

# Lo-Carbon Kinetic Plus E

- Acoustic Enclosure option for reduced breakout noise
- Acoustic Top Box option for reduced in-duct noise
- Lightweight for easy installation
- Easy access filters
- External condensate connection
- Compatible with a range of controls: PIR, Humidistat
- Horizontal duct option for space-saving installations
- Up to 94% heat recovery
- Summer mode
- Manufactured in the UK
- Switched live inputs (Light switch control)



A wholehouse heat recovery system with up to 94% energy efficiency. An easily accessible heat recovery cube protected by two removable ISO 45% Coarse (G3) 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.

Lo-Carbon Kinetic Plus E meets the latest requirements of the Building Regulations Approved Document F for wholehouse system ventilation.

The Lo-Carbon Kinetic Plus E model has two adjustable speeds, normal and boost. On the front of the unit is the controller that can be used to preset the speeds to any required performance, up to 111l/s (400m<sup>3</sup>/hr) 150Pa. Offering 'Close Control' to prevent over ventilating. Acoustically lined - low noise levels from only 20dB(A) @ 3m.

For scenarios where noise is a critical issue, an Acoustic Enclosure is available to reduce breakout noise and the Acoustic Top Box will reduce in-duct noise at key frequencies.

## Left or Right Hand Installation

Units are supplied right handed 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 reattaching the control panel.

## Spigot Options

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

## Filter Check

An LED on the control panel illuminates at 6 month intervals to remind users to check and clean the filters.

## Frost Protection

The Kinetic E range benefits from an automatic frost protection system to prevent the heat recovery cell freezing in very cold weather, while at the same time maintaining ventilation.

## Control Options

There are two LS (Switched Live) inputs allowing the unit to be connected to a number of sensors and controllers such as Timespan, Ambient Response Humidistat. One of the LS connections also benefits from a 'Delay-On' feature which prevents the unit boosting unnecessarily. Switching on the control panel allows activation of the Summer Mode.

## Model

Model	Stock Ref
Kinetic Plus E	449059
Kinetic Plus E with Acoustic Top Box & Enclosure	479562
Kinetic Plus E with Acoustic Top Box	479561
Kinetic Plus E with Acoustic Enclosure	479560

## Accessories

Model	Stock Ref
ISO 45% Coarse (G3) Filter 2pk	403702
ISO ePM10 50% (M5) Filter	444201
Isolator Relay Controller	442030
180mm/200mm Spigot Kit (One per pack)	446523

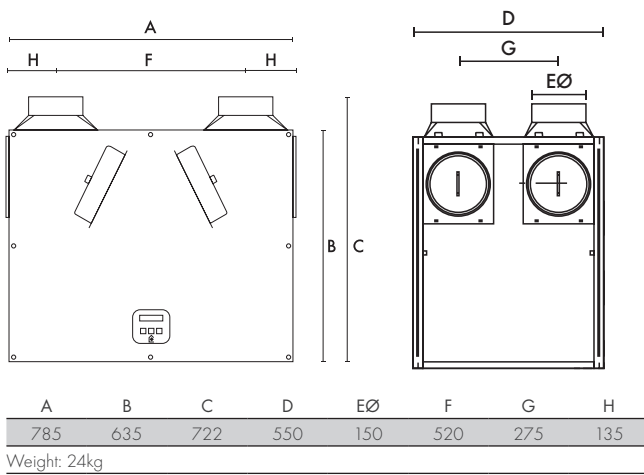
## SEC Class

Model	SEC Class
Kinetic Plus E	A+

## SAP PCDB Test Results

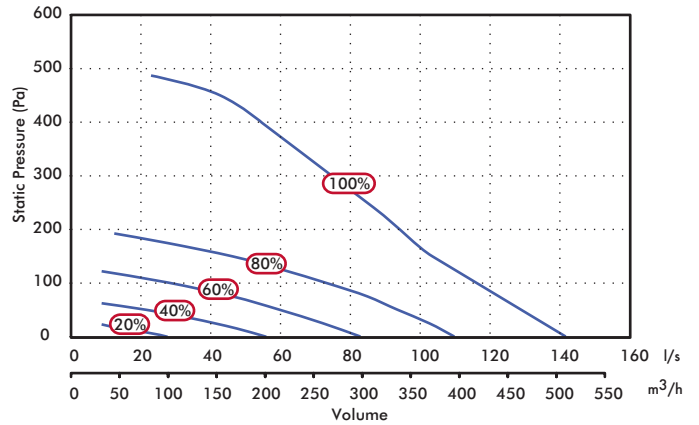
	SAP 2009		SAP 2012	
	Thermal Efficiency %	SFP (W/l/s)	Thermal Efficiency %	SFP (W/l/s)
K + 1	94	0.41	94	0.40
K + 2	94	0.40	94	0.43
K + 3	94	0.43	94	0.53
K + 4	94	0.45	93	0.65
K + 5	93	0.52	93	0.78
K + 6	93	0.61	92	0.93
K + 7	93	0.73		

## Dimensions (mm) Unit

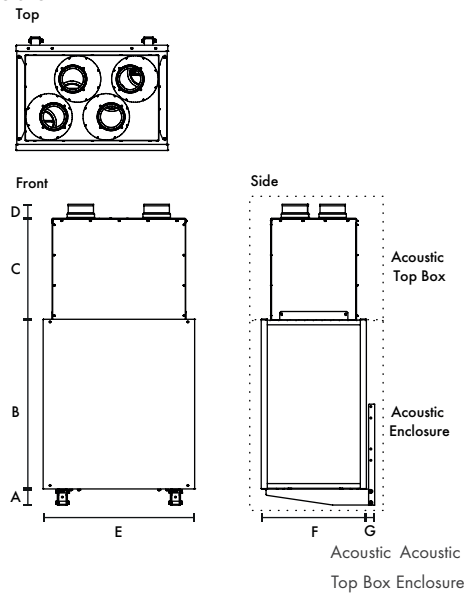


## Performance

Fan speeds are fully adjustable within the performance range.



## Acoustic Solution



A	B	C	D	E	F	G	kg	kg	Spigot
80	750	501	71	844	583	40	17	33	150

## Sound Data (Unit only)

Unit setting	Test mode	Octave band, Hz, dB SWL								SPL dB(A)	
		63	125	250	500	1k	2k	4k	8k	LwA	at 3m
20%	Supply	46.5	54.3	46.4	44.8	36.2	28.5	24.5	31.2	11.0	28.5
	Extract	46.0	52.2	42.3	38.7	27.6	24.2	24.0	31.7	7.5	25.0
	Breakout	48.5	42.6	43.3	38.9	35.8	29.3	23.8	30.7	2.3	22.8
40%	Supply	50.3	59.1	54.5	56.5	47.0	39.9	26.3	31.7	20.5	38.0
	Extract	46.8	51.6	47.8	44.4	32.7	27.4	24.4	31.7	10.5	28.0
	Breakout	48.4	51.2	53.4	46.0	41.0	34.6	25.0	30.3	8.0	28.5
60%	Supply	52.4	57.2	60.4	60.9	55.8	50.3	33.1	33.9	26.1	43.6
	Extract	50.0	49.8	56.8	52.4	40.2	35.9	33.4	39.8	17.7	35.2
	Breakout	55.0	49.6	59.7	54.5	46.9	39.9	33.6	39.2	14.4	34.9
80%	Supply	54.9	60.7	67.4	66.6	61.8	56.0	39.6	37.7	32.0	49.5
	Extract	50.4	52.0	61.2	56.6	45.1	39.6	34.2	40.2	21.6	39.1
	Breakout	53.5	53.4	60.8	59.1	53.0	45.3	36.0	40.1	18.2	38.7
100%	Supply	54.7	61.7	70.5	69.9	62.7	57.5	42.1	38.3	34.5	52.0
	Extract	54.4	55.1	65.8	57.5	46.9	40.6	33.7	40.0	24.3	41.8
	Breakout	56.6	54.6	60.5	60.7	54.7	45.9	36.5	39.6	19.5	40.0

## Sound Data (Unit with Acoustic Solution)

Unit setting	Test mode	Octave band, Hz, dB SWL								SPL dB(A)	
		63	125	250	500	1k	2k	4k	8k	LwA	at 3m
20%	Supply	55.7	49.2	36.6	23.6	17.4	14.9	17.8	23.3	36.1	18.6
	Extract	51.4	42.4	30.3	20.9	16.8	14.9	17.8	23.3	30.8	13.3
	Breakout	37.4	39.7	30.0	22.7	15.6	14.0	17.9	23.3	28.4	7.9
40%	Supply	59.7	59.7	45.5	32.2	22.2	15.2	17.9	23.3	45.1	27.6
	Extract	54.8	55.0	38.0	26.8	18.1	14.9	17.8	23.3	40.2	22.7
	Breakout	45.7	48.5	39.9	32.8	24.2	17.5	18.0	23.4	36.8	16.3
60%	Supply	66.1	61.9	53.6	41.0	29.8	18.3	18.0	23.3	49.5	32.0
	Extract	60.6	55.9	48.4	34.9	23.8	16.3	17.9	23.3	43.8	26.3
	Breakout	51.1	51.0	52.4	40.9	33.2	26.1	19.7	23.4	44.5	24.0
80%	Supply	70.0	67.6	68.5	48.1	37.9	25.3	19.4	23.6	60.7	43.2
	Extract	65.4	59.7	57.2	41.6	31.3	21.8	19.2	23.4	50.4	32.9
	Breakout	55.6	55.6	57.9	47.9	40.4	34.3	26.1	23.7	51.3	30.8
100%	Supply	72.1	70.1	66.4	51.6	41.9	29.7	21.7	24.0	60.0	42.5
	Extract	68.2	62.4	60.6	45.5	36.0	26.6	21.7	23.6	53.8	36.3
	Breakout	57.6	58.8	63.3	51.0	44.2	38.5	31.0	24.9	56.3	35.8

Tested according to BS848. Breakout quoted spherical. Supply and Extract quoted hemispherical. For in-duct data, end reflections are added.

## Consultant's Specification

### Operation

The supply and extract ventilation unit shall be as Kinetic Plus E 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 Kinetic Plus E 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 vary their speed 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. 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, 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. The unit shall have a heat exchanger cell with a thermal efficiency of up to 94% 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 breakout noise, the MVHR unit shall be provided with an Acoustic Enclosure of steel construction lined with class 'O' acoustic foam. 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.

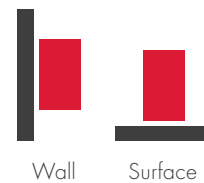
Sound tested to BS EN 13141-7:2010

### Standard Controls

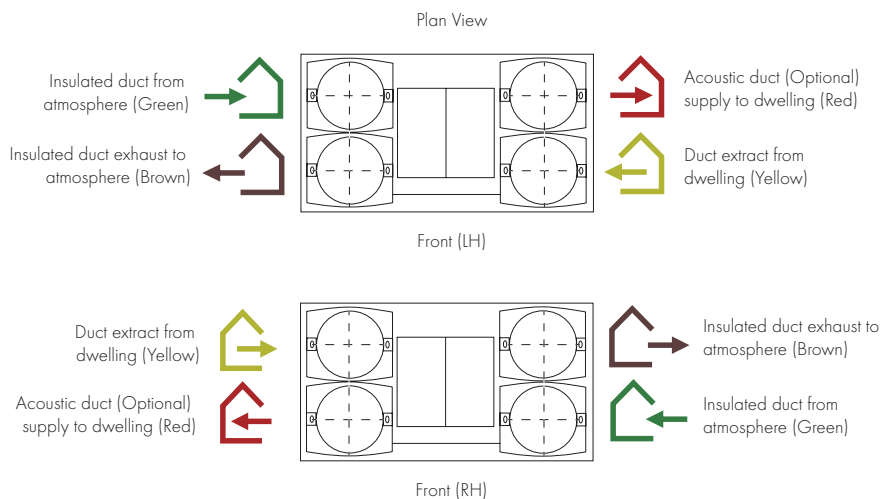
All Kinetic Plus E units shall incorporate the following functions integrally mounted, pre-wired and factory fitted by the manufacturer:

- ✓ Integral infinitely variable fan speed control on supply and extract
- ✓ Integral min/max ventilation control/set point
- ✓ Integral on/off or trickle boost function from remote switch, e.g. PIR occupancy detector
- ✓ Switched Live input with adjustable 'delay-on' feature
- ✓ Tool free filter access
- ✓ Frost protection
- ✓ LED 'filter check' indicator

## Mounting Option



## Airflow Direction



## Electrical Connection

The unit can be switched to boost by applying 230 V to the LS1 or LS2 inputs. Alternatively, the boost button on the control unit may be used.

### Mains Cable Connections

Terminal No.	Name	Description
L	Mains Live	220-240 V AC, 50 Hz input
N	Mains Neutral	220-240 V AC, 50 Hz input
EARTH	Mains Earth	Earthing connector
LS1	Switched Live 1	220-240 V AC, 50 Hz input
LS2	Switched Live 2	220-240 V AC, 50 Hz input

