NATIONAL VENTILATION

100% there for Electrical Wholesalers

Issue 24

Free Quotations | **Free** Site Visits

Free Ducting Layout | **Free** Consultation

NATIONAL VENTILATION

Manufacturers & suppliers of monsoon products

Our route to market is 100% Electrical Wholesale

- ✗ We DON'T deal direct with contractors
- ✗ We DON'T have our own contracts team
- ✗ We DON'T have an online shop
- ✗ We DON'T have franchises or agents
- ✓ **We ARE 100% loyal to you.**

Welcome to National Ventilation's product brochure.

For over 30 years we have been supplying the industry with innovative, energy efficient, low noise ventilation products across the domestic, commercial and industrial sectors, all designed to improve air quality.

We are continually improving and increasing our product range and whilst the catalogue demonstrates this, it is by no means exhaustive as we have more and more items available and too numerous to list.

The National Ventilation team are here to help with all your ventilation requirements, this includes a network of Regional Sales Managers and Specification Managers which cover the whole of the UK, and this is backed up by a dedicated Technical Sales Team.

Working exclusively with Electrical Wholesalers we can provide a full design service, site visits, consultations, quotations and technical support **all free of charge.**

With 95% of our range available on a next day delivery if orders are placed before 2pm and our low carriage paid delivery service we aim to provide the best all round service of any ventilation manufacturer on the market.

At National Ventilation we have always strived to provide something different to the marketplace and I'm confident this latest product brochure once again demonstrates this.

Yours in ventilation

Robin Francis
Managing Director

Discount Structure and Terms

Group E		Energysaver, Fans, Systems & Accessories
Group VA		Vent-Axia Products
Group A (F)		Domestic Products
Group A (D)		Domestic Ducting & Kits
Group B		Commercial & Industrial

Carriage paid on orders over £50 net for next day delivery within the UK*

*Subject to terms and conditions - If ordered by 2pm excludes northern Scotland, Ireland, Isle of Man, Channel Islands, please contact us for delivery rates and anticipated dates to these areas. We also export to other countries on request.

CONTENTS

Group E - Monsoon Energysaver™ Fans, Systems & Accessories

Group VA - Vent-Axia Products

Group A (F) - Monsoon Domestic Products

Group A (D) - Monsoon Domestic Ducting & Kits

Group B - Monsoon Commercial & Industrial Products


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Group E

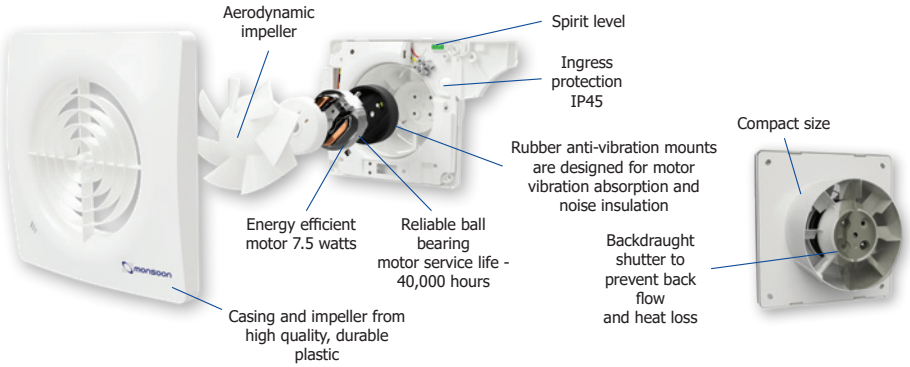
Energysaver™ Fans, Systems & Accessories

Monsoon Energysaver™ Zone 1 Silence Fan Range

- Can be mounted within Zone 1
- Quieter than ever - as low as 22dB(A)
- Window, ceiling or wall mount
- Easier than ever to install with larger terminal block and spirit level
- Improved performance – 1m longer duct runs at 15l/s
- Complies with both Part F & L
- Now with longer 5 year warranty

CODE	DESCRIPTION
MONS100SA	100mm Standard Model 97m³/h
MONS100TA	100mm Timer Model adjustable from 2-30 minutes 97m³/h
MONS100HTA	100mm Timer/Humidistat/Pullcord Model adjustable from 60-90% 97m³/h
MONS100PCA	100mm Pull Cord Model 97m³/h
MONS100PIRA	100mm Passive Infrared Model c/w Timer 97m³/h
MONDMEVWK	100mm Window Kit 97m³/h
MONSCHR	100mm Chrome Facia (not compatible with MON-S100PIR)
MONS125SA	125mm Standard Model 185m³/h
MONS125TA	125mm Timer Model adjustable from 2-30 minutes 185m³/h
MONS125HTA	125mm Timer/Humidistat/Pullcord Model adjustable from 60-90% 185m³/h
MONS150SA	150mm Standard Model 370m³/h
MONS150TA	150mm Timer Model adjustable from 2-30 minutes 370m³/h
MONS150HTA	150mm Timer/Humidistat/Pullcord Model adjustable from 60-90% 370m³/h

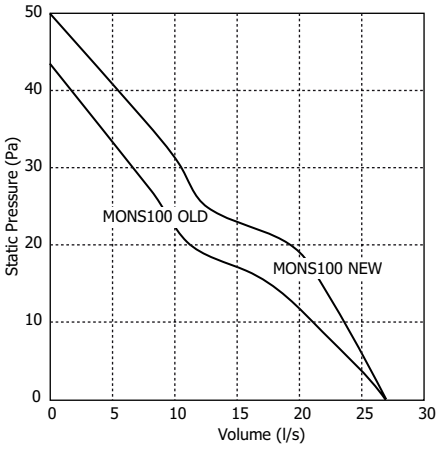
The Monsoon Silence range is the latest innovative domestic ventilation solution, providing high extraction rates with low energy use and exceptionally quiet running levels. The fan comes with a long life ball bearing motor and a silent back draft shutter preventing air travelling back up the duct and into the room. The casing and impeller are made of durable high quality plastic, which helps to prevent degradation and discolouration of the plastic over time. The Mon-S100, S100T, S100HT and S100PC are also now available in a chrome finish, making this stylish fan match well with any modern interior.

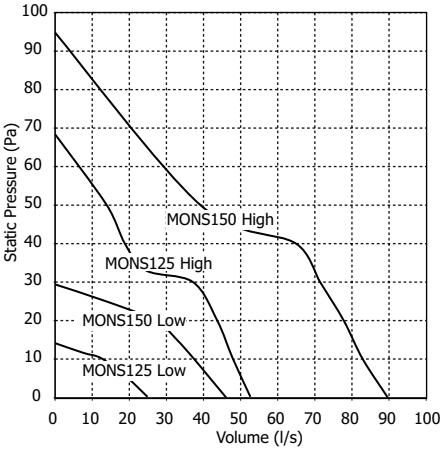


Technical data

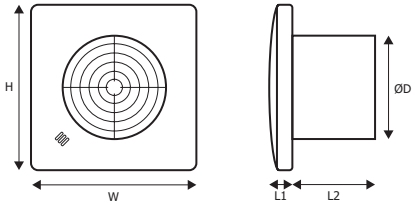
	MON-S100		MON-S125		MON-S150	
Speed	High	Low	High	Low	High	Low
Volts at 50 Hz (V)	230	230	230	230	230	230
Power (W)	7.5	5	14	10.5	19	9
Specific Fan Power (W/l/s)	0.33	0.25	0.29	0.27	0.21	0.24
Current (A)	0.051	0.049	0.083	0.067	0.094	0.07
Performance (l/s)	27	20	48	38	89	37
Sound @ 3m dB(A)	25	22	38	29	41	32
Weight (Kg)	0.55	0.55	0.99	0.99	1.80	1.80
IP rating	IP45	IP45	IP45	IP45	IP45	IP45

Performance Comparison





Dimensions



MODEL	H	W	L1	L2	ØD
MON-S100	160	160	22	80	99
MON-S125	185	185	29	100	120
MON-S150	227	227	30.5	111	146

Monsoon dMEV R

- High efficiency with low SFPs
- Available with integral humidistat
- IPX5 rated for zone 1 installation, wall or ceiling mounted
- Ultra quiet fan, sound levels from 7.4dBA
- Building Regulation Part L and F 2021 compliant
- UK manufactured
- 7 year warranty

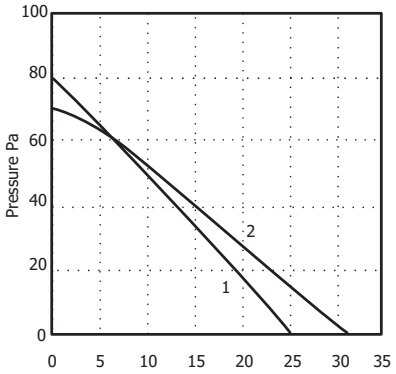
CODE	DESCRIPTION
MON-DMEVR100	Continuous running fan 100mm
MON-DMEVR125	Continuous running fan 125mm
MON-DMEVR100HT	Continuous running fan 100mm with humidistat
MON-DMEVR125HT	Continuous running fan 125mm with humidistat

The Monsoon dMEV R range of continuous mechanical extract ventilation fans, incorporate a high-pressure axial impeller, which offers near silent operation, as low as 11dB(A).

Designed to comply with the lasted UK Building Regulations Part F & L and to be a perfect fit within kitchens, utility rooms and bathrooms. The Monsoon dMEV R is designed with an IPX5 rating, ensuring its suitability for installation in Zone 1, 2, and 3.

The inclusion of a silent mixed flow impeller allows the Monsoon dMEV R to meet the ventilation requirements of various domestic installations without the need for a traditional centrifugal fan.

Performance



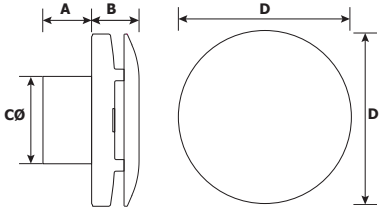
1 100mm dMEV R Max Speed

2 125mm dMEV R Max Speed

Fan technical data

MODEL	SPEED	DB(A)
100	Min	7.4
	Max	34.3
125	Min	8.5
	Max	37.9

Dimensions (mm)



MODEL	A	B	CØ	D
100	56	54	99	195
125	66	57	120	228

Monsoon dMEV 100

- High efficiency with low SFPs
- Full adjustable normal and boost airflow settings
- Available with integral humidistat
- IPX5 rated for zone 1 installation whether or ceiling mounted
- UKAS accredited air flow sensor, easy commissioning
- Display showing airflow and system pressure
- UK manufactured
- 7 year warranty

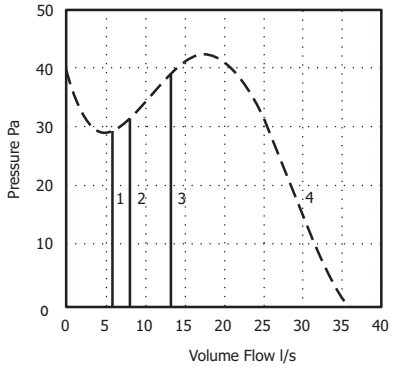
CODE	DESCRIPTION
MON-DMEV100	Continuous running fan 100mm
MON-DMEV100HT	Continuous running fan with humidistat 100mm

The Monsoon dMEV range of continuous mechanical extract ventilation fans, incorporate a high-pressure axial impeller, which offers near silent operation, as low as 13dB(A).

Designed to be a perfect fit within kitchens, utility rooms, and bathrooms, with a switched live connection or humidistat to control the boost speed.

Fully adjustable airflow with 1l/s increments, allows for easy installation and commissioning, with the integrated UKAS calibrated airflow sensor, you can be confident that it will work as intended.

Performance



1 6l/s Constant Volume
2 8l/s Constant Volume
3 13l/s Constant Volume
4 Maximum pressure available to deliver airflow

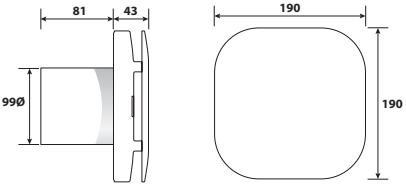
Fan technical data

FAN MOTOR	EXTRACT CAPACITY	TRICKLE dB(A) @ 3M	IP RATING
1W on trickle, 8.3W on boost	Trickle	14	IPX5

Performance data

TRICKLE LOW	TRICKLE HIGH	BOOST
5l/s	15l/s	35l/s

Dimensions (mm)



Hole diameters (mm):

WALLS	CEILINGS	WINDOWS
107	107	117

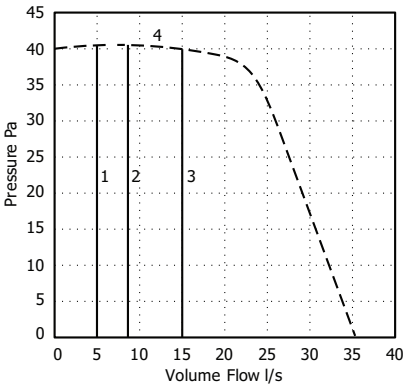
ACR35

- Trickle & boost speeds adjustable
- Humidity sensor, adjustable
- Timer adjustable
- Available in 240V & 12V SELV
- Data logger, hours on trickle and boost, hours boosted by humidity and energy consumption as standard
- 7 year warranty
- IPX5 (IPX7 SELV)

CODE	DESCRIPTION
ACR35	Continuous running HTP fan
ACR35-SELV	Low voltage continuous running HTP fan
ACR35CV	Continuous running HTP fan with constant volume
ACR35CV-SELV	Low voltage continuous running HTP fan with constant voltage
MONDMEVWK	100mm Window Kit 97m³/h

The ACR35 & ACR35 low Voltage continuous running HTP fan designed for kitchens, utilities and bathrooms. Adjustable trickle speeds between 5-30l/s with a maximum boost of 35l/s. Comes with intermittent to continuous running options, a data logger incorporating 3 digit settings lock, hours on trickle and boost, hours boosted on humidity and energy consumption as standard. The HTP fan has an adjustable dynamic ambient response humidity sensor and an adjustable timer between 1 - 30 minutes. The in built boost can be activated by pullcord, humidity sensor, switched live or a remote button.

Performance



1 5l/s Constant Volume
2 9l/s Constant Volume
3 15l/s Constant Volume
4 Maximum pressure available to deliver airflow

Fan Technical data

FAN MOTOR	EXTRACT CAPACITY	TRICKLE dB(A) @ 3M	IP RATING
1W on trickle, 8.3W on boost	Trickle	14	IPX5

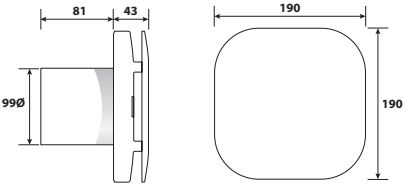
Performance data

TRICKLE LOW	TRICKLE HIGH	BOOST
5l/s	15l/s	35l/s

Hole diameters (mm):

WALLS	CEILINGS	WINDOWS
107	107	117

Dimensions (mm)



Monsoon dMEV High Performance Fan

- Trickle & boost speeds adjustable
- Humidity sensor, adjustable
- Timer adjustable
- Available in 240V & 12V SELV
- 7-year warranty

CODE	DESCRIPTION
MON-DMEVHP100HT	Continuous running HTP fan with extract performance up to 60l/s
MON-DMEVHP100LVHT	Low voltage continuous running HTP fan with extract performance up to 60l/s
ACR60WK	Window Kit

The continuous running HTP fan is designed for kitchens, utilities and bathrooms with a selection of trickle from 6-16l/s. Comes with intermittent to continuous running options, custom 3-digit settings lock, hours on trickle and boost, hours boosted by humidity and energy consumption as standard. The HTP fan has an adjustable automatic sensing humidity sensor, a timer adjustable between 1 - 30 minutes and an in-built boost activated by pullcord.

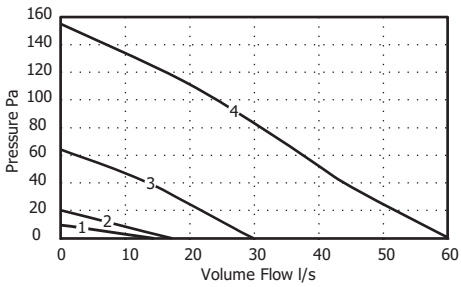
Fan Technical data

Fan Motor -	24VDC
IP Rating -	IPX5 (IPX7 SELV)

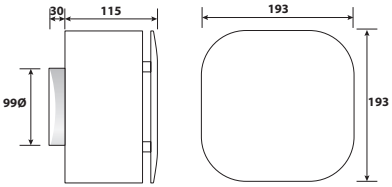
Humidity Sensor Technical data

Humidity Adjustment Range -	50% RH - 90% RH
Humidity Threshold Adjustment Units -	5% RH
Default Humidity Threshold -	75% RH

Performance



Dimensions (mm)



Hole diameters (mm):

WALLS	CEILINGS	WINDOWS
107	107	117

SPEED	GRAPH CURVE	POWER CONSUMPTION (W)	EXTRACT PERFORMANCE (L/S)	SOUND DATA DB(A)
Trickle Low	1	1.4	6*	11
Bathroom Boost	2	2	18	18
Low Kitchen Boost	3	6	30	33
High Kitchen Boost	4	19	60	46

*Can be adjusted between 6 and 16l/s

Monsoon Energysaver™ IntelliSense i7

- Silent from 17dBA
- 7 in 1 functionality
- Up to 110m³/h
- Energy efficient max 3W
- IP44
- Humidity sensor, presence sensor, overrun timer and airing function

CODE	DESCRIPTION
MEI-I7	Energysaver™ IntelliSense i7 Fan
MEI-7-B	Energysaver™ IntelliSense i7 Fan Black

The Monsoon Energysaver™ IntelliSense i7 is a bathroom fan that is quiet yet versatile enough to ventilate bathrooms, toilets and utility areas.

The Intellisense i7 has **six** core ventilation modes for performing air extraction in all homes with natural ventilation. It has been designed and approved for installation in wet areas (IP44) such as WCs, bathrooms and utility rooms. It is for mounting on the wall or ceiling. The **seventh** mode is the heat mover which allows the fan to transfer surplus heat to an adjacent room.

Ventilation Modes

Continuous Ventilation Modes

1. Fully automatic - three speeds
40 m³/h Basic flow, low/ 60 m³/h Presence mid/ 95 m³/h Humidity, max

2. When you need extra speed...
40 m³/h Basic flow, low/ 60 m³/h Presence, mid/ 110m³/h Humidity, max

3. Fully automatic - two speeds
40 m³/h Basic flow, low/ 95 m³/h Humidity, max

Intermittent Ventilation Modes
Backdraught shutter option.

4. Auto start humidity/presence sensor
60 m³/h Presence, mid/ 95 m³/h Humidity, max

5. Manual start/stop via switch
95 m³/h Max speed

6. Auto start + Airing function
60 m³/h Presence, mid/ 95 m³/h Humidity, max
If the fan has been inactive more than 24h, it will start and run for 30 min every 12 hours.

Heat Mover Mode

7. Move excess heat to next room
Start @ 28°C (95 m³/h). Stop @ 24°C

Extra Ventilation Modes
Two speeds - increased basic flow
60 m³/h Basic flow, mid/ 95 m³/h Humidity, max

Starts at rising humidity level
95 m³/h Humidity, max

Continuous or intermittent

The IntelliSense i7 can be installed as either an intermittent fan or a continuous fan giving flexibility on installation options.

During continuous operation the fan can run extremely quietly at low speed, just 17dB(A).

Changing the function

Lift the cover plate. Select the desired mode manually with a screwdriver. It is possible to change mode even when the motor unit has been removed from the wall frame.

Airing function

If the humidity control or presence sensor has not been active for 24 hours, the airing function will start up. The fan will operate at medium speed for 30 minutes every 12 hours. This function means that stuffy, musty odours in the bathroom can be avoided when the room is unoccupied for a while.

Presence sensor – motion (IR) and light

The presence sensor is activated by motion (IR) or when the light is switched on. The over run time is 15 minutes. The fan switches to a medium speed, 60 m³/h, and depending on the choice of mode, it starts up immediately or after 2.5 minutes.

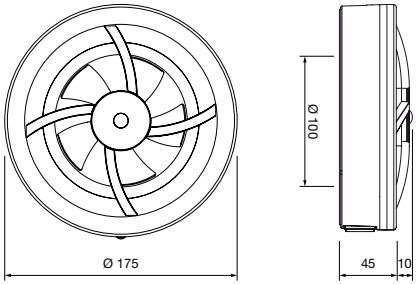
Intelligent humidity sensor

A self-adjusting humidity sensor continuously measures the humidity level in the room. The fan starts up automatically if the humidity level rises rapidly (e.g. in the case of a shower) or if the relative humidity (RH) exceeds 70%. When the humidity level is restored, the fan returns to the basic flow or stops.

Power consumption

Thanks to IntelliSense i7 being operated by a low-Voltage motor, it has been possible to substantially reduce energy consumption. The fan consumes as little as 3 watts on maximum, about a third of what a conventional bathroom fan uses.

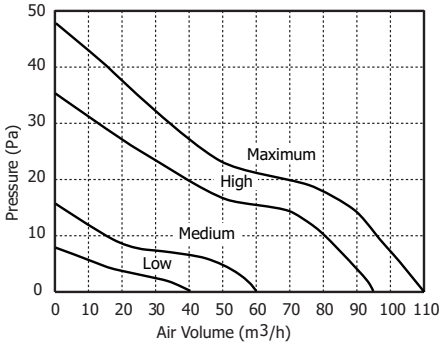
Dimensions (mm)



Functions

FUNCTIONS	INCLUDED
Built for continuous operation/long life	✓
Adjustable speed control	✓
Intelligent, self-adjusting humidity control	✓
Opportunity for fully surface-mounted installation	✓
Integrated safety switch	✓
Easy access control wheel to select mode	✓
Cleanable/easy access to duct	✓
Airing function	✓
Acceleration function	✓

Performance



Noise and capacity data

ADAPTER DIAMETER	MAX/ SILENT	CAPACITY	SOUND PRESSURE LEVEL 3M
Ø100	Max	110m³/h	25dB(A)
Ø100	Silent	40m³/h	17dB(A)

Technical data

MAX POWER CONSUMPTION	PROTECTION RATING
3W	IP44

Monsoon Energysaver™ MON-MEV DC Multi Room Unit

- Suitable for wall, ceiling or loft mounting
- Four 125mm extract points
- Continuous Operation
- Quiet Running
- Extract from numerous rooms

CODE	DESCRIPTION
MON-MEVDC400	DC Multi Room Unit (425 m³/h – 118 l/s)
MON-MEVDCH400	DC Multi Room Unit built-in Humidistat (425 m³/h – 118 l/s)
HRU-SPIR	PIR controller (Not suitable for use with MON-MEV H)
FT1	Wired Remote Timer

The Monsoon Energysaver multi-room product is a mechanical extract ventilation unit which has been designed for continuous extract of stale air from separate areas around the home or for commercial applications where a multipoint extractor system is needed, including toilets, changing rooms and cubicles. These multi-room extract units have been developed so they can be installed in many applications and condensate drains are provided where the ambient air has a high humidity content.

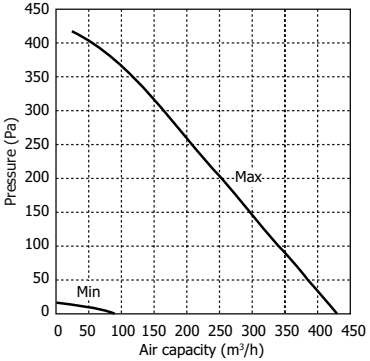
Technical data

	FID m³/h (l/s)		SOUND dB(A) @ 3m			
			CASING BREAKOUT		DUCT INLET	
	MIN	MAX	MIN	MAX	MIN	MAX
MON-MEVDC400	88 (24)	425 (118)	13	37	18	40
MON-MEV DC/H400	88 (24)	425 (118)	13	37	18	40

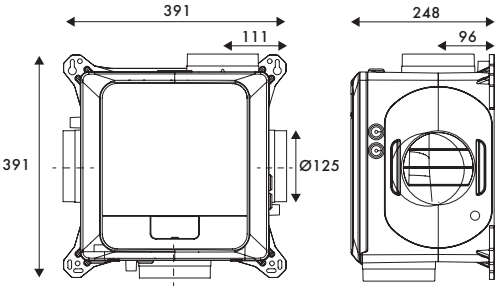
SAP PCDB test results

EXHAUST TERMINAL CONFIG.	TOTAL FLOW RATE	SFP (W/l/s)
K + 1	21	0.15
K + 2	29	0.14
K + 3	37	0.16
K + 4	45	0.18
K + 5	53	0.21
K + 6	61	0.26

Performance



Dimensions (mm)



Weight: 4.1kg

Monsoon Energysaver™ Positive Input Ventilation Range

- Easy to mount
- 5 year guarantee
- Helps to alleviate condensation and mould
- Low Maintenance
- Easy carry handle**
- On unit control with LED display**

Flat version Loft version*

CODE	DESCRIPTION
PPS/W/H	Apartment/Flat Model DC Motor c/w Heater
PPS/L/H	Loft Model DC Motor c/w Heater
PPS/L	Loft Model DC Motor

Parts of this product are now made using recycled material; therefore, the colour of the plastic may vary from white to black. This will not change the function, performance or impact the form or fit of the product in any way and more importantly improves the environmental credentials of this product.

What are Positive Input Systems?

The Monsoon Energysaver Positive Input System is designed for use in almost all property types with both loft and wall units available. For homes with loft spaces the PPS/L/H and PPS/L can be installed in the loft and the discreet diffuser, which will always be supplied using white plastic, is installed in the hallway. For homes without loft spaces the PPS/W/H is installed on the wall in a central hallway. Gently introducing tempered air into the house curing even stubborn mould and condensation issues.

Condensation and Mould Control

Positive Input Systems are tried and tested to increase circulation within the home removing the environments for mould growth. Within a few weeks of installing a positive input system you will notice the mould will have dried out and can be treated safe in the knowledge it will not return.

Why choose Energysaver™ Positive Input Systems?

By gently introducing fresh tempered air into your home you alleviate many of the issues that cause poor indoor air quality. Poor indoor air quality can lead to condensation which in time will cause mould and damp problems within the home. Easily retrofitted, the PPS/L/H and PPS/L can be installed in under an hour and will work for the entire property. The neatly designed heater on the PPS/L/H is fitted to the unit to temper the incoming air stopping cold draughts. The G4 Filters remove harmful particles such as pollen and dust which can cause allergies.

Running speeds are selected on the unit using the easy to read display. Speed selection is based on the number of rooms the property has. The unit will then automatically adjust the flow rate accordingly. Both PPS/L/H and PPS/L also offers heat reclaiming speeds which increases incoming air when the loft temperature exceeds 18°C which means a saving on heating bills!

Ease of Fit

The PPS/L/H and PPS/L have been designed to be fitted quickly saving time and money. The units come with both hanging kit and base mounting kit as standard. The easy carry handle allows the unit to be manoeuvred simply. The handle also allows for the unit to be angled when hung if space is at a minimum. Once the house size is selected the unit will use internal sensors to adjust airflow and heater activation.

Product Information

230-240 V/AC. 50Hz single phase powering a low energy motor consuming down to 3.1W on trickle. These fans are double insulated and do not require an earth. All wiring must comply with current IEE regulations. They also come with a 2.5m power cable.

**Some parts of this product are made using recycled material therefore the colour of the plastic may vary from white to black. To find out more please visit www.nationalventilation.co.uk/sustainable **Loft version only*

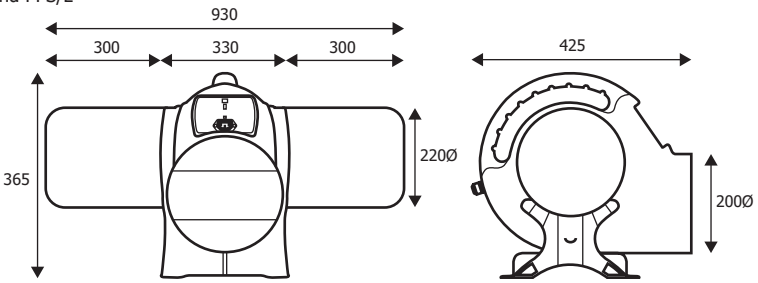
Performance Table

MODEL	BEDROOM	TRICKLE		ENERGY RECOVERY	
		(l/s)	POWER (W)	(l/s)	POWER (W)
PPS/L/H PPS/L	1	19	3.1	29	5.1
	2	25	4.3	37	7.6
	3	31	6.0	46	12.0
	4	37	8.0	49	13.1

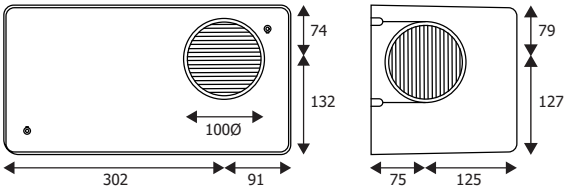
MODEL	BEDROOM	WITHOUT DUCTING		WITH DUCTING	
		(l/s)	POWER (W)	(l/s)	POWER (W)
PPS/W/H	1	19	9	19	11
	2	25	18	25	18
	LS/Boost	25	18	25	18

Dimensions (mm)

PPS/L/H and PPS/L



PPS/W/H



Monsoon Radial Ducting

- Corrosion proof with an antistatic and antibacterial coating
- Duct has a smooth inter surface for minimal resistance
- Huge time & cost savings compared to traditional ducting
- Robust, quick and easy to install
- Crush resistant and double walled for flexibility
- Low profile system
- Plug and play system ideal for self builders
- Equipped with antistatic and antibacterial additives

CODE	DESCRIPTION
UNRAD69/50	Radial Ducting Anti-Bacterial 69mm x 50m
UNVC69/90	Valve Collector 3x Ø69-Ø125mm H= 70mm 90° (inc. 250mm sleeve)
UNDB69/12/125	Distribution Box 12 x Ø69mm side connection Spigot Ø125mm
UNDB69/12/160	Distribution Box 12 x Ø69mm side connection Spigot Ø160mm
UNDB69/18/160	Distribution Box 18 x Ø69mm side connection Spigot Ø160mm
UNFDD69/18/160	Distribution Box 18 x Ø69mm side connection Spigot Ø160mm
UNCON69	Coupler + 2 Rubber Gaskets Ø69mm
UNSVC69	Straight Radial Collector 3 x 69mm, x 125mm

National Ventilation's radial air distribution system is designed for use in homes, apartments and small buildings. The radial system is up to 60% quicker and easier to install, saving time and money.

How it works
The Monsoon Radial Ducting comes on a 50-metre roll, giving you the flexibility to cut it to the correct length for the application. The manifold acts as an air distribution hub, each outlet evenly servicing a different room. Twin or single semi-rigid duct runs are securely connected to a plenum positioned in each room, terminating with an air valve or grille.

Material: Physiological and toxicological harmless PE, fragrance free. The inside of the duct is treated with antistatic and antibacterial coating.

Available in: Ø69mm

Treatment: The duct, distributors and valve collectors have antistatic and antibacterial additives.

Packaging: Duct wrapped, with two sealing caps. Distribution boxes come with adjusted number of sealing caps. Valve collectors packed in a cardboard box with sealing caps and a protective cap.

Specific duct properties: Capacity per duct at ca. 3m/s. Ø69mm: 34m^3/h

Operating temp: -20°C to 60°C

Length: 50m

Diameter: 69mm OD/63mm ID

Stiffness: ≥8 kN/m^2 according to EN ISO 9969.

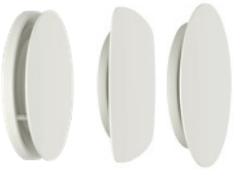
Fire classification: According to DIN EN 13501-1.

Air tightness: Class D according to NEN EN12237, EN1507 and LUKA.

Building Regulations: System is SAP PCDB Listed.

Monsoon UNAV 125 Adjustable Diffuser

- Single design suitable for extract and supply
- Adjust and lock to the commissioned position
- Low pressure drop
- One size valve for any air flow
- Smooth design to prevent dirt build up
- Quick seal fit for 125mm ducting
- Easy cleaning access
- Various grille styles available



CODE	UNAV125	UNAVXL125	UNAVSQ125	UNAVC125	UNAVB125
Material	ASA	ASA, powder-coated ALU	ASA, powder-coated ALU	ASA	ASA
Description	 Adjustable Valve	 Adjustable Valve Large	Adjustable Valve Square	 Collar	 Blanking Plate*
Colour	RAL 9003	RAL 9003	RAL 9003	RAL 9003	RAL 9003
Weight (g)	230	410	450	-	-

*Not suitable for UNAVSQ125 model

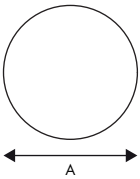
The Monsoon UNAV 125 distribution system is a range of easy-to-install and easy-to-maintain diffusers for MEV and MVHR systems. Each diffuser is suitable for both supply and extract and is available in 3 attractive designs. Air volume can be adjusted and locked within the valve; the exterior of the valve will therefore always look the same – regardless of airflow.

Performance

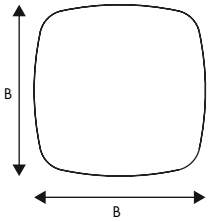
	Supply		Extraction	
Valve Open	13l/s	21l/s	13l/s	21l/s
100%	< 22 dB(A)	25 dB(A)	< 22 dB(A)	24 dB(A)
50%	23 dB(A)	29 dB(A)	< 22 dB(A)	25 dB(A)

Dimensions (mm)

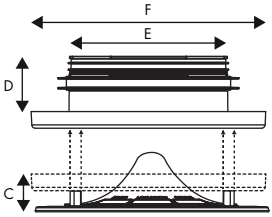
Front
UNAV125 / UNAVXL125



UNAVSQ125



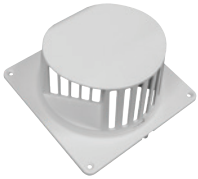
Side
UNAV125



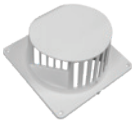
AØ	B	C	D	EØ	FØ
170/215	215	27	40	116	125

Monsoon Energysaver™ Grille Range

- Patented design - Completely unique
- Virtually eliminates 'blow back' when fan is running
- Increased efficiency of fan by up to 20%
- Reduces running cost of the ventilation system
- Airflow noise reduced
- Independently tested



CODE	DESCRIPTION
ESG4WH	100mm Energysaver™ Grille White
ESG4BR	100mm Energysaver™ Grille Brown
ESG6WH	150mm Energysaver™ Grille White
ESG6BR	150mm Energysaver™ Grille Brown
ESWK4WH	100mm Energysaver™ Wall Kit White
ESWK4BR	100mm Energysaver™ Wall Kit Brown
ESWK6WH	150mm Energysaver™ Wall Kit White
ESWK6BR	150mm Energysaver™ Wall Kit Brown



How it works

The Energysaver™ Grille has been designed to counteract the adverse effects of external wind on the performance of mechanical extract ventilation systems and passive vents. This patented product is up to 20% less resistant to airflow and has the capability to make any extractor fan up to 20% more energy efficient. The Grille also alleviates 'blow back' thus further increasing extractor fan efficiency and reducing energy consumption - all of which contribute to a reduction in the carbon footprint. The Energysaver™ Grille is the only patented Part F compliant, independently tested energy efficient ventilation grille on the market.

Review of the market

Extract and passive ventilation systems all require external cowls or grilles to prevent draughts and rain ingress from entering a dwelling. Conventional grilles, even those with fixed louvres, are adversely effected by upward and cross winds that significantly reduce their effective area. This has serious implications, particularly in relation to the statutory fresh air requirement for gas vents.

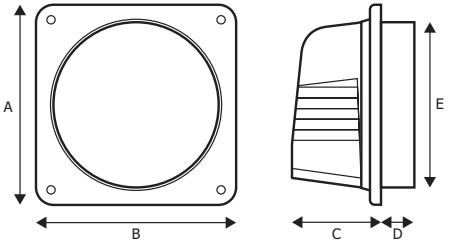
The problem is that the standard test to determine effective area is always measured to 'free air' and wind effect can reduce effective area by up to 50%. Wind speeds as low as 5 metres/sec can make it difficult for some domestic mechanical ventilators to achieve 15 litres/sec extraction.

Construction

The Energysaver™ Grille is produced as a one piece moulding in tough, weather resistant PVCu. It is supplied with a snap-on mounting plate pre-drilled, to suit 100mm (4inch) and 150mm (6inch) size ventilation installations.

Dimensions

MODEL	A	B	C	D	E
100mm	120	120	65	30	99
150mm	180	180	80	30	149



Monsoon Fast Fix Internal Kit

- Install from within the property - no need to access external wall
- Quick and easy installation
- Suitable for high-rise applications
- Adjustable to wall thickness
- Low-resistance external grille
- Appropriate as a passive air grille

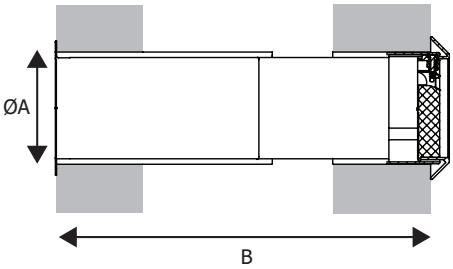
CODE	DESCRIPTION
FFK100W	Fast Fix Internal Kit 100mm White
FFK100B	Fast Fix Internal Kit 100mm Brown
FFK100WS	Fast Fix Internal Kit 100mm White c/w Backdraught Shutter
FFK100BS	Fast Fix Internal Kit 100mm Brown c/w Backdraught Shutter

The Monsoon Fast Fix Internal kit has been designed so that it can be installed from within the property ensuring a quick and easy installation, reducing installation time and eliminating the need for scaffolding. The Fast Fix kit with low-resistance external grille and adjustable wall liner is ideal for high-rise applications where access may be an issue and is also appropriate as a passive air grille.

The Fast Fix Internal Kit has been designed to fit a 117mm hole inside the wall with a minimum depth of 225mm and a maximum depth of 390mm. The Kit comes with optional backdraught shutter models which are very useful with intermittent fans, backdraught shutters will ensure no draughts come in to the home through the wall kit. The Fast Fix Internal Kit can be used with any 100mm fan (if fan already has backdraught shutter please select model without).

Dimensions (mm)

MODEL	ØA	B
FFK100	117	225-390



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Lo-Carbon Sentinel Econiq Constant Volume

- 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)
- ePM2.5 F7 Filtration as standard for supply and G4 for extract
- 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
- Constant Volume - Maintains pre-set airflow irrespective of system pressure within it's performance capabilities
- Sold exclusively through National Ventilation

CODE	DESCRIPTION
411077	Lo-Carbon Sentinel Econiq SC
499638	Lo-Carbon Sentinel Econiq MC
499647	Lo-Carbon Sentinel Econiq LC
477988	Acoustic Purge Fan
479829	Acoustic Purge Fan XL
411628	Wall Mounting Kit for Controller
414122	Econiq M & L Floor Stand
414012	Lo-Carbon Sentinel Econiq SC Acoustic Solution Enclosure Kit
414013	Lo-Carbon Sentinel Econiq SC Acoustic Solution Top Box Kit
414014	Lo-Carbon Sentinel Econiq SC Acoustic Solution Top Box & Enclosure Kit
411689	Lo-Carbon Sentinel Econiq SC ISO 60% Coarse (G4) Filter 2 per Pack
472669	Lo-Carbon Sentinel Econiq SC ISO ePM10 50% (M5) Filter 1 per Pack
472671	Lo-Carbon Sentinel Econiq SC ISO ePM2.5 70% (F7) Filter 1 per Pack
411690	Lo-Carbon Sentinel Econiq MC & LC ISO 60% Coarse (G4) Filter 2 per Pack
411691	Lo-Carbon Sentinel Econiq MC & LC ISO ePM10 50% (M5) Filter 1 per Pack
411692	Lo-Carbon Sentinel Econiq MC & LC ISO ePM2.5 70% (F7) Filter 1 per Pack

Sensor Overview

Code	Power	Colour	CO_2	PIR	Temp.	Humidity	Wireless	4 Speed Switch
496431	Battery	White			✓	✓	✓	
496437	Battery	White			✓	✓	✓	✓
497689	Battery	Black			✓	✓	✓	✓
496432	24V	White	✓		✓	✓		
496429	240V	White			✓	✓	✓	
496433	240V	White	✓		✓	✓	✓	
496438	240V	White		✓			✓	
496620	240V	White			✓	✓	✓	✓
497693	240V	Black			✓	✓	✓	✓
496621	240V	White			✓	✓		✓
497697	240V	Black			✓	✓		✓

For more Controller & Sensor information go to page 32

The Lo-Carbon Sentinel Econiq Constant Volume 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_2 sensor located within a habitable room helps ensure a healthy and safe working environment. CO_2 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 Constant Volume 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.

Download on the App Store

GET IT ON Google Play

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 $3m^3/(h.m^2)$ 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.

SEC Class

Model	SEC Class
Econiq SC	A+
Econiq MC	A+
Econiq LC	A+

SAP PCDB Test Results

	Econiq SC		Econiq MC		Econiq LC	
	Thermal Efficiency %	SFP (W/l/s)	Thermal Efficiency %	SFP (W/l/s)	Thermal Efficiency %	SFP (W/l/s)
K+1	93	0.39	93	0.41	93	0.56
K+2	92	0.46	93	0.41	93	0.53
K+3	91	0.55	92	0.46	93	0.56
K+4	91	0.70	92	0.55	92	0.62
K+5	90	0.85	91	0.66	91	0.72
K+6	89	1.07	91	0.81	91	0.84
K+7	89	1.31	90	1.00	90	1.01

Model Range Overview

	 Lo-Carbon Sentinel Econiq SC	 Lo-Carbon Sentinel Econiq MC	 Lo-Carbon Sentinel Econiq LC
Constant Volume	✓	✓	✓
Recommended max system flow (l/s) @ Pressure (Pa)	97 @ 150	125 @ 150	167 @ 150
Acoustic Enclosure	O	X	X
Acoustic Top Box	O	X	X
Part F Compliant App Commissioning Certificate	✓	✓	✓
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)	O	O	O
Easy Access Filters: ISO ePM2.5 70% (F7)	O	O	O
Clean Filter Indicator (Time frame)	✓	✓	✓
PIN Number Lock	✓	✓	✓
Running Time Indicator	✓	✓	✓
Enthalpy Heat Exchanger	O	O	O
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	O	O	O
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

O - Denote Optional

Consultant's Specification

Specification

The Mechanical Ventilation Heat Recovery Unit shall be the Lo-Carbon Sentinel Econiq SC, MC or LC as manufactured by Vent-Axia. It should be sized as indicated on the drawings and shall be in accordance with the particular specification. These Constant volume models will maintain
pre-set airflows irrespective of system pressure within the units performance capabilities.

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 Constant Volume 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 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 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_2, 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 SC shall have filter drawers and the MC and LC shall have filter caps.

Units shall be manufactured by Vent-Axia Ltd.

Standard Controls

The Lo-Carbon Sentinel Econiq SC, MC or LP 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

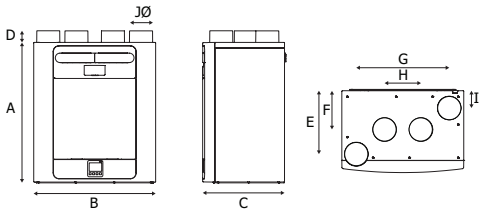
The unit shall incorporate:

- ✓ 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

Lo-Carbon Sentinel Econiq SC

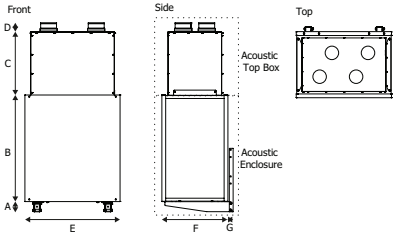
Dimensions (mm) - Unit



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

Dimensions (mm) - Acoustic Solution



A	B	C	D	E	F	G	Spigot
80	840	501	68	750	520	40	125

Acoustic Top Box 14 kg, Acoustic Enclosure 27 kg

Sound Spectrum (unit only)

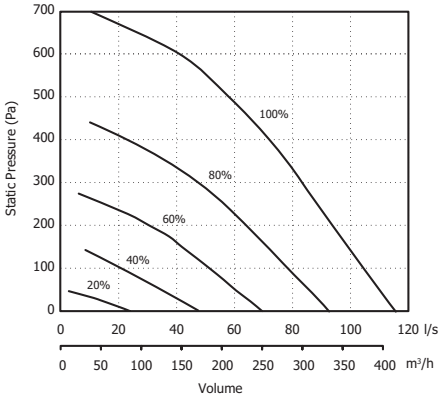
Speed	Test mode	Octave Band (Hz) Sound Power Levels, dB								LwA	SPL dB(A) @ 3m
		63	125	250	500	1k	2k	4k	8k		
20%	Supply	52.9	50.9	46.8	43.0	34.6	27.1	19.2	25.4	43.9	26.4
	Extract	50.3	49.0	36.0	31.5	23.6	16.1	18.9	25.3	36.4	18.9
	Breakout	34.6	34.8	35.7	34.9	29.6	25.1	21.0	25.3	36.0	15.5
40%	Supply	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

Sound Spectrum (Solution Top Box & Enclosure Kit)

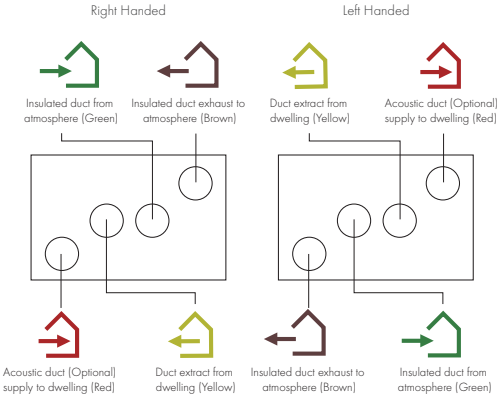
Speed	Test mode	Octave Band (Hz) Sound Power Levels, dB								LwA	SPL dB(A) @ 3m
		63	125	250	500	1k	2k	4k	8k		
20%	Supply	54.7	50.5	41.5	30.8	18.6	14.7	18.2	24.0	38.0	20.5
	Extract	54.8	41.7	31.4	20.2	15.2	13.8	18.3	24.3	31.9	14.4
	Breakout	36.6	47.3	38.0	24.7	19.3	16.6	19.1	23.6	34.0	13.5
40%	Supply	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

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



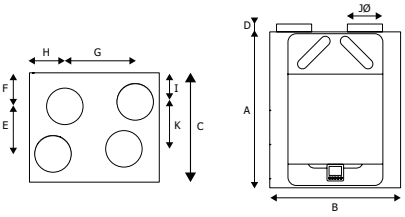
Spigot Configuration



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

Lo-Carbon Sentinel Econiq MC & LC

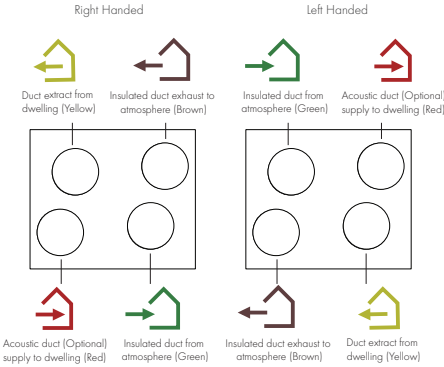
Dimensions (mm)



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



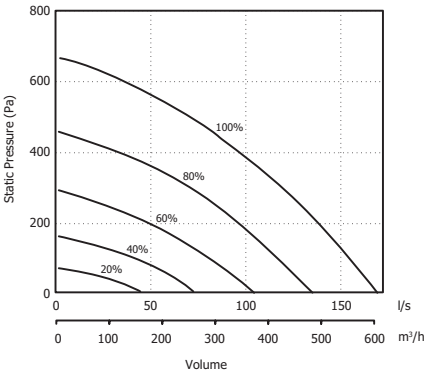
Sound Spectrum (Lo-Carbon Sentinel Econiq MC)

Speed	Test mode	Octave Band (Hz) Sound Power Levels, dB								SPL dB(A) @ 3m
		63	125	250	500	1k	2k	4k	8k	
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

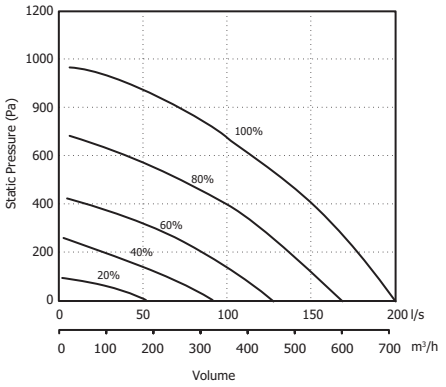
Sound Spectrum (Lo-Carbon Sentinel Econiq LC)

Speed	Test mode	Octave Band (Hz) Sound Power Levels, dB								SPL dB(A) @ 3m
		63	125	250	500	1k	2k	4k	8k	
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 (Lo-Carbon Sentinel Econiq MC)



Performance (Lo-Carbon Sentinel Econiq LC)



Sentinel-X Controllers

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

Code
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 (HxWxD) (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	Code
White	496437
Black	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
- Power supply 240V
- Wireless range 20m closed/100m open
- RF 868MHz Wireless or RS485 Wired communication
- Compatible with standard single gang or surface mounted pattress box

Code
411628

24V Sensor

0-10V CO_2, Temperature and Humidity - Wired
Room mounted CO_2 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_2 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

Code
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

Code
496429

240V - CO_2, Temperature and Humidity - Wireless
Room mounted CO_2 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_2 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

Code
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	Code
White	496621
Black	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	Code
White	496620
Black	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

Code
496438

Lo-Carbon Sentinel Econiq Passivhaus Certified

- Passivhaus certified
- New Sentinel-X wireless control platform
- Intelligent smart app control as standard
- Horizontal duct option for space-saving installations (M & L only)
- Sound levels as low as 15.5 dB(A) breakout
  - independently tested and verified by SRL
- Developed and manufactured in the UK
- Constant Volume - Maintains pre-set airflow irrespective of system pressure within it's performance capabilities
- Built-in pre-heater as standard with optional external duct heaters

CODE	DESCRIPTION
499890	Sentinel Econiq SCP RH
499891	Sentinel Econiq SCP LH
499639	Sentinel Econiq MCP RH
499640	Sentinel Econiq MCP LH
499648	Sentinel Econiq LCP RH
499649	Sentinel Econiq LCP LH
413664	Sentinel Econiq SCP RH with In-Duct Heater Passivhaus Kit
413665	Sentinel Econiq SCP LH with In-Duct Heater Passivhaus Kit
413666	Sentinel Econiq MCP RH with In-Duct Heater Passivhaus Kit
413667	Sentinel Econiq MCP LH with In-Duct Heater Passivhaus Kit
413668	Sentinel Econiq LCP RH with In-Duct Heater Passivhaus Kit
413669	Sentinel Econiq LCP LH with In-Duct Heater Passivhaus Kit
413662	In-Duct Heater - Ø125mm /1.25kW
413663	In-Duct Heater - Ø200mm /2.5kW
411628	Wall Mounting Kit for Controller
414012	Econiq S Acoustic Solution Enclosure Kit
414013	Econiq S Acoustic Solution Top Box Kit
414014	Econiq S Acoustic Solution Top Box & Enclosure Kit
414122	Econiq M & L Floor Stand
411689	ISO 60% Coarse (G4) Econiq SCP Filter 2 per Pack
472669	ISO ePM10 50% (M5) Econiq SCP Filter 1 per Pack
472671	ISO ePM2.5 70% (F7) Econiq SCP Filter 1 per Pack
411690	ISO 60% Coarse (G4) Econiq MCP & LCP Filter 2 per Pack
411691	ISO ePM10 50% (M5) Econiq MCP & LCP Filter 1 per Pack
411692	ISO ePM2.5 70% (F7) Econiq MCP & LCP Filter 1 per Pack

Sensor Overview

Code	Power	Colour	CO_2	PIR	Temp.	Humidity	Wireless	4 Speed Switch
496431	Battery	White			✓	✓	✓	
496437	Battery	White			✓	✓	✓	✓
497689	Battery	Black			✓	✓	✓	✓
496432	24V	White	✓		✓	✓		
496429	240V	White			✓	✓	✓	
496433	240V	White	✓		✓	✓	✓	
496438	240V	White		✓			✓	
496620	240V	White			✓	✓	✓	✓
497693	240V	Black			✓	✓	✓	✓
496621	240V	White			✓	✓		✓
497697	240V	Black			✓	✓		✓

For more Controller & Sensor information go to page 32

Passivhaus

MVHR is a critical part of a Passivhaus project and it's success in driving down energy demand, The performance of the MVHR system is considered an integral element of the primary Passivhaus heating demand calculation.

Vent-Axia's new range of MVHR's can support you with your next Passivhaus project with our most advanced MVHR's and wired or wireless control platform.

Our Passivhaus certified MVHR's provide up to 86% Thermal Efficiency. And free cooling through an Intelligent Summer Bypass during the warmer months

F7 Filters as standard, along with Constant Volume and internal pre-heaters means you will have control over your indoor environment.

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 ePM2.5 (F7), which can filter out mould spores, bacteria and particles smaller or equal to 2.5µm supplied as standard on the supply side, we also have ISO 60% Coarse (G4) supplied as standard on extract, 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.

The various sensor options allow for flexible installation in individual rooms, supporting effective management of the air in the home. For example, a CO_2 sensor located within a habitable room helps ensure a healthy and safe working environment. CO_2 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.

Download on the App Store

GET IT ON Google Play

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 night time 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 $3m^3/(h.m^2)$ at 50Pa). This reduces the effectiveness of the standard frost protection strategy which imbalances the airflows. With Passivhaus design very low air leakage rates are required to meet the standard and must be demonstrated for each certified building. The air change rate must be less than or equal to 0.6 air changes per hour at 50pa, under test conditions.

Spigot Options (MCP & LCP only)

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

SEC Class

Model	SEC Class
Econiq SCP	A+
Econiq MCP	A+
Econiq LCP	A+

Passive House Test Results

Model	Airflow range (m^3/h)	Heat recovery rate (%)	Specific electric power (Wh/m^3)
Econiq SCP	70-280	85	0.24
Econiq MCP	100-370	86	0.22
Econiq LCP	150–490	86	0.27

SAP PCDB Test Results

	Econiq SCP		Econiq MCP		Econiq LCP	
	Thermal Efficiency %	SFP (W/l/s)	Thermal Efficiency %	SFP (W/l/s)	Thermal Efficiency %	SFP (W/l/s)
K+1	93	0.39	93	0.41	93	0.56
K+2	92	0.46	93	0.41	93	0.53
K+3	91	0.55	92	0.46	93	0.56
K+4	91	0.70	92	0.55	92	0.62
K+5	90	0.85	91	0.66	91	0.72
K+6	89	1.07	91	0.81	91	0.84
K+7	89	1.31	90	1.00	90	1.01

Model Range Overview

	 Sentinel Econiq SCP	 Sentinel Econiq MCP	 Sentinel Econiq LCP
Certified Passive House Component ID	2213vs03	2212vs03	2211vs03
Internal Pre-heater	✓	✓	✓
Acoustic Enclosure	O	X	X
Acoustic Top Box	O	X	X
Constant Volume	✓	✓	✓
Recommended max system flow (l/s) @ Pressure (Pa)	97 @ 150	125 @ 150	167 @ 150
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) Extract Only	✓	✓	✓
Easy Access Filters: ISO ePM10 50% (M5)	O	O	O
Easy Access Filters: ISO ePM2.5 70% (F7) Supply Only	✓	✓	✓
Clean Filter Indicator (Time frame)	✓	✓	✓
PIN Number Lock	✓	✓	✓
Running Time Indicator	✓	✓	✓
Enthalpy Heat Exchanger	O	O	O
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	O	O	O
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

O - Denote Optional

Consultant's Specification

Specification

The Mechanical Ventilation Heat Recovery Unit shall be the Lo-Carbon Sentinel Econiq SCP, MCP or LCP 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 ePM2.5 (F7) on supply and ISO 60% Coarse (G4) grade filters on extract with the facility to accommodate 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.

Intake air shall be pre-heated by the internal pre-heater at a trigger temperature of -3°C to protect the heat exchange cell. 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_2, 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, e.g. 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:

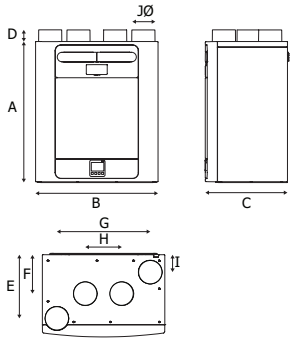
- ✓ An integral humidity sensor with the following features: Ambient Response; Raises the humidity trigger point as dwelling temperature reduces.
- ✓ Rapid Response: Monitors the rate of change in humidity and triggers increased airflow even if the humidity trigger threshold is not reached.
- ✓ Proportional 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 SCP

Dimensions (mm)

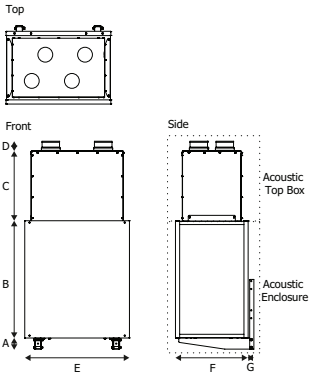
Unit



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

Acoustic Solution



A	B	C	D	E	F	G	Acoustic Top Box kg	Acoustic Enclosure kg	Spigot
80	840	501	68	750	520	40	14	27	125

Sound Spectrum (Unit only)

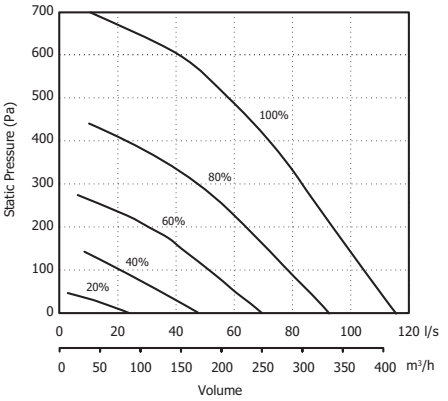
Speed	Test mode	Octave Band (Hz) Sound Power Levels, dB 63	125	250	500	1k	2k	4k	8k	LwA	SPL dB(A) @ 3m
20%	Supply	52.9	50.9	46.8	43.0	34.6	27.1	19.2	25.4	43.9	26.4
	Extract	50.3	49.0	36.0	31.5	23.6	16.1	18.9	25.3	36.4	18.9
	Breakout	34.6	34.8	35.7	34.9	29.6	25.1	21.0	25.3	36.0	15.5
40%	Supply	59.5	56.5	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

Sound Spectrum (Solution Top Box & Enclosure Kit)

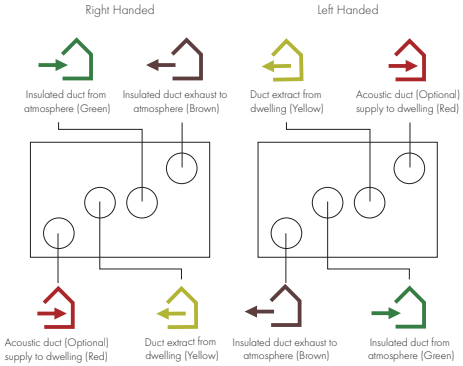
Speed	Test mode	Octave Band (Hz) Sound Power Levels, dB 63	125	250	500	1k	2k	4k	8k	LwA	SPL dB(A) @ 3m
20%	Supply	54.7	50.5	41.5	30.8	18.6	14.7	18.2	24.0	38.0	20.5
	Extract	54.8	41.7	31.4	20.2	15.2	13.8	18.3	24.3	31.9	14.4
	Breakout	36.6	47.3	38.0	24.7	19.3	16.6	19.1	23.6	34.0	13.5
40%	Supply	61.0	57.7	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

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



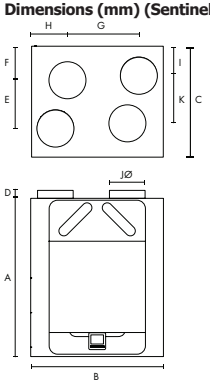
Spigot Configuration



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

Sentinel Econiq MCP & LCP

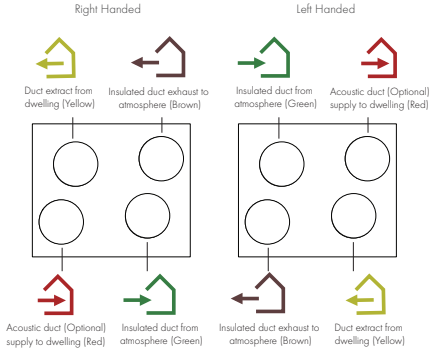
Dimensions (mm) (Sentinel Econiq MCP & LCP)



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 MCP & LCP)



For Passivhaus units handing must be chosen at the point of order as this is managed in production.

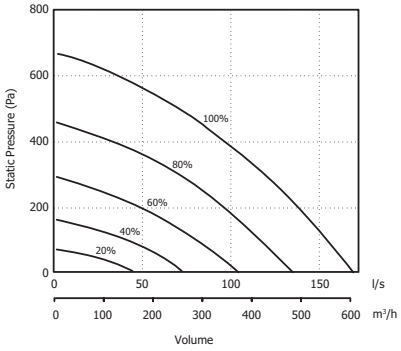
Sound Spectrum (Sentinel Econiq MCP)

Speed	Test mode	Octave Band (Hz) Sound Power Levels, dB								SPL dB(A) @ 3m
		63	125	250	500	1k	2k	4k	8k	
20%	Break-out	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%	Break-out	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%	Break-out	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%	Break-out	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%	Break-out	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

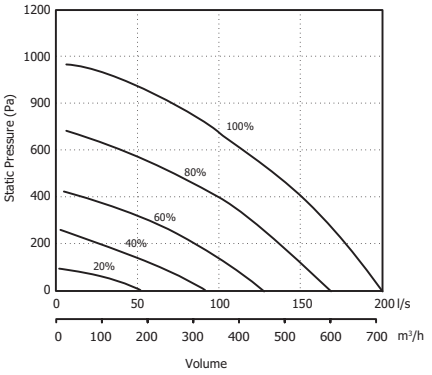
Sound Spectrum (Sentinel Econiq LCP)

Speed	Test mode	Octave Band (Hz) Sound Power Levels, dB								SPL dB(A) @ 3m
		63	125	250	500	1k	2k	4k	8k	
20%	Break-out	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%	Break-out	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%	Break-out	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%	Break-out	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%	Break-out	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 MCP)



Performance (Sentinel Econiq LCP)



Sentinel-X Controllers

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

Code
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 (HxWxD) (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	Code
White	496437
Black	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
- Power supply 240V
- Wireless range 20m closed/100m open
- RF 868MHz Wireless or RS485 Wired communication
- Compatible with standard single gang or surface mounted pattress box

Code
411628

24V Sensor

0-10V CO_2, Temperature and Humidity - Wired
Room mounted CO_2 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_2 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

Code
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

Code
496429

240V - CO_2, Temperature and Humidity - Wireless
Room mounted CO_2 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_2 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

Code
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	Code
White	496621
Black	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	Code
White	496620
Black	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

Code
496438

Lo-Carbon Sentinel Econiq Cool-Flow

- Up to 3.78kW of cooling provided
- Activated automatically at 24°C to prevent overheating to meet Part O and TM59
- Lowers fresh air supply temperature from ambient temperatures by up to 21°C
- R32 refrigerant with a GWP of 675, 50% lower than R134a
- EER up to 4.12
- App allowing full commissioning and control of activation
- Sentinel-X Wireless Temperature Sensors available
- Best in class SFP's and thermal efficiencies up to 93%
- Sound data independently tested and verified by SRL
- Wall mounted and Floor Standing options available
- Designed with 200mm spigots to provide maximum cooling and minimal noise levels all at low system pressures

CODE	DESCRIPTION
413887	Sentinel Econiq Cool-Flow Wall Mounted Kit
413888	Sentinel Econiq Cool-Flow Floor Mounted Kit
411628	Wall Mounting Kit for Controller
411690	ISO 60% Coarse (G4) Filter 2 per Pack
411691	ISO ePM10 50% (M5) Filter 1 per Pack
411692	ISO ePM2.5 70% (F7) Filter 1 per Pack

Code	Power	Colour	CO_2	PIR	Temp.	Humidity	Wireless	4 Speed Switch
496431	Battery	White			✓	✓	✓	
496437	Battery	White			✓	✓	✓	✓
497689	Battery	Black			✓	✓	✓	✓
496432	24V	White	✓		✓	✓		
496429	240V	White			✓	✓	✓	
496433	240V	White	✓		✓	✓	✓	
496438	240V	White		✓			✓	
496620	240V	White			✓	✓	✓	✓
497693	240V	Black			✓	✓	✓	✓
496621	240V	White			✓	✓		✓
497697	240V	Black			✓	✓		✓

For more Controller & Sensor information go to page 32

Designed to mitigate overheating conditions in the warmer months meeting the requirements of Residential Part O and TM59 standards. Lo-Carbon Sentinel Econiq Cool-Flow is Vent-Axia's latest flagship mechanical ventilation with heat recovery system combined with our Intelligent Econiq Cool-Flow Module. Designed in the UK, it offers the highest level of comfort and functionality all year round.

Vent-Axia's Lo-Carbon Sentinel Econiq Cool-Flow is a self-contained solution designed to fit within a POD or standard utility cupboard. Connection to the unit will be made utilising the 200mm spigots and Vent-Axia's Thermflow ducting which will have a thermal conductivity of no less than 0.038 W/(m·K).

In the cooler months the Lo-Carbon Sentinel Econiq Cool-Flow provides up to 93% Heat Recovery ensuring heating bills are kept to an absolute minimum, in the warmer months our Intelligent 100% summer bypass will ensure free cooling is used wherever possible to ensure the internal comfort temperature is not exceeded.

If the 100% automatic intelligent summer bypass is not able to utilise internal/external free cooling conditions to reduce overheating, Vent-Axia's Lo-Carbon Sentinel Econiq Cool-Flow will automatically detect excessive increase in temperature within the dwelling. This will operate until the internal dwelling comfort temperature is met to ensure the dwelling does not overheat beyond Part O and TM59 parameters or the comfort temperatures set by the user. Manual boost is also possible for the end user if they wish to override the automatic cooling mode as is the ability to turn then cooling on/off.

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 life span 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 wireless temperature sensor located within a habitable room helps ensure a healthy and safe environment. A humidity sensor located in the bathroom detects

high levels of moisture can support good indoor air quality. CO_2 sensors can ensure the ppm levels are managed to help promote cognitive function.

Low Noise Levels

The Lo-Carbon Sentinel Econiq Cool-Flow is one of the quietest combined MVHR and cooling systems on the market. 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 mitigate vibration transmission.

MVHR 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, summer bypass and cooling providing comfort in the home.

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.

Download on the App Store

GET IT ON Google Play

Cooling Unit Control Strategy

The MVHR controller shall automatically switch between heat recovery, summer bypass and active cooling via the Econiq Cool-Flow Module, continuously measuring internal & external temperatures to maintain comfort thresholds efficiently. The Econiq Cool-Flow Module can only be activated if both MVHR fans are running. In addition to the standard automatic cooling, provision shall also be made to allow active cooling to be disabled and enabled:

- Cooling permanently switched off – the user may choose to isolate the Econiq Cool-Flow Module from the mains. As such the power supply should be monitored so as to not flag a fault under these (intentional) conditions
- Cooling disabled off by schedule – the user may choose either a weekly or databased schedule (e.g. Holiday mode) to prevent Econiq Cool-Flow Module to be active for the duration.
- Cooling enabled user override – Such as using a switch input on the MVHR overriding demand for cooling regardless of settings/schedules. The cooling unit will have additional temperature sensors built-in and flow rates may be increased automatically to ensure internal component temperatures are not exceeded, Econiq Cool-Flow Module may be temporarily disabled for a period to allow the compressor to cool down in extreme cases.

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.

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.

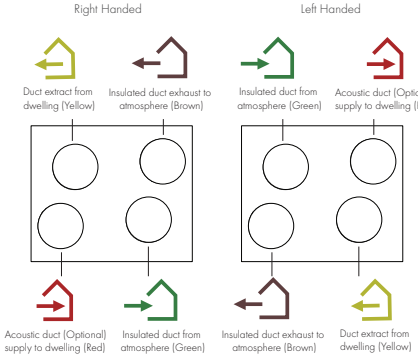
SEC Class

Model	SEC Class
Econiq L	A+

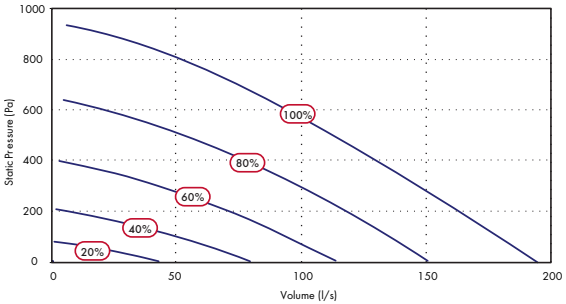
SAP PCDB Test Results (Econiq L)

	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

Spigot Configuration



Performance



Please note: The Econiq Cool-Flow Module must have a minimum of 83 l/s from the MVHR to ensure components do not overheat. 20% and 40% fan curves are only to be used for the MVHR running without cooling.

	External Conditions		Internal Conditions				Econiq Cool-Flow Module			Econiq Cool-Flow	
	Dry Bulb Temp (°C)	Wet Bulb Temp (°C)	Dry Bulb Temp (°C)	Wet Bulb Temp (°C)	Airflow (l/s)	Supply Air (°C)	Power In (kW)	EER	Cooling Capacity (kW)	EER	Cooling Capacity (kW)
*	35	24	27	19	83	14.06	1.15	1.72	1.97	1.99	2.15
					111	15.00	1.06	2.33	2.47	2.91	2.72
					139	16.02	1.01	2.85	2.88	4.15	3.26
					167	16.58	0.96	3.53	3.39	3.74	3.78
	31	22	27	19	83	12.84	1.10	1.38	1.80	1.66	1.86
					111	14.04	1.02	1.86	2.23	2.21	2.31
					139	15.18	0.97	2.29	2.67	2.71	2.71
					167	15.58	0.94	2.74	2.98	3.27	3.14
**	27	19	27	19	83	10.86	1.04	1.65	1.72	1.57	1.65
					111	11.98	0.98	2.23	2.18	2.09	2.05
					139	12.66	0.94	2.71	2.54	2.61	2.43
					167	13.68	0.90	3.22	2.91	3.02	2.74

* ErP & BS EN 13141-7:2021 Cooling performance test conditions
** BS EN 13141-7:2021 Cooling performance test condition

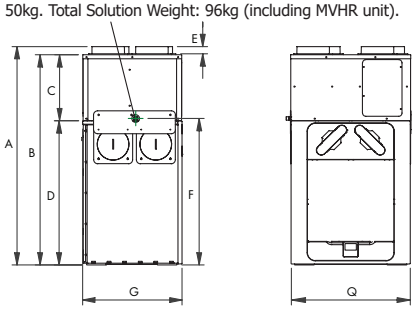
Sound Data (Sentinel Econiq Cool-Flow)

Conditions (Summer Bypass Closed)				Octave Band (Hz) Sound Power Levels (dB)								Sound Pressure dB(A)	
Airflow (l/s)	Supply Speed (%)	Extract Speed (%)	Test Mode	63	125	250	500	1k	2k	4k	8k	Lw(A)	Lp(A) @ 3m
83	53	51	Supply	66.6	62.5	61.3	56.1	53.7	47.3	37.5	28.1	58.8	41.3
			Extract	67.4	53	52.8	41.5	40.9	32.7	25.7	23.7	47.9	30.4
			Breakout	62	56.4	57.6	46.9	46.5	38.9	30.5	26.2	52.4	31.9
102	64	61	Supply	66.5	64.5	67.3	62	57.1	51.8	41.5	30.7	63.7	46.2
			Extract	70.9	56	54.2	43.8	42.5	35.5	28.5	24.5	50	32.5
			Breakout	61.3	59.7	56.7	51.3	49.3	43	35.3	29.3	54.3	33.8
111	74	71	Supply	67.7	66.4	62.4	66.6	59	54.3	44.9	33.8	65.4	47.9
			Extract	71.1	56.8	53.6	46.6	43.1	37.1	29	26.4	50.5	33
			Breakout	61.7	62.3	56.3	58	51	45.6	36.5	29.4	57.2	36.7
132	77	77	Supply	68.2	67.5	63	68.3	59.9	55.8	47.1	35.7	66.9	49.4
			Extract	71.4	57.5	55	48.5	44.8	38.9	30.5	25.8	51.8	34.3
			Breakout	62.3	61.8	56.6	59.6	52.2	47	37.7	29	58.2	37.7
139	88	84	Supply	70.1	68.9	65	69.7	62.1	58.2	51.1	40	68.7	51.2
			Extract	70.9	59.5	55.4	51	46.6	40.8	33.7	26.3	53.2	35.7
			Breakout	64.1	63.7	57.5	57.9	53.6	49	41.1	31.9	58.7	38.2
167	100	100	Supply	79.7	72.7	67.2	71.5	64.6	60.8	55.5	44.8	71.2	53.7
			Extract	76	63.1	57.8	52.5	49.2	43.8	38.2	27.2	56.1	38.6
			Breakout	68.7	66.4	58.8	62.4	57.2	52.3	45.9	34.7	62.8	42.3

Sound Data
(Sentinel Econiq L MVHR only)

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

Unit Dimensions (mm)
Econiq Cool-Flow Module Weight: 50kg. Total Solution Weight: 96kg (including MVHR unit).

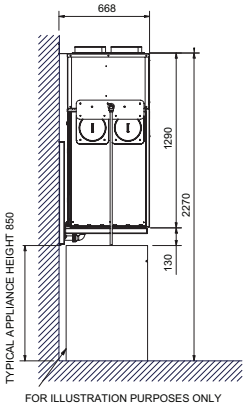


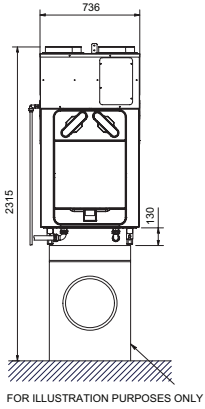
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q
1335	1285	403	881	45	895	608	451	184	138	531	157	200	424	597	204	736

Wiring connections front and back, allowing LH & RH fitting by rotating unit 180deg

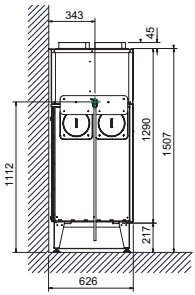
Mounting Dimensions (mm)

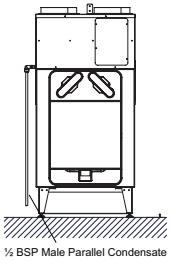
Wall





Floor





MVHR Overview

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

O - Denote Optional

Econiq Cool-Flow Module Overview

Feature	Econiq Cool-Flow Module
Up to 3.78kW of cooling provided	✓
Activated automatically at 24C to prevent overheating to meet Part O and TM59	✓
Utilising R32 refrigerant providing a GWP of 675	✓
EER up to 4.12	✓
Lowers incoming air by up to 21°C	✓

Consultant's Specification

Specification - Econiq Cool-Flow Module
The Econiq Cool-Flow Module shall be manufactured with a RAL9003 powder coated mild steel outer case construction and be fully insulated for thermal and acoustic performance.

The unit shall have easy access to the front of the unit via the access panel for access to Controls (including Control PCBA, Run Capacitor, Relay and connections board).

The Econiq Cool-Flow Module shall include a factory fitted gasket creating an airtight seal with the MVHR. The Econiq Cool-Flow Module shall also be supplied with mounting brackets to mechanically fix the Econiq Cool-Flow Module to the MVHR along with an upper bracket to be fitted between the Econiq Cool-Flow Module and the wall, ensuring unit stability.

The maximum weight of the combined solution shall not exceed 100kg for the Econiq Cool-Flow Module and MVHR combined, the Lo-Carbon Sentinel Econiq Cool-Flow.

The MVHR and Cooling module assembly shall be supported on the specific floor-mounting stand or specific prefabricated steel brackets.

The Vent-Axia Econiq Cool-Flow Module shall operate in unison with the MVHR unit and never independently.

The Econiq Cool-Flow Module shall provide up to 3.78kW of Cooling, and utilise R32 refrigerant providing a GWP of 675 whilst providing an EER of up to 4.12.

The Lo-Carbon Sentinel Econiq Cool-Flow shall be capable of lowering fresh air supply temperature by up to 21°C.

The Econiq Cool-Flow Module shall be supplied with a two year (parts only) warranty.

Connection to the unit will be made at the 200mm spigots utilising Vent-Axia Thermflow ducting which will have a thermal conductivity of no less than 0.038 W/(m·K).

Condensate Connection will be via the single side which is a LH condensate as standard utilising ½ BSP Parallel, Male threaded connection.

All ducting throughout the system to be fully insulated

Specification - MVHR Unit
The Mechanical Ventilation Heat Recovery Unit shall be the Lo-Carbon Sentinel Econiq 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 both exhaust and supply with the facility to accommodate ISO ePM10 (M5), ePM2.5 (F7) 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 Lo-Carbon Sentinel Econiq L 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 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 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_2, 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 MVHR Controls
The Lo-Carbon Sentinel Econiq L 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, e.g. 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

Econiq Cool-Flow Module Controls
The MVHR controller shall automatically switch between heat recovery, summer bypass and active cooling via the Econiq Cool-Flow Module, continuously measuring internal & external temperatures to maintain comfort thresholds efficiently. The Econiq Cool-Flow Module can only be activated if both MVHR fans are running.

In addition to the standard automatic cooling, provision shall also be made to allow active cooling to be disabled and enabled:

- ✓ Cooling permanently switched off – the user may choose to isolate the Econiq Cool-Flow Module from the mains. As such the power supply should be monitored so as to not flag a fault under these (intentional) conditions
- ✓ Cooling disabled off by schedule – the user may choose either a weekly or date-based schedule (e.g. holiday mode) to prevent Econiq Cool-Flow Module to be active for the duration.
- ✓ Cooling enabled user override – Such as using a switch input on the MVHR overriding demand for cooling regardless of settings/ schedules.

The Econiq Cool-Flow Module will have additional temperature sensors built-in and flow rates may be increased automatically to ensure internal component temperatures are not exceeded, Econiq Cool-Flow Module may be temporarily disabled for a period to allow the compressor to cool down in extreme cases.

Sentinel-X Controllers

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

Code
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 (HxWxD) (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	Code
White	496437
Black	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
- Power supply 240V
- Wireless range 20m closed/100m open
- RF 868MHz Wireless or RS485 Wired communication
- Compatible with standard single gang or surface mounted pattress box

Code
411628

24V Sensor

0-10V CO_2, Temperature and Humidity - Wired
Room mounted CO_2 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_2 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

Code
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

Code
496429

240V - CO_2, Temperature and Humidity - Wireless
Room mounted CO_2 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_2 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

Code
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	Code
White	496621
Black	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	Code
White	496620
Black	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

Code
496438

Lo-Carbon Sentinel Kinetic BH

- Recognised in SAP PCDB
- Lightweight for easier installation
- Horizontal duct option for space-saving installations
- Fits within a 290mm deep kitchen cupboard
- Integrated digital controller for simple and accurate commissioning
- Plug and play controls; Humidistat
- BMS connectivity
- LS inputs (Light Switch)
- Horizontal duct options
- Acoustic Enclosure option for reduced breakout noise
- Acoustic Top Box option for reduced in-duct noise

CODE	DESCRIPTION
438342	Kinetic VS Right
443319	Kinetic BH Right
479526	Kinetic BH Right with Acoustic Enclosure & Top Box
479525	Kinetic BH Right with Acoustic Top Box
479524	Kinetic BH Right with Acoustic Enclosure
443319L	Kinetic BH Left
479529	Kinetic BH Left with Acoustic Enclosure & Top Box
479528	Kinetic BH Left with Acoustic Top Box
479527	Kinetic BH Left with Acoustic Enclosure
443283	Wired Remote Controller
448356	LED alarm with 15m cable
477988	Acoustic Purge Fan
479829	Acoustic Purge Fan XL
442356	ISO 45% Coarse (G3) 2x Filter
444199	ISO ePM10 50% Pollen (M5) 1x Filter
68MP033G	Anti Vibration Mounts

(BH with summer bypass & humidity sensor)

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 and MVHR unit should be insulated. Ducting can be attached to the unit horizontally, vertically or both. Minimum internal depth of kitchen cupboard 290mm.

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 (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.

SAP PCDB performance (Kinetic VS)

	SAP 2009		SAP 2012	
	Thermal Efficiency %	SFP (W/l/s)	Thermal Efficiency %	SFP (W/l/s)
K+1	90	0.60	90	0.61
K+2	90	0.59	90	0.74
K+3	90	0.68	90	0.95
K+4	89	0.79	90	1.19
K+5	90	0.97	-	-

SEC Class

Model	SEC Class
Kinetic VS & BH	A

Sound Data (Kinetic VS & BH)

Speed	Test mode	Octave band, Hz, dB SWL									SPL dB(A) @ 3m
		63	125	250	500	1k	2k	4k	8k	LwA	
20%	Supply	52.9	52.9	46.5	41.7	39.3	29.3	19.3	22.8	44.4	26.9
	Extract	50.7	41.9	37.4	34.5	29.8	17.7	17.4	22.7	35.7	18.2
	Breakout	36	34.5	33.6	34.3	33.8	27.2	22.2	25.3	37.2	16.7
40%	Supply	57.1	64.1	56.8	50.6	49.7	41.1	32.8	26.4	54.7	37.2
	Extract	55.2	50.3	44.9	43	38.3	27.7	19.8	22.9	43.8	26.3
	Breakout	43.5	41.7	40.4	41.3	41.7	36.1	27.8	26.2	44.7	24.2
60%	Supply	71.3	72.5	68.5	57.6	56.4	51.1	42.7	38.1	63.6	46.1
	Extract	60.2	56.3	52	48.8	44.8	35.5	26.9	24.4	50.2	32.7
	Breakout	50.7	47.8	47.7	47.7	48.3	44.9	36.7	30	51.8	31.3
80%	Supply	66.3	74.8	71.2	62.8	61	56.3	49.8	46.7	67.3	49.8
	Extract	63.8	59.4	57.6	53.8	49.2	41.2	33.5	29	55.0	37.5
	Breakout	54.4	52.7	54	52.7	53.5	50.3	43.6	37.7	57.2	36.7
100%	Supply	70.3	75.7	73.9	66.3	63.5	59.7	53.2	50.6	70.0	52.5
	Extract	66.6	63.9	60.9	56.5	51.2	44.2	36.8	32.6	57.9	40.4
	Breakout	59.1	55.2	56.8	55.6	56.1	53.5	47.1	41.6	60.1	39.6

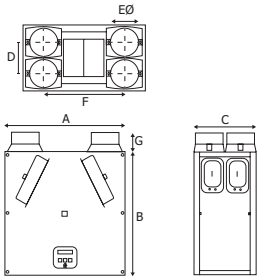
Sound Data (Kinetic VS & BH with Acoustic Solution)

Speed	Test mode	Octave band, Hz, dB SWL									SPL dB(A) @ 3m
		63	125	250	500	1k	2k	4k	8k	LwA	
20%	Supply	57.1	44.6	36.4	27.9	20.6	14.8	18.1	23.8	35.2	17.7
	Extract	54.4	40.1	29.6	22.2	17.5	14.5	17.8	23.5	31.1	13.6
	Breakout	37.5	33.8	29.1	22.9	17.0	14.0	17.8	23.6	27.7	7.2
40%	Supply	64.9	56.3	46.4	36.1	28.2	15.4	18.1	23.8	44.6	27.1
	Extract	60.2	46.8	35.7	28.2	21.9	14.8	18.1	23.7	36.6	19.1
	Breakout	46.0	43.6	36.3	30.4	23.9	15.9	18.1	23.6	33.5	13.0
60%	Supply	72.3	63.0	55.6	43.1	34.1	19.5	18.6	24.0	51.9	34.4
	Extract	61.4	53.3	43.4	34.7	27.2	15.5	18.1	23.8	41.4	23.9
	Breakout	52.2	50.5	44.4	38.2	33.5	23.8	19.3	23.8	41.0	20.5
80%	Supply	73.8	67.9	61.6	50.0	38.6	23.4	20.2	25.2	56.8	39.3
	Extract	68.6	58.2	50.5	40.5	31.1	17.2	18.2	23.9	47.5	30.0
	Breakout	65.6	55.5	50.5	43.8	39.7	32.7	24.9	24.0	47.4	26.9
100%	Supply	77.3	70.8	64.9	53.8	41.4	26.3	21.9	26.8	60.1	42.6
	Extract	71.5	60.6	53.5	43.9	33.4	19.1	18.5	24.0	50.5	33.0
	Breakout	69.0	58.4	53.4	47.1	43.0	37.5	29.9	24.9	51.1	30.6

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.

Dimensions (mm)

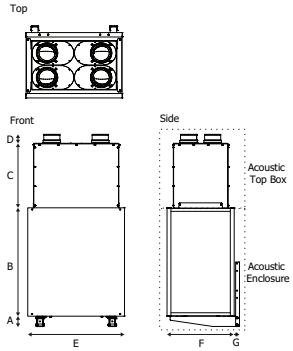
Unit



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

Weight: 15kg

Dimensions (mm)
Acoustic Solution



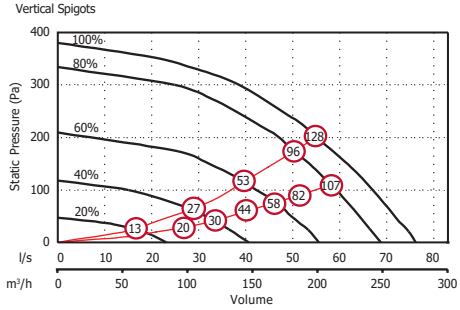
A	B	C	D	E	F	G	Spigot
80	633	501	75	626	447	45	125

Acoustic top box 11kg, acoustic enclosure 19kg

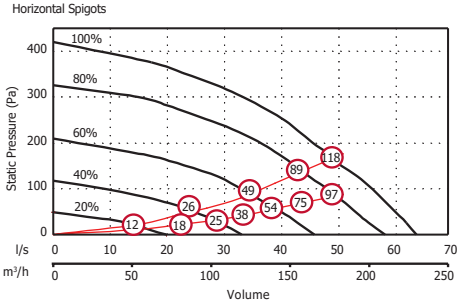
Performance

Fan speeds are fully adjustable within the performance range.

Vertical Spigots



Horizontal Spigots



(x) figure relates to Wattage (both motors)

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 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, 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 91.1% when tested to EN 308. This shall be protected by ISO 45% Coarse (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 electricalv connections

To reduce breakout noise, the MVHR unit shall be provided with an Acoustic Enclosure of steel construction lined with class '0' 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 '0' 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 MVHR unit shall incorporate 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.

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

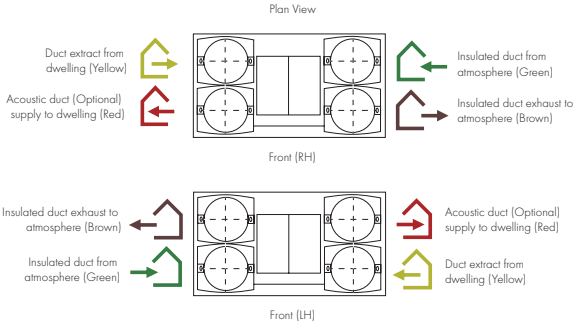
All Sentinel Kinetic units shall incorporate the following functions integrally mounted, pre-wired and factory fitted by the manufacturer:

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

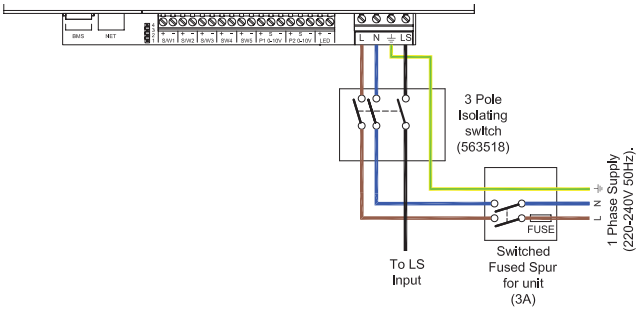
Mounting Option

Airflow Direction

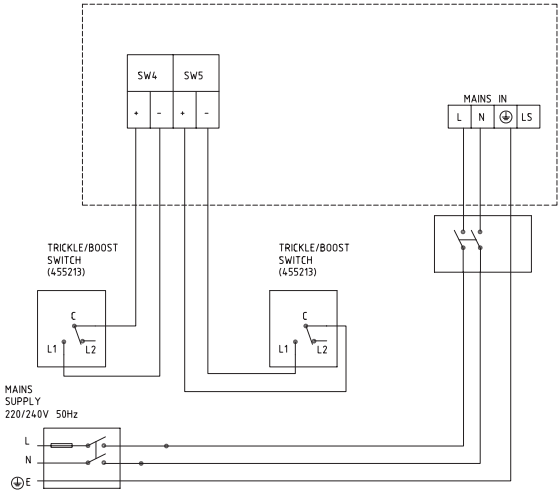


Electrical Connection

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



Trickle to Boost by Trickle/Boost Switch



Lo-Carbon Sentinel Kinetic FH

- Acoustic Enclosure option for reduced breakout noise
- Acoustic Top Box option for reduced in-duct noise
- Lightweight for easier installation
- Horizontal duct option for space-saving installations
- Integrated digital controller for simple and accurate commissioning
- Plug and play controls; Humidistat
- BMS connectivity
- LS inputs (Light Switch)
- Volt-free inputs
- Self diagnosis for simplified fault finding
- Adjustable delay On/delay Off timer

CODE	DESCRIPTION
408167	Sentinel Kinetic FH Right
479532	Sentinel Kinetic FH Right with Acoustic Top Box & Enclosure
479531	Sentinel Kinetic FH Right with Acoustic Top Box
479530	Sentinel Kinetic FH Right with Acoustic Enclosure
408169	Sentinel Kinetic FH Left
479535	Sentinel Kinetic FH Left with Acoustic Top Box & Enclosure
479534	Sentinel Kinetic FH Left with Acoustic Top Box
479533	Sentinel Kinetic FH Left with Acoustic Enclosure
443283	Wired Remote Controller
448356	LED alarm with 15m cable
409764	ISO 45% Coarse (G3) 2x Filter
472153	ISO ePM10 50% Pollen (M5) 2x Filter
68MP033G	Anti Vibration Mounts
479829	Acoustic Purge Fan XL
477988	Acoustic Purge Fan

(FH comes with summer bypass & humidity sensor)

Easy Installation

The Sentinel Kinetic models can be mounted vertically in a roof space or in an appropriate cupboard within the dwelling. When mounted in an unheated area the ducting and unit must be insulated in accordance with the Domestic Ventilation Compliance Guide. Ducting can be attached to the unit horizontally, vertically or both.

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 (L) or right (R) hand installation. Left hand and right hand units are available.

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

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.

SAP PCDB performance

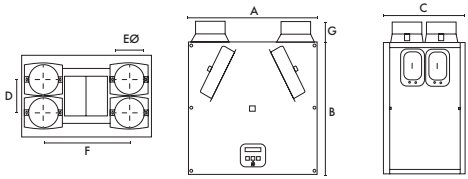
	SAP 2009		SAP 2012	
	Thermal Efficiency %	SFP (W/l/s)	Thermal Efficiency %	SFP (W/l/s)
K+1	90	0.46	89	0.47
K+2	89	0.45	88	0.54
K+3	88	0.50	86	0.65
K+4	87	0.60	84	0.84
K+5	85	0.70	84	1.01

SEC Class

Model	SEC Class
Kinetic FH/FHL	A+

Dimensions (mm)

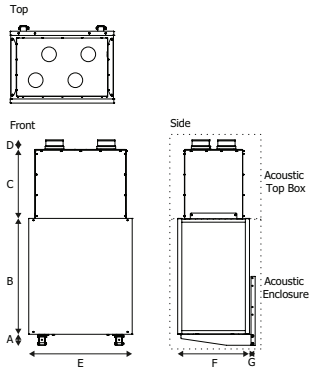
Unit



A	B	C	D	EØ	F	G
555	550	350	140	125	360	90

Weight: 18kg

Acoustic Solution



A	B	C	D	E	F	G	Acoustic Top Box kg	Acoustic Enclosure kg	Spigot
80	633	501	75	626	447	45	11	19	125

Sound Data (Unit only)

Speed	Test mode	Port 63	125	250	500	Octave band, Hz, dB SWL 1k	2k	4k	8k	SPL dB(A) LwA	@ 3m
20%	Supply	66.2	67.2	54.3	48.0	42.1	33.3	22.5	25.6	53.9	36.4
	Extract	57.7	56.6	47.2	43.5	35.3	24.1	19.6	25.7	45.7	28.2
	Breakout	41.2	47.0	41.7	39.5	34.6	30.4	22.5	25.7	41.0	20.5
40%	Supply	68.9	66.4	68.8	57.8	52.1	44.9	35.3	28.8	62.4	44.9
	Extract	66.8	56.1	56.9	52.1	44.7	34.6	23.8	25.8	53.2	35.7
	Breakout	47.3	47.5	56.4	48.0	44.0	39.6	32.8	29.1	51.0	30.5
60%	Supply	72.8	72.5	82.2	64.4	59.9	53.8	46.2	40.3	74.4	56.9
	Extract	67.3	61.9	66.5	58.9	52.2	42.7	32.6	27.6	61.1	43.6
	Breakout	53.9	53.2	65.9	55.8	52.2	48.2	42.5	39.3	61.0	40.5
80%	Supply	85.0	75.3	72.5	77.9	65.3	58.8	52.1	47.4	76.0	58.5
	Extract	83.5	65.2	65.0	65.5	57.0	47.7	37.9	31.3	65.5	48.0
	Breakout	56.4	56.4	60.4	69.8	56.7	53.2	47.8	42.0	66.5	46.0
100%	Supply	95.5	77.7	74.0	80.4	68.7	62.9	56.9	52.4	79.1	61.6
	Extract	83.3	68.3	66.9	71.2	60.7	51.4	42.4	36.1	69.7	52.2
	Breakout	62.1	59.7	62.9	70.0	61.0	57.3	52.3	46.9	68.0	47.5

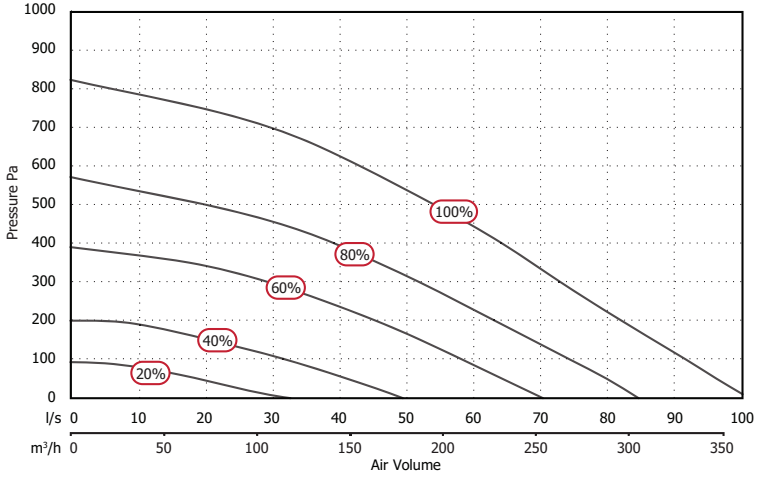
Sound Data (Unit with Acoustic Solution)

Speed	Test mode	Port 63	125	250	500	Octave band, Hz, dB SWL 1k	2k	4k	8k	SPL dB(A) LwA	@ 3m
20%	Supply	58.2	62.1	46.8	33.7	21.1	14.1	18.2	24.1	47.5	30.0
	Extract	55.9	48.3	37.1	26.8	17.7	14.5	18.0	23.7	36.2	18.7
	Breakout	41.8	45.1	38.7	29.1	18.4	13.7	17.8	23.5	34.7	14.2
40%	Supply	66.5	59.3	59.3	43.5	30.5	15.9	17.9	23.5	52.1	34.6
	Extract	57.4	49.7	50.9	36.2	23.5	15.0	18.1	23.7	43.5	26.0
	Breakout	47.1	47.6	49.8	38.4	30.2	21.0	18.5	23.6	42.6	22.1
60%	Supply	69.5	66.0	66.5	50.7	40.2	20.6	18.8	24.2	59.3	41.8
	Extract	62.4	57.1	53.7	43.2	32.5	19.5	18.5	23.8	48.0	30.5
	Breakout	51.8	54.5	54.4	45.2	38.9	32.1	24.4	24.0	49.0	28.5
80%	Supply	78.5	68.9	63.3	61.3	45.1	25.7	20.7	25.8	61.0	43.5
	Extract	74.2	59.8	55.8	49.9	37.8	24.4	20.5	23.9	52.4	34.9
	Breakout	57.6	57.6	56.4	52.0	43.7	38.0	31.6	25.6	52.2	31.7
100%	Supply	75.7	70.8	67.1	65.7	48.2	30.4	23.6	27.8	64.6	47.1
	Extract	75.6	62.9	59.5	53.1	42.2	29.4	24.3	24.7	55.7	38.2
	Breakout	64.3	59.8	60.3	56.8	47.1	42.2	36.9	28.8	56.4	35.9

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

Fan speeds are fully adjustable within the performance range.



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 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, 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 backward curved centrifugal type.

The unit shall have a heat exchanger cell with a thermal efficiency of up to 90% when tested to EN 308. This shall be protected by ISO 45% Coarse (G3) 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 '0' 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 '0' 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 MVHR unit shall incorporate 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 base of the unit.

The MVHR unit will 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 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.

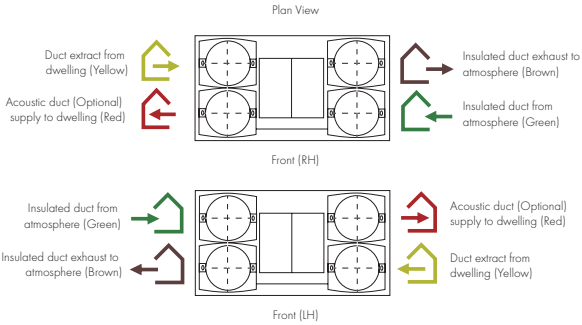
Units shall be as manufactured by Vent-Axia Ltd.

Acoustically tested to BS EN 13141-7

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:

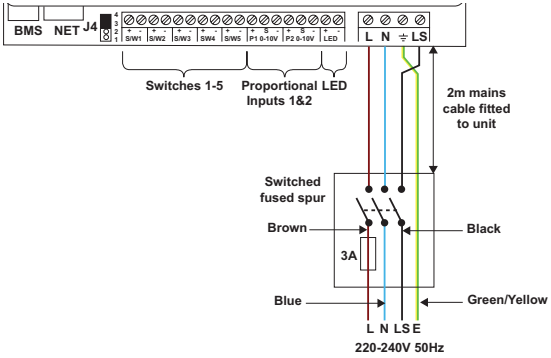
- Ambient Response; Raises the humidity trigger point as dwelling temperature reduces
- Rapid Response; Monitors the rate of change in humidity and triggers increased airflow even if the humidity trigger threshold is not reached
- Proportional Response; Incrementally increases the fan speed to reduce noise and reduce energy consumption

Airflow Direction

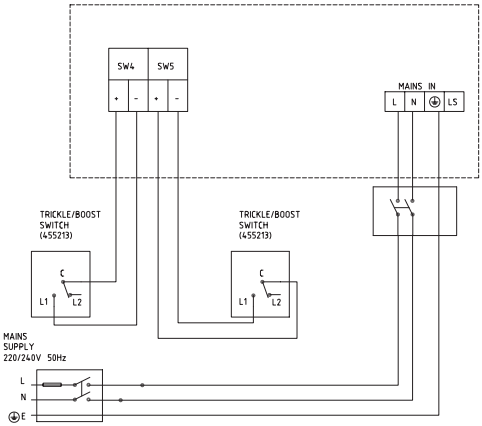


Electrical Connection

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



Trickle to Boost by Trickle/Boost Switch



Lo-Carbon Sentinel Kinetic Plus

- Acoustic Enclosure option for reduced breakout noise
- Acoustic Top Box option for reduced in-duct noise
- Recognised in SAP PCDB
- Horizontal duct option for space-saving installations
- High airflow, ideal for student accommodation clusters
- Unique folding filter for removal when access is restricted
- Integrated digital controller for simple and accurate commissioning
- Plug and play controls; Humidistat
- BMS connectivity
- LS inputs (Light Switch)
- Volt-free inputs
- Self diagnosis for simplified fault finding
- Adjustable delay On/delay Off timer
- 4 fully adjustable speeds and a purge setting

CODE	DESCRIPTION
447938	Sentinel Kinetic Plus BS
443028	Sentinel Kinetic Plus Right
479538	Sentinel Kinetic Plus Right with Acoustic Top Box & Enclosure
479537	Sentinel Kinetic Plus Right with Acoustic Top Box
479536	Sentinel Kinetic Plus Right with Acoustic Enclosure
443028L	Sentinel Kinetic Plus Left
479541	Sentinel Kinetic Plus Left with Acoustic Top Box & Enclosure
479540	Sentinel Kinetic Plus Left with Acoustic Top Box
479539	Sentinel Kinetic Plus Left with Acoustic Enclosure
443283	Wired Remote Controller
448356	LED Alarm with 15m cable
447340	Opto-coupler for volt-free BMS connection
403702	ISO 45% Coarse (G3) 2x Filter
444201	ISO ePM10 50% Pollen (M5) 1x Filter
446523	180mm/200mm Spigot Kit (One per pack)
68MP033G	Anti Vibration Mounts
477988	Acoustic Purge Fan
479829	Acoustic Purge Fan XL

Increased Performance
The Sentinel 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.

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.

Care Homes & Student Accommodation
The Sentinel Kinetic Plus is ideal for larger homes and multiple occupancy units such as care homes and student accommodation. Capable of 400m^3/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 those commercial applications where landlords or property managers want to monitor and optimise building performance and maintenance. The Kinetic BMS can provide status information and its self diagnostics can report if any fault is found.

Spigot Options
Spigots may be re-positioned to give horizontal connection or a combination of vertical and horizontal connection.

Optional 180mm/200mm spigots can 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.

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

SAP PCDB Test Results (Kinetic Plus BS)

	SAP 2009		SAP 2012	
	Thermal Efficiency %	SFP (W/l/s)	Thermal Efficiency %	SFP (W/l/s)
K+1	91	0.51	91	0.42
K+2	91	0.40	91	0.44
K+3	90	0.41	90	0.52
K+4	90	0.45	90	0.63
K+5	90	0.53	90	0.76
K+6	90	0.60	91	0.90
K+7	90	0.70	91	1.05

SEC Class

Model	SEC Class
Kinetic Plus	A+

Sound Data (Unit only)

Unit setting	Test mode	Octave band, Hz, dB SWL									SPL dB(A) at 3m
		63	125	250	500	1k	2k	4k	8k	LwA	
20%	Supply	54.4	60.9	50.6	45.9	34.3	23.6	19.1	24.5	51.3	30.8
	Extract	48.4	56.7	43.7	35.9	21.4	16	18.7	24.5	42.3	24.8
	Breakout	42.6	40.2	39.6	38	31.1	24.3	19.4	24.6	35.1	17.6
40%	Supply	61.6	64.6	58.4	55.5	45.9	37.2	24.7	25.1	58.8	38.3
	Extract	54.9	62.2	51.5	44.8	32.1	24.1	19.7	24.6	48.8	31.3
	Breakout	51.1	49.3	48.9	45.9	41.3	35.7	26.7	25.6	44.0	26.5
60%	Supply	67.5	67.5	73.2	62.4	53.4	47.5	33.5	28.3	69.2	48.7
	Extract	62.5	61.7	60.1	51.1	39.2	32.1	23.2	24.8	54.0	36.5
	Breakout	54.9	53	58.4	55.1	49.7	43.9	35.4	31.9	52.8	35.3
80%	Supply	70.5	71.1	73.8	66.5	58.3	53.2	39.7	33.3	71.3	50.8
	Extract	68.4	65.9	71.8	55.6	43.6	37.1	27.3	25.5	63.8	46.3
	Breakout	59.2	56.8	63.6	57.3	54.2	49	41	37.5	56.8	39.3
100%	Supply	72.8	73.1	75.2	70.4	61.6	56.6	44.2	37.6	73.9	53.4
	Extract	71.7	69	71.8	57.4	45.7	39.9	30.9	26.6	64.1	46.6
	Breakout	61.2	58.8	67.9	59.6	56.7	52.2	44.4	41.2	60.1	42.6

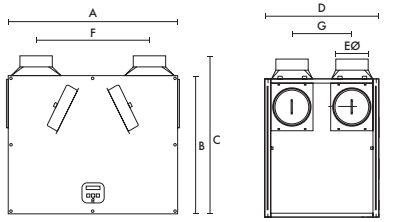
Sound Data (Unit with Acoustic Solution)

Unit setting	Test mode	Octave band, Hz, dB SWL									SPL dB(A) at 3m
		63	125	250	500	1k	2k	4k	8k	LwA	
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 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.

Dimensions (mm)

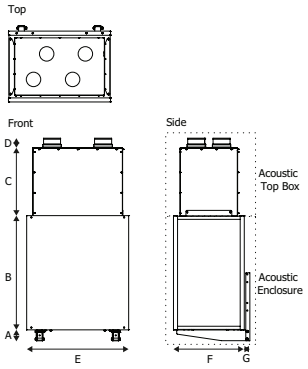
Unit



A	B	C	D	EØ	F	G
785	635	722	550	150	520	275

Weight: 24kg

Acoustic Solution

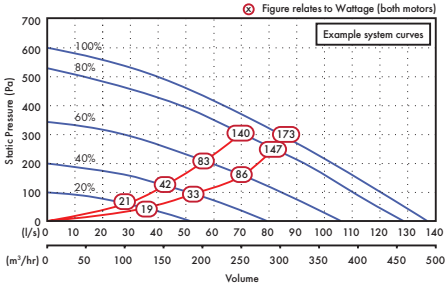


A	B	C	D	E	F	G	Spigot
80	733	501	71	855	583	40	150

Acoustic Top Box 17kg, Acoustic Enclosure 33kg

Performance

Fan speeds are fully adjustable within the performance range.



Consultant's Specification

Operation
The supply and extract ventilation unit shall be as Sentinel Kinetic Plus 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 Plus 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, 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 backward 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) 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 '0' 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 '0' 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 may be duplicated for remote mounting if required.

Units shall be as manufactured by Vent-Axia Ltd.

The MVHR unit shall incorporate 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 to avoid 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.

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:

Integral infinitely variable fan speed control on supply and extract

Integral min/max ventilation control/set point

Integral BMS input/output 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

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

The unit shall incorporate an integral humidity sensor with the following features:

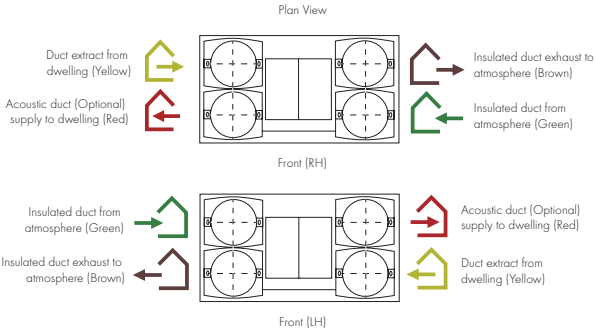
- Ambient Response; Raises the humidity trigger point as dwelling temperature reduces
- Rapid Response: Monitors the rate of change in humidity and triggers increased airflow even if the humidity trigger threshold is not reached
- Proportional Response; Incrementally increases the fan speed to reduce noise and reduce energy consumption

The unit shall be controlled by the 'Sentinel' control devices (enablers and sensors) as detailed in the schedule or on the drawings.

Tool free filter access

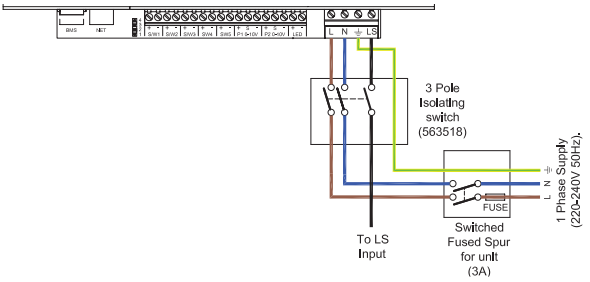
Mounting Option

Airflow Direction

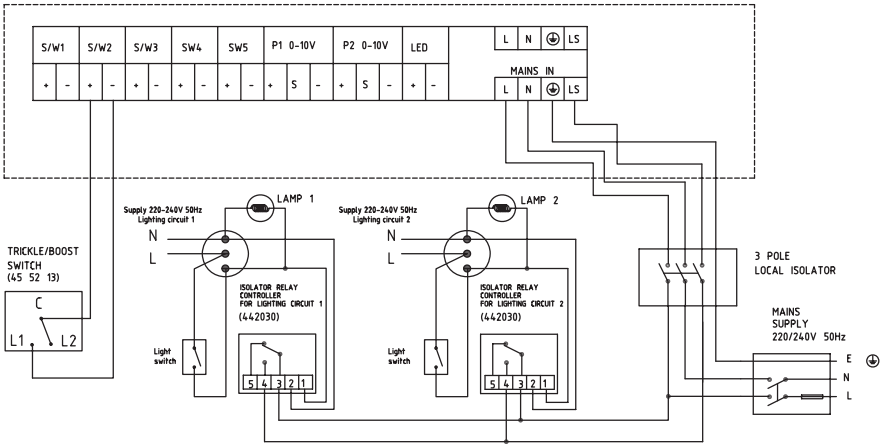


Electrical Connection

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



Trickle to Boost by two lighting circuits or Trickle/Boost Switch



Lo-Carbon Sentinel Kinetic High Flow

- Acoustic Enclosure option for reduced breakout noise
- Acoustic Top Box option for reduced in-duct noise
- Recognised in SAP PCDB
- 180mm/200mm spigots
- Horizontal duct option for space-saving installations
- High airflow, ideal for student accommodation clusters
- Unique folding filter for removal when access is restricted
- Integrated digital controller for simple and accurate commissioning
- Plug and play controls; Humidistat
- BMS connectivity
- LS inputs (Light Switch)
- Volt-free inputs

CODE	DESCRIPTION
408449	Kinetic High Flow Right
479544	Kinetic High Flow Right **with** Acoustic Top Box & Enclosure
479543	Kinetic High Flow **Right with** Acoustic Top Box
479542	Kinetic High Flow **Right with** Acoustic Enclosure
408451	Kinetic High Flow Left
479547	Kinetic High Flow Left **with** Acoustic Top Box & Enclosure
479546	Kinetic High Flow Left **with** Acoustic Top Box
479545	Kinetic High Flow **Left with** Acoustic Enclosure
443283	Wired Remote Controller
448356	LED Alarm with 15m cable
447340	Opto-coupler for volt-free bms connection
403702	ISO 45% Coarse (G3) 2x Filter
444201	ISO ePM10 50% Pollen (M5) 1x Filter
68MP033G	Anti Vibration Mounts
477988	Acoustic Purge Fan
479829	Acoustic Purge Fan XL

Increased Performance

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

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.

Care Homes & Student Accommodation

The Sentinel Kinetic High Flow is ideal for larger homes and multiple occupancy units such as care homes and student accommodation. Capable of 175l/s at 150Pa, the unit can extract from up to fourteen 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 those commercial applications where landlords or property managers want to monitor and optimise building performance and maintenance. The Kinetic BMS can provide status information and its self diagnostics can report if any fault is found.

Spigot Options

180mm/200mm Spigots may be re-positioned to give horizontal connection or a combination of vertic al and horizontal connection.

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.

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

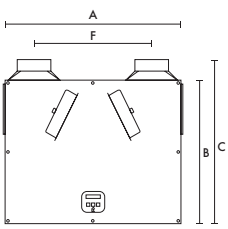
SAP PCDB Test Results

	SAP 2009		SAP 2012	
	Thermal Efficiency %	SFP (W/l/s)	Thermal Efficiency %	SFP (W/l/s)
K + 1	88	0.65	88	0.58
K + 2	88	0.54	90	0.55
K + 3	90	0.52	91	0.60
K + 4	90	0.55	91	0.69
K + 5	91	0.6	90	0.78
K + 6	91	0.66	90	0.92
K + 7	90	0.74	90	1.09

SEC Rating

Model	SEC Class
Kinetic High Flow	A

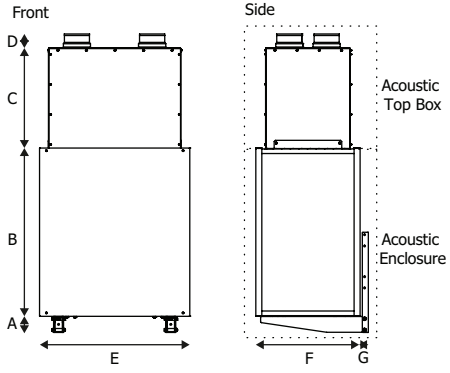
Dimensions (mm)



A	B	C	D	EØ	F	G
785	635	722	550	180/200	520	275

Weight: 31kg

Acoustic Solution



A	B	C	D	E	F	G	Spigot
80	733	501	71	855	583	40	150

Acoustic Top Box 17kg, Acoustic Enclosure 33kg

Sound Data (Unit only)

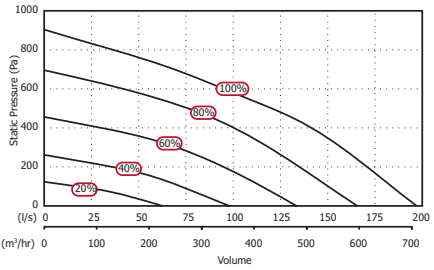
Flow %	Test Mode	Octave band, Hz, dB SWL 63	125	250	500	1K	2K	4K	8K	LwA	SPL dB(A) @ 3m
20	Supply	55.1	65.9	55.2	53.8	44.4	37.4	25.3	24.9	66.8	34.1
	Extract	58.2	57.4	48.0	45.6	43.8	34.5	20.0	24.5	61.3	27.9
	Breakout	43.3	46.6	44.9	44.7	41.8	30.4	21.6	22.5	51.6	25.1
40	Supply	63.1	69.0	67.1	64.0	55.0	51.6	39.7	32.4	64.2	43.7
	Extract	58.6	58.4	60.0	53.7	41.9	41.5	31.7	25.1	54.9	34.3
	Breakout	55.4	49.6	60.6	53.8	46.5	41.5	33.2	27.4	55.4	34.8
60	Supply	70.3	74.3	81.4	71.5	63.6	59.9	49.6	43.1	74.8	54.3
	Extract	64.4	64.2	72.6	59.1	48.7	45.7	37.8	29.3	64.9	44.4
	Breakout	62.8	54.6	65.7	57.2	55.5	49.2	41.4	36.4	61.0	40.5
80	Supply	75.3	77.9	88.1	78.7	68.4	65.1	56.0	50.1	81.4	60.9
	Extract	71.1	68.2	73.6	61.8	51.9	49.5	42.7	37.6	66.4	45.9
	Breakout	66.2	59.0	73.4	61.8	57.0	54.6	47.3	43.1	66.8	46.2
100	Supply	90.9	80.9	84.4	80.1	71.5	68.0	59.3	54.5	80.7	60.1
	Extract	92.4	71.8	78.1	67.4	54.9	51.5	44.6	41.4	72.2	51.7
	Breakout	69.3	62.9	74.9	67.5	59.2	56.6	49.1	44.7	69.3	48.8

Sound Data (Unit with Acoustic Enclosure)

Flow %	Test Mode	Octave band, Hz, dB SWL 63	125	250	500	1K	2K	4K	8K	LwA	SPL dB(A) @ 3m
20	Supply	55.2	57.0	46.1	38.8	24.0	15.4	18.0	23.2	43.6	26.1
	Extract	50.4	53.6	37.0	32.3	18.2	15.1	18.0	23.2	38.7	21.2
	Breakout	41.3	51.8	39.2	32.3	20.5	15.8	18.1	23.2	37.7	17.2
40	Supply	64.1	59.6	59.7	51.9	35.5	22.8	19.9	23.5	53.3	35.8
	Extract	56.6	50.7	49.0	41.9	24.5	17.7	18.1	23.2	43.3	25.8
	Breakout	46.7	50.5	53.0	44.8	32.2	22.2	18.5	23.3	45.6	25.1
60	Supply	67.3	64.0	67.7	58.6	43.2	30.6	26.5	25.9	61.0	43.5
	Extract	61.6	56.7	55.5	49.0	32.2	25.3	19.7	23.4	50.2	32.7
	Breakout	53.0	54.4	60.2	48.8	40.6	33.2	23.4	23.4	53.0	32.5
80	Supply	70.3	67.7	74.6	61.8	48.5	36.2	33.0	31.4	67.5	50.0
	Extract	66.7	60.0	67.2	50.9	38.1	32.8	24.0	24.1	59.7	42.2
	Breakout	58.0	58.0	64.7	52.4	45.7	39.9	31.2	24.3	58.7	38.2
100	Supply	73.0	70.1	77.1	65.1	51.4	39.5	37.0	36.4	70.1	52.6
	Extract	69.6	62.5	67.3	56.2	41.7	37.0	28.1	25.3	60.5	43.0
	Breakout	61.0	61.2	65.9	57.7	48.5	43.8	36.3	26.3	60.7	40.2

Tested according to BS EN 13141-7:2010. Breakout quoted spherical. Supply and Extract quoted hemispherical.

Performance



Consultant's Specification

Operation
The supply and extract ventilation unit shall be as Sentinel Kinetic High Flow 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 High Flow 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, 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 backward 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) 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 '0' 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 '0' 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 may be duplicated for remote mounting if required.

Units shall be as manufactured by Vent-Axia Ltd.

The MVHR unit shall incorporate 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 to avoid 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.

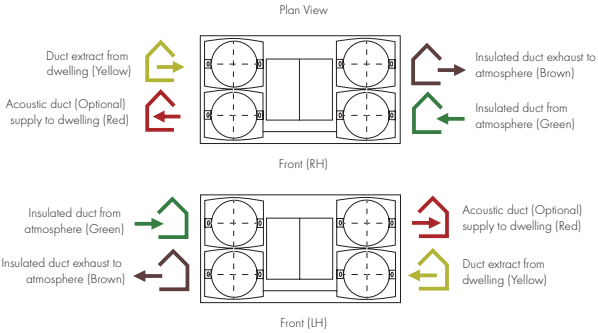
Sound tested to BS EN 13141-7:2010

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

- Integral infinitely variable fan speed control on supply and extract
- Integral min/max ventilation control/set point
- Integral BMS input/output 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
- 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
- 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
- The unit shall be controlled by the 'Sentinel' control devices (enablers and sensors) as detailed in the schedule or on the drawings.
- Tool free filter access

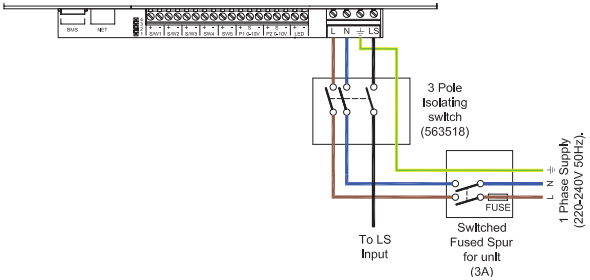
Mounting Option

Airflow Direction

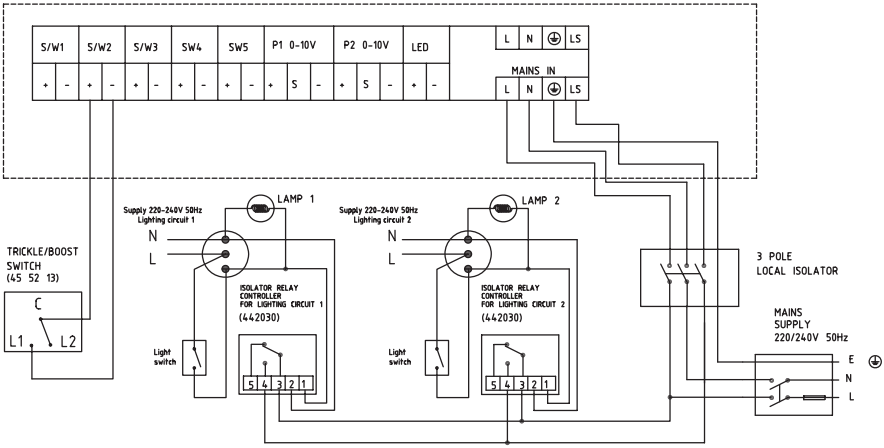


Electrical Connection

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

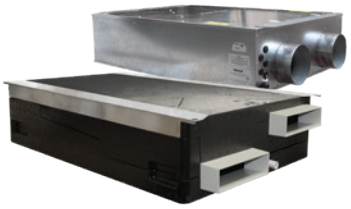


Trickle to Boost by two lighting circuits or Trickle/Boost Switch



Lo-Carbon Sentinel Kinetic Horizontal

- Manufactured in the UK
- Building Regulations ADF compliant
- Recognised in SAP PCDB
- Energy Savings Trust best practice compliant
- Up to 81% heat recovery whilst controlling condensation
- Programmable Summer bypass
- Digital controller for simple and accurate commissioning
- External condensate connection
- Plug and play controls; Humidistat, Wireless remote
- LS inputs (Light Switch)
- Volt-free inputs
- Self diagnosis for simplified fault finding
- Adjustable delay On/delay Off timer



CODE	DESCRIPTION
407162	Kinetic 200ZPH
449540	Kinetic 200ZH
448778	Kinetic 200ZMH
449536	Kinetic 300ZH
407584	200ZPH 45% Coarse (G3) 2x Filter
449524	200ZH/ZMH 45% Coarse (G3) 2x Filter
404574	200ZH/ZMH ePM10 50% Pollen (M5) 1x Filter
449575	300ZH 45% Coarse (G3) 2x Filter
404575	300ZH ePM10 50% Pollen (M5) 1x Filter
477988	Acoustic Purge Fan
479829	Acoustic Purge Fan XL

The Sentinel Kinetic Horizontal Range

A wholehouse heat recovery system with up to 81% heat exchange efficiency. An easily accessible heat recovery cube protected by two removable ISO 45% Coarse (G3) Filter 2pk. 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 Horizontal meets the latest requirements of the Building Regulations ADF for wholehouse system ventilation: Continuous mechanical supply and extract with heat recovery. Each model has three fully adjustable speeds and a purge setting (maximum flow). Supplied with 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 ('H' models) 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. Acoustically lined - low noise levels from only 20dB(A) @ 3m.

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 CO_2 sensors and proportional humidistats.

Switch-live for boosting via light switches (220-240V 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.

Summer Bypass

An internal damper operates when the external temperature is below the internal temperature, and the internal temperature is too high.

The bypass opens and allows the cooler outside air to help cool the dwelling.

Normal mode: Fans run on Normal speed with bypass open until the internal dwelling temperature falls below the set 'Indoor' (maximum desired) temperature.

Evening Purge mode: The fans run on Boost speed until the internal temperature falls below the set 'Indoor' temperature. If, after five hours the internal temperature is still above the set 'Indoor' temperature, the unit will switch down to normal speed for the remainder of the 'bypass open' period.

Night-time Purge mode: As Evening Purge, except that the unit will continue on Boost speed until the internal air temperature reaches the 'Outdoor' temperature set point (Default 14°C). This mode gives pre-cooling of the dwelling for the following day.

In Evening and Night Time Purge modes, the user can turn off the boost function by pressing the Boost button.

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 down to -20°C.

SEC Class

Model	SEC Class
Kinetic 200ZH/ZPH/ZMH	A
Kinetic 300ZH	A

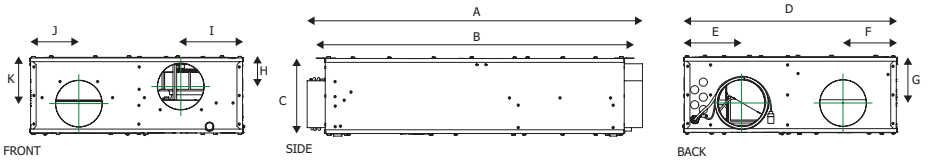
SAP PCDB Test Results

200ZPH	SAP 2009 Thermal Efficiency %	SAP 2009 SFP (W/l/s)	SAP 2012 Thermal Efficiency %	SAP 2012 SFP (W/l/s)
K+1	86	0.62	84	0.67
K+2	84	0.65	82	0.82
K+3	83	0.76	80	1.07

200ZH/ZMH	SAP 2009 Thermal Efficiency %	SAP 2009 SFP (W/l/s)	SAP 2012 Thermal Efficiency %	SAP 2012 SFP (W/l/s)
K+1	80	0.69	81	0.73
K+2	81	0.70	81	0.89
K+3	80	0.80	79	1.12
K+4	80	0.97	78	1.39
K+5	79	1.14		

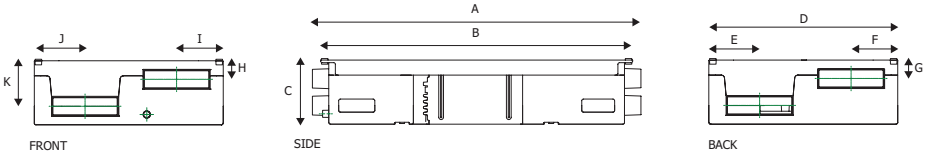
300ZH	SAP 2009 Thermal Efficiency %	SAP 2009 SFP (W/l/s)	SAP 2012 Thermal Efficiency %	SAP 2012 SFP (W/l/s)
K+1	77	0.59	78	0.54
K+2	78	0.51	78	0.61
K+3	78	0.57	78	0.75
K+4	78	0.66	78	0.93
K+5	78	0.76	77	1.13
K+6	78	0.88	76	1.35
K+7	77	1.05		

Dimensions (mm)



Model	A	B	C	D	E	F	G	H	I	J	K	Spigots Ø
200ZH	895	849	200	570	155	144	122	76	167	131	122	125
300ZH	985	940	301	720	184	179	187	102	279	174	187	150

Weight: 200ZH - 26kg, 300ZH - 38kg



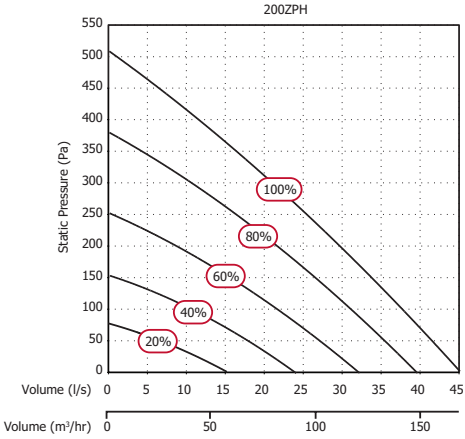
Model	A	B	C	D	E	F	G	H	I	J	K	Spigots
200ZPH	1000	950	200	575	155	142	60	61	142	154	143	204x60
200ZMH*	895	849	200	570	195	140	54	66	168	138	143	204x60

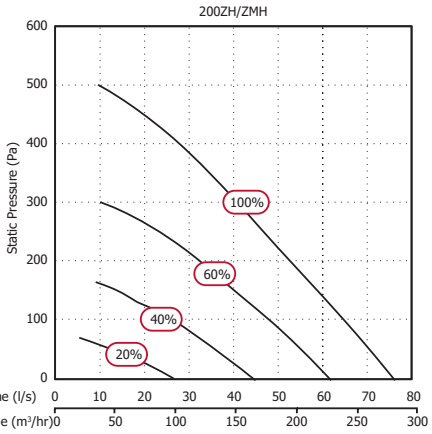
Weight: 200ZPH - 14kg, 200ZMH - 26kg

*Galvanized steel outer case construction

Performance - 200ZH/ZMH/ZPH Model

Fan speeds are fully adjustable within the performance range.





Sound Data - 200ZPH Model

Speed	Test mode	63	125	250	500	1k	2k	4k	8k	dB(A) at 3m
20%	Breakout	48.3	41.3	37.7	35.8	34.5	28.2	26	31.2	21.5
	Supply	39.6	37.1	36	32.9	30.6	22.9	24.9	29.4	23.1
	Extract	49.4	40.7	35	30.4	26.3	22.5	23.6	30.1	20.8
40%	Breakout	47.8	42.2	46.7	40.6	40.2	34.2	28.1	31.2	25.3
	Supply	45.7	38.3	40.7	39	38.1	28.7	24.9	28.5	28.1
	Extract	50	45.5	39.9	37	34.3	28.6	25.1	30.6	24.3
60%	Breakout	54.4	51.2	53.8	46.2	43	38.9	33.8	32	29.7
	Supply	46.1	49.2	45.3	44.4	42.4	35.2	27	29.3	32.7
	Extract	49.5	41.9	45.4	41.7	39.4	35.2	27.6	30.3	27.7
80%	Breakout	50.4	51.2	56.7	53.9	48.5	43.2	39.9	34.9	34.5
	Supply	52.9	48.9	47.5	51.3	47.2	40.8	31.2	30	36.8
	Extract	48.9	43.3	46.8	50	42.4	38.6	31.3	30.1	32.2
100%	Breakout	49.3	49.8	52.9	54	51	46.3	41.2	35.7	35.1
	Supply	43.8	45.8	50.7	56.3	50	44.3	35.7	29.7	38.2
	Extract	53.2	46.9	48	52.8	45.4	42.1	35.1	30.5	34.9

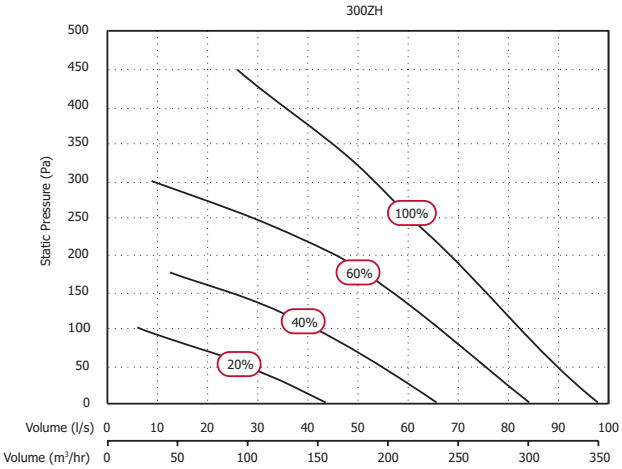
Sound Data - 200ZH/ZMH Model

Flow %	Test mode	63	125	250	500	1k	2k	4k	8k	dB(A) at 3m
20	Supply	50.3	54	50.1	45.5	37	36	27.5	31.1	30.0
	Extract	47.2	47.7	46.6	41.8	30.7	27.9	24.6	30.5	26.3
	Breakout	48.8	55.8	51.2	43.8	32.4	29.0	25.4	30.8	26.8
40	Supply	52.7	61.7	60.1	61.8	47.4	45.1	38.1	40.1	42.7
	Extract	50.7	55.4	55.0	51.5	37.5	34.6	25.9	30.7	33.9
	Breakout	53.7	60.1	61.1	50.7	40.2	35.8	27.1	30.3	34.0
60	Supply	52.8	64.5	66.7	59.4	51.1	51.1	42.9	39.3	44.0
	Extract	50.6	59.0	62.1	57.1	43.7	40.0	29.0	31.6	39.7
	Breakout	55.1	64.4	66.8	57.5	47.0	41.4	32.0	32.0	39.7
100	Supply	58.3	69.2	68.6	64.6	56.9	56.1	47.9	45.6	48.1
	Extract	51.8	63.1	64.9	63.9	52.4	45.9	34.8	34.8	45.2
	Breakout	59.4	68.1	69.7	68.3	53.1	47.1	36.5	34.3	46.5

Tested according to BS 848. Breakout quoted spherical. Supply and extract quoted hemispherical.

Performance - 300ZH Model

Fan speeds are fully adjustable within the performance range.



Sound Data - 300ZH Model

Flow l/s	Flow %	Test mode	63	125	250	500	1k	2k	4k	8k	dB(A) at 3m
26	10	Supply	42.5	42.8	38.3	32.9	28	24.6	25.5	30.3	26.3
		Extract	46.9	45	40.3	34.4	27.4	23	24.3	30.1	22.5
		Breakout	48.7	52.1	47.7	40.5	32.9	27.3	25.1	31.6	24.4
44	20	Supply	45.6	47	41.7	35.7	31.7	26.7	24.8	30	29.9
		Extract	46.9	48.6	47	38.2	29.5	25.3	23.8	29.9	25.3
		Breakout	50.2	56.4	53.9	46.3	37.5	32.5	25.2	31.4	28.8
55	30	Supply	44.4	46	52.9	39.4	35.1	31.9	25.5	30.5	33.9
		Extract	47	48	55.5	42.5	32.2	29.9	25.7	30.6	30.6
		Breakout	52.2	59.6	62	51.4	41.9	37.4	28.1	31.4	34.7
66	40	Supply	43.1	44.4	54.3	43.5	39.2	35.7	27.7	29.9	35.0
		Extract	48.9	49	58.4	45.9	35.7	33.4	25.3	29.9	33.4
		Breakout	54.6	58.3	66.1	52.6	39.3	36.5	31.1	35.3	37.7
85	60	Supply	44.7	49.8	58	50.4	45	41.9	30.6	30.3	39.1
		Extract	51	53.6	61.2	50.1	41.6	40.1	30.7	31.1	36.7
		Breakout	57.5	62.6	68.7	57.5	45.9	41	36.3	34	40.7
96	80	Supply	46	52.2	57.1	56.5	47.2	44.2	32.3	30.5	40.5
		Extract	55.5	55	63.1	53.4	44.3	41	33.5	31.4	38.8
		Breakout	62.2	65.7	68.8	63	50.8	43.8	38.8	35.4	42.9
98	100	Supply	46.6	52.3	57	55.4	47.1	43.7	32.1	30.3	40.1
		Extract	53.7	55.2	63.3	53.3	44.1	41.2	33.2	31.5	38.9
		Breakout	62.2	73.8	77.4	74.1	67.4	61	53.6	45.4	53.9

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

Consultant's Specification

Operation
The supply and extract ventilation unit shall be as Sentinel Kinetic Z as manufactured by Vent-Axia and shall be sized as indicated on the drawings and shall be in accordance with the particular specification; 200Z – 200mm deep, 300Z – 300mm deep.

The Sentinel Kinetic Z 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 the wired remote control unit. The fans themselves shall have independent, infinitely variable speed control.

Unit Specification (200Z/ZM, 300ZH)
The unit shall be manufactured with a galvanized steel outer case construction and shall have a high efficiency aluminium heat exchanger.

Unit Specification (200ZP)
The unit shall be manufactured with high density EPP case and shall have a high efficiency polymer heat exchanger.

The unit shall have supply and extract filters, automatic summer bypass, integral minimum and maximum infinitely variable speed controls with failure indication via the wired remote controller.

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 81% 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.

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

- ✓ Supply or extract fan
- ✓ 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 Sentinel Kinetic Z units shall incorporate the following functions integrally mounted, pre-wired and factory fitted by the manufacturer:

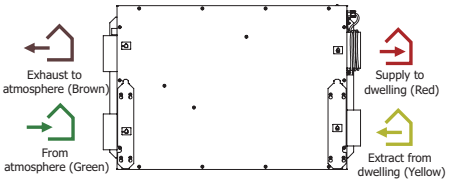
- ✓ Infinitely variable fan speed control on supply and extract
- ✓ Min/max ventilation control/set point
- ✓ Heating interlocks
- ✓ 0-10V proportional speed adjustment
- ✓ Volt free contacts
- ✓ 24V se**nsor supply**
- ✓ On/off or trickle boost function from remote switch, e.g. PIR occupancy detector
- ✓ 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
- ✓ 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

The unit shall be controlled by the 'Sentinel' control devices (enablers and sensors) as detailed in the schedule or on the drawings.

Mounting Option

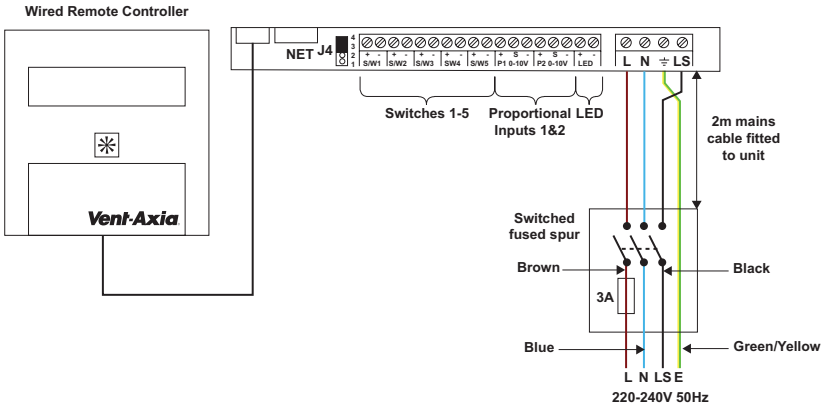
Slab

Airflow Direction
View from beneath (drawing for airflow demonstration only - not intended to be an accurate representation of the product)

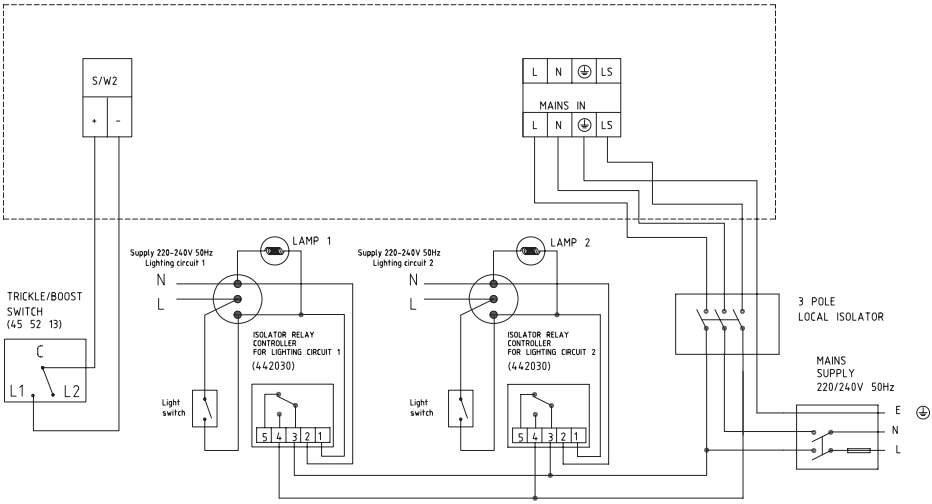


Electrical Connection

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



Trickle to Boost by two lighting circuits or Trickle/Boost Switch



Acoustic Residential Purge Ventilator

- Rapid local extract
- Satisfies Part F purge requirements
- Acoustically treated for low noise
- Helps to reduce overheating
- Can be used in conjunction with MVHR and MEV units or as standalone system
- 220x90 or 250 diameter spigots
- Low profile design
- Easy setup
- Energy efficient EC fan
- Variable speed control
- Low maintenance requirement

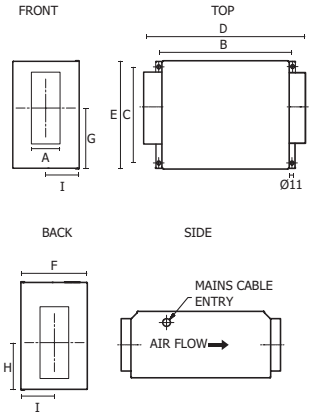
CODE	DESCRIPTION
477988	Acoustic Purge Fan
479829	Acoustic Purge Fan XL
10520602	Remote Speed Control
475775	Trickle/Boost Controller

The Vent-Axia Acoustic Purge Fan is used to rapidly remove indoor pollutants as well as reducing the impact of overheating in residential dwellings, providing a more comfortable and healthy internal environment for home-owners.

The Acoustic Purge Fan can be used in conjunction with a Sentinel Kinetic MVHR unit or independently via a separate switched live connection or 0-10V external sensor input. The Acoustic Purge Fan can be installed in habitable rooms to satisfy Approved Document F Purge requirements (4 air changes per hour). The unit can be installed in conjunction with controllable duct dampers and/ or background ventilators to manage the supply air into the dwelling under purge operation.

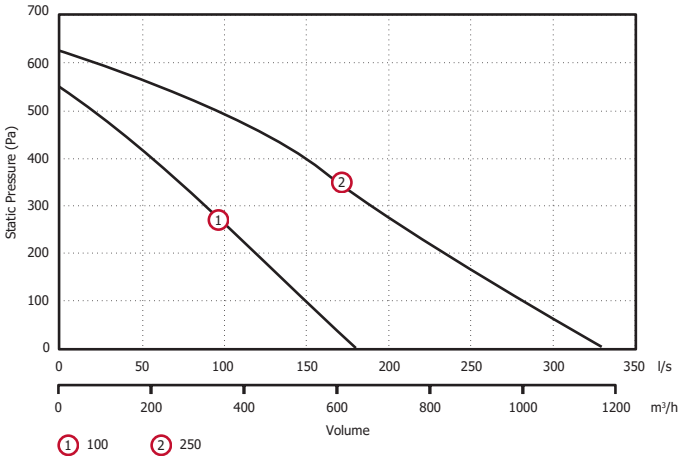
The Acoustic Purge Fan is specially treated with acoustic foam to reduce breakout and induct noise, ensuring end-user comfort during operation. As well as boasting a low-profile design, the unit utilises 220x90 spigots to allow easy use of flat ducting in tight void spaces in apartments.

Dimensions (mm)



CODE	SPIGOT	A	B	C	D	E	F	G	H	I	KG
477988	220X90	85	380	275	456	310	191	165	145	103	7.5
479829	250Ø	250	435	330	511	364	287	182	122	143	13

Performance



Sound Data

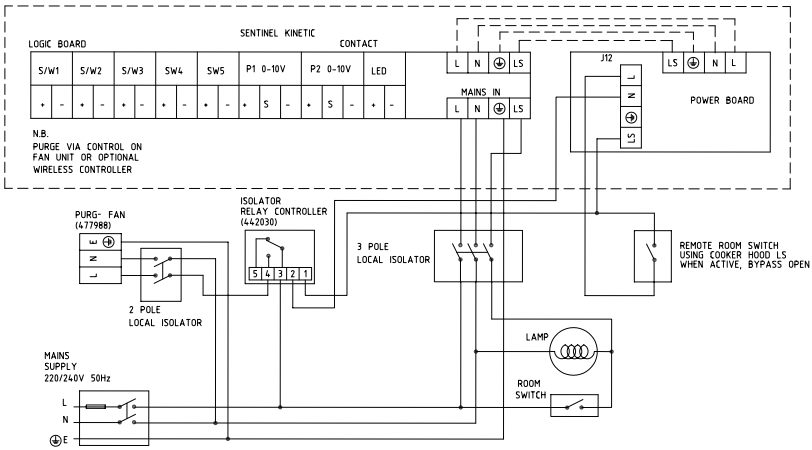
Acoustic Purge Fan

Speed	Test mode	Octave Band (Hz) Sound Power Levels, dB 63	125	250	500	1k	2k	4k	8k	dB(A) LwA	@ 3m
25%	Inlet	35	30	34	32	26	20	18	24	32	15
	Outlet	36	32	36	34	33	28	20	23	37	19
	Breakout	37	34	31	28	24	18	18	23	30	10
50%	Inlet	40	38	51	47	41	38	31	26	48	31
	Outlet	40	44	57	51	50	49	43	31	56	38
	Breakout	43	46	50	46	43	39	32	27	48	27
80%	Inlet	45	45	60	60	52	49	44	40	59	42
	Outlet	50	50	68	65	61	61	56	49	68	50
	Breakout	64	53	57	58	54	50	47	45	59	39
100%	Inlet	55	46	60	61	53	50	45	41	60	43
	Outlet	53	51	65	66	62	63	57	51	68	51
	Breakout	56	54	57	60	56	52	49	47	61	41

Acoustic Purge Fan XL

Speed	Test mode	Octave Band (Hz) Sound Power Levels, dB 63	125	250	500	1k	2k	4k	8k	dB(A) LwA	@ 3m
25%	Inlet	48	49	42	38	35	24	24	29	40	22
	Outlet	47	46	41	37	41	29	24	29	42	24
	Breakout	42	42	37	31	29	26	25	31	40	19
50%	Inlet	55	57	65	58	49	43	45	38	57	39
	Outlet	53	57	62	58	54	55	51	36	59	41
	Breakout	52	48	53	43	37	36	34	30	48	27
80%	Inlet	63	65	69	76	62	54	53	49	71	53
	Outlet	63	66	69	72	69	68	62	55	72	54
	Breakout	54	56	57	57	48	46	45	36	57	36
100%	Inlet	68	71	72	80	68	62	59	56	76	58
	Outlet	68	71	70	78	75	75	68	63	78	60
	Breakout	61	63	62	62	55	54	52	45	63	42

Wiring Diagram



Fan Fire Collars

- Fire Protection Solution for 100mm and 125mm fans
- Fire Tested to BS EN 1365-2 on a loaded floor
- 30 Minute Fire Rating
- Test evidence for use in Solid Timber, Metal Web Joists and engineered I-Beam floor/ceiling systems

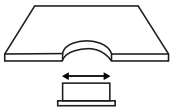
CODE	DESCRIPTION
413702	100mm Fan Fire Collar
413703	125mm Fan Fire Collar

Our Fan Fire collars are designed to provide fire protection for penetrations in floor/ceiling systems when combined with 100mm and 125mm ceiling fans. In the event of a fire, the product's intumescent lining expands to seal off the ceiling opening, creating an effective fire barrier, reinstating the ceiling's fire rating.

Recessed ceiling fans are commonly used in both residential and commercial buildings. However, cutting a hole in the ceiling for a fan compromises the structure's integrity and its fire performance. To restore the original fire rating of the ceiling/floor construction, it is essential to firestop the penetration as required by the Part F Building Regulations or Technical Handbook in Scotland

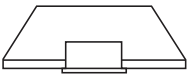
The Ceiling Fan Firestop features a steel mounting ring with an integral intumescent lining and duct connector. This assembly is fixed into the ceiling lining, allowing for normal installation of the ceiling fan. Compatible with a variety of 100mm and 125mm ceiling fans.

Fitting Instructions



STEP 1

Cut a hole in the ceiling to match the outside diameter of the sleeve on the Ceiling Fan Firestop mounting ring.

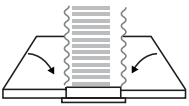


STEP 2

Push the Ceiling Fan Firestop mounting ring into the cut out aperture in the ceiling and fix through the collar using 4No. 3.5mm diameter by 42mm long drywall screws, to each of the pre drilled holes.

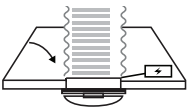
STEP 3

Ensure that the 2No. steel tabs are protruding towards the aperture within the collar, to prevent the duct sliding through the collar.



STEP 4

Install and fix the ceiling fan unit to the manufacturer's instructions, ensuring that the fan duct work spigot is centrally located within the firestop mounting ring.



STEP 5

Connect the ductwork to the ceiling fan duct spigot and the electrical supply as recommended by the fan manufacturer's instructions.

Note: The Ceiling Fan Firestops are not tested or approved for use in walls or partitions.

Fire Performance and *Assessment in accordance with BS EN 1365-2

Joist Construction	Ceiling construction with appropriate fire rating	Supply and extract Diameter in mm	Product Fire Classification Rating (minutes)			Report Reference
			Integrity (E)	Insulation (I)	Classification (EI)	
Mitek PS10+ Timber Chord with Metal Web Joist	1 x 15mm Siniat GTEC fire boards	100	30	30	30	Warringtonfire - WF394530
JJI Joists Solid Timber Chord with OSB Web Joist	1 x 15mm Siniat GTEC fire boards	100 and 125	30	30	30	Warringtonfire - WF422978
Solid Timber joists	1 x 15mm Siniat GTEC fire board or 2 x 12.5mm Siniat GTEC fire boards	100 and 125	30	30	30	*International Fire Consultants- Mitek PS10+ PAR/20405/01
Mitek PS10+ PAR/20405/01 Timber Chord with Metal Web Joist		100 and 125	30	30	30	
Timber I beams		100 and 125	30	30	30	

30 minute rated floors to be minimum 1 x 15mm or 2 x 12.5mm thick GTEC Fireline fire rated plasterboard on the underside or alternative plasterboard types that demonstrate performance in a system tested to BS EN 1365-2: 2014 for a minimum period of 30 minutes up to the load as tested.

Floor construction to one of the following:

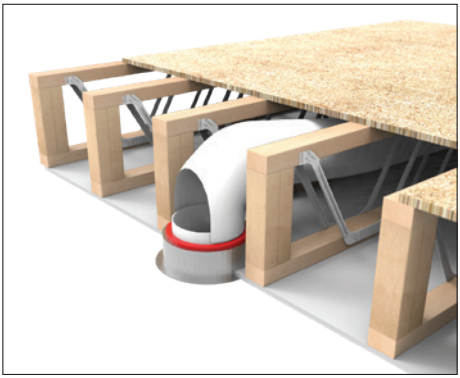
Mitek Posi-Joist made from min. 47mm wide x 70mm high top and bottom flanges and galvanised steel web

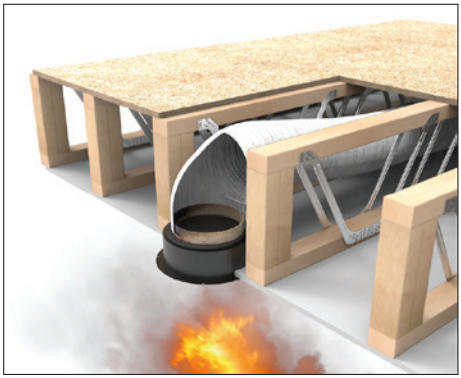
Timber joists min. 225mm high x 45mm wide C24 grade timber

Timber 'I' Beams which have been tested successfully in a system to BS EN 1365-2 for a minimum of 30 minutes up to the load which has been tested

In all above cases the fan/ducting must not penetrate any element of the loadbearing floor system other than the plasterboard layer.

Minimum spacing from other ceiling penetrations must be 200mm.





Ceiling Fan Firestop expands when exposed to heat.

Note: Vent-Axia does not guarantee compliance with Building Regulations Part B, Fire Spread or other regulations that relate to fire planning. Suitability to comply with these regulations should be determined prior to installation and in conjunction with Building Control Officers. Compliance with the Regulations is specifically excluded from quotations and designs.

Pyrocheck Fire Airbricks

- Compliant with Approved Document B
- Compliant with Building (Scotland) Technical Handbook 2019
- Designed for both 204×60 & 220×90 ducting
- Double and Single Airbrick Versions available in 5 RAL colours
- Bezelled version for exterior cladding, render or composite
- Corrosion resistance – salt spray tested to BS EN ISO 9227:2012
- Polyester Powder Coating EN13501-1 classification A2-s1,d0
- Performance tested to BS EN13141-2:2010
- Low resistance design to ensure high airflow
- Material 0.9mm electrogalvanized Sheet Steel, fire class A1

Fire Airbrick 204x60 with duct

MODEL	COLOUR	CODE
Single Grille	White (RAL 9003)	412934
Single Grille	Brown (RAL 8017)	412935
Single Grille	Cotswold Stone (RAL 1001)	412936
Single Grille	Grey (RAL 7037)	412937
Single Grille	Terracotta (RAL 8004)	412938
Single Grille Flanged	White (RAL 9003)	412944
Single Grille Flanged	Brown (RAL 8017)	412945
Single Grille Flanged	Cotswold Stone (RAL 1001)	412946
Single Grille Flanged	Grey (RAL 7037)	412947
Single Grille Flanged	Terracotta (RAL 8004)	412948

Fire Airbrick 220x90 with duct

MODEL	COLOUR	CODE
Double Grille	White (RAL 9003)	412939
Double Grille	Brown (RAL 8017)	412940
Double Grille	Cotswold Stone (RAL 1001)	412941
Double Grille	Grey (RAL 7037)	412942
Double Grille	Terracotta (RAL 8004)	412943
Double Grille Flanged	White (RAL 9003)	412949
Double Grille Flanged	Brown (RAL 8017)	412950
Double Grille Flanged	Cotswold Stone (RAL 1001)	412951
Double Grille Flanged	Grey (RAL 7037)	412952
Double Grille Flanged	Terracotta (RAL 8004)	412953

Fire ductwork improves the safe operation of ventilation systems by minimising the chance of fire spread.

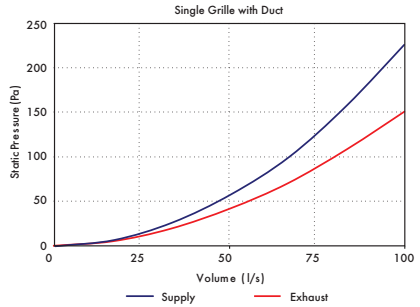
A1 Fire metal ducting kits and fire airbricks manufactured in the UK to comply with the latest Part B regulations. Perfect for multi-storey developments which require all materials forming part of the external wall to be made from non-combustible materials.

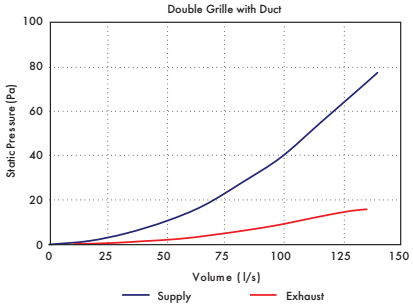
Galvanised steel is considered fire class A1 without testing, as per European Commission paper 96/603/EC referred to in BS EN 13501-1:2018. The material remains robust at elevated temperatures and has a high melting point temperature of 1450-1520° C. Classification: A1. Definition: Non-combustible. Description: No contribution to fire.

- EN-13501-1:2018
- BS EN 13141-2:2010
- BS EN ISO 9227:2012 (Corrosion Resistance)
- CLASSIFICATION A2-S1; d0 (Powder Coating)
- A1 (Base Material)

For significant projects requiring additional product configuration, please reach out to your Sales Manager for assistance.

Performance

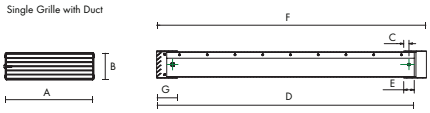


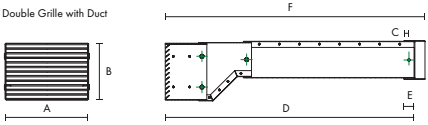


	Pa @ l/s					
Volume (l/s)	15	35	50	65	85	100
Supply (Pa)	7	27	58	100	158	227
Exhaust (Pa)	5	19	42	71	109	152

	Pa @ l/s							
Volume (l/s)	15	35	50	65	85	100	115	130	140
Supply (Pa)	2	5	11	18	28	40	55	71	78
Exhaust (Pa)	0	1	2	4	6	9	12	15	16

Dimensions (mm)





Model	Duct Size	A	B	C	D	E	F	G
Single Grille Flanged	204 x 60	245	90	12.5	613	25	640	50
Single Grille	204 x 60	210	65	12.5	613	25	640	50
Double Grille Flanged	220 x 90	245	165	12.5	613	25	640	-
Double Grille	220 x 90	210	140	12.5	613	25	640	-

Thermflow 200mm Ducting

- Rigid lightweight 200mm ducting solution
- Outer case is shockproof and produced as CFC Free polyethylene (PE)
- Pre-Insulated polyolefin foam
- High thermal value achieving 0.038 W/(m·K)
- Quick and simple, airtight installation

CODE	DESCRIPTION
413054	Thermflow Insulated 200mm Round 2m Length
413055	Thermflow Insulated 200mm Round 90 Degree Bend
413056	Thermflow Insulated 200mm Round 45 Degree Bend
413057	Thermflow Insulated 200mm Round Connector
413058	Thermflow Insulated 250mm - 200mm Round Reducer
413059	Thermflow Insulated 200mm Round T-Piece

Thermflow 200mm Ducting
Innovative and sustainable insulated ventilation piping system developed to offer high-grade solutions to the increasing demands of comfort climate in residential buildings.

The Thermflow Rigid Range sets the standard for easy to install, pre-insulated ductwork. Quick and simple installation with minimum tools, tubes and bends are easily cut in a right-angle by following the channel of ridges.

Connections utilise rubber connectors ensuring a simple, air-tight, quick and secure installation.

Connections are flexible, absorb movement in the ducting system and therefore result in a tension free installation without resonance.

High thermal insulation value achieving 0.038 W/(m·K) with a closed cell structure and vapour tight barrier, preventing condensation forming. Insulated polyolefin foam is mechanically strong and water repellent, resulting in less dust pollution inside the ducting, it is also easy to clean. Manufactured sustainably without waste of raw materials, recycling directly for future batches with Cradle2Cradle certification.

Technical

Insulation Layer	
Material	Polyolefin foam insulation
Structure	Closed cell structure, CFC free
Inner Diameter	200mm
Thermal Conductivity	0.038 W/m·K
Water Resistant Properties	Water repellent, vapour diffusion tight, no risk of corrosion, moss or mould forming
Chemical Constancy	Excellent
Indentation Resistance	Excellent

Complete System	
Fire Classification	SBI Euroclass E according to EN13501
Service Temperature Range	-40°C to +95°C
Noise compression through exterior case conforms to DIN-EN-ISO-5135-1999	TQ-Air 200/170mm 14 dB(A)
Recyclability	100%
Cradle to Cradle certification	Silver*

Protection Casing	
Material	Polyethylene
Structure	Corrugated, solid ring, dimensionally stable, mechanically strong and shockproof
Outer diameter	250mm
Scent	Neutral
Colour	Black

Performance

200mm Round 2m Length

Duct Size	CODE
Ø200mm	**413054**

Performance

	Pa	l/s
TQ-Air Flexalen HRV D250/200 Tube L2000	0.10	27.8
	0.20	55.6
	0.30	83.3
	0.80	111.1
	1.30	138.9
	1.80	166.7

200mm Round 90 Deg Bend

Duct Size	CODE
Ø200mm	**413055**

Performance

	Pa	l/s
TQ-Air Flexalen HRV D250/200 Bend 90°	0.20	27.8
	0.50	55.6
	1.00	83.3
	1.90	111.1
	3.10	138.9
	4.50	166.7

200mm Round 45 Deg Bend

Duct Size	CODE
Ø200mm	**413056**

Performance

	Pa	l/s
TQ-Air Flexalen HRV D250/200 Bend 45°	0.20	27.8
	0.50	55.6
	0.80	83.3
	1.40	111.1
	2.30	138.9
	3.40	166.7

200mm Round T-Piece

Duct Size	CODE
Ø200mm T-Piece	**413059**

Performance

	Pa	l/s
TQ-Air Flexalen HRV D250/200 T-Piece	2.50	27.8
	3.00	55.6
	5.00	83.3
	8.00	111.1
	12.50	138.9
	19.80	166.7

200mm Round Connector

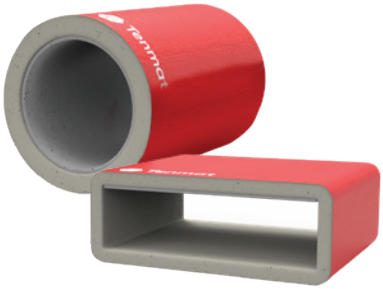
Duct Size	CODE
Ø200mm	**413057**

250mm - 200mm Round Reducer

Duct Size	CODE
Ø200-250mm	**413058**

Vent Duct Fire Sleeves

- Fire rated product up to EI 120 minutes
- Tested for masonry, concrete and plasterboard walls
- Tested in external wall / SFS constructions
- Can be installed within Ablative Coated Fire Batts
- CE Marked
- U/U - Uncapped/Uncapped tested as required for ventilated systems
- Can be retro fitted
- Low profile design
- Available preformed and ready to install in both circular or rectangular shapes
- Compressible material, offers accommodation for deflection
- No metal sleeving or boxing out required



CODE	DESCRIPTION
407655	Round Fire Sleeve - Low profile - 100mm
407656	Round Fire Sleeve - Low profile - 125mm
407657	Round Fire Sleeve - Low profile - 150mm
407658	Rectangular Fire sleeve - 4 sided - Low profile - 110x54mm
407659	Rectangular Fire sleeve - 4 sided - Low profile - 204x60mm
407660	Rectangular Fire sleeve - 4 sided - Low profile - 220x90mm

The FF109 Vent Duct Fire Sleeve Low Profiles (VDS LPs) are a family of CE Marked fire penetration seals designed to firestop PVC ventilation ducts/pipes when installed through fire rated constructions.

The unique vacuum formed intumescent material design ensures that the expansion direction of the material crushes and seals the ducting in a fire situation without the need for any additional support or metal sleeving.

The lack of metal sleeving, not only makes installation easy, it also limits the risk of heat transfer through the structure as well as allowing compression to ensure a tight seal against fire and smoke or tight fitting against the ceiling soffit where needed.

The Fire Sleeves provide fire resistance ratings for Integrity (E) and Insulation (I) for up to EI120 minutes depending on the construction.

Fire Tested for both internal and external wall constructions. The Fire Sleeves are CE Marked with a European Technical Approval (ETA) based on extensive fire testing to BS EN 1366-3.

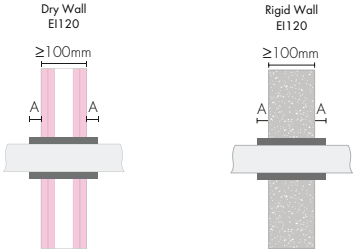
Maintenance

No active maintenance required, where alterations are made around the product it should be checked visually to ensure that the product is still installed as per fitting instructions and tested systems.

Physical Properties

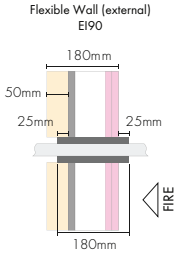
Properties	Detail
Colour	Red
Finish	Glossy label on reinforced aluminium foil
Cuttability	Can be cut lengthways to retrofit
Compressibility	Does compress
Working Life	48 years
Storage	Dry, ambient
Transportation storage temperature	-20°C to +70°C
Durability	Type X intended for use in conditions exposed to weather (UV, rain, frost)
Smoke/Halogen Content	Low Smoke / Zero Halogen

Installation Variations



Test Standard	Duct Size Ref.	Duct Size (mm)	Duct Size Range (mm)	Wall Thickness (mm)	Material	Min. Sleeve Length (mm)	Min. Protrusion (A) (mm)	Fire Rating	End Cap Conf.	Report No.
EN 1366-3	100	103	15-103	1.5	PVC	150	25	EI120	U/U	ETA 20-1164
EN 1366-3	125	127	15-127	1.8	PVC	250	75	EI120	U/U	ETA 20-1164
EN 1366-3	150	155	15-155	2.0	PVC	250	75	EI120	U/U	ETA 20-1164
EN 1366-3	110x54	110x54	110x54	1.5-1.8	PVC	150	25	EI120	U/U	ETA 20-1164
EN 1366-3	204x60	204x60	204x60	1.5-1.8	PVC	150	25	EI120	U/U	ETA 20-1164
EN 1366-3	220x90	220x90	220x90	1.5-1.8	PVC	150	25	EI120	U/U	ETA 20-1164

Service Support must be max. 300mm from the surface of the wall
Seals must be minimum 200mm apart
Rigid Walls must comprise concrete, aerated concrete or masonry with a minimum density of 650 kg/m³ (wall type A, see ETA) or concrete or masonry with a minimum density of 1100 kg/m³ (wall type B).



Construction Build-Up

Celotex PIR Foil Faced Insulation 50mm thick / 31kg/m³

Siniat GTEC Weather Defence Board SE 1x12.5mm

Rockwool ProRox SL920 Rock Fibre Insulation 100mm thick / 45kg/m³

Metsec Steel Stud 90mm wide

Siniat GTEC Fire Board SE Plasterboard 2x12.5mm

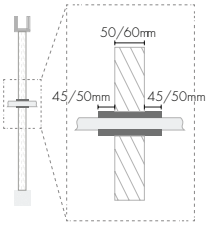
Test Standard	Duct Size Ref.	Duct Size (mm)	Duct Size Range (mm)	Wall Thickness (mm)	Material	Min. Sleeve Length (mm)	Min. Protrusion (mm)	Fire Rating	End Cap Conf.	Report No.
EN 1366-3	100	103	15-103	1.8	PVC	180	25	EI90	U/U	WF 411551
EN 1366-3	125	127	15-127	1.8	PVC	180	25	EI90	U/U	WF 411551
EN 1366-3	110x54	110x54	110x54	2.25 (+/- 0/15mm)	PVC	180	25	EI90	U/U	WF 411551
EN 1366-3	204x60	204x60	204x60	2.25 (+/- 0/15mm)	PVC	180	25	EI90	U/U	WF 411551
EN 1366-3	220x90	220x90	220x90	2.25 (+/- 0/15mm)	PVC	180	25	EI90	U/U	WF 411551

Service Support must be max. 300mm from the surface of the wall
Seals must be minimum 200mm apart

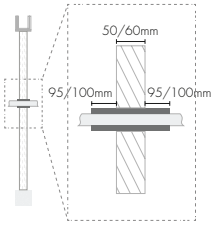
Note: Vent-Axia does not guarantee compliance with Building Regulations Part B, Fire Spread or other regulations that relate to fire planning. Suitability to comply with these regulations should be determined prior to installation and in conjunction with Building Control Officers. Compliance with the Regulations is specifically excluded from quotations and designs. For further information, please contact our technical support department.

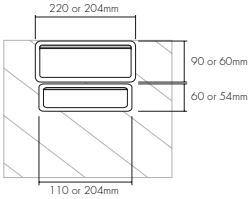
Installation Variations

Fire Batt
100, 110x54, 204x60 & 220x90mm ducts only
30/60 mins

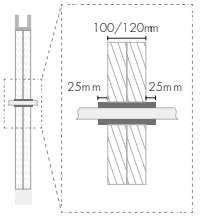


Fire Batt
125 & 150mm ducts only
30/60 mins

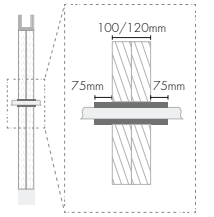


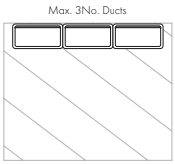


Fire Batt
100, 110x54, 204x60 & 220x90mm ducts only
90/120 mins



Fire Batt
125 & 150mm ducts only
90/120 mins



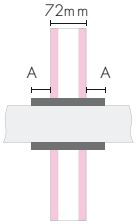


Test Standard	Duct Size Ref.	Duct Size (mm)	Wall Thickness (mm)	Material	Std. Sleeve Length (mm)	Min. Protrusion (mm)	Soffit Fix Allowed	Side by Side Installation	Stacked Ducts Allowed	Fire Rating	End Cap Conf.	Report No.
BS 476 Pt. 22	100	103	1.5	PVC	180	45/50mm or 25mm	N	N	N	30 ,60, 90, 120	U/U	PAR/ 15162 /01
BS 476 Pt. 22	125	127	1.8	PVC	280	95/100mm or 75mm	N	N	N	30 ,60, 90, 120	U/U	PAR/ 15162 /01
BS 476 Pt. 23	150	155	2.0	PVC	280	95/100mm or 75mm	N	N	N	30 ,60, 90, 120	U/U	PAR/ 15162 /01
BS 476 Pt. 22	110x54	110x54	1.5	PVC	180	45/50mm or 25mm	Y	Y	Y	30 ,60, 90, 120	U/U	PAR/ 15162 /01
BS 476 Pt. 22	204x60	204x60	1.5-1.8	PVC	180	45/50mm or 25mm	Y	Y	Y	30 ,60, 90, 120	U/U	PAR/ 15162 /01
BS 476 Pt. 22	220x90	220x90	1.8	PVC	180	45/50mm or 25mm	Y	Y	Y	30 ,60, 90, 120	U/U	PAR/ 15162 /01

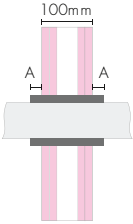
Ablative Coated Batts, 50 or 60mm thick, must have suitable supporting documentation to demonstrate to the fire ratings required in accordance with BS476: Part 22
Min. spacing to seal edge or between penetrations must be 50mm
When rectangular ducts fixed underside the soffit, top edge of Fire Sleeve must be tight to the soffit, max. 5mm gaps allowable if sealed with intumescent acrylic sealant
When rectangular ducts fixed side by side, limited to maximum 3No., adjacent Fire Sleeves must be in close and constant contact
When rectangular ducts fixed side by side, ducts must be of the same size
When stacked ducts are installed, max. 2no. Stacked ducts of the same or similar size, e.g. 220x90 and 204x60 or 204x60 and 110x54.
Please refer to PAR/15162/01 for more limitations on multiple duct installations
Service Supports must be max. 300mm from the surface of the wall
Individual seal openings must be minimum 200mm apart

Installation Variations

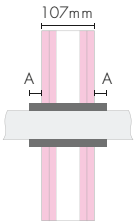
Flexible Wall
30 mins



Flexible Wall
60 mins



Flexible Wall
90-120 mins



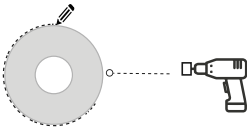
Test Standard	Duct Size Ref.	Duct Size (mm)	Wall Thickness (mm)	Material	Std. Sleeve Length (mm)	Min. Protrusion in 72-99mm thick walls (mm)	Min. Protrusion in ≥100mm thick walls (mm)	Soffit Fix Allowed	Side by Side Install	Fire Rating	End Cap Config.	Report No.
BS 476 Pt. 22	100	103	1.5	PVC	180	39	25	N	N	30 ,60, 90, 120	U/U	PAR/ 14600/ 01
BS 476 Pt. 22	125	127	1.8	PVC	280	89	75	N	N	30 ,60, 90, 120	U/U	PAR/ 14600/ 01
BS 476 Pt. 22	150	155	2.0	PVC	280	89	75	N	N	30 ,60, 90, 120	U/U	PAR/ 14600/ 01
BS 476 Pt. 22	110x54	110x54	1.5	PVC	180	39	25	Y	Y	30 ,60, 90, 120	U/U	PAR/ 14600/ 01
BS 476 Pt. 22	204x60	204x60	1.5-1.8	PVC	180	39	25	Y	Y	30 ,60, 90, 120	U/U	PAR/ 14600/ 01
BS 476 Pt. 22	220x90	220x90	1.8	PVC	180	39	25	Y	Y	30 ,60, 90, 120	U/U	PAR/ 14600/ 01

When rectangular ducts fixed underside the soffit, top edge of Fire Sleeve must be tight to the soffit, max. 5mm gaps allowable if sealed with intumescent acrylic sealant
When rectangular ducts fixed side by side, limited to maximum 3No., adjacent Fire Sleeves must be in close and constant contact
When rectangular ducts fixed side by side, ducts must be of the same size
Please refer to PAR/14600/01 for more limitations on multiple duct installations
Service Supports must be max. 300mm from the surface of the wall
Individual seal openings must be minimum 200mm apart

Dimensions

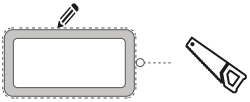
Duct Size	Nominal Thickness	Nominal External Width / Diameter	Nominal External Height	Length
110x54mm	10-15mm	134mm	83mm	180mm
204x60mm	10-15mm	228mm	89mm	180mm
204x60mm	10-15mm	228mm	89mm	360mm
220x90mm	10-15mm	244mm	124mm	180mm
220x90mm	10-15mm	244mm	124mm	360mm
100mm (103mm)	15mm	244mm	-	180mm
125mm (127mm)	15mm	160mm	-	280mm
150mm (155mm)	20mm	200mm	-	280mm

Fitting Instructions



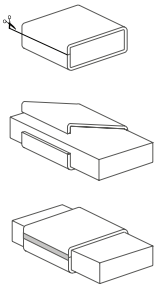
Step 1a

If using a hole cutter for circular holes, ensure that the correct fire sleeve wall thickness (15mm + 15mm) 30mm total is added to the diameter of the pipe, this equals the aperture size. Cut the hole through the substrate using the correct blade, in the required location.



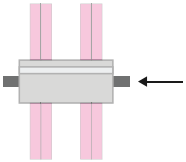
Step 1b

If cutting without a hole cutter, using a pencil, draw around the fire sleeve at the required position of the aperture, ensure a tightly marked line. Use this line to cut the aperture through the substrate, using the required equipment as appropriate.



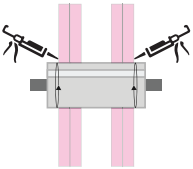
Step 2

Unless the sleeve can be slid down the length of pipe/vent/duct to the aperture, carefully cut along the length of the fire sleeve, using a sharp knife or scissors, on a rectangular duct/vent cut centrally to one of the sides, place the sleeve around the pipe/duct/vent close to the aperture, and apply foil tape over the joint, where the sleeve was cut.



Step 3

Push gently on the sleeve to pass it through the wall, if the sleeve covering starts to tear or if excessive resistance is felt, pull the sleeve back and trim the aperture. The sleeve should be pushed into the required position, ensuring that the required length of sleeve protrudes on either side of the wall.



Step 4 (If required)

If required for the purpose of smoke and draft stop, air or water tightness and airborne sound insulation, the gap between opening edge and fire sleeve may be sealed off by a suitable acrylic intumescent mastic construction sealant approved for penetration sealing applications.

Fire Rated Air Valves

- Extract and Supply versions
- 60 Minutes Fire Rating in Solid Timber Joist Floor/Ceilings Constructions
- 30 Minutes Fire Rating in I-Beam and Metal Web Joist Floor/Ceiling Constructions
- No maintenance required
- Meets requirements of Approved Document B
- Simple to install

CODE	DESCRIPTION
403431	Extract 100 Ø
403432	Extract 125 Ø
403433	Extract 150 Ø
408828	Extract 200 Ø

CODE	DESCRIPTION
475661	Supply 100 Ø
475662	Supply 125 Ø
475663	Supply 150 Ø
475664	Supply 200 Ø

Fire Rated Air Valves are a unique and cost effective fire rated solution where recessed ceiling air valves are to be installed in fire rated floor/ceiling constructions. In a fire situation, the integral intumescent material rapidly expands to seal off the air valve to help maintain the fire resistance rating of the ceiling. This limits the risk of fire and heat spread throughout the building.

The Fire Rated Air Valves are available in all common sizes for both Extract and Supply. The Fire Rated Air Valves are installed as normal and require no addition maintenance over and above standard cleaning as would be carried out for any air valve. The product requires no maintenance after installation. The Fire Rated Air Valves are suitable for domestic homes, as well as apartments, hotels and other multiple occupancy buildings where fire ratings exist.

Fitting Instructions

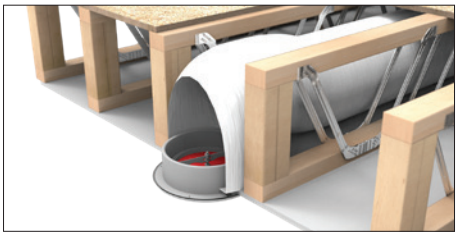
- Cut hole in ceiling to suit the outside diameter of the air valve mounting ring
- Fix the air valve to the ceiling via the screw holes in the valve
- Attach ducting onto the air valve mounting ring
- Fit the body of the valve into the mounting ring with a quarter turn twist
- Set inner cone clearance to provide required air flow rate (max. 12mm)
- Ensure the air valve is fitted snugly within the ceiling with no gaps or voids
- The penetration is then sealed against the spread of fire and the fire rating
- Other ceiling penetrations must be fitted a minimum of 200mm apart from the Fire Rated Air Valves

Test Data

Report Type	Fire Test Lab	Report Number	Construction	Fire Rating
Full Scale Loaded Floor Fire Test to BS EN 1365-2	The Building Test Centre	BTC18074F / BTC 21144FA	Solid Timber Joist Floor	60 mins
Full Scale Loaded Floor Fire Test to BS EN 1365-2	Warrington Fire	422978	I-Beam Joist Floor	30 mins
Full Scale Loaded Floor Fire Test to BS EN 1365-2	Warrington Fire	394530	Metal Web Joist Floor	30 mins

Storage & Durability

Storage	Dry, ambient
Transportation storage temperature	-20°C to +70°C
Working Life	48 years
Durability	Type X intended for use in conditions exposed to weather (UV, rain, frost)
Fungal Resistance	Protected by polythene
Smoke/Halogen Content	Low Smoke / Zero Halogen



Note: Vent-Axia does not guarantee compliance with Building Regulations Part B, Fire Spread or other regulations that relate to fire planning. Suitability to comply with these regulations should be determined prior to installation and in conjunction with Building Control Officers. Compliance with the Regulations is specifically excluded from quotations and designs. For further information, please contact our technical support department.


monsoon


monsoon

Group A (F)

Monsoon Domestic Products

Monsoon MER-Series Axial Range

- Manufactured using high quality ABS thermoplastics
- High extract rate of 85m³/h
- Ceiling or Wall mount (Except pull cord models)
- Complies with both Part F & L

100mm - 85m³/hr Bathroom Fan

CODE	DESCRIPTION
MER100S	100mm Standard Fan
MER100P	100mm Pull Cord Fan
MER100T	100mm Timer Fan
MER100HT	100mm Humidistat and Timer Fan
MER100LVS	100mm SELV Standard Fan complete with transformer
MER100PLV	100mm SELV Pull Cord Fan complete with transformer
MER100TVLT	100mm SELV Timer Fan complete with transformer
MER100LVHT	100mm SELV Humidistat and Timer Fan complete with transformer

150mm - 230m³/hr Kitchen Fan

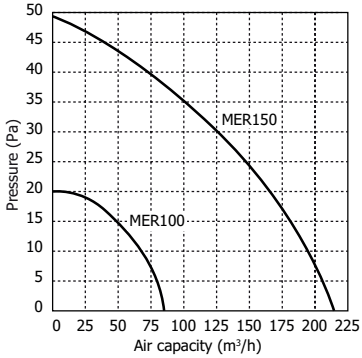
CODE	DESCRIPTION
MER150P	150mm Pull Cord Fan
MER150S	150mm Standard Fan
MER150T	150mm Timer Fan
MER150HT	150mm Humidistat and Timer Fan

The Monsoon Essential Range is the latest innovative domestic ventilation solution designed especially for bathrooms providing high extraction rates. The fan can be wall or ceiling mounted (except pull cord models) and are manufactured using high ABS thermoplastics for strength and durability. A single phase motor with long life ball bearings insures a long maintenance free life.

Technical data

FEATURE	MER100	MER150
Volts at 50 Hz (V)	220-240	220-240
Power (W)	15	18
Specific Fan Power (W/l/s)	0.65	0.25
Fuse (A)	3	3
Performance (m³/h)	85	230
Sound @ 3m dB(A)	41	40
IP rating	IP44	IP44

Performance



MODEL	FAN			SIPGOT	
	W	H	D	Ø	D
MER100	155	155	76	98	50
MER150	211	211	26	55	148

Monsoon M-Series Axial Range

- 100mm & 150mm models
- Made from high quality ABS plastic
- 3 year warranty
- 7-bladed quiet impeller
- Exceeds the requirements for UK Building Regulations
- Wall or ceiling mounting

100mm - 107m³/hr Bathroom Fan

CODE	DESCRIPTION
M100HTA	100mm Humidistat and Timer Fan (107m³/h)
M100PCA	100mm Pull Cord Fan (107m³/h)
M100SA	100mm Standard Fan (107m³/h)
M100TA	100mm Timer Fan (107m³/h)
M10012VA	100mm 12 Volt Fan (83m³/h)

150mm - 237m³/hr Kitchen Fan

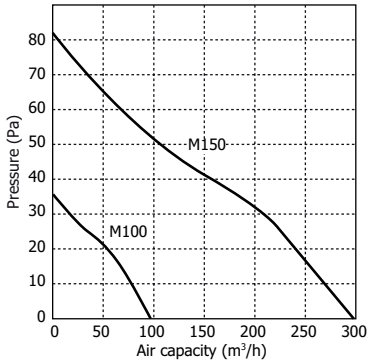
CODE	DESCRIPTION
M150HTA	150mm Humidistat and Timer Fan (237m³/h)
M150PCA	150mm Pull Cord Fan (237m³/h)
M150SA	150mm Standard Fan (237m³/h)
M150TA	150mm Timer Fan (237m³/h)

The Monsoon M-Series Axial fan range has been designed with a modern and aesthetic look suitable for bathrooms, showers, kitchens and other utility spaces and can be wall, ceiling or window mounted. The casing and the impeller are made of high-quality durable ABS plastic and are UV resistant. The intellectual quiet impeller design makes the fan highly efficient and ensures a long product life. The M-Series has a reliable and low-watt electric motor which requires no maintenance and with IP34 protection rating exceeds the requirements for UK Building Regulations.

Technical data

FEATURE	M100	M100-12V	M150	M150-12V
Power (W)	16	14	24	24
Specific Fan Power (W/l/s)	35.5	24	82	73
Performance (m³/h)	128	86	295	263
Sound @ 3m dB(A)	37	33	39	38
IP rating	IP34	IP34	IP34	IP34

Performance



Dimensions (mm)

MODEL	FAN			SIPGOT	
	W	H	D	Ø	D
M100	160	160	90	100	65
M150	207	207	106	150	81

Monsoon D-Series Axial Range

- Slim-line modern design
- 100mm models
- Made from high quality ABS plastic
- 7 bladed quiet impeller
- 3 year guarantee
- Exceeds the requirements for UK Building Regulations
- Suitable for wall or ceiling mounting

100mm – 124m³/hr Bathroom Fan

CODE	DESCRIPTION
D100HT	100mm Humidistat and Timer Fan (124m³/h)
D100S	100mm Standard Fan (124m³/h)
D100T	100mm Timer Fan (124m³/h)

Performance

POWER W	SOUND DB(A)	M3/H	L/S	IP RATING
16	37	124	34.5	IP34

Dimensions (mm)

MODEL	FAN			SPIGOT	
	W	H	D	Ø	D
D100	150	150	108	100	96

Monsoon Transformers TVL Range

CODE	DESCRIPTION
TVLH	12 Volt Transformer Humidistat c/w Timer to suit 100mm
TVLT	12 Volt Transformer Timer to suit 100mm

Monsoon MA-Series Axial Range

- Automatic opening shutters
- 100mm & 150mm models
- Made from high quality ABS plastic
- 7 bladed quiet impeller
- 3 year warranty
- Exceeds the requirements for UK Building Regulations
- Suitable for wall or ceiling mounting

100mm - 107m³/hr Bathroom Fan

CODE	DESCRIPTION
MA100HTA	100mm Auto Shutter Humidistat and Timer Fan (107m³/h)
MA100PCA	100mm Auto Shutter Pull Cord Fan (107m³/h)
MA100SA	100mm Auto Stutter Standard Fan (107m³/h)
MA100TA	100mm Auto Shutter Timer Fan (107m³/h)

150mm - 237m³/hr Kitchen Fan

CODE	DESCRIPTION
MA150HTA	150mm Auto Shutter Humidistat and Timer Fan (237m³/h)
MA150PCA	150mm Auto Shutter Pull Cord Fan (237m³/h)
MA150SA	150mm Auto Stutter Standard Fan (237m³/h)
MA150TA	150mm Auto Shutter Timer Fan (237m³/h)

The Monsoon MA-Series Axial fan range has been designed with automatic louvre shutters for exhaust ventilation with the air flow capacity of up to 295m³/h.

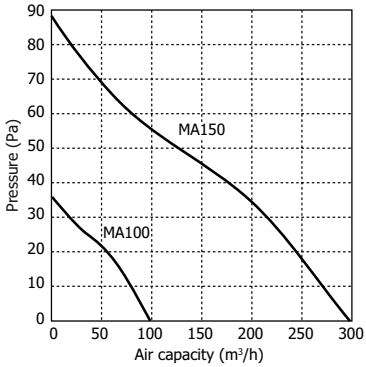
A modern and aesthetic look make this fan suitable for bathrooms and kitchens and other utility spaces and can be wall or ceiling mounted. The casing and the impeller are made of high-quality durable ABS plastic and are UV resistant.

The intellectual quiet 7 impeller design makes the fan highly efficient and ensures a long product life.

Technical data

FEATURE	MA100	MA150
Power (W)	18	26
Specific Fan Power (W/l/s)	27.2	82
Performance (m³/h)	98	295
Sound @ 3m dB(A)	34	39
IP rating	IP24	IP24

Performance



Dimensions (mm)

MODEL	FAN			SPIGOT	
	W	H	D	Ø	D
MA100	166	166	90	100	60
MA150	210	210	114	150	84

Monsoon LED Lights and Kits

- SFP of 0.43 W/l/s
- 3W LED lamp
- Suitable for bathrooms & showers
- Part F & L compliant

CODE	DESCRIPTION
MVL100LEDW	Vent Light LED - White
MVL100LEDCH	Vent Light LED - Chrome
MSFLK100SLED	Shower Fan Kit c/w LED Light - Standard
MSFLK100TLED	Shower Fan Kit c/w LED Light - Timer

100mm Shower Light Fan Kit, complete with back draught shutter (fan with or without adjustable over run timer 1-20mins) with chrome/white fitting shower light and 12-Volt LED Driver. Also comes with 1.5m PVC ducting, cables ties, screw plugs and external wall grille.

Warm light LED, Lumens output 180-200lm.

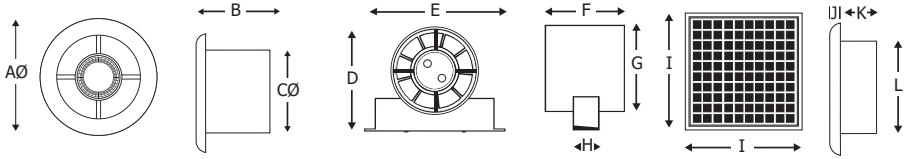
Installation
Designed to be ceiling mounted through 102mm (4") diameter flexible ducting or rigid pipes.

Electrical
12-Volt DC 3W MR16 lamp. Powered by an LED Driver. Input, AC. Output - 12-Volt DC. 1A

Technical data

CODE	FAN SIZE MM	SOUND VOLUME DB(A)	MAX. PRESSURE P.A	MAX. OPERATING TEMP °C	MAX AIR FLOW L/S	POWER CONSUMPTION	FAN SPEED RPM
MSFLK100SLED	100	41	20	40	24	10.4	2400

Dimensions (mm)



CODE	AØ	B	CØ	D	E	F	GØ	H	I	J	K	LØ
MSFLK100SLED	140	74	98	130	155	134	100	27	140	10	50	98

Monsoon Shower Extract Kit

- High performance and low power consumption
  - Up to 198m³/h
  - As low as 17-19W
- Quick and easy installation
- Made in the UK
- Runs at 28dB(A) on low speed
- Two speed motor with option of overrun timer (2 to 30 minutes)
- Motor equipped with Standard Thermal Overload Protection
- IPX4 rated
- Voltage 220-240V 50Hz
- Premium build quality
- Shower grille

ALL IN ONE KIT

CODE	DESCRIPTION
UMDTK	Kit includes UMD100T, 2x internal diffuser (white and chrome), 6m PVC flexible ducting, external fixed grille and 4x cable ties

Monsoon Showerlite LED Extract Kit

- High performance and low power consumption
  - Up to 198m³/h
  - As low as 17-19W
- Quick and easy installation
- Made in the UK
- Runs at 28dB(A) on low speed
- Two speed motor with option of overrun timer (2 to 30 minutes)
- Motor equipped with Standard Thermal Overload Protection
- IPX4 rated
- Voltage 220-240V 50Hz
- Premium build quality
- Shower light

ALL IN ONE KIT

CODE	DESCRIPTION
UMDTKLED	Kit includes UMD100T, cool white LED light, 2x air diffuser (white and chrome), 6m PVC flexible ducting, external fixed grille and 4x cable ties

Refer to p94 for further technical information.

Monsoon UMD Mixed Flow Fans

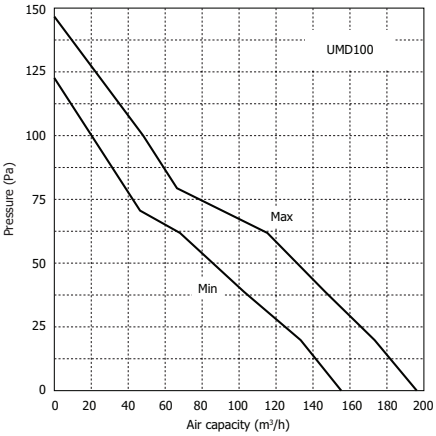
- High performance and low power consumption
- Two speed motor with option of overrun timer (2 to 30 minutes)
- Motor equipped with Standard Thermal Overload Protection (STOP), IPX4
- Working temperature of up to 60°, supply Voltage 220-240V 50Hz
- Quick and easy installation

CODE	DESCRIPTION
UMD100TA	100mm Timer In-line Fan (198m³/h)

Please see page 120 for larger models.

The UMD Domestic range can be used for exhaust and supply ventilation systems that require high pressure, powerful airflow and low noise levels. The UMD range can be used with rigid and flexible ducting, and are the ideal solution for air exhaust systems for rooms with high humidity such as bathrooms and kitchens. For larger sizes (125 - 200), please see the UMD Pro range.

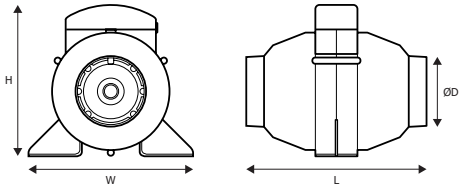
Performance



Technical data

	UMD100	
	HIGH	LOW
Power (W)	19	17
Current (A)	0.1	0.09
Maximum air flow (m³/h)	198	155
Sound @ 3m dB(A)	32	28
Rotation speed (min⁻¹)	1710	1460

Dimensions (mm)



MODEL	H	W	L	ØD
UMD100	212	230	252.5	99

Monsoon UMD Pro Mixed Flow Fans

- High extraction rate 300 - 576m³/h
- Aerodynamic case and diffuser for powerful pressure at low noise
- High-efficient two speed ball bearing motor, 40,000 hour service life
- Complete with mounting plate, can be mounted at any angle
- Suitable for mounting in parallel or in series
- Quick release impeller and motor block, easy maintenance

CODE	DESCRIPTION
UMD100SX	100mm Mixed Flow Standard Fan (300m³/h)
UMD100TX	100mm Mixed Flow Timer Fan (300m³/h)
UMD125SX	125mm Standard In-line Fan (324m³/h)
UMD125TX	125mm Timer In-line Fan (324m³/h)
UMD150SX	150mm Standard In-line Fan (576m³/h)
UMD150TX	150mm Timer In-line Fan (576m³/h)

Please see page 120 for larger models.

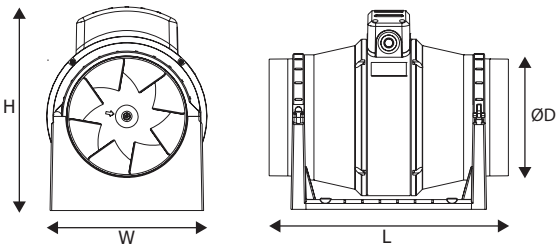
The Monsoon UMD Pro Series is specially designed with an optimised case and an aerodynamic impeller, ensuring the best combination of high air capacity, powerful pressure and low noise level. Due to the high-efficiency motor the fan has low energy demand but excellent aerodynamic performance. The compact size and high performance makes this product a really revolutionary fan suitable for various air handling systems applied in residential and commercial premises.

Technical data

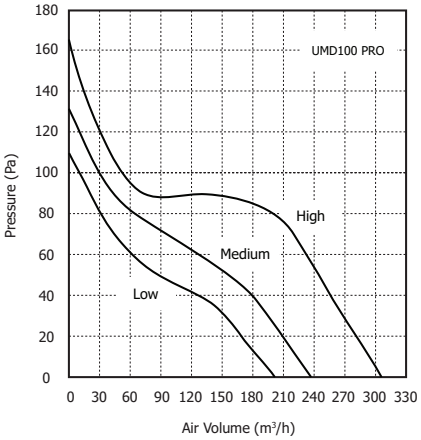
	UMD100 PRO		UMD125 PRO		UMD150 PRO	
	LOW	HIGH	LOW	HIGH	LOW	HIGH
Power (W)	23	25	30	20	40	50
Current (A)	0.1	0.11	0.1	0.12	0.17	0.21
Airflow (m³/h)	201	300	197	324	381	576
Sound @ 3m dB(A)	18	24	19	27	31	37
Max temperature	60	60	60	60	60	60
IP rating	IP44	IP44	IP44	IP44	IP44	IP44

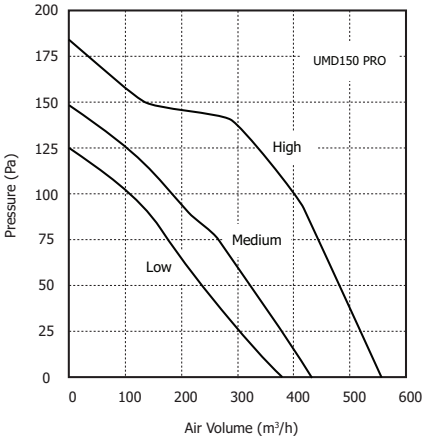
Dimensions (mm)

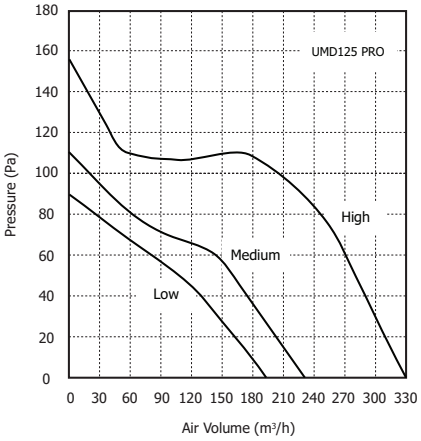
MODEL	H	W	L	ØD
UMD100 Pro	220	178	298	97
UMD125 Pro	220	178	259	122
UMD150 Pro	256	200	350	147



Performance







Monsoon Centrifugal Bathroom Fan Series

- Forward curved blades for high pressure long duct and low noise levels
- Surface mounted or flush fitting, mounting plate included
- Ball bearing motors and specially designed vibration dampers
- 122m³/hr, 33.8 l/sec
- Dust filter fitted as standard, grease filter as additional option

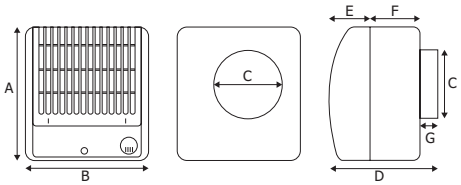
CODE	DESCRIPTION
MONCF100HT	100mm Humidistat (60-90%)/Timer Centrifugal Fan
MONCF100PC	100mm Pull Cord Centrifugal Fan
MONCF100PIR	100mm PIR Control Centrifugal Fan
MONCF100S	100mm Standard Centrifugal Fan
MONCF100T	100mm Timer (2-30 minutes) Centrifugal Fan

Replacement Filters

CODE	DESCRIPTION
MONCFFIL	Replacement Dust Filter
MONCFGF	Replacement Grease Filter

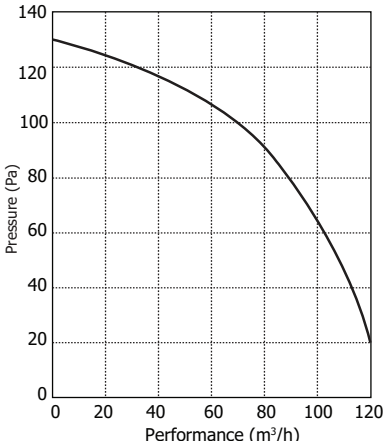
The Monsoon Centrifugal Bathroom fan series is designed to handle high pressure with low noise levels and comes in five models from, Standard, Timer, Pull-cord, Humidistat & Timer and PIR. The Monsoon Centrifugal fan is a continuous or periodic exhaust ventilation ideal for bathroom, showers and toilets.

Dimensions (mm)



A	B	ØC	D	E	F	G
195	180	100	132	59	73	26

Performance



Lot 20 Panel Heaters

- Complies with Lot 20 ERP directive
- Silent operation
- Energy saving 'open window' detection
- Slim line design with 3 sizes available
- Electronic thermostatic control accurate +/- 0.2°C
- Easy to use top mounted customised user-defined LCD display controls
- 7 day electronic programmable controls with backlit display
- 12 pre-set heating profiles
- Splash proof to IP24 for bathrooms or wet areas
- Overheat thermal cut-out
- Supplied with wall fittings
- Suitable for domestic or commercial application
- 2 year replacement warranty

CODE	DESCRIPTION
VAPH1000	1kW Lot 20 Panel Heater
VAPH1500	1.5kW Lot 20 Panel Heater
VAPH2000	2kW Lot 20 Panel Heater

Comfort Heating
Lot 20 Panel Heaters are direct acting heaters, used to heat up a space quickly with 100% efficiency.

The Panel Heaters offer a range of heat outputs from 1kW to 2kW and every model comes with electronic thermostatic control and 12 pre-set heating programmes. The Panel Heaters look as good as they perform. Stylish and slim, they occupy minimal wall space and are finished in an attractive gloss white finish.

The Panel Heaters are wall mounted and connected to the permanent electrical supply via a fused connection switched outlet. The Panel Heaters are supplied with mounting brackets, 1.5m of flex and come fitted with an easy to use LCD display screen.

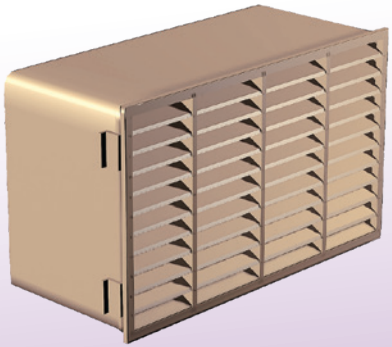
Adjustable Electronic Thermostat
All Panel Heaters have a built-in adjustable thermostat offering a full temperature range between 5-30°C, including a 5°C frost protection setting.

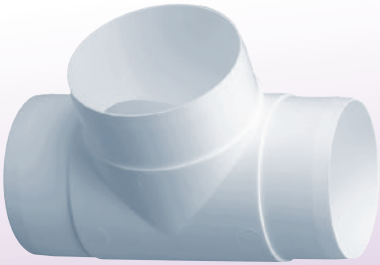
For maximum safety there is also a child safety lock and thermal cut-out on all models to prevent overheating should the outlet grille be accidentally covered.

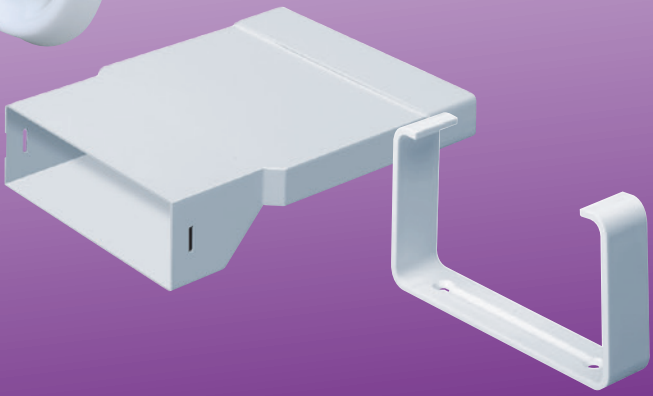
Specification

MODEL	POWER W	COLOUR	HEATING SETTING W	HEATING AREA M^2	VOLTAGE	APPROVAL
VAPH1000	1000	White	1000	10-13	230-240V 50Hz	CE, EMC, LVD,RoHS, ERP
VAPH1500	1500		1500	15-18		
VAPH2000	2000		2000	20-23		

PRODUCT DIMENSIONS MM			PACKAGED DIMENSIONS MM			PRODUCT WEIGHT KG	GROSS WEIGHT KG
H	W	D	H	W	D		
440	455	125	505	520	155	4	5.1
440	615	125	505	680	155	5.1	6.3
440	775	125	505	840	155	6.55	7.88





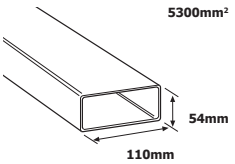


Group A (D)

Monsoon Domestic Ducting & Kits

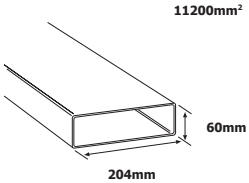
Rectangular Ducting Range

110mm x 54mm



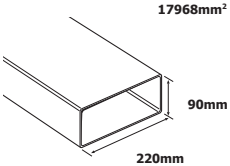
APPLICATION	DIMENSIONS	LENGTHS
• Particularly suitable for applications requiring lower extraction rates, such as the ventilation of domestic bathrooms and internal WCs. • Provides efficient ducting for short, simple runs.	• Flat channel outer dimensions are 110 x 54mm and fit into system parts sockets. • Minimum space required: 115 x 60mm.	1m, 1.5m and 2m

204mm x 60mm



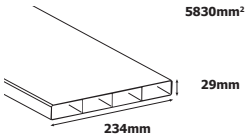
APPLICATION	DIMENSIONS	LENGTHS
• Ideal for ducting of kitchen cooker hoods and fans with 100, 125 or 150mm round exhaust spigots. • Highly efficient even for long runs, and with appliances of a high extraction rate.	• Flat channel outer dimensions are 204 x 60mm and fit into system parts sockets. • Minimum space required: 210 x 65mm.	1m, 1.5m and 2m

220mm x 90mm



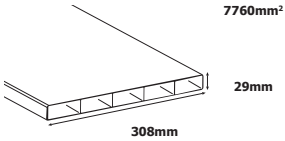
APPLICATION	DIMENSIONS	LENGTHS
• Ideal for ducting of very high powered cooker hoods especially with 150mm exhaust spigot - can also be connected to 100 and 125mm spigots. • This highly effective rectangular duct has comparable airflow performance to a 150mm round duct, but with a lower profile.	• Flat channel outer dimensions are 220 x 90mm and fit into system parts sockets. • Minimum space required: 227 x 97mm.	1m, 1.5m and 2m

225mm x 25mm



APPLICATION	DIMENSIONS	LENGTHS
• Ideal for the ducting of bath-rooms and toilets where space is very restricted. • It is easily concealed and is an effective choice if other systems cannot be fitted.	• Flat channel outer dimensions are 234mm x 29mm and fit directly into system parts sockets to create ducting runs. • Minimum space required: 240 x 38mm.	1m, 1.5m and 2m

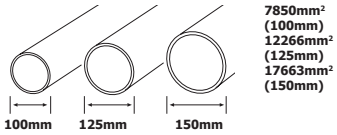
300mm x 25mm



APPLICATION	DIMENSIONS	LENGTHS
• Ideal for the ducting of bath-rooms and toilets where space is very restricted. • It is easily concealed and is an effective choice if other systems cannot be fitted.	• Flat channel outer dimensions are 308mm x 29mm and fit directly into system parts sockets to create ducting runs. • Minimum space required: 315 x 38mm.	1m, 1.5m and 2m

Standard Pipe Ducting

100mm, 125mm & 150mm



APPLICATION	DIMENSIONS	LENGTHS
• A round pipe is the most efficient airflow conduit as minimum air turbulence occurs. • Consequently, standard pipe is ideal for larger fans, cooker hoods, whole-house ventilation systems, stack ventilation and air-conditioning.	• System parts have spigots to fit inside 100, 125 and 150mm pipes. • Available in three diameters: 100mm (core drill 107mm), 125mm (core drill 132mm) and 150mm (core drill 162mm)	350mm, 1m and 2m

Monsoon Wall Outlets with Gravity Flaps

CODE	DESCRIPTION
MONV243B	100mm Round Brown Gravity Grille (Over Size 120 x 120)
MONV243BE	100mm Round Cotswold Stone Gravity Grille (Overall 120 x 120)
MONV243BL	100mm Round Black Gravity Grille (Overall 120 x 120)
MONV243T	100mm Round Terracotta Gravity Grille (Overall 120 x 120)
MONV243W	100mm Round White Gravity Grille (Overall 120 x 120)
MONV270B	125mm Round Brown Gravity Grille (Over Size 170 x 170)
MONV270W	125mm Round White Gravity Grille (Overall 170 x 170)
MONV292B	150mm Round Brown Gravity Grille (Over Size 170 x 170)
MONV292W	150mm Round White Gravity Grille (Overall 170 x 170)
MONV231B	110mm x 54mm Rectangular Brown Gravity Grille (Overall 154 x 154)
MONV231BE	Gravity Grille (Overall 154 x 154)
MONV231W	110mm x 54mm Rectangular White Gravity Grille (Overall 154 x 154)

Replacement Flyscreens

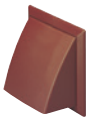
CODE	DESCRIPTION
FLY6	Fly screen to suit 125/150mm fixed grille
FLY4	Fly screen to suit 100mm fixed grille

Monsoon Louvered Fixed Grilles

CODE	DESCRIPTION
MONV100BK	100mm Fixed Grille with Flyscreen Black
MONV100BR	100mm Fixed Grille with Flyscreen Brown
MONV100COT	100mm Fixed Grille with Flyscreen Beige
MONV100TC	100mm FIixed Grille with Flyscreen Terracotta
MONV100WH	100mm Fixed Grille with Flyscreen White
MONV120WH	125mm Fixed Grille with Flyscreen White
MONV120BR	125mm Fixed Grille with Flyscreen Brown
MONV120TC	125mm Fixed Grille with Flyscreen Terracotta
MONV120COT	125mm Fixed Grille with Flyscreen Beige
MONV150WH	150mm Fixed Grille with Flyscreen White
MONV150BR	150mm Fixed Grille with Flyscreen Brown
MONV150TC	150mm Fixed Grille with Flyscreen Terracotta
MONV150COT	150mm Fixed Grille with Flyscreen Beige
D4905BR	110mm x 54mm Rectangular Brown Fixed Grille
D4905WH	110mm x 54mm Rectangular White Fixed Grille
MONV244W	100mm Fixed Grille with no Flyscreen White
MONV244B	100mm Fixed Grille with no Flyscreen Brown
MONV244BLK	100mm Fixed Grille with no Flyscreen Black
MONV244COT	100mm Fixed Grille with no Flyscreen Beige
MONV244TC	100mm Fixed Grille with no Flyscreen Terracotta
MONV268WH	125mm Fixed Grille with no Flyscreen White
MONV268B	125mm Fixed Grille with no Flyscreen Brown
MONV268BLK	125mm Fixed Grille with no Flyscreen Black
MONV268COT	125mm Fixed Grille with no Flyscreen Beige
MONV268TC	125mm Fixed Grille with no Flyscreen Terracotta
MONV275WH	150mm Fixed Grille with no Flyscreen White
MONV275BLK	150mm Fixed Grille with no Flyscreen Black
MONV275BR	150mm Fixed Grille with no Flyscreen Brown
MONV275COT	150mm Fixed Grille with no Flyscreen Beige
MONV275TC	150mm Fixed Grille with no Flyscreen Terracotta

Monsoon Cowled Wall Outlets with Damper

CODE	DESCRIPTION
MONV245BR	100mm Round Brown Cowled Outlet
MONV245BE	100mm Round Cotswold Stone Cowled Outlet
MONV245BLK	100mm Round Black Cowled Outlet
MONV245W	100mm Round White Cowled Outlet
D5902BR	125mm Round Brown Cowled Outlet
D5902WH	125mm Round White Cowled Outlet
D6902BR	150mm Round Brown Cowled Outlet
D6902WH	150mm Round White Cowled Outlet
D4903BR	110mm x 54mm Rectangular Brown Cowled Outlet
D4903WH	110mm x 54mm Rectangular White Cowled Outlet



Monsoon Stainless Steel Wall Outlets

CODE	DESCRIPTION
4700SS	100mm Wall Outlet with Gravity Flaps
5700SS	125mm Wall Outlet with Gravity Flaps
6700SS	150mm Wall Outlet with Gravity Flaps
4702SS	100mm Cowled Wall Outlet with Damper
5702SS	125mm Cowled Wall Outlet with Damper
6702SS	150mm Cowled Wall Outlet with Damper
4708SS	100mm Round Cowled Wall Outlet with Internal Louvres
5708SS	125mm Round Cowled Wall Outlet with Internal Louvres
6708SS	150mm Round Cowled Wall Outlet with Internal Louvres
4709SS	100mm Round Cowled Wall Outlet with Internal Mesh
5709SS	125mm Round Cowled Wall Outlet with Internal Mesh
6709SS	150mm Round Cowled Wall Outlet with Internal Mesh
136-04SS	100mm Air Extract or Supply Valve
136-05SS	125mm Air Extract or Supply Valve
136-06SS	150mm Air Extract or Supply Valve

Monsoon Single Airbricks and Adapters

CODE	DESCRIPTION
D501BR	Horizontal Airbrick with Damper Brown (Overall 222 x 69)
D501COT	Horizontal Airbrick with Damper Cotswold Stone (Overall 222 x 69)
D501TC	Horizontal Airbrick with Damper Terracotta (Overall 222 x 69)
D501WH	Horizontal Airbrick with Damper White (Overall 222 x 69)
MONV5631BE	Horizontal Louvered Airbrick Cotswold Stone (Overall 204 x 60)
MONV5631BR	Horizontal Louvered Airbrick Brown (Overall 204 x 60)
MONV5631TC	Horizontal Louvered Airbrick Terracotta (Overall 204 x 60)
MON-V5631WH	Horizontal Louvered Airbrick White (Overall 204 x 60)
MONV247	Adapter to System 100 (110 x 54)
MONV073	Adapter to 100mm Round



Monsoon Double Airbricks and Adapters

CODE	DESCRIPTION
MONV5731BR	Double Airbrick Brown (Overall 245 x 141)
MONV5731COT	Double Airbrick Cotswold Stone (Overall 245 x 141)
MONV5731TC	Double Airbrick Terracotta (Overall 245 x 141)
MONV5731W	Double Airbrick White (Overall 245 x 141)
D954WH	Adapter to 100/125/150mm Round
MONV5734	Adapter to Megaduct 220 x 90mm
MONV5643	Adapter from Supertube 204 x 60mm to Megaduct 220 x 90mm M/F
D958WH	Adapter from Supertube 204 x 60mm to Megaduct 220 x 90mm F/F




Monsoon Airbrick Fascias and Adapters

CODE	DESCRIPTION
MONV704BE	Airbrick Fascia Cotswold Stone (Overall 208 x 65)
MONV704GR	Airbrick Fascia Grey (Overall 208 x 65)
MONV704BR	Airbrick Fascia Brown (Overall 208 x 65)
MONV704TC	Airbrick Fascia Terracotta (Overall 208 x 65)
MONV704WH	Airbrick Fascia White (Overall 208 x 65)
MONV703	Airbrick Adapter - Length 300mm, fits directly into Polyvent
MONV3016	Airbrick Adapter - Length 300mm, fits directly into Polyvent


Monsoon Ceiling Diffusers

CODE	DESCRIPTION
MON-V4907WH	100mm Round Ceiling Diffuser White
MONV4907CH	100mm Round Ceiling Diffuser Chrome Finish
D5907WH	125mm Round Ceiling Diffuser White
D6907WH	150mm Round Ceiling Diffuser White

Monsoon High Rise Cowl Installation Kits

CODE	DESCRIPTION
P2448BR	100mm High Rise Kit Brown (cut out size 117mm)
P2448WH	100mm High Rise Kit White (cut out size 117mm)
D2647BR	150mm High Rise Kit Brown (cut out size 167mm)
D2647WH	150mm High Rise Kit White (cut out size 167mm)
MONV200WH	100mm High Rise White
MONV200BR	100mm High Rise White

Monsoon Universal Roof Cowl Termination Set

CODE	DESCRIPTION
MONV4411	Roof Termination Set Suitable for 100, 125, 150 and 160mm connections

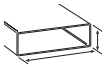
Monsoon Adjustable Air Valves

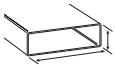
CODE	DESCRIPTION
MONV136-24	100mm Adjustable Air Valve c/w Fixing Collar
MONV136-25	125mm Adjustable Air Valve c/w Fixing Collar
MONV136-26	150mm Adjustable Air Valve c/w Fixing Collar
MONV136-28WH	200mm Adjustable Air Valve c/w Fixing Collar

Monsoon Soil Ventilation Products

CODE	DESCRIPTION
D4110B	Roof Mushroom Cowl for 110mm Pipe Brown
D4110G	Roof Mushroom Cowl for 110mm Pipe Grey
D4110WH	Roof Mushroom Cowl for 110mm Pipe White
MONV434	Condensation Trap 100mm ID/110mm OD with Overflow

Monsoon Rectangular Ducting & Accessories

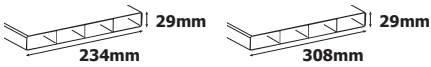




DESCRIPTION		CODE	CODE	CODE
Flat Duct[c] [b]	1m	MONV249	MONV5604	MONV5704
	1.5	MONV240	MONV5628	MONV5728
	2m	MONV297	MONV5629	MONV5729
Duct Connector	Without Damper	MONV235	MONV5608	MONV5708
	With Damper	MONV027	D527WH[b]	D927WH
	Horizontal T-Piece	MONV228	MONV5630	MONV5730
Horizontal Bend	90 deg	MONV238	MONV5605[b]	MONV5705
	45 deg	MONV227	MONV5616[b]	MONV5716
	Adjustable	-	MONV5627	-
Vertical Bend	90 deg	MONV239	MONV5612	MONV5712
	45 deg	MONV226	MONV5617	MONV5717
Elbow Bend with 90 deg socket	100mm O.D	MONV237		
	102mm	MONV236	MONV5644[b]	-
	125mm	-	MONV5645[b]	-
	150mm	-	MONV5646	-
Elbow Bend with 90 deg offset rotating spigot	102mm	-	MONV5625	-
	125mm	-	MONV5606	-
	150mm	-	MONV5626	-
Round to rectangular adapter[a]		MONV253F	MONV5613	MONV5713
100mm Round to Rectangular Adapter Short O.D. 100mm		MONV207	-	-
Adapter to System 100 (110 x 54)		MONV247	-	-
Wall Plate		MONV206	-	D115-6WH
Duct Clip		MONV230	MONV522	MONV922
Duct End Cap		MONV018	MONV518	
Microban Silencer	1m	-	MONV5661	MONV5761
	500mm	-	MONV5660	-
Universal Duct (connects to duct with connectors/bends) 300mm		-	MONV5B303	-

[a]100mm to 110x54mm, 125mm to 204x60mm, 150mm to 220x90mm. Please see page 113 for the insulated ducting range. [b] This part comes in Grey. Whilst we will look to maintain the colour of Grey, by the nature of adopting a recycled plastic the colour and shade may vary at any given time. [c] Storage of Ducting Products: All straight duct lengths are supplied either wrapped or within boxes, surrounded with white protective packaging to help mitigate damaging effects of sunlight exposure. Do not remove the white reflective packaging and leave in sunlight. UV exposure breaks down the polymer chains, resulting in a weaker molecular bond within the PVC, leading to reduced tensile strength and flexibility. On receipt of goods, we recommend all PVC ducting products are immediately stored in a cool, shaded place to avoid damage due to heat build-up within the packaging. Any extrusions (lengths of product) should be stored horizontally and supported along the whole length of the product. In summer months, heat can build up inside packaging faster and there is a chance that PVC goods could become warped if stored incorrectly. National Ventilation will not be liable for any damage caused to ducting or PVC products through incorrect storage.

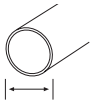
Monsoon Rectangular Ducting & Accessories



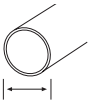
DESCRIPTION		CODE	CODE
Flat Duct[a]	1m	MONV2001	MONV3001
	1.5m	MONV20150	MONV30150
	2m	MONV20200	MONV30200
Duct Connector	Straight	MONV2006	MONV3006
	Y-Piece	-	MONV3015
Horizontal Bend	90 deg	MONV2007	MONV3007
	45 deg	MONV2008	MONV3008
Vertical Bend	90 deg	MONV2010	MONV3010
	45 deg	MONV2011	MONV3011
Elbow Bend with 90 deg socket	100mm	MONV2013	MONV3013
Airbrick Fascia (overall 208x60)	White	MONV704WH	MONV704WH
	Brown	MONV704BR	MONV704BR
	Cotswold Stone	MONV704COT	MONV704COT
	Grey	MONV704GR	MONV704GR
	Terracotta	MONV704TC	MONV704TC
100mm Round to Rectangular Adapter		MONV2005	MONV3005
Airbrick Adapter - Length 300mm, fits directly into Polyvent		MONV703	MONV703
Duct Clip		MONV2014	MONV2014

[a] This part comes in Grey. Whilst we will look to maintain the colour of Grey, by the nature of adopting a recycled plastic the colour and shade may vary at any given time. Storage of Ducting Products: All straight duct lengths are supplied either wrapped or within boxes, surrounded with white protective packaging to help mitigate damaging effects of sunlight exposure. Do not remove the white reflective packaging and leave in sunlight. UV exposure breaks down the polymer chains, resulting in a weaker molecular bond within the PVC, leading to reduced tensile strength and flexibility. On receipt of goods, we recommend all PVC ducting products are immediately stored in a cool, shaded place to avoid damage due to heat build-up within the packaging. Any extrusions (lengths of product) should be stored horizontally and supported along the whole length of the product. In summer months, heat can build up inside packaging faster and there is a chance that PVC goods could become warped if stored incorrectly. National Ventilation will not be liable for any damage caused to ducting or PVC products through incorrect storage.

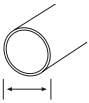
Monsoon Round Pipe & Accessories



100mm



125mm

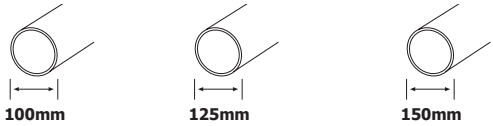


150mm

DESCRIPTION		CODE	CODE	CODE
Pipe [a]	350mm	MONV242	MONV266	MONV660
	1m	MONV250	MONV267	MONV670
	1.5m	MONV299	MONV269	MONV671
	2m	MONV2992	MONV2692	MONV673
Telescopic Pipe	250mm - 450mm	MONV130-4	MONV130-5	MONV130-6
	Connector to standard pipe	MONV2100-4	MONV2100-5	MONV2100-6
Bend	90 deg	MONV300 [a]	MONV350	MONV360
	45 deg	MONV301 [a]	MONV351	MONV691
Duct Connector	Straight	MONV0028 [a]	MONV355	MONV365
	Straight with Damper	MONV303 [a]	MONV353	D694WH
	Straight with Damper and Wall Plate	MONV495 [a]	D595WH	D695WH
	Equal Y-Piece	MONV3400 [a]	MONV599M	MONV699
	Equal T-Piece	MONV302 [a]	MONV352	MONV362
	Hose	MONV380	MONV271	MONV680
Reducer	To 80mm	MONV019		-
	To 100mm	-	MONV119	MONV619
	To 110mm	MONV120		-
	To 120mm	-	MONV519	-
	To 125mm	-		MONV118
	To 200mm	-		MONV819
	Stepped 150-125-120-100-80mm	MONV310	MONV310	MONV310
Pipe Fastener		D496WH	MONV354C	D696WH
Condensation Trap 100mm ID/110mm OD with Overflow		MONV434	MONV445	MONV445
Wall Plate		MONV19	MONV618	MONV114-6

[a] This part comes in Grey. Whilst we will look to maintain the colour of Grey, by the nature of adopting a recycled plastic the colour and shade may vary at any given time. Storage of Ducting Products: All straight duct lengths are supplied either wrapped or within boxes, surrounded with white protective packaging to help mitigate damaging effects of sunlight exposure. Do not remove the white reflective packaging and leave in sunlight. UV exposure breaks down the polymer chains, resulting in a weaker molecular bond within the PVC, leading to reduced tensile strength and flexibility. On receipt of goods, we recommend all PVC ducting products are immediately stored in a cool, shaded place to avoid damage due to heat build-up within the packaging. Any extrusions (lengths of product) should be stored horizontally and supported along the whole length of the product. In summer months, heat can build up inside packaging faster and there is a chance that PVC goods could become warped if stored incorrectly. National Ventilation will not be liable for any damage caused to ducting or PVC products through incorrect storage.

Monsoon Insu-Duct



DESCRIPTION		CODE	CODE	CODE
Pipe[a]	1.5m	-	125-IP-1.5	150-IP-1.5
	2m	100-IP-2	125-IP-2	150-IP-2
Bend	90 deg	100-IP-90	125-IP-90	150-IP-90
	45 deg	100-IP-45	125-IP-45	-
Equal T-Piece		100-IP-TP	125-IP-TP	150-IP-TP

DESCRIPTION		CODE	CODE
Flat Duct[a]	1.5m	MONV5628INS	MONV5728INS
	2m	MONV5629INS	-
Horizontal Bend	90 deg	MONV5605INS	-
	45 deg	MONV5616INS	-
Horizontal Bend	90 deg	MONV5612INS	MONV5705INS
	45 deg	MONV5617INS	-
Equal T-Piece		MONV5630INS	-

[a] This part comes in Grey. Whilst we will look to maintain the colour of Grey, by the nature of adopting a recycled plastic the colour and shade may vary at any given time. Storage of Ducting Products: All straight duct lengths are supplied either wrapped or within boxes, surrounded with white protective packaging to help mitigate damaging effects of sunlight exposure. Do not remove the white reflective packaging and leave in sunlight. UV exposure breaks down the polymer chains, resulting in a weaker molecular bond within the PVC, leading to reduced tensile strength and flexibility. On receipt of goods, we recommend all PVC ducting products are immediately stored in a cool, shaded place to avoid damage due to heat build-up within the packaging. Any extrusions (lengths of product) should be stored horizontally and supported along the whole length of the product. In summer months, heat can build up inside packaging faster and there is a chance that PVC goods could become warped if stored incorrectly. National Ventilation will not be liable for any damage caused to ducting or PVC products through incorrect storage.

Monsoon 100mm PVC Flexible Ducting

CODE	DESCRIPTION	
MONV361W	100mm PVC Flexible Duct	1m
MONV363		3m
MONV366W		6m
MONV3610		10m
MONV3615		15m
MONV3645		45m
MONV561	125mm PVC Flexible Duct	1m
MONV563		3m
MONV566		6m
MONV5615W		15m
MONV661	150mm PVC Flexible Duct	1m
MONV663		3m
MONV666		6m
MONV6615		15m

Monsoon Semi Rigid Aluminium Ducting

CODE	DESCRIPTION	
D403203	100mm Semi Rigid Aluminium Duct	300mm
D403215		1.5m
D403230		3m
D503215	125mm Semi Rigid Aluminium Duct	1.5m
D503230		3m
D603203	150mm Semi Rigid Aluminium Duct	300mm
D603215		1.5m
D603230		3m

Monsoon Rectangular Flexible Hose

CODE	DESCRIPTION	
MONV3305	110x54mm Rectangular Flexible Hose	500mm
MONV333		3m
MONV5305	204x60mm Rectangular Flexible Hose	500mm
MONV533		3m
MONV9305	220x90mm Rectangular Flexible Hose	500mm
MONV933		3m

Monsoon Flexible Duct Accessories

CODE	DESCRIPTION
MONV124-4	Threaded Hose Connector with 100mm OD Spigot
MONV126-4	Threaded Hose Connector with 100mm ID Socket
MONV126-5	Threaded Hose Connector with 125mm ID Socket
D126-6WH	Threaded Hose Connector with 150mm ID Socket
D126-110WH	Threaded Hose Connector for 110mm Pipe
MONV125-4	Worm Drive Hose Clip 60-110mm
MONV125-5	Worm Drive Hose Clip 60-130mm
MONV125-6	Worm Drive Hose Clip 60-160mm

Monsoon Rectangular Hose Accessories

CODE	DESCRIPTION
D381WH	System 100 110mm x 54mm Hose Connector
D581WH	Supertube 125 204mm x 60mm Hose Connector
MONV123	PVC Duct Sealing Tape 50mm Width x 33m
MONV123-4	PVC Duct Sealing Tape 50mm Width x 4.6m
DDSEALANT	Plastic Duct Intumescent
TAPEFOIL	50mm x 45m Foil Duct Tape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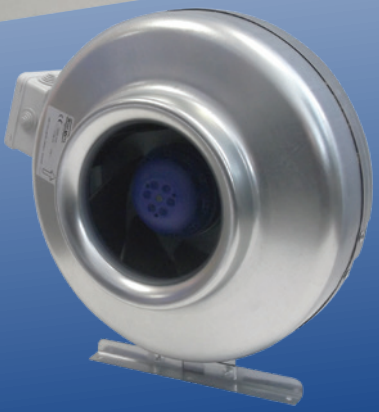


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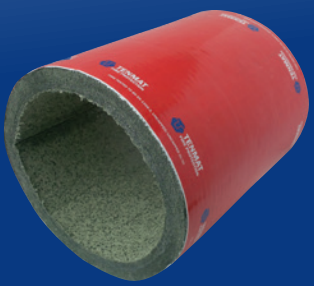


Group B

Monsoon Commercial & Industrial Products

EuroSeries (SDX EC)

- Available in sizes 125 to 315
- EC Motor, backward curved impeller
- Protected to IPX2
- Mounting for internal use
- Integral speed setting potentiometer
- 0-10V potentiometer speed controllable
- Operating temperatures from -25°C up to +60°C
- Quality Assurance to BS EN ISO 9001:2015
- 2 Year Warranty

CODE	DESCRIPTION
SDX125EC	EuroSeries® (SDX EC) 125mm
SDX150EC	EuroSeries® (SDX EC) 150mm
SDX200EC	EuroSeries® (SDX EC) 200mm
SDX250EC	EuroSeries® (SDX EC) 250mm
SDX315EC	EuroSeries® (SDX EC) 315mm

The SDX EC Euroflow in-line centrifugal duct fans are designed around an efficient backward curved centrifugal impeller and EC motor to ensure a compact and efficient unit, providing high performance and controllability as standard.

The in-line fan casing is constructed from epoxy coated pressed steel and incorporates an aerodynamically designed airflow guide vane, ensuring maximum performance from the unit while maintaining minimum noise levels. All models are supplied with a simple mounting foot for ease of installation.

The SDX EC range is available in five model sizes: 125, 150, 200, 250 & 315mm diameter as standard performance.

The range provides a performance up to 0.36m³/s with a maximum pressure development of 600 Pa.

The SDX EC range is suitable for the extraction of clean air only. It is not suitable for extracting or transporting grinding dust, soot, explosive or other aggressive gases etc.

Impellers

All SDX EC units feature an energy efficient, Class 1, EC/DC external rotor motor and backward curved impeller assembly specifically chosen for performance and non-overloading characteristics. The assembly is dynamically balanced to DIN ISO 1940 Grade 6.3, IP44 according to BS EN 60529.

Ball bearings are greased for life. Insulation is Class 'B' (from -25°C to +60°C). All models incorporate internal electronic overload protection and soft start function.

Control

Every SDX EC unit is fitted with a integral commissioning potentiometer giving the ability to set the exact duty required at commissioning. Alternatively, the integral potentiometer can be bypassed to allow remote speed control via an external 0-10V potentiometer.

Terminal Box

An IP55 terminal box fitted to the casing with multiple cable entry positions.

Performance

The fan characteristic curves were determined in accordance with EN ISO 5801. The sound levels were determined in accordance with DIN 45635 resp. ISO 3744 at a distance of 1m from the fan.

Quality Assurance

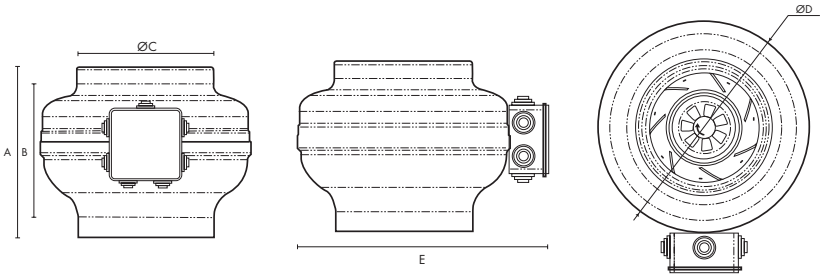
Design and manufacture is in accordance with the standard for quality management systems BS EN ISO 9001:1994.

Accessories

A full range of accessories are available with the Euroflow in-line centrifugal duct fans such as:

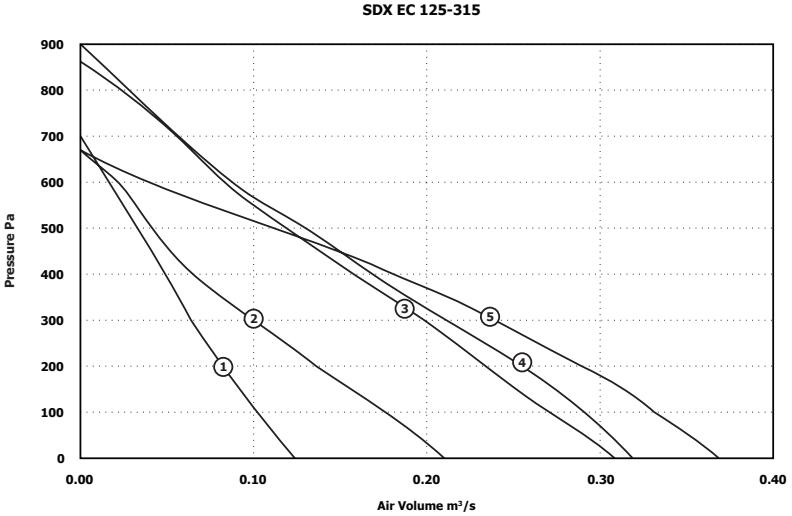
- 0-10V potentiometer
- Pre & Secondary Filter Cassettes
- Electric Heater Batteries
- In-Line Attenuators
- Backdraught Shutters
- Fast Clamps
- Flexible Ducting
- Wall Terminals
- Roof Terminals

Dimensions (mm)



Unit Size	A	B	ØC	ØD	E	kg
SDX125EC	207	175	125	245	290	2.1
SDX150EC	222	172	150	344	386	3.1
SDX200EC	240	190	200	345	390	3.7
SDX250EC	245	185	250	345	390	3.6
SDX315EC	250	180	315	400	445	4.6

Performance Curves



Performance Guide

DIA.	MOTOR PHASE	STOCK REF	R.P.M	IP RATING	CURVE REF.	m³/s @ Pa	0	50	100	150	200	300	400	500	600	700	MOTOR KW	F.L.C AMPS	DBA @ 3M
125	1	SDX125EC	3200	IPX2	1	m³/s	0.12	0.11	0.10	0.09	0.08	0.06	0.05	0.03	0.02		0.08	0.75	35
						kW	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.07	0.07				
						W/l/s	0.67	0.73	0.81	0.89	1.01	1.27	1.59	2.07	3.96				
150	1	SDX150EC	2550	IPX2	2	m³/s	0.21	0.19	0.18	0.16	0.14	0.10	0.06	0.04	0.02		0.09	0.7	41
						kW	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09				
						W/l/s	0.43	0.47	0.51	0.57	0.67	0.91	1.41	2.17	4.55				
200	1	SDX200EC	3230	IPX2	3	m³/s	0.31	0.29	0.27	0.25	0.23	0.20	0.16	0.12	0.08	0.06	0.17	1.4	33
						kW	0.17	0.17	0.16	0.16	0.17	0.17	0.16	0.17	0.16	0.16			
						W/l/s	0.54	0.59	0.60	0.64	0.71	0.85	1.04	1.37	1.92	2.88			
250	1	SDX250EC	3230	IPX2	4	m³/s	0.32	0.31	0.29	0.27	0.26	0.22	0.17	0.13	0.09	0.06	0.17	1.4	33
						kW	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17	0.17			
						W/l/s	0.52	0.54	0.57	0.61	0.65	0.78	0.99	1.30	1.89	0.28			
315	1	SDX315EC	2510	IPX2	5	m³/s	0.37	0.35	0.33	0.31	0.29	0.24	0.18	0.11	0.04		0.17	1.4	41
						kW	0.14	0.14	0.15	0.16	0.16	0.17	0.16	0.15	0.12				
						W/l/s	0.37	0.40	0.45	0.52	0.56	0.69	0.90	1.33	3.14				

Sound Power Level Spectra dB (ref 10^{-12} Watts)

DIA.	MOTOR PHASE	STOCK REF	SPECTRUM	125	250	500	1K	2K	4K	8K	DBA @ 3M
125	1	SDX125EC	Inlet	53	58	68	64	66	61	54	50
			Outlet	48	53	63	59	61	56	49	45
			Breakout	38	43	51	48	51	46	39	35
150	1	SDX150EC	Inlet	56	60	71	66	69	63	57	53
			Outlet	51	55	66	61	64	58	52	35
			Breakout	44	48	59	54	57	51	45	41
200	1	SDX200EC	Inlet	20	62	69	72	71	68	64	56
			Outlet	48	57	64	67	66	63	59	51
			Breakout	-2	39	46	49	48	45	41	33
250	1	SDX250EC	Inlet	20	62	69	72	71	68	64	56
			Outlet	48	57	64	67	66	63	59	51
			Breakout	-2	39	46	49	48	45	41	33
315	1	SDX315EC	Inlet	55	63	67	71	70	72	62	56
			Outlet	50	58	62	66	65	67	57	51
			Breakout	40	48	52	56	55	57	47	41

Models & Accessories

Fan Stock Ref	0-10v external control Stock Ref
SDX125EC	426332
SDX150EC	426332
SDX200EC	426332
SDX250EC	426332
SDX315EC	426332

	In-Line Attenuators			
	300mm	600mm	900mm	1200mm
Dia	Stock Ref	Stock Ref	Stock Ref	Stock Ref
125	83012030	83012060	83012090	-
150	83015030	83015060	83015090	-
200	-	83020060	83020090	83020120
250	-	83025060	83025090	83025120
315	-	83031060	83031090	83031120

Fan	Wall Terminal	Wall Terminal	Electric Heaters	Panel Filters
Stock Ref	Stock Ref	Stock Ref	Stock Ref	Stock Ref
125	SA125/280	SA125/80	10531125T1	QPF125A
150	SA150/280	SA150/80	10531150T1	QPF150A
200	SA200/280	SA200/80	10531200T1	QPF200A
250	SA250/280	SA250/80	10531250T1	QPF250A
315	SA315/280	SA315/80	10531315T1	QPF315A

125	QPFB125A	WB160	LS250
150	QPFB150A	WB160	LS250
200	QPFB200A	WB200	LS250
250	QPFB250A	RCZ300	LS250
315	QPFB315A	RCZ300	LS315

Monsoon Shuttered Fan Range

- Simple installation
- External 2 speed reversible on/off controller available
- Manufactured impact resistant high gloss ABS for strength and durability
- Motor fitted with thermal over load protection
- Meets the requirements of Building Regulation Document F
- IP44 rated, DEMKO Approved, and CE marked in accordance with all the relevant EEC Harmonised Directives
- Double Insulated, class II motor fitted with thermal protection

9" & 12" Auto Shutter Fan

CODE	DESCRIPTION
MON23A	225mm Auto Shutter - 190l/s
MON30A	300mm Auto Shutter - 267l/s

23/30 Controllers & Accessories

CODE	DESCRIPTION
MON23WK	230mm Window Kit to suit
MON30WK	300mm Window Kit to suit
MONRS23/30	2 speed reversible on/off controller

Fixed grilled fan suitable for panel/wall mounting or window mounting using the appropriate window accessory kit. Suitable for commercial applications in pubs, hotels, restaurants, offices, schools, shops and factories.

This is one of the most popular wall/panel extractors we offer, suitable for commercial and semi-domestic use.

Technical Specification

Meets the requirement of Building Regulation Document F.
IP44 Rated
DEMKO Approved
CE marked in accordance with all the relevant EEC Harmonised Directives
Rated Voltage 220-240V 50Hz
Double Insulated Class II

Performance

Model:	MON30A	MON23A
Airflow l/s:	267	190
Extract Noise dbA (@3m):	51.3	52.4
Intake Noise dbA (@3m):	50.1	52.3
Rated wattage Watts:	100	90

Dimensions (mm)

Model:	MON30A	MON23A
Grille height:	403	340
Grille width:	403	340
Wall model hole dia.:	337	280
Wall model max wall thickness:	305	305
No. of wall tube segments:	17	14
Window model hole dia.:	337	260
Window model glass thickness:	5 - 32	5 - 32
Number of window kit fasteners:	4	3

Monsoon 6" (150mm) Reversible Axial Fan

- Front grille can be removed for cleaning
- Low profile design
- Suitable for wall or ceiling installation
- IPX5

CODE	DESCRIPTION
MONS150RE	150mm Reversible Fan (323m³/h)
MON-RSCON	Reversible/variable speed controller

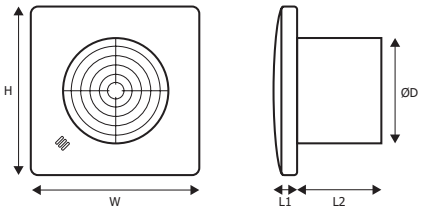
The attractive design blends well in any room. All parts, including fan casing and impeller are made from high quality polymer, white facia. Built in neon light indicates operation. High volume and pressure characteristic using an 11 blade impeller and guide vanes.

Totally enclose, maintenance free running, low noise ball bearing motor, sealed for life, radio suppression, suitable for continuous operation. Ball bearings as standard guarantees, installation in any position and reliable performance under continuous operation and maintenance free. Installation in any position. Cable entry can be flush or surface.

Technical data

FEATURE	MONS150RE
Reversible	Yes
Air Flow m³/hr	323
Voltage/Frequency	230V/1Ph/50Hz
Power watts	18.8
dB(A)	42.3
Protection	IPX5
Max airflow temp	+40°C
Weight KG	0.9

Fan dimensions (mm)



H	W	L1	L2	ØD
227	227	30.5	111	146

Monsoon Commercial ACM Mixed Flow Fans

- Available in three sizes
- Supplied complete for simple installation
- Optimise fan performance by using a controller
- Diagonal impeller with stator
- Galvanized metal (250-315mm) & Plastic (200mm) housing
- Integrated thermal switch
- Includes a mounting bracket
- Designed to meet IP54

CODE	DESCRIPTION
17108010	200mm Standard In-line Fan (972m³/h)
17110010	250mm Standard In-Line Fan (1,400m³/h)
17112010	315mm Standard In-Line Fan (2,350m³/h)
W300310	Surface Mounted Variable Speed Controller for 250mm Fan
10314103	Surface Mounted 5 Speed Controller for 315mm Fan

Please see page 94 for smaller models.

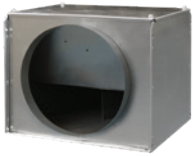
Metal Cased External Centrifugal Fans

- For outdoor wall installation
- Removes noise from in the building
- Ball bearing motor, IPX4 thermal protection
- Speed controllable

CODE	DESCRIPTION
UEC100	100mm External Centrifugal Fan (280m³/h)
UEC125	125mm External Centrifugal Fan (390m³/h)
UEC150	150mm External Centrifugal Fan (600m³/h)

Monsoon Acoustic Cabinet Centrifugal

- 'O' Class rated acoustically treated casing, ensuring minimum duct and breakout noise levels
- Air volumes up to 1.59m³/s
- Suitable for external pressures up to 500Pa
- Designed to suit duct diameters from 100 to 500mm
- Operating Temperatures from -15°C up to +40°C
- Speed Controllable
- Quality Assurance to BS EN ISO 9001:1994
- Performance tested to BS848 Part 1 1980



CODE	DESCRIPTION
MON-QP100	100mm Centrifugal Fan (0.06m³/s)
MON-QP125	125mm Centrifugal Fan (0.06m³/s)
MON-QP150	150mm Centrifugal Fan (0.12m³/s)
MON-QP160	160mm Centrifugal Fan (0.12m³/s)
MON-QP200	200mm Centrifugal Fan (0.24m³/s)
MON-QP250	250mm Centrifugal Fan (0.32m³/s)
MON-QP315	315mm Centrifugal Fan (0.81m³/s)
MON-QP400	400mm Centrifugal Fan (1.05m³/s)
MON-QP500	500mm Centrifugal Fan (1.52m³/s)

The Monsoon Acoustic Cabinet Centrifugal fans are designed around a high performance centrifugal impeller, offering a highly efficient, quiet and compact in-line acoustic fan.

The Monsoon Acoustic Cabinet Centrifugal fan range is manufactured from prime quality galvanised sheet steel, ensuring a robust in-line fan for those tough site conditions.

Monsoon Acoustic Cabinet Centrifugal casings are suitable for internal mounting and internally treated with an 'O' class rated acoustic foam, which offers the benefits of excellent low level duct bound and breakout sound levels, in addition self extinguishing properties, zero burn rate, resistant to ignition, and no toxic fumes.

Monsoon Acoustic Cabinet Centrifugal fans are suitable for circular ducting ranging in sizes 100, 125, 150, 160, 200, 250, 315, 400 and 500mm, with air volumes from 0.016m³/s to 1.8m³/s and pressure development of up to 500Pa.

The casing are specially designed to allow the unit to be mounted via drop rods or anti vibration mounts, ensuring a quick and easy solution to installation of the Monsoon Acoustic Cabinet Centrifugal in-line acoustic fans. All manufacturing processes of the Monsoon Acoustic Cabinet Centrifugal fan units are computer designed and controlled to BS EN ISO 9001 Standards.

Impellers
The motor and backward curved impeller is factory matched, statically and dynamically balanced on precision machines, to DIN ISO 1940 Grade 6.3, to give quiet, vibration free running.

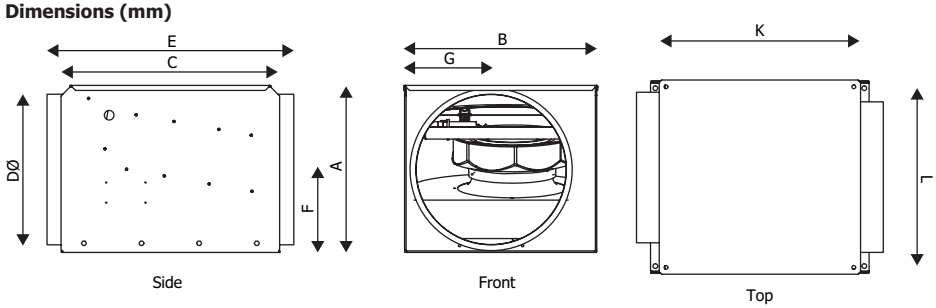
Motors
Motor insulation Class B, suitable for operating temperatures from -15°C to +40°C and atmospheres up to 95% RH.

All sizes are ideally suitable for speed control by electronic or Voltage reduction. We would recommend that a Voltage reduction Auto Transformer speed controller is used with all Monsoon Acoustic Cabinet Centrifugal units to ensure minimum noise levels during speed control and to eliminate any possibility of harmonic noise levels which may occur when using electronic speed controllers at lower speeds.

Performance
The fan performance is in accordance with tests to BS848 Part 1 1980, with the fan sound levels measured in a reverberant chamber in accordance with BS848 Part 2 1985.

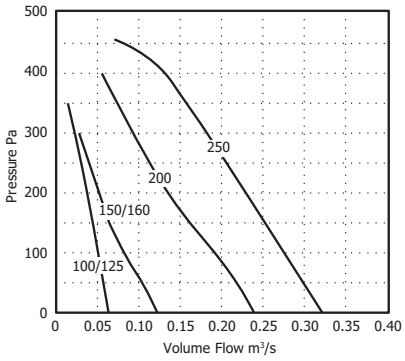
Quality Assurance
Design and manufacture is in accordance with the standard for quality management systems BS EN ISO 9001:1994.

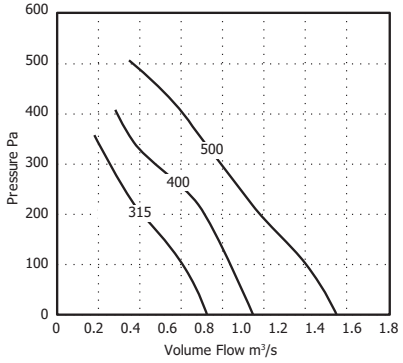
Dimensions (mm)



CODE	A	B	C	ØD	E	F	G	K	L	KG
MON-QP100C	190	310	400	100	460	94	111	380	275	11
MON-QP125C	190	310	400	125	460	94	111	380	275	11
MON-QP150C	190	310	400	150	460	94	111	380	275	11
MON-QP160C	190	310	400	160	460	94	111	380	275	11
MON-QP200C	285	364	455	200	515	141	127	435	330	17
MON-QP250C	285	364	455	250	515	141	127	435	330	17
MON-QP315C	456	572	730	315	792	227	243	710	540	45
MON-QP400C	456	572	730	400	792	227	243	710	540	46
MON-QP500C	575	769	918	500	1006	286	326	898	735	77

Performance Guide





CODE	DIA.	MOTOR PHASE	R.P.M	AIRFLOW M3/S	MOTOR KW	S.C. AMPS	F.L.C AMPS	DBA @ 3M
MON-QP100C	100	1	2350	0.06	0.05	0.37	0.23	32
MON-QP125C	125	1	2350	0.06	0.05	0.37	0.23	33
MON-QP150C	150	1	2350	0.12	0.05	0.37	0.23	33
MON-QP160C	150	1	2350	0.12	0.05	0.37	0.23	33
MON-QP200C	200	1	2700	0.24	0.09	0.85	0.38	36
MON-QP250C	250	1	2500	0.32	0.16	1.25	0.68	36
MON-QP315C	315	1	1330	0.81	0.27	2.2	1.18	38
MON-QP400C	400	1	1340	1.05	0.47	5.9	2.33	39
MON-QP500C	500	1	1330	1.52V	0.73	6.27	3.21	47

Sound Power Level Spectra dB (ref 10^{-12} Watts)

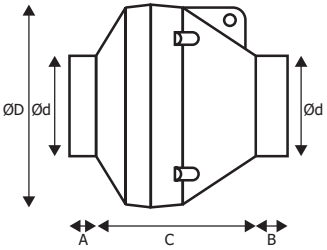
CODE	SPECTRUM	63	125	250	500	1K	2K	4K	8K	DB(A) @ 3M
MON-QP100C	Inlet	53	59	68	58	50	45	34	33	41
MON-QP100C	Outlet	54	57	63	59	60	54	49	42	43
MON-QP100C	Breakout	48	52	59	49	41	39	31	32	32
MON-QP125C	Inlet	51	65	73	62	51	46	36	36	45
MON-QP125C	Outlet	52	62	67	64	62	55	52	45	46
MON-QP125C	Breakout	51	53	60	49	41	40	33	33	33
MON-QP150C	Inlet	54	60	70	59	52	46	38	36	42
MON-QP150C	Outlet	56	58	63	58	59	56	49	43	43
MON-QP150C	Breakout	50	55	60	50	43	38	31	32	33
MON-QP160C	Inlet	54	60	70	59	52	46	38	36	42
MON-QP160C	Outlet	56	58	63	58	59	56	49	43	43
MON-QP160C	Breakout	50	55	60	50	43	38	31	32	33
MON-QP200C	Inlet	60	65	63	68	58	55	54	46	46
MON-QP200C	Outlet	60	63	68	72	68	67	62	53	53
MON-QP200C	Breakout	54	58	60	57	46	41	35	34	36
MON-QP250C	Inlet	64	74	72	67	57	55	56	53	48
MON-QP250C	Outlet	64	74	75	69	70	71	65	64	56
MON-QP250C	Breakout	52	57	68	52	44	40	36	38	39
MON-QP315C	Inlet	66	78	68	60	52	49	42	40	45
MON-QP315C	Outlet	67	75	77	71	69	62	56	49	53
MON-QP315C	Breakout	54	70	63	53	47	41	35	34	38
MON-QP400C	Inlet	73	82	79	68	62	55	50	49	52
MON-QP400C	Outlet	72	78	78	75	74	66	58	53	57
MON-QP400C	Breakout	57	71	63	56	51	46	39	35	39
MON-QP500C	Inlet	77	85	78	71	64	62	54	52	54
MON-QP500C	Outlet	74	83	82	78	77	72	64	58	61
MON-QP500C	Breakout	68	81	72	63	56	49	42	41	48

Monsoon Radon Mitigation Fans

- Non-corrosive, IP65 rated
- Low noise and easy to install
- Ball bearing motor with thermal protection

CODE	DESCRIPTION
UT150/SC	150mm Radon Mitigation Fan White
UT150/SC-BLK	150mm Radon Mitigation Fan Black

Dimensions (mm)



Ød	ØD	C	A	B
150	300	286	30	30

Monsoon Medium Duty Plate Fans

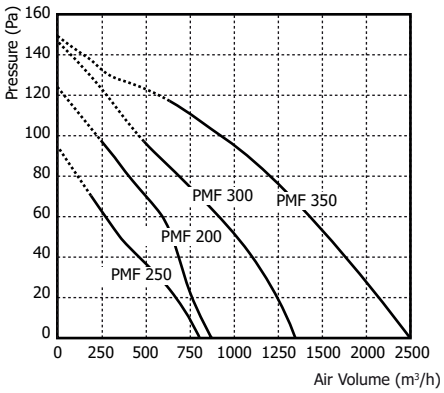
- Fan casing and impeller are made from steel with polymeric coating
- Asynchronous ball bearing motor for long service life
- External rotor motor with built-in thermal protection
- Motor protection rating IP44
- Fully speed controllable
- Inlet steel finger guard as standard
- Other sizes available on request

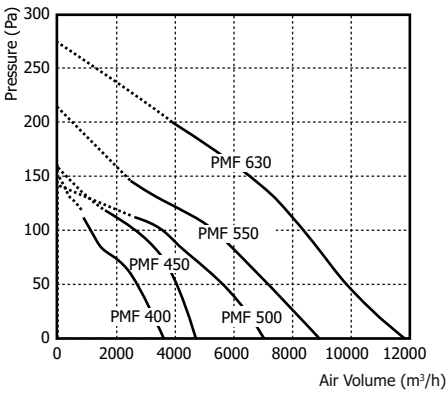
CODE	DESCRIPTION
PMF200/4/1	200mm (860m³/h) Single Phase
PMF250/4/1	250mm (1,050m³/h) Single Phase
PMF300/4/1	300mm (1,340m³/h) Single Phase
PMF350/4/1	350mm (2,500m³/h) Single Phase
PMF400/4/1	400mm (3,580m³/h) Single Phase
PMF450/4/1	450mm (4,680m³/h) Single Phase
PMF500/4/1	500mm (7,060m³/h) Single Phase
PMF630/4/1	630mm (11,900m³/h) Single Phase

Technical data

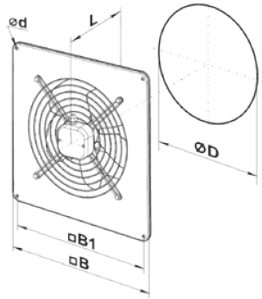
CODE	SUPPLY VOLTAGE	CURRENT (A)	POWER (W)	MAX. VOLUME (M3/H)	RPM (MIN-1)	SOUND @ 3M DB(A)	AIR STREAM TEMP (°C)	IP RATING	(KG)
PMF200/2/1	230	0.26	55	860	2300	50	30	IP24	3.9
PMF250/4/1	230	0.22	50	800	1380	55	30	IP24	4.1
PMF300/4/1	230	0.35	75	1340	1350	58	30	IP24	5.1
PMF350/4/1	230	0.65	140	2500	1380	62	30	IP24	7.1
PMF400/4/1	230	0.82	180	3580	1380	63	30	IP24	8.8
PMF450/4/1	230	1.2	250	4680	1350	64	30	IP24	10.6
PMF500/4/1	230	1.95	420	7060	1300	69	30	IP24	14.2
PMF550/4/1	230	2.55	550	8800	1300	70	30	IP24	16.6
PMF630/4/1	230	3.5	750	11900	1360	75	30	IP24	22.6

Performance





Dimensions (mm)



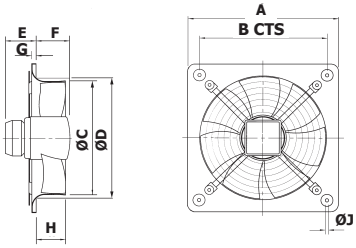
MODEL	PMF 200	PMF 250	PMF 300	PMF 350	PMF 400	PMF 450	PMF 500	PMF 550	PMF 630
Ø D	210	260	326	388	417	465	520	570	650
Ø D	7	7	9	9	9	11	11	11	11
B	312	370	430	485	540	576	655	725	800
B1	260	320	380	435	490	535	615	675	710
L	145	155	155	200	240	250	260	280	295

Monsoon Compact Plate Fans

- Die cast aluminium blade & external rotor motor design
- Motors dynamically balanced to ISO 1940 & IP54 protected
- Motor insulation Class F
- Temperature operation -40° to +70°
- Thermal overload for motor protection
- Terminal box IP54 protection

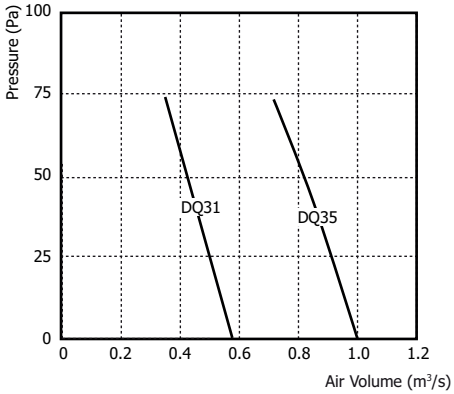
CODE	DESCRIPTION
DQ-31-2A	315mm (2,088m³/h) Three Phase 4 Pole
DQ-35-2C	355mm (3,600m³/h) Three Phase 4 Pole
DQ-40-2F	400mm (5,328m³/h) Three Phase 4 Pole
DQ-45-4C	450mm (6,480m³/h) Three Phase 4 Pole
DQ-50-4F	500mm (8,172m³/h) Three Phase 4 Pole
DQ-56-6F	560mm (12,348m³/h) Three Phase 4 Pole
DQ-63-6K	630mm (18,684m³/h) Three Phase 4 Pole

Dimensions (mm)



Dia	A	B	ØC	ØD	E	F	G	H	ØJ	kg
315	430	380	320	328	84	84	19	70	9	6.3
355	485	435	367	372	86	97	21	75	9	7.3
400	540	490	412	420	93	100	12	88	9	10.2
450	575	535	463	480	86	139	14	96	11	15.8
500	655	615	517	528	84	141	16	104	11	17.3
560	725	675	568	589	81	142.5	16	119	11	24
630	805	750	643	664	82	142.5	20	130	11	45

Performance Guide



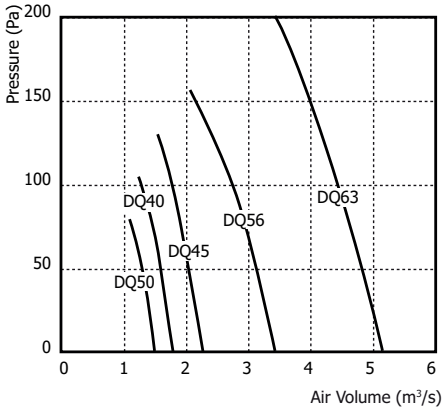
DIA.	MOTOR PHASE	CODE	POLES	R.P.M	IP RATING	MOTOR KW	S.C. AMPS	F.L.C AMPS	DB(A) @ 3M
315	3	DQ-31-2A	4	1390	IP54	0.11	2.1	0.27	46
355	3	DQ-35-2A	4	1370	IP54	0.17	1.35	0.37	49

For fans wired to reverse run, duty reduced by 30%. EQ25 not suitable for reverse airflow.

Sound Power Level Spectra dB (ref 10^{-12} Watts)

DIA.	MOTOR PHASE	CODE	POLES	SPECTRUM	63	125	250	500	1K	2K	4K	8K	DB(A) @ 3M
315	3	DQ-31-2A	4	Inlet	64	67	69	63	62	60	58	53	47
315	3	DQ-31-2A	4	Outlet	64	67	69	63	62	60	58	53	47
355	3	DQ-35-2A	4	Inlet	58	73	63	64	64	65	64	58	50
355	3	DQ-35-2A	4	Outlet	58	73	63	64	64	65	64	58	50

Performance Guide



DIA.	MOTOR PHASE	CODE	POLES	R.P.M	IP RATING	MOTOR KW	S.C. AMPS	F.L.C AMPS	DB(A) @ 3M
400	3	DQ-40-2F	4	1350	IP54	0.26	2.1	0.56	51
450	3	DQ-45-4C	4	1380	IP54	0.36	2.6	0.8	56
500	3	DQ-50-4F	4	1380	IP54	0.55	4.2	1.05	58
560	3	DQ-56-6F	4	1220	IP54	1.25	7.7	2.2	70
630	3	DQ-63-6K	4	1360	IP54	1.9	17	3.2	64

For fans wired to reverse run, duty reduced by 30%.

Sound Power Level Spectra dB (ref 10^{-12} Watts)

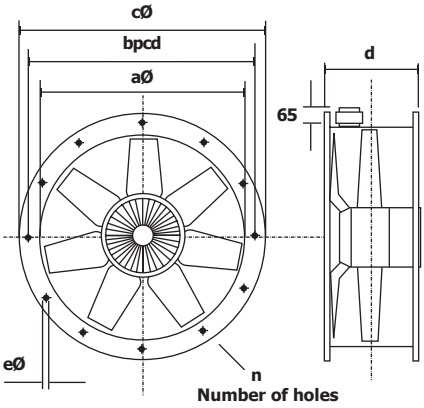
DIA.	MOTOR PHASE	CODE	POLES	SPECTR UM	63	125	250	500	1K	2K	4K	8K	DB(A) @ 3M
400	3	DQ-40-2F	4	Inlet	62	73	65	65	67	69	67	60	53
400	3	DQ-40-2F	4	Outlet	62	73	65	65	67	69	67	60	53
450	3	DQ-45-4C	4	Inlet	65	82	75	76	73	72	69	62	58
450	3	DQ-45-4C	4	Outlet	65	82	75	76	73	72	69	62	58
500	3	DQ-50-4F	4	Inlet	67	71	69	72	70	71	68	61	56
500	3	DQ-50-4F	4	Outlet	67	71	69	72	70	71	68	61	56
560	3	DQ-56-6F	4	Inlet	85	79	77	76	76	75	72	66	61
560	3	DQ-56-6F	4	Outlet	85	79	77	76	76	75	72	66	61
630	3	DQ-63-6K	4	Inlet	71	88	82	83	82	81	78	72	67
630	3	DQ-63-6K	4	Outlet	71	88	82	83	82	81	78	72	67

Monsoon Compact Cased Axial Fans

- Die cast aluminium blade & external rotor motor design
- Motors dynamically balanced to ISO 1940 & IP54 protected
- Motor insulation Class F
- Temperature operation -40° to +70°
- Thermal overload for motor protection
- Terminal box IP54 protection

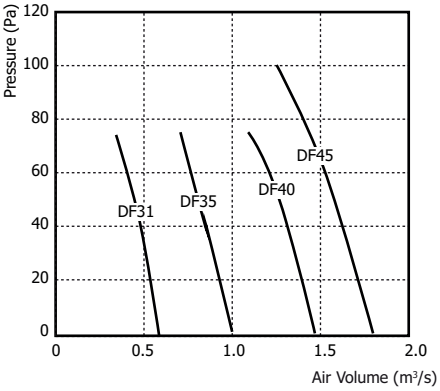
CODE	DESCRIPTION
DF-31-2A	315mm (2,088m³/h) Three Phase 4 Pole
DF-35-2A	355mm (3,600m³/h) Three Phase 4 Pole
DF-40-2F	400mm (5,328m³/h) Three Phase 4 Pole
DF-45-4C	450mm (6,480m³/h) Three Phase 4 Pole
DF-50-4F	500mm (8,172m³/h) Three Phase 4 Pole
DF-56-6F	560mm (12,348m³/h) Three Phase 4 Pole
DF-63-6K	630mm (18,684m³/h) Three Phase 4 Pole
RFWG	Wire Guard sizes
RFMF	Mounting Feet x2: 250mm - 630mm sizes
RFCF	Coupling Flange: 250mm - 630mm sizes
RFAP	Ancillary Pack consists of mounted feet (x2), AV mounts, 2 coupling flanges, 2 flex connectors and 4 worm drive clips: 350mm - 630mm sizes

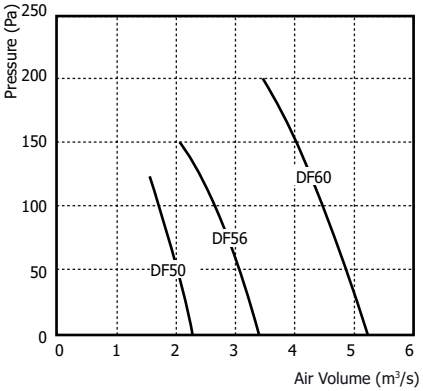
Dimensions (mm)



Dia	Øa	Øb	Øc	d	Øe	n	kg
315	316.5	356	382	135	9.5	8	6.1
355	356	395	421	135	9.5	8	7.1
400	400	438	466	155	9.5	12	8.1
450	451	487	515	160	9.5	12	13.4
500	503	541	567	166	9.5	12	15.7
560	559	605	635	210	11.5	16	20.1
630	634	674	707	220	11.5	16	44

Performance Guide





DIA.	MOTOR PHASE	CODE	POLES	R.P.M	IP RATING	MOTOR KW	S.C. AMPS	F.L.C AMPS	DB(A) @ 3M
315	3	DF-31	4	1390	IP54	0.11	2.1	0.27	46
355	3	DF-35	4	1370	IP54	0.17	1.35	0.37	49
400	3	DF-40	4	1350	IP54	0.26	2.1	0.56	51
450	3	DF-45	4	1380	IP54	0.36	2.6	0.8	56
500	3	DF-50	4	1380	IP54	0.55	4.2	1.05	58
560	3	DF-56	4	1220	IP54	1.25	7.7	2.2	70
630	3	DF-63	4	1360	IP54	1.9	14	3.2	64

For Fans wired to reverse run, duty reduced by 30%

Sound Power Level Spectra dB (ref 10^{-12} Watts)

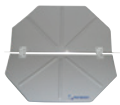
DIA.	MOTOR PHASE	CODE	POLES	SPECTRUM	63	125	250	500	1K	2K	4K	8K	DB(A) @ 3M
315	3	DF-31	4	Inlet	64	67	69	63	62	60	58	53	47
315	3	DF-31	4	Outlet	64	67	69	63	62	60	58	53	47
355	3	DF-35	4	Inlet	58	73	63	64	64	65	64	58	50
355	3	DF-35	4	Outlet	58	73	63	64	64	65	64	58	50
400	3	DF-40	4	Inlet	62	73	65	65	67	69	67	60	53
400	3	DF-40	4	Outlet	62	73	65	65	67	69	67	60	53
450	3	DF-45	4	Inlet	65	82	75	76	73	72	69	62	58
450	3	DF-45	4	Outlet	65	82	75	76	73	72	69	62	58
500	3	DF-50	4	Inlet	67	71	69	72	70	71	68	61	56
500	3	DF-50	4	Outlet	67	71	69	72	70	71	68	61	56
560	3	DF-56	4	Inlet	85	79	77	76	76	75	72	66	61
560	3	DF-56	4	Outlet	85	79	77	76	76	75	72	66	61
630	3	DF-63	4	Inlet	71	88	82	83	82	81	78	72	67
630	3	DF-63	4	Outlet	71	88	82	83	82	81	78	72	67

Monsoon Axial Roof Fans

- Cowl & base moulded from recyclable polymeric material
- All sizes resistant to UV light
- Sizes 250 to 1000 dia are protected to IP54
- Can be used for supply or extract units
- Thermal overload for motor protection

CODE	DESCRIPTION
RCF250	250mm Roof Fan (0.28m³/s) Single Phase 2 Pole
RCF315	315mm Roof Fan (0.38m³/s) Single Phase 4 Pole
RCF355	355mm Roof Fan (0.78m³/s) Single Phase 4 Pole
RCF400	400mm Roof Fan (1.14m³/s) Single Phase 4 Pole
RCF450	450mm Roof Fan (1.45m³/s) Single Phase 4 Pole
RCF500	500mm Roof Fan (1.43m³/s) Single Phase 4 Pole
RCF560	560mm Roof Fan (3.05m³/s) Single Phase 4 Pole
RCF630	630mm Roof Fan (4.38m³/s) Single Phase 4 Pole
RCF315/4/T	315mm Roof Fan (0.4m³/s) Three Phase 4 Pole
RCF355/4/T	355mm Roof Fan (0.82m³/s) Three Phase 4 Pole
RCF400/4/T	400mm Roof Fan (1.21m³/s) Three Phase 4 Pole
RCF450/4/T	450mm Roof Fan (1.54m³/s) Three Phase 4 Pole
RCF500/4/T	500mm Roof Fan (1.6m³/s) Three Phase 4 Pole
RCF560/4/T	560mm Roof Fan (2.76m³/s) Three Phase 4 Pole
RCF630/4/T	630mm Roof Fan (4.49m³/s) Three Phase 4 Pole
RCF710/4/T	710mm Roof Fan (6.1m³/s) Three Phase 4 Pole

CODE	DESCRIPTION
PB315	315mm Purlin Box
PB350	355mm Purlin Box
PB400/450	400mm Purlin Box
PB630	630mm Purlin Box
PB710	710mm Purlin Box
RCS	Cowl Back Draught Shutters 250mm - 710mm

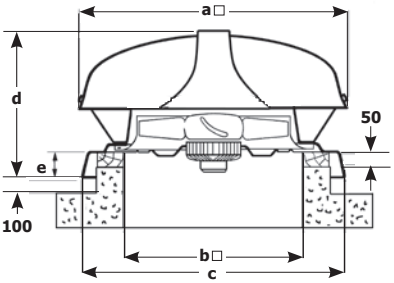


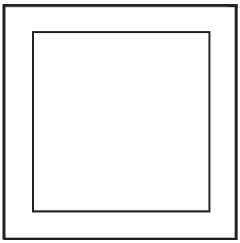
Manufactured incorporating maintenance free, UV stabilised fire retardant glass reinforced plastic, Monsoon roof terminals represent that very latest in roof ventilator manufacturing design.

Standard roof terminals are supplied with optional wire guard, shutters, purlin boxes if required. The high gloss GRP produces a smooth, low profile, visually pleasing terminal.

The RCF is supplied in two parts; a plate axial fan and the roof terminal, this is for ease of handling and shipping. The plate axial fan simply bolts to the underneath of the roof terminal and then mounts onto the purlin box (or support).

Fan Dimensions (mm)

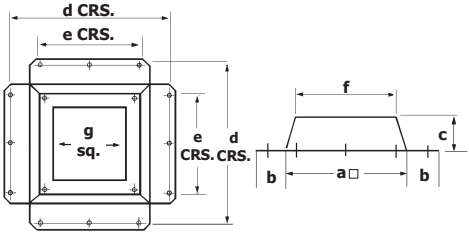




Kerb detail

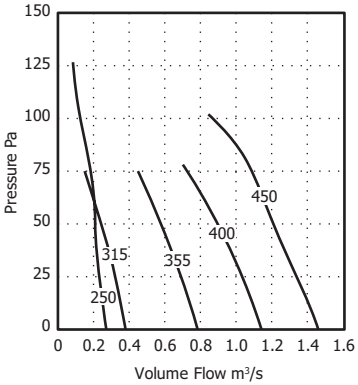
Size	a	b	c	d	e	f	kg Max
250	700	475	737	411	97	675	13.25
315	700	475	737	411	97	675	16.3
355	700	475	737	411	97	675	16.3
400	800	575	830	466	97	775	18.4
450	800	575	830	466	97	775	20.3
500	950	715	1000	579	100	915	35.5
560	950	715	1000	579	100	915	35.5
630	1230	840	1100	731	105	1040	62
710	1230	840	1100	731	105	1040	62

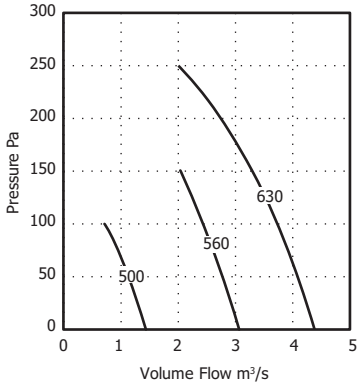
Purlin Box (mm)



Size	a	b	c	d	e	f □	g □
250	625	90	240	765	400	590	460
315	625	90	240	765	400	590	460
355	625	90	240	765	400	590	460
400	725	90	240	865	500	705	565
450	725	90	240	865	500	705	565
500	890	70	250	990	650	850	640
560	890	70	250	990	650	870	700
630	1030	75	250	1140	760	985	775
710	1030	75	250	1140	760	985	840

Performance Guide





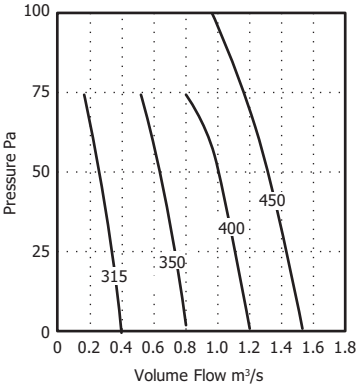
DIA.	MOTOR PHASE	CODE	POLES	R.P.M	IP RATING	MOTOR KW	S.C. AMPS	F.L.C AMPS	DB(A) @ 3M
250	1	RCF250	2	2440	IP44	0.12	1.15	0.54	59
315	1	RCF315	4	1300	IP54	0.15	1.38	0.7	50
355	1	RCF355	4	1330	IP54	0.19	1.45	0.84	53
400	1	RCF400	4	1350	IP54	0.29	2.4	1.45	56
450	1	RCF450	4	1370	IP54	0.36	3.6	1.6	61
500	1	RCF500	4	1290	IP54	0.51	4.3	2.3	55
560	1	RCF560	4	1320	IP54	1.35	21	6	63
630	1	RCF630	4	1320	IP54	2.2	28	9.9	70

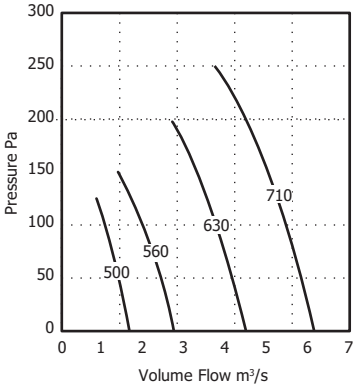
RCF25012, RCF31512 & RCF250 not suitable for reverse airflow.

Sound Power Level Spectra dB (ref 10^{-12} Watts)

DIA.	MOTOR PHASE	CODE	POLES	SPECTRUM	63	5	250	500	1K	2K	4K	8K	DB(A) @ 3M
250	1	RCF250	2	Inlet	69	70	76	76	70	70	67	59	57
250	1	RCF250	2	Outlet	69	70	76	76	70	70	67	59	57
315	1	RCF315	4	Inlet	70	68	66	61	60	62	58	51	47
315	1	RCF315	4	Outlet	70	68	66	61	60	62	58	51	47
355	1	RCF355	4	Inlet	65	70	67	65	64	64	62	55	50
355	1	RCF355	4	Outlet	65	70	67	65	64	64	62	55	50
400	1	RCF400	4	Inlet	70	72	67	66	65	65	64	56	51
400	1	RCF400	4	Outlet	70	72	67	66	65	65	64	56	51
450	1	RCF450	4	Inlet	69	76	73	72	70	71	70	62	57
450	1	RCF450	4	Outlet	69	76	73	72	70	71	70	62	57
500	1	RCF500	4	Inlet	65	75	69	70	70	71	69	62	56
500	1	RCF500	4	Outlet	65	75	69	70	70	71	69	62	56
560	1	RCF560	4	Inlet	100	90	89	84	82	79	75	68	67
560	1	RCF560	4	Outlet	100	90	89	84	82	79	75	68	67
630	1	RCF630	4	Inlet	82	86	79	79	80	78	75	70	64
630	1	RCF630	4	Outlet	82	86	79	79	80	78	75	70	64

Performance Guide





DIA.	MOTOR PHASE	CODE	POLES	R.P.M	IP RATING	MOTOR KW	S.C. AMPS	F.L.C AMPS	DB(A) @ 3M
315	3	RCF315/4/T	4	1390	IP54	0.11	2.1	0.27	46
355	3	RCF355/4/T	4	1370	IP54	0.17	1.35	0.37	49
400	3	RCF400/4/T	4	1350	IP54	0.26	2.1	0.56	51
450	3	RCF450/4/T	4	1380	IP54	0.36	2.6	0.8	56
500	3	RCF500/4/T	4	1380	IP54	0.55	3.7	1.05	58
560	3	RCF560/4/T	4	1220	IP54	1.25	7.7	2.2	70
630	3	RCF630/4/T	4	1360	IP54	1.9	14	3.2	64
710	3	RCF710/4/T	4	1290	IP54	2.9	19	5.3	72

Sound Power Level Spectra dB (ref 10^{-12} Watts)

DIA.	MOTOR PHASE	CODE	POLES	SPECTRUM	63	125	250	500	1K	2K	4K	8K	DB(A) @ 3M
315	3	RCF315/4/T	4	Inlet	64	67	69	63	62	60	58	53	47
315	3	RCF315/4/T	4	Outlet	64	67	69	63	62	60	58	53	47
355	3	RCF355/4/T	4	Inlet	58	73	63	64	64	65	64	58	50
355	3	RCF355/4/T	4	Outlet	58	73	63	64	64	65	64	58	50
400	3	RCF400/4/T	4	Inlet	62	73	65	65	67	69	67	60	53
400	3	RCF400/4/T	4	Outlet	62	73	65	65	67	69	67	60	53
450	3	RCF450/4/T	4	Inlet	65	82	75	76	73	72	69	62	58
450	3	RCF450/4/T	4	Outlet	65	82	75	76	73	72	69	62	58
500	3	RCF500/4/T	4	Inlet	67	71	69	72	70	71	68	61	56
500	3	RCF500/4/T	4	Outlet	67	71	69	72	70	71	68	61	56
560	3	RCF560/4/T	4	Inlet	85	79	77	76	76	75	72	66	61
560	3	RCF560/4/T	4	Outlet	85	79	77	76	76	75	72	66	61
630	3	RCF630/4/T	4	Inlet	71	88	82	83	82	81	78	72	67
630	3	RCF630/4/T	4	Outlet	71	88	82	83	82	81	78	72	67
710	3	RCF71034	4	Inlet	80	87	86	88	89	86	83	79	72
710	3	RCF71034	4	Outlet	80	87	86	88	89	86	83	79	72

Monsoon Ceiling Sweep Fans

- For cooling in summer and energy conservation in winter.
- 3 blade design finished in white.
- Resilient mounting ensures low vibration, speed controllable.
- Two drop rods 150mm and 400mm
- Fully reversible

CODE	DESCRIPTION
HCT1200	Sweep Fan 48" (1200mm)
HCT1400	Sweep Fan 56" (1400mm)
HCT900	Sweep Fan 36 (900mm)
SDY-1-30-DT	Variable Speed Controller For Sweep Fans C/W Integrated On/Off Switch

Monsoon Jupiter De-Stratification Unit

- Available in two sizes
- Speed controllable
- High velocity fans
- Supplied with a grey coated finish - other colours available to special order
- Available with built-in thermostat

CODE	DESCRIPTION
MON-NJUP315	De-Stratification Unit (0.61m³/s)
MON-NJUP315CTS	De-Stratification Unit (0.61m³/s) with built in Thermostat
MON-NJUP400	De-Stratification Unit (1.415m³/s)
MON-NJUP400CTS	De-Stratification Unit (1.415m³/s) with built in Thermostat

Air Movement Fans
The Jupiter range of de-stratification units is based on direct drive axial fans, housed in a neat and sturdy casing complete with eyebolts for suspension from chains or steel wires. Ideal for applications where the proposed mounting height requires higher velocity fans or where open bladed ceiling fans are considered unsuitable. Jupiter fans can be used in stores, warehouses, factories, workshops, as well as many other industrial applications. The unit provides effective and positive air movement to improve the working environment, particularly during summer months. In addition Jupiter fans can be used during the winter to re-circulate hot air from ceilings and roofs down to living and working areas.

General Installation
For cooling effect, circulation of air is required in any given area. As a guide, mount Jupiter fans 4.5-6m apart, in tropical climates 3m apart. Fans should be mounted so that they do not interfere with lighting installations in any way. Mount fans away from walls or pillars where possible to avoid obstruction of airflow.

Heat Saving
Heat savings are largely dependent on the difference between the roof level and the working level temperatures, the ventilation rate and the geographical position.

Electrical
Supply Voltage 220-240V/1/50Hz. Direct drive axials with speed controllable motors. The motor hub and impeller are statically and dynamically balanced for smooth operation and optimum performance. Class F insulation, suitable for operating in atmospheres of up to 95% RH and ambient temperature of up to +60˚C.

Dimensions (mm)

SIZE	W	W	D	KG
315	500	500	284	11
400	620	620	293	16

Performance

	DUTY		SPEED	DB(A)	220/240V/50HZ/1PH			MAX MOUNTING HEIGHT	
SIZE	CFM	M³/S	RPM	@3M	KW	FLC	SC	FEET	METRES
315	1290	0.610	1380	45	0.15	0.70	2.50	44	13.4
400	3000	1.415	1320	51	0.35	1.60	5.50	72	22.0

Enhanced Auto Transformer

- Single & Three Phase 5 step auto-transformer speed controller
- Separate starter not required when used with HOT SPOT protected fans
- Low motor noise - no magnetic hum
- Compact fire retardant surface mounting enclosure
- Additional terminals to allow connection of remote switching device
- Allows operation via BMS interface
- Additional terminals to allow connection of remote anti-freezing thermostat

CODE	Phase	MAX PEAK LOAD CURRENT	H X W X D (MM)	KG	IP	DAMPER CONNECTION	VFC
RTRE20	1	2.0 amps	230 x 166 x 118	2.3	IP54	Yes	Yes
RTRE35	1	3.5 amps	230 x 166 x 118	3.6	IP54	Yes	Yes
RTRE60	1	6.0 amps	230 x 166 x 118	5.1	IP54	Yes	Yes
RTRE90	1	9.0 amps	284 x 240 x 132	10.6	IP54	Yes	Yes
RDTK10	3	1.0 amps	284 x 240 x 132	4.7	IP54	Yes	-
RDTK20	3	2.0 amps	284 x 240 x 132	7.4	IP54	Yes	-
RDTK40	3	4.0 amps	316 x 270 x 168	12.9	IP21	No	-
RDTK70	3	7.0 amps	324 x 270 x 168	15.6	IP21	Yes	-

Controllers & Sensors

CODE	DESCRIPTION
HRU-HVHT	Switched Live Humidistat Sensor
FT1	Wired Remote Timer
HRU-SPIR	PIR controller (Not suitable for use with MON-MEV H)

Electronic Fan Speed Controller with TK

- Wide power supply range (110—240 VAC/50—60 Hz)
- Automatic supply voltage detection
- Adjustable stepless output voltage
- 230 VAC alarm output
- TK monitoring for thermal motor protection
- Contacts for remote on/off switching
- Adjustable minimum and maximum speed limits
- Overheating motor protection
- Kick start (default) or soft start
- Illuminated on/off switch
- Run and fault detection LED indication

CODE	DESCRIPTION
SC5030TK	Electronic Controller 3Amp
SC5050TK	Electronic Controller 5Amp
SC5010TK	Electronic Controller 10Amp

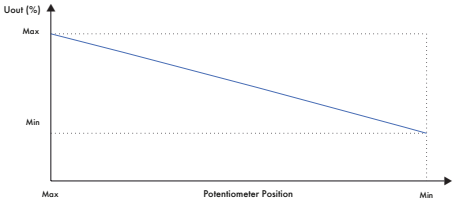
The SC5000TK range of electronic speed controllers regulate the speed of single-phase (110—240 VAC/50—60 Hz) voltage controllable motors by varying the supplied voltage. These controllers offer automatic power supply detection, thermal contacts (TK) for motor overheating protection, an alarm output, NO (open contact) and NC (closed contact) inputs for remote start/stop. The minimum and maximum speed limits are internally adjusted via trimmers. The range features an unregulated auxillary output for connecting a dampers etc. There are two start-up modes - kick start and soft start, selectable via a jumper.

Technical

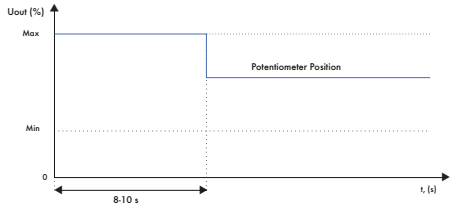
Power supply, Us	110—240 VAC / 50—60 Hz	
Regulated output	MIN—MAX (Umin—Umax)	
Unregulated output	230 VAC / Imax. 2 A	
Minimum output	30—60 % of Us	
Maximum output	70—100 % of Us	
Alarm output	Imax. 0.5 A	
Kick start duration	8—10 s	
Protection	Motor overheating	
Protection standard	IP54 (according to EN 60529)	
Ambient conditions	Temperature	-20—35 °C
	Rel. humidity	5—95 % rH (non-condensing)
Maximum load	SC5030TK	3.0A
	SC5050TK	5.0A
	SC5060TK	6.0A
	SC5010TK	10.0A

Operation Diagrams

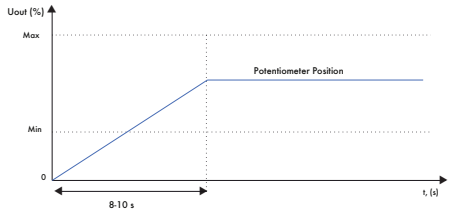
Control Curve



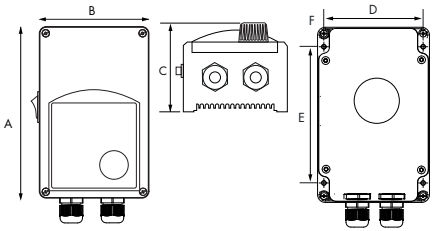
Kick Start Mode



Soft Start Mode



Dimensions



SC5030TK	162	96	75	71	108.8	4.2
SC5050TK	162	96	93	71	108.8	4.2
SC5010TK	205	124	97	102	140	4.6

SC5030TK

① Kick start selection jumper		Kick start is enabled
		Soft start is enabled
② Minimum speed trimmer		Minimum speed limit pre set to 45%
③ Maximum speed trimmer		Maximum speed limit preset to 100%

SC5050TK & SC5010TK

① Kick start selection jumper		Kick start is enabled
		Soft start is enabled
② Minimum speed trimmer		Minimum speed limit pre set to 45%
③ Maximum speed trimmer		Maximum speed limit pre set to 100%

Fire Protection

CODE	DESCRIPTION
IFSC100	Intumescent Fire Cuff 100mm
IFSC150	Intumescent Fire Cuff 150mm
IFSR110	Intumescent Fire Cuff 110 x 54
IFSR204	Intumescent Fire Cuff 204 x 60
IFSR220	Intumescent Fire Cuff 220 x 90
FREV100	60min Fire Rated Intumescent Extract Air Valves 100mm
FREV125	60min Fire Rated Intumescent Extract Air Valves 125mm
FREV150	60min Fire Rated Intumescent Extract Air Valves 150mm
FRSV100	60min Fire Rated Intumescent Supply Air Valves 100mm
FRSV125	60min Fire Rated Intumescent Supply Air Valves 125mm
FRSV150	60min Fire Rated Intumescent Supply Air Valves 150mm

National Ventilation does not guarantee compliance with Building Regulations Part B, Fire Spread or other regulations that relate to fire planning. Suitability to comply with these regulations should be determined prior to installation and in conjunction with Building Control Officers. Compliance with the Regulations is specifically excluded from quotations and designs.

Flexible & Insulated Ducting

Aluminium (FXAL) Aluminium reinforced flexible ducting manufactured from a Multi-Ply aluminium and polyester laminate together with a high tensile steel wire helix. In respect of part 20 the duct shall have a fire resistance of not less than 25 minutes.

Insulated Ali (FXALINS) Aluminium reinforced multi-ply flexible duct wrapped in a 25mm think high-density fibreglass for excellent friction loss characteristics and reduced levels of noise generation.

Acoustic Ali (FXALAC) Flexible acoustic ducting constructed from Multi-Ply and polyester laminated inner and outer ducts. The inner duct, continuously perforated with microperforations, combines with a 25mm layer of fibreglass to reduce cross talk and noise generated by in-duct components.

Vinyl (FXV) Manufactured from a tough, grey coloured fabric comprising a PVC coating bonded to a tightly woven glass cloth to provide a tough yet highly flexible, puncture resistant ducting. Supported by an encapsulated high tensile steel wire helix within the fabric overlap provides an exceptionally smooth inner wall resulting in excellent friction loss characteristics.

Semi-Rigid (FXSR) Manufactured from 100% aluminium, FXSR can be formed into bends and offsets in very short distances and within confined space. The duct naturally retains its corrugation form and in doing so achieves maximum distance between supports without 'sagging'.

DIAMETER	FXAL	FXALINS	FXALAC	FXV	FXSR
	Aluminium per 10m	Insulated aluminium per 10m	Acoustic aluminium per 10m	Vinyl per 6m	Semi-rigid per 3m
80mm					
100mm					
125mm					
150mm					
160mm					
200mm					
225mm					
250mm					
300mm					
315mm					

Metal Ducting, Connectors & Ancillaries

Manufactured from galvanised steel in standard lengths of 3 metre to comply with HVCA DW 144 specification.

CODE	DESCRIPTION
SPD	Metal Spiral Ducting 80mmØ - 450mmØ, 1m - 3m long
TP	Metal T Piece Conncetor 80mmØ - 450mmØ
YP	Metal Y Piece Connector 80mmØ - 450mmØ
DSU	Metal Partial Shut-off 80mmØ - 450mmØ
DSR	Metal Suspension Ring 80mmØ - 450mmØ
MB 90	Metal 90° Bend 80mmØ - 450mmØ
MB 45	Metal 45° Bend 80mmØ - 450mmØ
FC	Metal Female Coupling 80mmØ - 450mmØ
MC	Metal Male Coupling 80mmØ - 450mmØ
EP	Metal End Cap 80mmØ - 450mmØ
RD	Metal Reducer Short 100mm - 250mmØ to 80mmØ - 224mmØ
RDL	Metal Reducer Long 100mm - 450mmØ to 80mmØ - 400mmØ

Not all sizes available for next day delivery. Please check with our sales office for availability. Larger sizes available on request.

CODE	DESCRIPTION
UFB	In-line Filter Box 100mmØ - 315mmØ (includes filter)
UF	Replacement Filter 100-315mmØ
FTC	Fast Clamp 100mmØ - 315mmØ
RSK	Backdraught Shutter 100mmØ - 315mmØ
RCOWL	Galvanised Steel Roof Cowls 80mmØ - 450mmØ*




* **Small plastic cowls on page 43. Larger sizes are available on request.**

Worm Drive Clips

CODE	DESCRIPTION
WDC135	Clip 60mm-135mm
WDC215	Clip 60mm-215mm
WDC325	Clip 60mm-325mm
WDC525	Clip 60mm-525mm

Sonex Circular Sound Attenuators

- Low cost – exceptional performance
- Ex stock availability
- Sheet steel casing and end plates 30 minute fire rating as standard
- Fitted spigot for direct connection to circular ductwork

CODE	DESCRIPTION
830xxxxx	Spigot: 100mmØ - 500mmØ, Length: 300mm - 1200mm

Aquaduct for Profiled or Corrugated Roofing and Cladding

- Flexible base - easily formed to match sheet profile
- EPDM rubber - for hot and cold pipes -40 to 115ºC (High temp available in silicone red)
- Square base - facilitates easy installation
- Adaptability - suits either standard or retrofit applications
- Simple to fit - sleeve marked with pipe diameters
- Available for small pipe diameters from 3-50mm

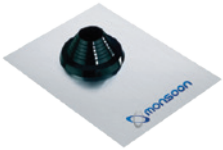
CODE	DESCRIPTION
ADC	Pipe sizes: 75 - 500mm, Overall sizes 155x155mm - 650x720mm

Roofseal for Bituminous Felt Roofing

- Unique ribbed base design - excellent adhesion to bitumen
- EPDM rubber-durable, flexible and weatherproof
- Simple to install - no specialist equipment required
- Weathertight seal - stainless steel clamp with each flashing

CODE	DESCRIPTION
FR	Pipe size: 110-530, Base diameter: 527-800mm

Versatile for Slate and Tiled Roofs



- Versatility - suits slate and tiled roofs
- Excellent coverage - from large aluminium malleable base
- EPDM rubber - to suit hot and cold pipes -40 to 115ºC (High temp available in silicone red)
- Simple to fit- sleeve marked with pipe diameters
- Flexible pipe sleeves- adjusts to suit roof pitch

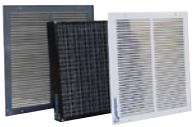
CODE	DESCRIPTION
VAC	Pipe size: 100-450mm

Egg Crate Grilles

- 90% free area
- Satin silver anodised finish unless stated
- Counter sunk flange holes
- Extruded aluminium frames
- Colour finishes and dampers on request

CODE	SIZE	OVERALL SIZE
ECG100	100mm	142 x 142mm
ECG100WH	100mm	142 x 142mm
ECG150	150mm	192 x 192mm
ECG150W	150mm	192 x 192mm
ECG200	200mm	242 x 242mm
ECG200WH	200mm	242 x 242mm
ECG250	250mm	292 x 292mm
ECG250WH	250mm	292 x 292mm
ECG300S	300mm	342 x 342mm
ECG300WH	300mm	342 x 342mm
ECG350	350mm	392 x 392mm
ECG350S	350mm	392 x 392mm
ECG400S	400mm	442 x 442mm
ECG400WH	400mm	442 x 442mm
ECG450S	450mm	492 x 492mm
ECG450WH	450mm	492 x 492mm
ECG500S	500mm	542 x 542mm
ECG500WH	500mm	542 x 542mm
ECG550S	595mm	Ceiling Tile
ECG550WH	595mm	Ceiling Tile

Intumescent Door Grille Set



CODE	DESCRIPTION
IDG300	300 x 300mm Intumescent Door Set

Other sizes are available on special order.

Four Way Diffuser

- Counter sunk flange holes
- Extruded aluminium construction
- Other colour finishes, sizes and dampers on request

CODE	SIZE	OVERALL SIZE
FWD200	200mm	347 x 347mm White finish
FWD200S	200mm	347 x 347mm Satin finish
FWD300	300mm	447 x 447mm White finish
FWD300S	300mm	447 x 447mm Satin finish
FWD450	450mm	Ceiling Tile White finish
FWD450S	450mm	Ceiling Tile Satin finish

Circular Air Valves

- Finished in white
- Complete with fixing and collar
- Extract and supply models
- Fully adjustable for air flow

Supply

Extract

CODE	DESCRIPTION
SAVE100	100mm Extract Valve
SAVE125	125mm Extract Valve
SAVE150	150mm Extract Valve
SAVS100	100mm Supply Valve
SAVS125	125mm Supply Valve
SAVS150	150mm Supply Valve

Gravity Shutters

- Louvre back draught shutter
- Manufactured from UV stabilised plastic
- Supplied as standard in grey colour

CODE	SIZE	OVERALL SIZE
GS200	200mm	243 x 243mm
GS250	250mm	294 x 294mm
GS300	300mm	343 x 343mm
GS350	350mm	394 x 394mm
GS400	400mm	457 x 457mm
GS450	450mm	499 x 499mm
GS500	500mm	548 x 548mm
GS550	550mm	605 x 605mm
GS600	650mm	696 x 696mm
GS710	700mm	760 x 760mm
GS800	800mm	840 x 840mm
GS1000	1000mm	1040 x 1040mm

External Weather Louvre

- 45° fixed blade louvre
- Mill finish
- Aluminium as standard
- Colour finish, dampers and non-standard sizes on request

CODE	SIZE	OVERALL SIZE
EWL100	100mm	143mm x 143mm
EWL150	150mm	193mm x 193mm
EWL200	200mm	243mm x 243mm
EWL250	250mm	293mm x 293mm
EWL300	300mm	343mm x 343mm
EWL350	350mm	393mm x 393mm
EWL400	400mm	443mm x 443mm
EWL450	450mm	493mm x 493mm
EWL500	500mm	543mm x 543mm
EWL550	550mm	593mm x 593mm
EWL600	600mm	643mm x 643mm
EWL650	650mm	693mm x 693mm

Monsoon Giant Weather Cowls

- Protection against prevailing weather conditions
- Shape designed to minimise resistance to airflow
- Made from UV stabilised GRP

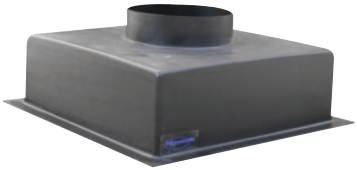
CODE	SUIT PLATE FAN
MWC	Suit Plate Fan Sizes: 250mm - 630mm, Overall Sizes: 500mm^2 - 935mm^2, Opening Sizes: 410mm^2 - 815mm^2

Non Vision Door Sets

- Non vision chevron blades
- High free area
- Wall and door fitting
- Satin silver anodised finish
- Extruded aluminium throughout
- Colour finish and other sizes on request

CODE	DESCRIPTION
NVDS	Sizes: 250-450mm, Overall Sizes: 295x295mm - 495x495mm

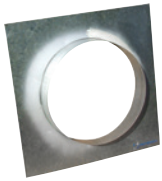
Plastic Grille Box Adaptor



CODE	BOX SIZE	SPIGOT SIZE
GBA150/100	150 x 150	100mm
GBA150/125	150 x 150	125mm
GBA200/100	200 x 200	100mm
GBA200/125	200 x 200	125mm
GBA250/100	250 x 250	100mm
GBA250/125	250 x 250	125mm
GBA250/150	250 x 250	150mm
GBA300/125	300 x 300	125mm
GBA300/150	300 x 300	150mm
GBA350/150	350 x 350	150mm
GBA350/200	350 x 350	200mm
GBA400/200	400 x 400	200mm
GBA400/250	400 x 400	250mm
GBA400/300	400 x 400	300mm
GBA450/200	450 x 450	200mm
GBA450/250	450 x 450	250mm
GBA450/300	450 x 450	300mm
GBA500/300	500 x 500	300mm
GBA595/150	595 x 595	150mm
GBA595/200	595 x 595	200mm
GBA595/250	595 x 595	250mm
GBA595/300	595 x 595	300mm
GBA595/350	595 x 595	350mm
GBA595/400	595 x 595	400mm
GBA595/450	595 x 595	450mm

Top entry only. Order ref - GBA / Box size / Spigot size. Other sizes are available on request.

Spigot Plate Adaptor



CODE	DESCRIPTION
SPP	Spigot Sizes: 80 - 450mm, Plate Sizes: 130x130 - 500x500mm

Quick Guide to Bathroom Zones

Bathroom Zone 0

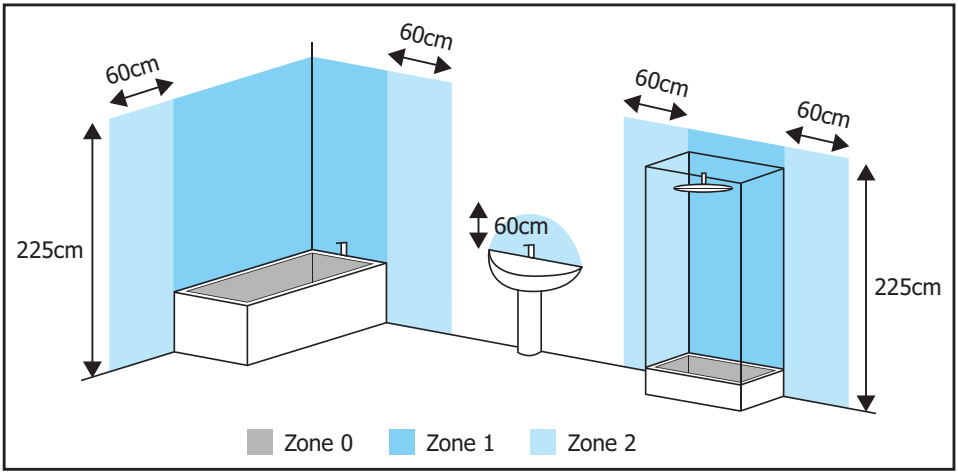
Inside the bath or shower. Any fitting used here must be SELV (max 12v) and a minimum of IPX7 (protected against immersion in water).

Bathroom Zone 1

The area directly above zone 0, limited to a height of 2.25m above the bath or shower. Requires electrical products to have an IPX4 or better.
Products using safety extra low Voltage (SELV 12V a.c and 30V d.c) can be used but the transformer must be located outside zones 0,1 & 2 or beyond. If the fitting is fed by a 240V supply a 30ma residual current device (RCD) must also be used to protect the circuit in this zone.
Socket outlets, other than shaver supply units complying with BS EN 61558-2-5 are not allowed within 3m from zone 1.

Bathroom Zone 2

The area beyond zones 0 and 1, stretching 0.6m horizontally and up to 2.25m vertically. Also includes the recessed area of a window with a sill next to the bath. Requires electrical products to have an IPX4 or better. SELV with the transformer located outside of zones 0,1 & 2 or beyond.
Socket outlets, other than shaver supply units complying with BS EN 61558-2-5 are not allowed within 2.4m from zone 2.



Calculating the Right Fan

In order to provide sufficient ventilation it is essential that the correct fan is selected for the application.

1. Firstly calculate the volume of the room (length x width x height).
2. Multiply this by the recommended number of air changes per hour, the total will give the fan performance required, expressed in m^3/hr.
3. Find the fan that matches the performance and application.

The above calculations are offered as guidelines only. Discuss your specific requirements with our technical team on 01823 690290.

Recommended Air Changes per Hour

Assembly plants	4-8
Auditoriums	6-8
Bakeries	20-30
Banks	4-8
Bathrooms	5-10
Battery rooms*	5-10
Bedrooms	2-4
Billiard rooms	6-8
Boiler rooms	15-30
Cafes	10-12
Canteens	8-12
Car parks	5-8
Cellars	3-10
Changing rooms	6-8
Churches	1-3
Cinemas and theatres	8-12
Classrooms	5-7
Cloakrooms	4-6
Club rooms	12-15
Compressor rooms	10-12
Conference rooms	6-12
Dairies	8-12
Dance halls	12-15
Dark rooms	10-15
Dye rooms*	15-30
Electroplating shops	10-12
Engine rooms	15-30
Entrance halls	3-5
Factories	8-10
Foundries	10-20
Garages	6-8
Glass houses	25-60
Gymnasiums	6-10
Hairdressers	10-15
Hospitals (Sterilising)	15-25
Hospital wards	6-8
Kitchens (Domestic)	15-25
Kitchens (Commercial)	20-30
Laboratories*	6-15
Launderettes	10-15
Lecture theatres	5-8
Libraries	4-5
Living rooms	3-6
Meeting rooms	5-10
Mushroom houses	6-10
Offices	6-10
Paint rooms*	10-20
Plant rooms	10-40
Pubs	15-25
Recording studios	10-12
Restaurants	8-12
Retail shops	4-8
School rooms	5-7
Sheet metal shops	8-12
Shower rooms	15-25
Supermarkets	8-15
Spray booths*	25-50
Stores and warehouses	3-6
Squash courts	4-8
Swimming pools	10-15
Tanneries*	5-15
Toilets (Domestic)	6-10
Toilets (Public)	8-15
Utility rooms	15-20
Waiting rooms	4-6
Welding shops	20-30
Workshops	6-10

*These rooms may require an explosion proof, flame proof or anticorrosive fans, please ask our technical team on 01823 690290 for specific requirements.

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