

CI/SfB

(57.7)

2nd edition

High Efficiency MVHR & Cooker Hood Units



Lo-Carbon Sentinel Kinetic Range

Vent-Axia[®]
Lo-Carbon[™]



By Appointment to H.M. The Queen
Suppliers of Unit Ventilation Equipment
Vent-Axia, Crawley, West Sussex

Vent-Axia®

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Vent-Axia Sentinel® Kinetic Range

Mechanical Ventilation with Heat Recovery

Lo-Carbon Energy saving Ventilation solutions

The Sentinel Kinetic Range incorporates:

A wholehouse heat recovery system with up to 92% energy efficiency. An easily accessible heat recovery cube protected by two removable EU3 filters. Two Lo-Carbon Energy Saving EC DC fans ensure long life (typically over double the life of AC motors) and lowest possible energy use. Fully insulated construction with built in condensation drain. Specifically designed for new build constructions with a high level of insulation.

Lo-Carbon Sentinel Kinetic **meets the latest requirements of the Building Regulations Document F 2010** for wholehouse system ventilation: System 4. Continuous mechanical supply and extract with heat recovery. The Lo-Carbon Sentinel Kinetic models have 3 fully adjustable speeds and a purge setting - maximum. On the front of the unit is a digital controller that can be used to pre-set the speeds to any required airflow within the performance range.

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 wetroom. Night time relative humidity setback feature suppresses nuisance tripping as humidity gradually increases with falling temperature. Acoustically lined - low noise levels from only 20dB(A) @3m

Model

Model	Stock Ref
Kinetic V (non-summer bypass)	438342
Kinetic B (with summer bypass)	438222
Kinetic BH (with summer bypass & humidity sensor)	443319
Kinetic CW L (with white Cooker Hood)	441483
Kinetic CS L (with Brushed Aluminium Cooker Hood)	441484
Kinetic CW R (with white Cooker Hood)	441485
Kinetic CS R (with Brushed Aluminium Cooker Hood)	441486
Kinetic Plus BH (with Summer bypass and humidity sensor)	443028

Optional Controls

Wired Remote Controller with 15 metre cable	443283
Wireless enable kit (includes one switch)	441865
Additional wireless switch (max 3 switches)	437827
Vent-Wise Controller (also requires sensors)	441780

Optional F5 supply filters

Kinetic V	444199
Kinetic B, BH & Cooker Hoods	444200
Kinetic Plus range	444201



Sentinel Kinetic Range



Features and Benefits

- Manufactured in the UK
- Building Regulations Part F compliant
- SAP Appendix Q Eligible
- Energy Savings Trust best practice compliant
- Up to 92% heat recovery whilst controlling condensation
- Programmable Summer bypass
- Left or right hand installation
- Horizontal and/or vertical duct outlets
- Integrated digital controller for simple and accurate commissioning

- Light-weight for easy installation
- External condensate connection
- Plug and play controls; Humidistat, Vent-Wise, Wireless remote
- BMS connectivity
- LS inputs/(Light Switch)
- Volt-free inputs
- Self diagnosis for simplified fault finding
- Adjustable delay on/delay off timer

Multiple control options:

Five Volt-free pairs of switch terminals for sensor inputs allow boosting from a full range of Vent-Axia controllers – humidistats, PIR, timers.

Two terminals with 0-24V outputs allow 0V to 10V proportional control by sophisticated controllers such as CO₂ sensors and proportional humidistats.

The optional Vent-Wise controller senses temperature rise in a bath/shower hot water supply and/or current in a cooker/hob electrical circuit to activate boost, ensuring additional ventilation when needed.

Switched-live for boosting via light switches (220-240 V AC) or manual Normal/Boost switches. This connection has the advantage of Delay-On and Delay-Off facility. Delay-On enables you to prevent the Boost airflow between 0 and 10 minutes, after a light switch has been activated. Delay-Off allows the Boost airflow to continue after a light switch is turned off to ensure effective clearance of humidity. This timer is adjustable between 0 and 25 minutes.

Purge setting:

The unit can be set to maximum flow (100%) by pressing and holding the Boost button on the unit itself or optional wireless controller for 5 seconds. Purge will continue for two hours unless cancelled by pressing the Boost button again.

Summer Bypass

An internal damper is activated when the outside temperature is less than the room temperature. The damper opens allowing cooler fresh air to bypass the Heat Recovery Cell and reduce the internal temperature towards the pre-set 'Comfort Temperature'. When the inside air temperature reaches the pre set 'Comfort temperature' the bypass damper closes.

Anti-frost protection: In cold climates there is a possibility of frost building up on the intake side of the heat exchanger. In order to prevent damage, the Kinetic reduces supply flow while maintaining extract flow at temperatures below 0°C.

Cooker Hood System range

System canopy hoods are a motorless hood with extract being provided by the MVHR unit. When the boost button on the canopy is activated, the MVHR unit goes to boost setting and the summer bypass opens preventing cooking by-products entering the heat exchanger cell.

Wired Remote Controller (option)

Supplied with 15 metres of cable (max length), the Wired Remote Controller duplicates all the features of the on-board control panel, allowing commissioning, diagnosis and user control. Flush mounting, suitable for a single gang patress box 16mm deep.

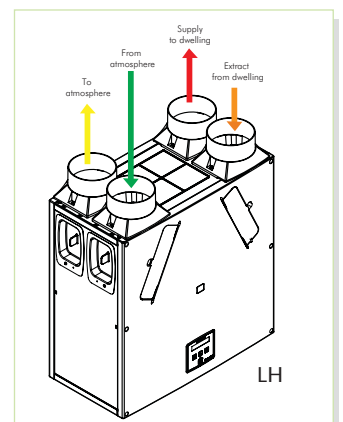
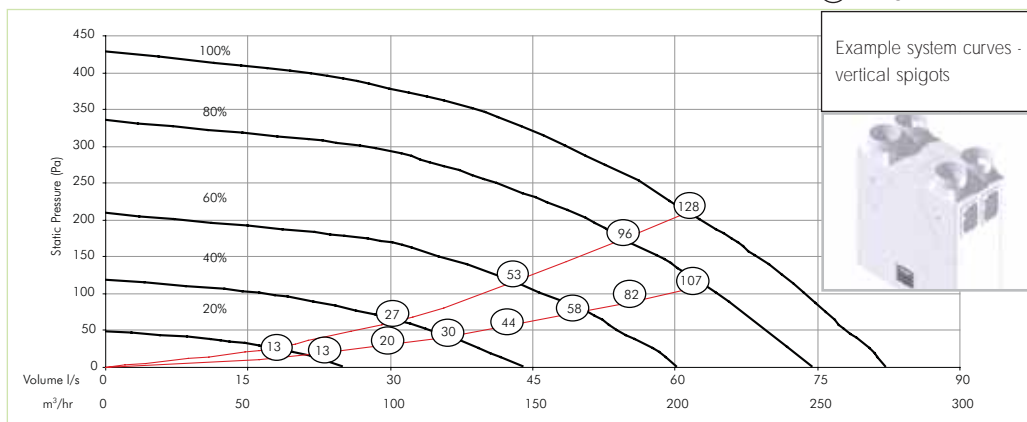


Vent-Axia Sentinel[®] Kinetic compact & Cooker Hood MVHR

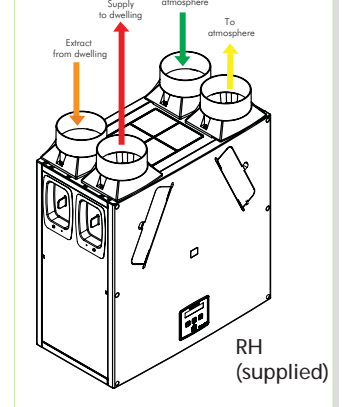
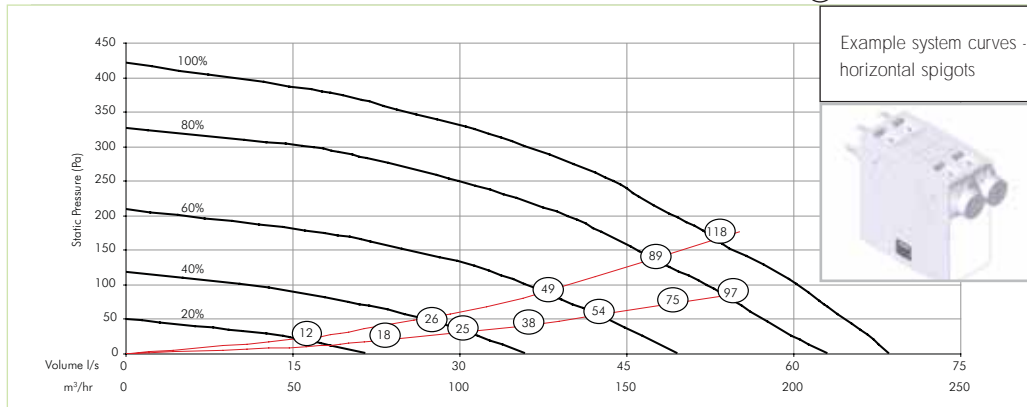
Performance

Fan speeds are fully adjustable within the performance range

(X) wattage (both motors)



(X) wattage (both motors)



Sound Data

Flow, l/s	Test mode	Octave band, Hz, dB SWL								SPL dBA@ 3m
		63	125	250	500	1K	2K	4K	8K	
10	Supply	47.8	40.2	38.0	31.1	28.2	22.1	23.6	30.9	21.4
	Extract	47.0	38.7	36.0	29.9	25.0	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	54.0	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	30.0	31.1	25.2
40	Supply	65.2	58.4	62.3	58.0	56.5	52.5	44.1	41.4	43.6
	Extract	53.5	53.0	44.0	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	50.0	47.8	48.3
	Extract	64.2	55.2	48.0	50.9	52.1	44.5	35.9	35.0	37.2
	Breakout	55.0	51.0	51.3	51.6	46.9	46.0	42.0	38.3	33.2

Tested according to BS848. Breakout quoted spherical, Supply and Extract quoted hemispherical.

Features and Benefits

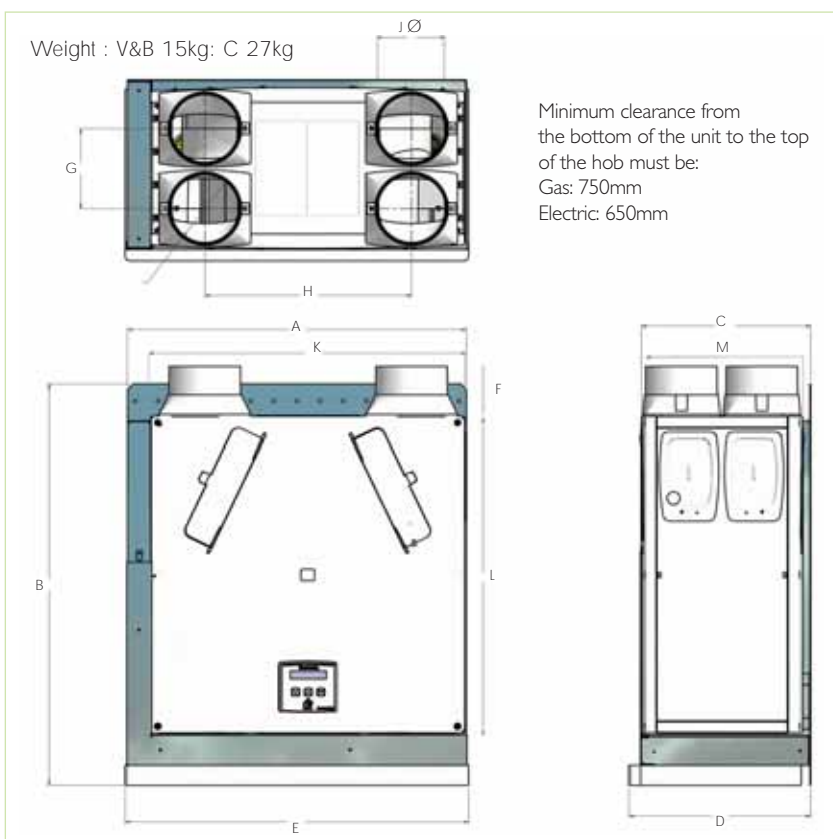
- SAP Appendix Q eligible
- Ultra quiet
- Light-weight for easier installation (V&B models 15kg)
- Horizontal duct option for space-saving installations
- V&B models fit within a 290mm deep kitchen cupboard
- Cooker Hood models fit within a 600mm wide aperture (300mm deep)
- Integrated digital controller for simple and accurate commissioning

- Plug and play controls; Humidistat, Vent-Wise, Wireless remote
- BMS connectivity
- LS inputs/(Light Switch)
- Volt-free inputs
- Self diagnosis for simplified fault finding
- Adjustable delay on/delay off timer

Compact V, B and C models

Dimensions (mm)

With and without Cooker Hood



Dimensions (mm)

Kinetic Cooker Hood	A	B	C	D	E	F	G	H	J
		590	710	295	316	598	90	140	360
Kinetic V&B	K	L	M	G	J	H			
		550	550	285	140	125	360		

SAP Appendix Q Performance

	Specific Fan Power (W/l/s)	Thermal Efficiency
K+1	0.72	92%
K+2	0.74	91%
K+3	0.81	90%
K+4	0.93	88%
K+5	1.07	87%

Easy Installation

The Sentinel Kinetic models can be mounted vertically in a roof space, and are suitable for wall mounting 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 models 290mm. CW models 300mm

V&B Models

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

Horizontal and vertical spigots: 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.

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

Cooker Hood Unit

The Sentinel Kinetic Cooker Hood is designed to fit in a 600mm aperture above a hob. The telescopic hood incorporates two flat removable metal grease filters, low energy light bulbs and is available with 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 or right hand models.

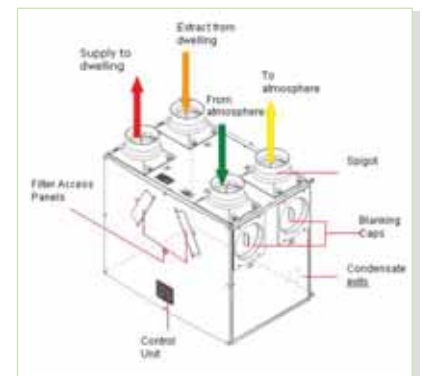
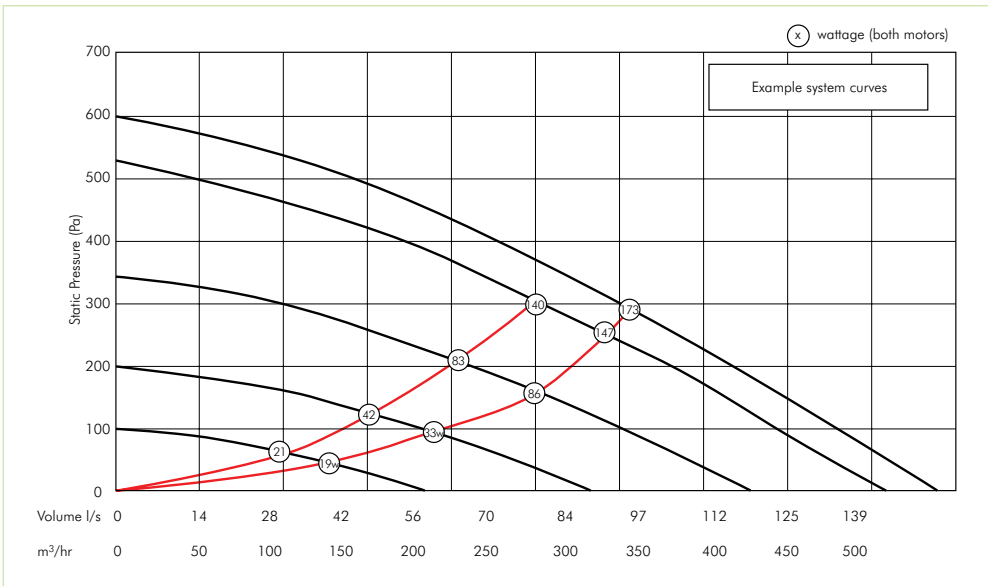
Vent-Axia Sentinel[®] Kinetic Plus

Technical Features

Performance

Fan speeds are fully adjustable within the performance range

Horizontal and Vertical Spigots



Sound Data

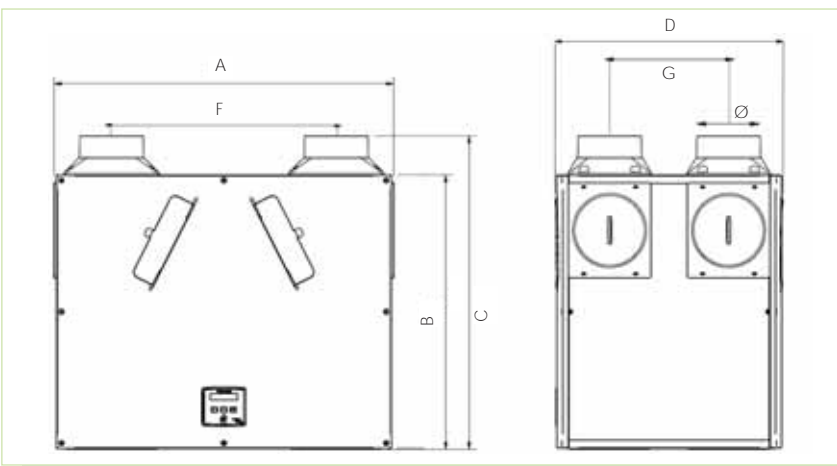
Flow, l/s	Unit setting (%)	Test mode	Octave band, Hz, dB SWL								SPL dB(A) at 3m
			63	125	250	500	1k	2k	4k	8k	
50	20%	Supply	46.5	54.3	46.4	44.8	36.2	28.5	24.5	31.2	28.5
		Extract	46.0	52.2	42.3	38.7	27.6	24.2	24.0	31.7	25.0
		Breakout	48.5	42.6	43.3	38.9	35.8	29.3	23.8	30.7	22.8
78	40%	Supply	50.3	59.1	54.5	56.5	47.0	39.9	26.3	31.7	38.0
		Extract	46.8	51.6	47.8	44.4	32.7	27.4	24.4	31.7	28.0
		Breakout	48.4	51.2	53.4	46.0	41.0	34.6	25.0	30.3	28.5
104	60%	Supply	52.4	57.2	60.4	60.9	55.8	50.3	33.1	33.9	43.6
		Extract	50.0	49.8	56.8	52.4	40.2	35.9	33.4	39.8	35.2
		Breakout	55.0	49.6	59.7	54.5	46.9	39.9	33.6	39.2	34.9
127	80%	Supply	54.9	60.7	67.4	66.6	61.8	56.0	39.6	37.7	49.5
		Extract	50.4	52.0	61.2	56.6	45.1	39.6	34.2	40.2	39.1
		Breakout	53.5	53.4	60.8	59.1	53.0	45.3	36.0	40.1	38.7
137	100%	Supply	54.7	61.7	70.5	69.9	62.7	57.5	42.1	38.3	52.0
		Extract	54.4	55.1	65.8	57.5	46.9	40.6	33.7	40.0	41.8
		Breakout	56.6	54.6	60.5	60.7	54.7	45.9	36.5	39.6	40.0

Tested according to BS848. Breakout quoted spherical, Supply and Extract quoted hemispherical.

Features and Benefits

- SAP Appendix Q eligible
- Ultra quiet
- Horizontal duct option for space-saving installations
- High airflow and ideal for student accommodation clusters
- Unique folding filter for removal when access is restricted
- Integrated digital controller for simple and accurate commissioning
- Light-weight for easy installation
- Plug and play controls; Humidistat, Vent-Wise, Wireless remote
- BMS connectivity
- LS inputs/(Light Switch)
- Volt-free inputs
- Self diagnosis for simplified fault finding
- Adjustable delay on/delay off timer

Dimensions (mm)



Dimensions (mm)

	A	B	C	D	Ø	F	G
Kinetic Plus	785	632	722	526	150	520	275

SAP Appendix Q Performance

	Specific Fan Power (W/l/s)	Temperature Efficiency %
K+1	0.56	92%
K+2	0.49	92%
K+3	0.52	91%
K+4	0.57	90%
K+5	0.62	90%
K+6	0.70	89%
K+7	0.80	89%

Increased Performance

The Kinetic Plus benefits from the latest high efficiency, backward curved impeller design, ensuring the lowest possible energy consumption, ultra quiet operation and an exceptional performance range covering small one bed apartments to the largest of houses.

Care Homes and Student Accommodation

The Kinetic Plus is ideal for larger homes and multiple occupancy units such as nursing homes and student accommodation. Capable of 400m³/hr at 150Pa, the unit can extract from up to ten bathrooms and a communal kitchen while still achieving almost 90% heat recovery. The fully automatic capability of the Kinetic range means that adequate ventilation is always achieved.

The Kinetic's BMS capability is also ideal for these commercial applications where landlords or property managers want to monitor and optimise building performance and maintenance. The Kinetic BMS can provide status information and it's self diagnostics can report if any fault is found.

Spigot Options

In addition to horizontal and vertical spigot positions, the Kinetic Plus has 150mm spigot connections as standard with the option of 180mm or 200mm spigot connections. In installations where very high airflows are expected, the larger spigots can reduce resistance, lowering noise and energy consumption.

180mm/200mm spigots can also simplify connection in commercial installations where larger diameter duct work has been used.

Quick Change filter

As many systems are placed within cupboards the unique filter design folds as you remove it to ensure easy access in restricted spaces.