

Cool Breeze



reducing
the risk of
over-heating
in residential
properties



Cool Breeze



The **Cool Breeze** has been designed to provide an effective solution for mitigating overheating in residential properties, particularly during summer months. It meets the standards used in **CIBSE TM59** assessments and **Approved Document O** of the Building Regulations.

Designed for seamless integration with the **Vectaire Maxi MVHR** range, the **Cool Breeze** offers a compact, energy-efficient, and compliant approach to indoor temperature regulation.

The **self-contained, sealed-for-life system**, delivers up to **4.1 kW of total cooling capacity** without the need for an external condenser.

The **Cool Breeze** automatically senses the room temperature and that of the incoming fresh air to determine when cooling is required.

It removes heat from the supply air allowing the MVHR to distribute the cooled air throughout the property, providing a consistently comfortable indoor environment for residents.

The Vectaire range of MVHRs has been designed to ensure good indoor air quality in every type of domestic environment. They comply with UK Building Regulations for mechanical ventilation with heat recovery.

The system is ideally suited for use in new-build and retrofit applications where regulatory compliance and system efficiency are critical.

HOW THE COOL BREEZE WORKS



above temperatures for reference only

Cool Breeze



COOL BREEZE FEATURES

- Up to 4.1 kW of total cooling provided
- Fresh air supply is lowered by up to 20°C
- Uses R290 - eco friendly, natural refrigerant - over 225 times more environmentally friendly than R32
- **COP up to 4.3**
- **GWP Rating 3**
- **EER up to 3.2**
- Automatic control of supply temperature via integral sensor - no false activation from poorly sited external thermostat
- Optional manual override for user preference
- Universal handing via intelligent software
- Very quiet integral condenser
- Front access for servicing
- Wall or floor installation (with appropriate wall bracket or floor stand)

MAXI MVHR FEATURES

- High quality, energy efficient EC motors with low specific fan power
- 92% efficient counter-flow heat exchanger
- Very low noise levels
- Enhanced acoustic option available
- Fully automatic summer bypass
- Intelligent software for independent motor control
- 0-10V connections can be used for:
 - BMS - for remote motor shut-off
 - CO₂ detector
 - home automation system
- Tool free front filter access
- External pre-heater option
- Passive House Certified option
- **Manufactured in the UK**
- **Cool Breeze Registered Design**

INSTALLATION OPTIONS

Wall



Floor



Cool Breeze



COOLING DATA

External Temperature 28°C		Airflow l/sec					
Internal Temp		60	70	80	90	100	110
23°C	Combined Cooling Power (kW)	1.30	1.48	1.65	1.78	1.90	2.03
	Supply Air °C	10.1	10.6	11.0	11.7	12.3	12.8
	Total Cooling Power @ 50%RH (kW)	1.43	1.62	1.81	1.96	2.09	2.23
24°C	Combined Cooling Power (kW)	1.25	1.43	1.60	1.73	1.85	1.98
	Supply Air °C	10.8	11.2	11.5	12.1	12.7	13.1
	Total Cooling Power @ 50%RH (kW)	1.37	1.57	1.76	1.90	2.03	2.18
25°C	Combined Cooling Power (kW)	1.22	1.40	1.57	1.70	1.82	1.93
	Supply Air °C	11.2	11.5	11.8	12.4	13.0	13.5
	Total Cooling Power @ 50%RH (kW)	1.34	1.54	1.72	1.87	1.99	2.12
26°C	Combined Cooling Power (kW)	1.20	1.37	1.53	1.66	1.78	1.89
	Supply Air °C	11.5	11.9	12.2	12.8	13.3	13.8
	Total Cooling Power @ 50%RH (kW)	1.32	1.50	1.68	1.82	1.95	2.08

External Temperature 30°C		Airflow l/sec					
Internal Temp		60	70	80	90	100	110
23°C	Combined Cooling Power (kW)	1.43	1.63	1.83	1.99	2.14	2.28
	Supply Air °C	10.3	10.7	11.1	11.7	12.3	12.9
	Total Cooling Power @ 50%RH (kW)	1.57	1.80	2.01	2.19	2.35	2.51
24°C	Combined Cooling Power (kW)	1.39	1.58	1.77	1.93	2.08	2.22
	Supply Air °C	10.9	11.3	11.7	12.3	12.8	13.3
	Total Cooling Power @ 50%RH (kW)	1.52	1.74	1.95	2.12	2.29	2.44
25°C	Combined Cooling Power (kW)	1.36	1.55	1.72	1.88	2.02	2.16
	Supply Air °C	11.2	11.7	12.2	12.8	13.3	13.8
	Total Cooling Power @ 50%RH (kW)	1.50	1.70	1.89	2.06	2.22	2.37
26°C	Combined Cooling Power (kW)	1.34	1.52	1.69	1.83	1.96	2.09
	Supply Air °C	11.5	12.0	12.5	13.2	13.8	14.3
	Total Cooling Power @ 50%RH (kW)	1.48	1.68	1.86	2.02	2.15	2.30

External Temperature 32°C		Airflow l/sec					
Internal Temp		60	70	80	90	100	110
23°C	Combined Cooling Power (kW)	1.50	1.71	1.90	2.06	2.21	2.38
	Supply Air °C	11.3	11.9	12.4	13.1	13.7	14.2
	Total Cooling Power @ 50%RH (kW)	1.65	1.88	2.08	2.27	2.43	2.61
24°C	Combined Cooling Power (kW)	1.46	1.67	1.88	2.04	2.19	2.34
	Supply Air °C	11.9	12.3	12.6	13.3	13.9	14.4
	Total Cooling Power @ 50%RH (kW)	1.60	1.84	2.06	2.24	2.41	2.57
25°C	Combined Cooling Power (kW)	1.44	1.65	1.85	2.01	2.15	2.30
	Supply Air °C	12.1	12.5	12.9	13.6	14.2	14.7
	Total Cooling Power @ 50%RH (kW)	1.59	1.82	2.03	2.21	2.37	2.53
26°C	Combined Cooling Power (kW)	1.42	1.62	1.81	1.97	2.12	2.26
	Supply Air °C	12.4	12.9	13.3	13.9	14.5	15.1
	Total Cooling Power @ 50%RH (kW)	1.56	1.78	1.99	2.17	2.33	2.48



COOLING DATA cont

External Temperature 34°C		Airflow l/sec					
Internal Temp		60	70	80	90	100	110
23°C	Combined Cooling Power (kW)	1.60	1.83	2.04	2.23	2.41	2.59
	Supply Air °C	11.9	12.4	12.9	13.5	14.1	14.6
	Total Cooling Power @ 50%RH (kW)	1.76	2.01	2.24	2.45	2.65	2.84
24°C	Combined Cooling Power (kW)	1.58	1.80	2.00	2.19	2.37	2.56
	Supply Air °C	12.2	12.8	13.3	13.9	14.4	14.8
	Total Cooling Power @ 50%RH (kW)	1.74	1.98	2.20	2.41	2.61	2.81
25°C	Combined Cooling Power (kW)	1.56	1.79	2.01	2.18	2.32	2.51
	Supply Air °C	12.5	12.9	13.2	14.0	14.8	15.2
	Total Cooling Power @ 50%RH (kW)	1.72	1.97	2.21	2.39	2.55	2.76
26°C	Combined Cooling Power (kW)	1.54	1.76	1.97	2.13	2.29	2.46
	Supply Air °C	12.8	13.3	13.7	14.4	15.1	15.5
	Total Cooling Power @ 50%RH (kW)	1.69	1.93	2.16	2.35	2.51	2.71

TECHNICAL DATA

FLC - Amps	Power - Watts	Max Cooling Capacity - Kilowatts
4.8	700	4.1

SOUND DATA *		Sound Power Levels, L_W - dB-Octave Bands Frequency Hz								Sound Pressure dBA @ 3m
Curve Ref		63	125	250	500	1k	2k	4k	8k	
100% 120 l/sec	Extract	52	57	61	58	59	58	55	50	43
	Supply	57	62	66	63	64	63	60	55	
	Breakout	67.6	38.4	44.1	35.5	29.3	29.5	19.6	11.8	
80% 100 l/sec	Extract	48	53	55	53	54	52	49	42	42
	Supply	53	58	60	58	59	57	54	47	
	Breakout	67.3	38.1	41.3	30.3	25.7	24.6	14.4	9.4	
60% 80 l/sec	Extract	42	47	48	46	47	45	40	32	41
	Supply	47	52	53	51	52	50	45	37	
	Breakout	67.1	36.2	33.6	24.3	20.8	19.6	8.3	8.2	

* data from our own laboratory

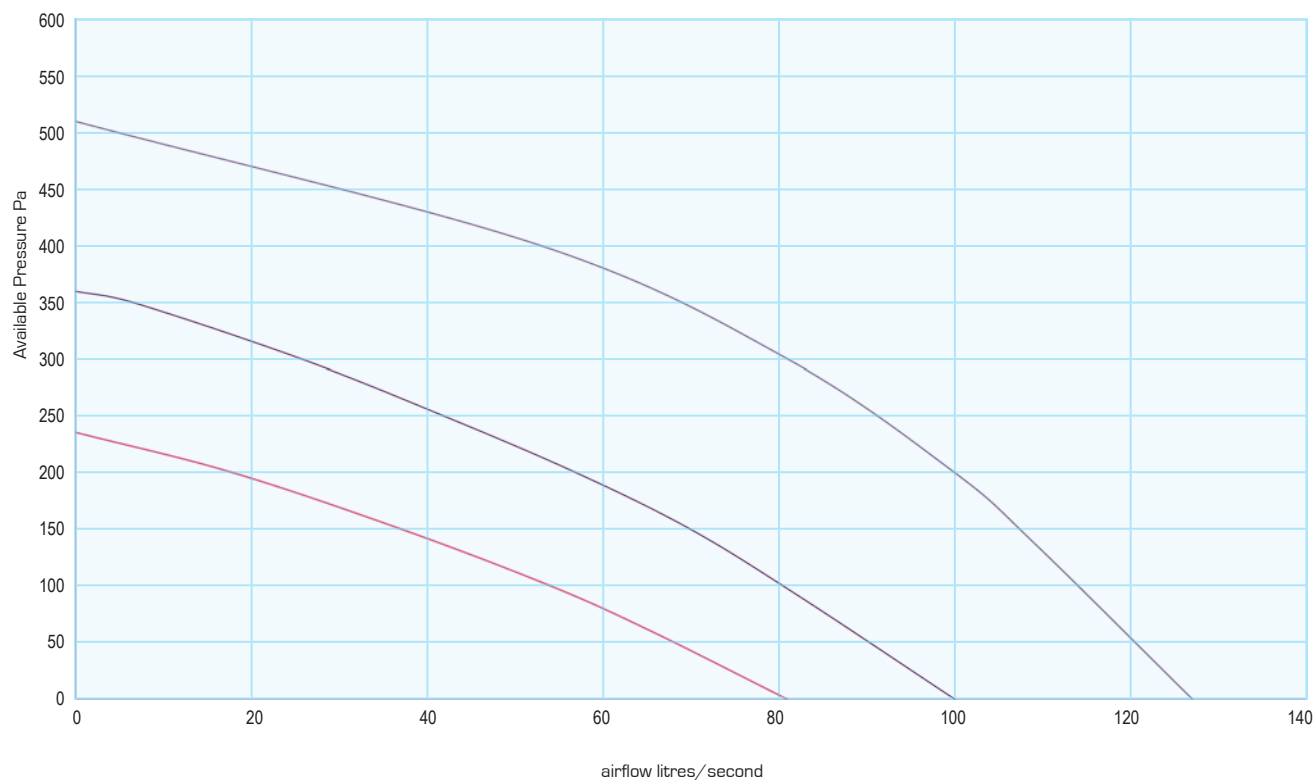


MAXI - RESULTS for SAP CALCULATIONS
ENERGY LEVEL PERFORMANCE - using rigid ducting only

	2009 Data		2012 Data		SAP 10 Data	
Exhaust Terminal Configuration	Specific Fan Power (W/l/sec)	Heat Exchange Efficiency	Specific Fan Power (W/l/sec)	Heat Exchange Efficiency	Specific Fan Power (W/l/sec)	Heat Exchange Efficiency
Kitchen + 1 additional wet room	0.43	92%	0.45	92%	0.45	92%
Kitchen + 2 additional wet rooms	0.40	92%	0.47	92%	0.47	92%
Kitchen + 3 additional wet rooms	0.42	92%	0.54	91%	0.54	91%
Kitchen + 4 additional wet rooms	0.48	91%	0.66	90%	0.66	90%
Kitchen + 5 additional wet rooms	0.55	91%	0.80	90%	0.80	90%
Kitchen + 6 additional wet rooms	0.63	90%	0.99	89%	0.99	89%
Kitchen + 7 additional wet rooms	0.76	90%	1.21	89%	1.21	89%

Figures at minimum flow rate conditions

COOL BREEZE PERFORMANCE (curves are for guidance only)



Cool Breeze



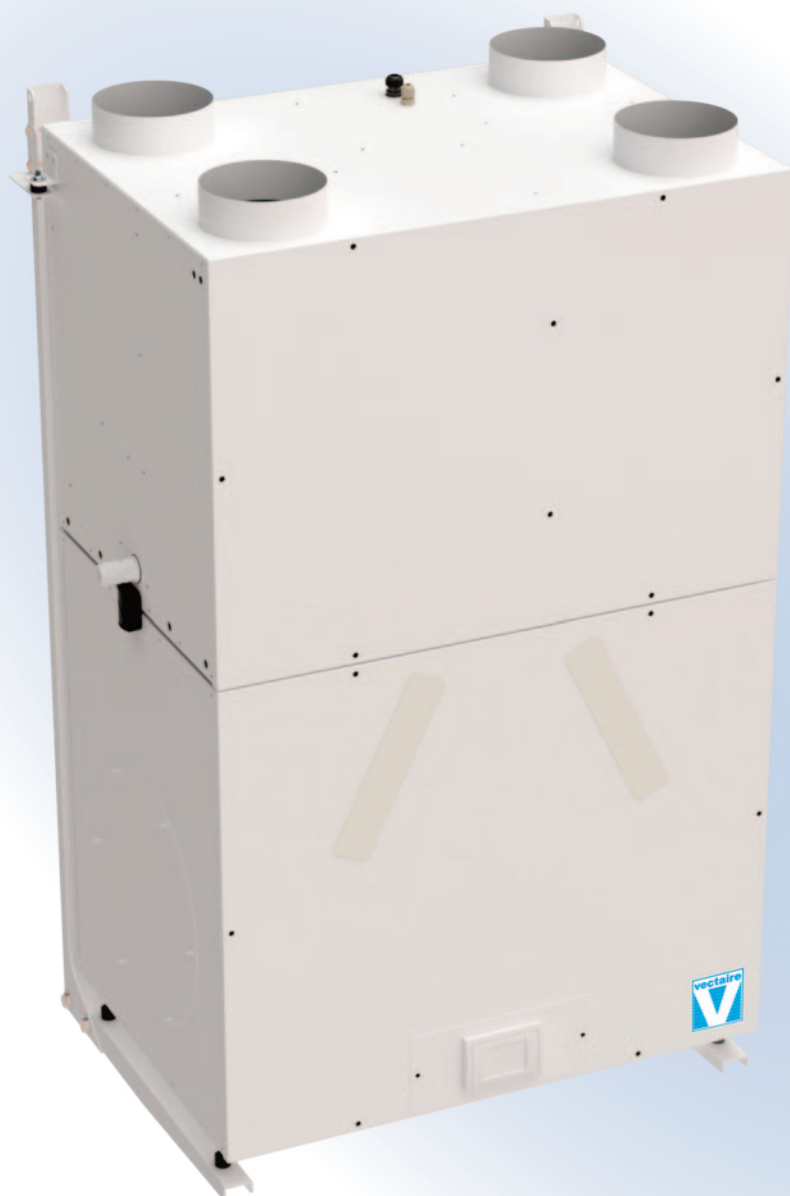
The technical drawings show the following dimensions:

- Front View:** Width 818 mm, Height 1482 mm.
- Left Side View:** Depth 560 mm.
- Right Side View:** Depth 823 mm.
- Rear View:** Width 581 mm, Height 1319 mm.

A detail dimension of $\varnothing 149$ mm is shown for the top mounting holes.

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