FACTORY FITTED

3 POLE LOCAL ISOLATOR

Mains Supply 220/240V 50Hz