Lo-Carbon
Sentinel Kinetic®
MVHR Units

Features & Benefits

- Recognised in SAP Appendix Q
- Ultra quiet
- Lightweight for easier installation
- Horizontal duct option for space-saving installations
- Fits within a 290mm deep kitchen cupboard (B & BH)
- Integrated digital controller for simple and accurate commissioning
- Plug and play controls; Humidistat, Ventwise, Wireless Remote
- BMS connectivity
- LS inputs (Light Switch)
- Horizontal duct options
- Volt-free inputs
- Self diagnosis for simplified fault finding
- Adjustable delay On/delay Off timer

Easy Installation

The Sentinel Kinetic models can be mounted vertically in a roof space, hallway cupboard or kitchen or within a kitchen cupboard. When mounted in an unheated area ducting should be insulated. Ducting can be attached to the unit horizontally, vertically or both. Minimum internal depth of kitchen cupboard: V, B & BH models 290mm.

Left (L) or right (R) hand installation. The unit is supplied with duct spigots to outside on the right hand side. These can be reversed on site by simply removing the control panel, rotating the unit 180 degrees and re-attaching the control panel.

Spigot Options

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

The condensate drain can be taken out through the back, side or bottom of the unit. Using the fittings supplied, the final condensate connection is made outside the unit and can be completed after installation.

Integral Humidity Sensor (BH Models)

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 night time relative humidity setback feature suppresses nuisance tripping as humidity gradually increases with falling temperature.
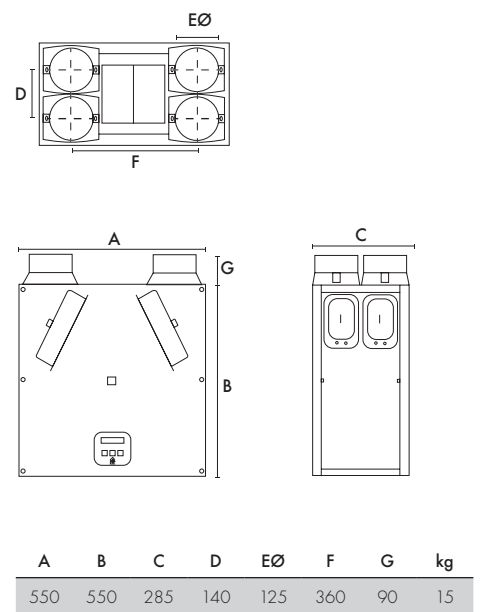
Models

Model	Stock Ref
Kinetic V	438342
Kinetic B Right	438222
Kinetic B Left	438222L
(with summer bypass)	
Kinetic BH Right	443319
Kinetic BH Left	443319L
(with summer bypass & humidity sensor)	

B & BH models available in left hand or right hand configurations (L).

Accessories

Model	Stock Ref
Wired Remote Controller	443283
Wireless Enable Kit	441865
Wireless Transmitter Controller	437827
Ventwise Controller	441780
LED alarm with 15m cable	448356
Kinetic V, B & BH	Stock Ref
Kinetic Spare Filter 2 pk	442356
M5 Pollen Filter	444199

Dimensions (mm)

A	B	C	D	EØ	F	G	kg
550	550	285	140	125	360	90	15

SAP PCDB Test Results (Kinetic V)

	Thermal Efficiency %	SFP (W/l/s)
K+1	90	0.60
K+2	90	0.59
K+3	90	0.68
K+4	89	0.79
K+5	90	0.97

SEC Rating

Model	SEC Class	SEC Class (inc. LDC)
Kinetic V/B/BH	A	A

Vent-Axia

Sentinel

Performance

Fan speeds are fully adjustable within the performance range.

ⓧ figure relates to Wattage (both motors)

Example system curves - vertical spigots

ⓧ figure relates to Wattage (both motors)

Example system curves - horizontal spigots
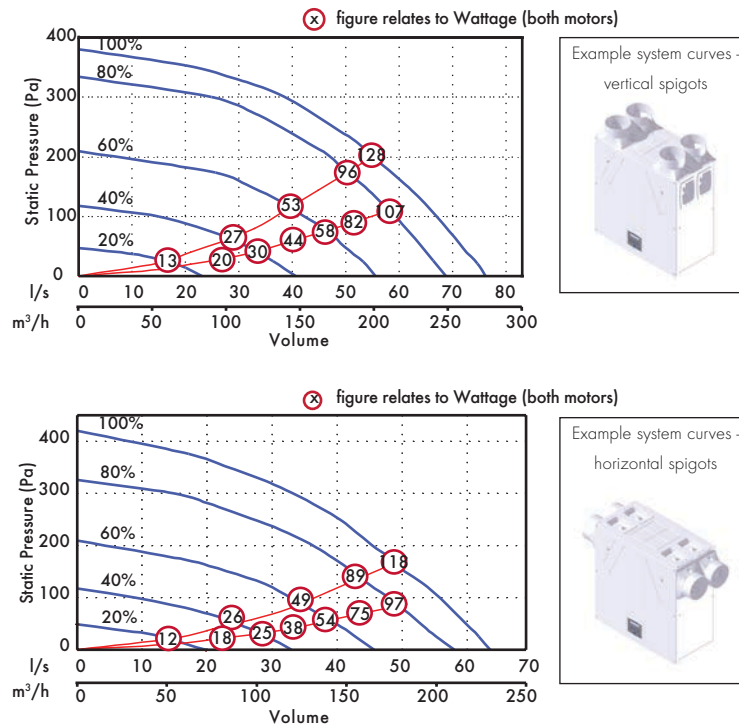
Sound Data (Kinetic B & V)

Flow l/s	Test mode	63	125	250	500	1K	2k	4K	8K	@ 3m
					Octave band, Hz, dB SWL					SPL dB(A)
10	Supply	47.8	40.2	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	46.8	40.5	34.6	34.2	34.6	25.9	23.7	30.3	22.9
	Breakout	45.9	39.9	40.6	35.7	33.5	28.4	25.3	31.2	21.3
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	38.7	41.3	42.8	33.9	26.4	30.5	28.4
	Breakout	45.2	42.4	48.2	40.8	37.7	35.2	30	31.1	25.2
40	Supply	65.2	58.4	62.3	58	56.5	52.5	44.1	41.4	43.6
	Extract	53.5	53	44	47.7	48.1	39.7	31.5	31.5	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	66.3	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 BS848. Breakout quoted spherical. Supply and Extract quoted hemispherical.

Lo-Carbon **Sentinel Kinetic**®

Consultant's Specification (B and BH Models)

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 reversible core to allow for left or right hand mounting.

The unit shall have a high efficiency composite plastic counterflow heat exchanger, supply and extract filters, automatic summer bypass, (B/BH) 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 G3 grade synthetic filters on supply and extract. Complete with a condensate drip tray and drain connection.

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.
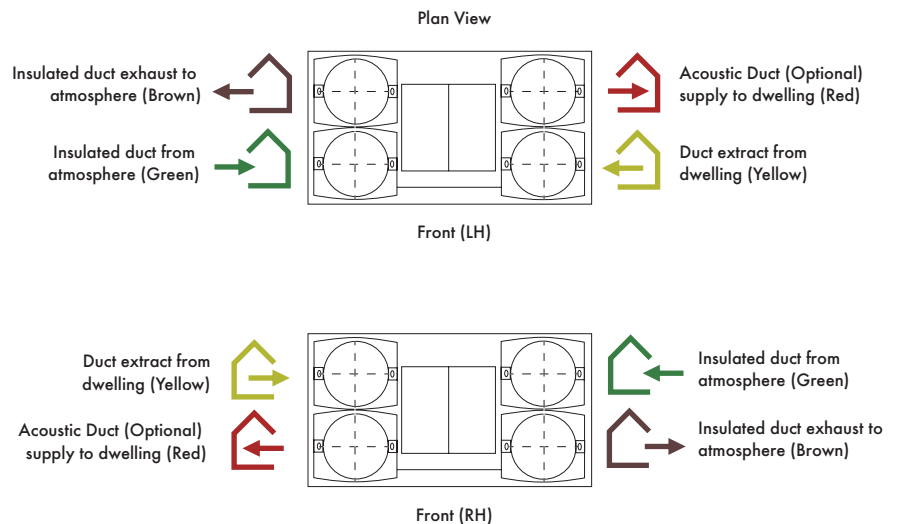
Standard controls

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

- ✓ Integral infinitely variable fan speed control on supply and extract
- ✓ Integral min/max ventilation control/set point
- ✓ Integral BMS interfaces – control and status indication
- ✓ Heating interlocks
- ✓ 0-10V proportional speed adjustment
- ✓ Volt free contacts
- ✓ 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

Airflow Direction

Plan View

Insulated duct exhaust to atmosphere (Brown)

Acoustic Duct (Optional) supply to dwelling (Red)

Insulated duct from atmosphere (Green)

Duct extract from dwelling (Yellow)

Front (LH)

Duct extract from dwelling (Yellow)

Insulated duct from atmosphere (Green)

Acoustic Duct (Optional) supply to dwelling (Red)

Insulated duct exhaust to atmosphere (Brown)

Front (RH)

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Electrical Connection (B and BH Models)

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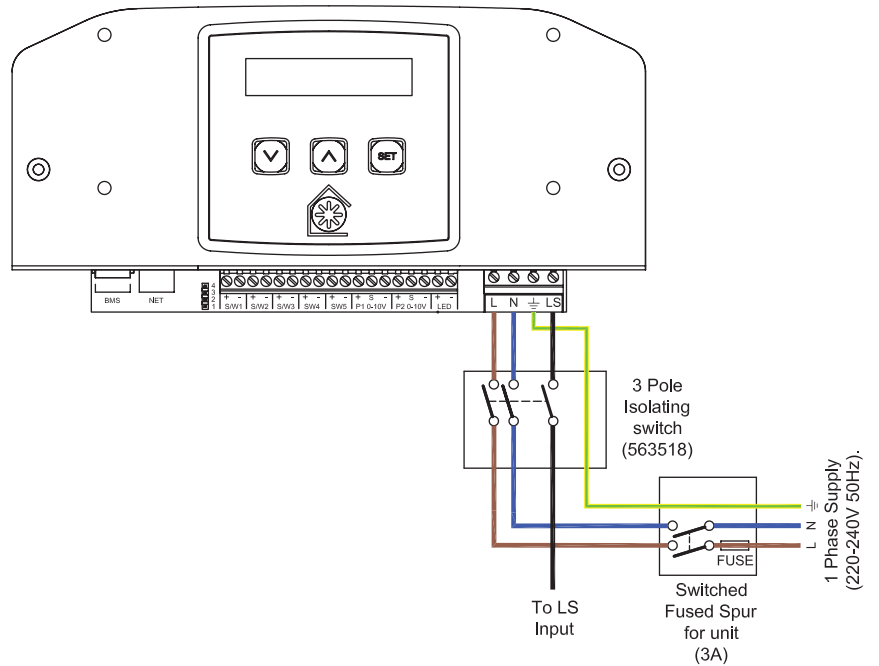
Trickle to Boost by Trickle/Boost switch