

# AiroMatic® Powered Roof Ventilator

Refer to product table below for applicable product codes covered by this document

Issue **D**

## Product Type & Application

AiroMatic® is a smart roof ventilator with a low voltage electronic commutating motor fitted with temperature and humidity sensors to control fan operation and speed. It is specifically designed for Class 1 and Class 10 building roof ventilation in non-cyclonic regions.

## Compliance with the NCC

When correctly specified and installed this powered roof ventilator:

### NCC2022

- **Ventilation of Roof Spaces** - Meets the requirements of ABCB Housing Provisions Standard 2022 10.8.3 via performance solution for condensation management for NCC Climate Zones 6, 7 and 8.
- **Weatherproofing** - Meets the requirements of the NCC 2022 Volume 2 Weatherproofing Performance Requirement H2P2 via Deemed-to-Satisfy (DtS) and performance solution pathways.

### NCC 2019

- **Ventilation of Roof Spaces** - Meets the requirements of NCC 2019 Volume 2 Amend. 1 3.8.7.4 via performance solution.
- **Weatherproofing** - Meets the requirements of the NCC 2019 Volume 2 Amend. 1 Weatherproofing Performance Requirement P2.2.2 via Deemed-to-Satisfy (DtS) and performance solution pathways.

## Evidence of Suitability

- Ventilation of roof spaces NCC 2022 –
  - Surex Performance Solution Report SUR22127.
- Ventilation of roof spaces NCC 2019 Amend. 1 –
  - Cardno Performance Solution Report 80820109.
- AS4740 Natural Ventilators, Classification and Performance -
  - CSR Lab Report ETR00075.
- ISO5801 Industrial Fans – Performance testing using standardized airways –
  - CSR Lab Report ETR00067.
- ISO5801 Industrial Fans – Performance testing using standardized airways –
  - CSR Lab Report ETR00068.
- Weatherproofing –
  - Arcadis Report 30051677\_4.

## Limitations of Use

- **IMPORTANT** - Do Not Modify This Product: Compliance with the evidence of suitability data referenced in this document is only achieved by the product or configuration listed in this PTS.
- This product has not been tested for use in cyclonic wind regions C or D.
- Do not use for exhausting hazardous, abrasive, acidic and alkaline vapour or areas containing explosive or corrosive materials.
- This product is not suitable for use in Bush Fire BAL-12.5 to BAL-40 or BAL-FZ rated areas.

## Conditions of Storage, Use & Maintenance

- Store in the original packaging in a cool and dry area.
- The electronics and electrical components are designed for indoor installation only and should not come into contact with water.
- Do not attempt to repair – contact Bradford Ventilation for service advice.

Refer to the product warranty at [bradfordventilation.com.au](http://bradfordventilation.com.au) for more information.

## Specific Design or Installation Instructions

- Isolate power before installation.
- This product requires specific areas to be sealed against water entry and other areas to be left unsealed to allow internal condensation drainage – refer to the installation guide for details.
- The power supply and speed controller are for dry indoor use only. Ensure that the power supply and speed controller are not left on damp surfaces - fasten to the internal structure with screws or cable ties as required.
- Replacement outside air must be provided via evenly distributed openings such as Bradford Ventilation Metal Eave Vents positioned to facilitate cross-flow ventilation and help the powered ventilator to work more effectively and efficiently.
- Electrical connection requires 240VAC GPO for operation.
- The power supply and speed controller are for dry indoor use only. Ensure that the power supply and speed controller are not left on damp surfaces - fasten to the internal structure with screws or cable ties as required.
- Only use one powered ventilator per speed controller and power supply as supplied by Bradford Ventilation.
- The AiroMatic® has an unguarded fan assembly and should not be used in locations readily accessible to people or animals - the fan is intended for use facing an unoccupied space only.

## AiroMatic® Powered Roof Ventilator

### Specific Design or Installation Instructions cont.

- Use only the default fixed speed (identified by a label on the product) to comply with NCC2019 Amend. 1 and NCC 2022 Ventilation of Roof Spaces Performance Solutions.

For general installation guidance refer to the product installation guide at [www.bradfordventilation.com.au](http://www.bradfordventilation.com.au)

### Specific Design or Installation Instructions cont.

#### NCC2022 Ventilation of Roof Spaces Performance Solution Requirements in Table 1:

The table below shows the powered ventilator and replacement air configurations necessary to meet the condensation management requirement in NCC Climate Zones 6, 7 and 8. The NCC stipulates an open area requirement per meter length of the longest horizontal dimension of the roof - the performance solution provided in Table 1 is an equivalent solution derived from the powered ventilator air-flow rates.

AiroMatic® powered ventilators should be installed not more than 900mm below the ridge or highest point of the roof space, measured vertically.

**Table 1. NCC 2022 Bradford Performance Solution Table for all roof pitches above 10°**

Longest Horizontal Roof Dimension	Number of AiroMatic® Ventilators Required <sup>1</sup>	Number of Bradford Metal Eave Vents Required	Unobstructed area for air replacement <sup>2</sup>
0 to <50m	1	4	0.15m <sup>2</sup>
50m to <100m	2	6	0.21m <sup>2</sup>

<sup>1</sup> At pre-fixed speed.

<sup>2</sup> The unobstructed area for air replacement is an alternate solution to replace Bradford Metal Eave Vents and assumes evenly distributed openings in accordance with the NCC requirement.

#### NCC2019 Ventilation of Roof Spaces Performance Solution Requirements in Table 2:

- Calculate the area (m<sup>2</sup>) of ceiling directly under the roof space;
- Determine the pitch of the roof;
- Install AiroMatic(s) and Metal Eave Vents according to the Bradford Ventilation Performance Solution Table;
- Distribute the powered ventilator(s) and metal eave vents evenly.

**Table 2. NCC 2019 Bradford Performance Solution**

Roof Pitch	Total Ceiling Area <sup>1</sup>	AiroMatics Required <sup>2</sup>	Metal Eave Vents	Make-Up Air Open Area <sup>3</sup>
> 22°	< 203 m <sup>2</sup>	1	4	0.15 m <sup>2</sup>
	< 407 m <sup>2</sup>	2	6	0.21 m <sup>2</sup>
≤ 22°	< 127 m <sup>2</sup>	1	4	0.15 m <sup>2</sup>
	< 254 m <sup>2</sup>	2	6	0.21 m <sup>2</sup>
	< 381 m <sup>2</sup>	3	8	0.28 m <sup>2</sup>

<sup>1</sup> Total Ceiling Area is defined as the total ceiling area directly under the roof/attic space.

<sup>2</sup> At pre-fixed speed.

<sup>3</sup> The Make-Up Open Area air is an alternate solution to replace Bradford Metal Eave Vents and assumes evenly distributed openings in accordance with the NCC requirement.

## AiroMatic® Powered Roof Ventilator

### Applicable Product Codes (SKU)

Variant	Material Code
AiroMatic® Surfmist	112155
AiroMatic® Headland	112153
AiroMatic® Woodland Grey	112156
AiroMatic® Night Sky	112154

### Product Specifications

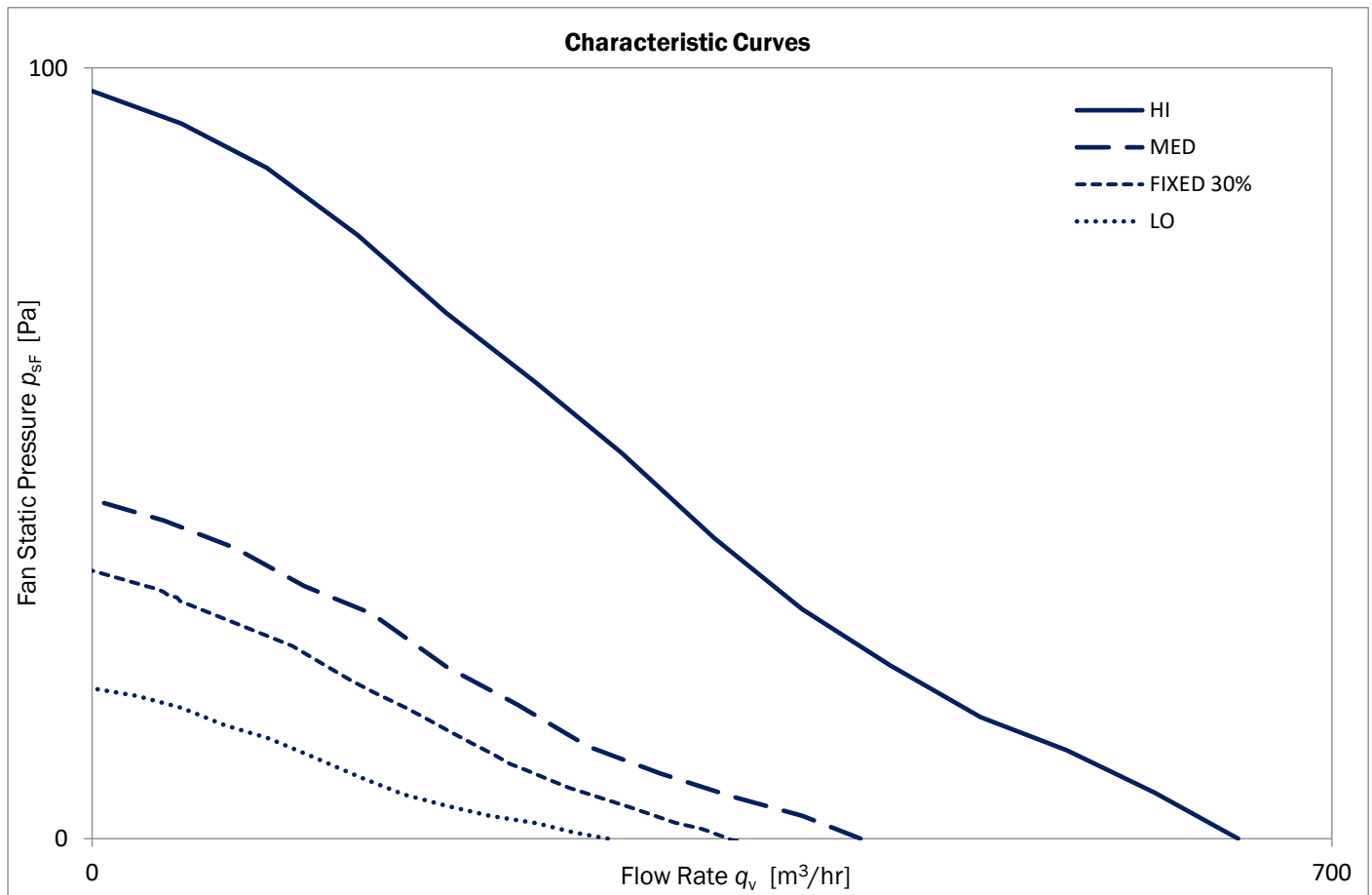
General	
Ventilator Type	Powered Roof Ventilator
Fan Diameter	230 mm
Throat Diameter	250 mm
Product Weight	2.95 kg
Packaged Weight	3.70 kg
Roof Slope Installation Range	<b>Tiled Roofs</b> 15° to 35° <b>Metal Sheet Roofs</b> 3° to 35° Note: Where applicable all roof pitches must comply to AS1562.1, the NCC & Australian Standards weatherproofing requirements within the ranges above.

Electrical	
Power Supply Type	Electronic Switch Mode
Input Voltage	100-240VAC, 1A, ~50/60Hz
Output Voltage	24 VDC
Cable Length	Approx. 1.8 m
Installation Location	Indoor, Dry Area
Fan Type	Electronic Commutating Motor
Internal Voltage	24 VDC
Protection Class	IP54
Maximum Flow Rate	647 m <sup>3</sup> /hr

Material	
Clear Dome	UV Stable Clear Acrylic
Housing	Weatherproof Acrylic
Flashing	Aluminium
Fan and Motor Housing	Polypropylene
Fan Impeller	Glass-Filled Nylon
Screws	Stainless Steel and Galvanised

## AiroMatic® Powered Roof Ventilator

### Product Performance – Ventilator Flowrate



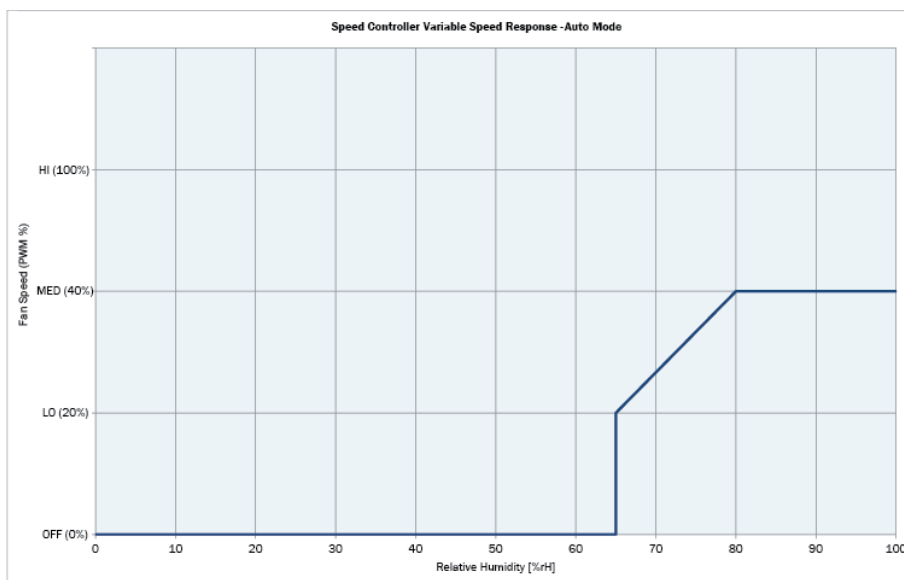
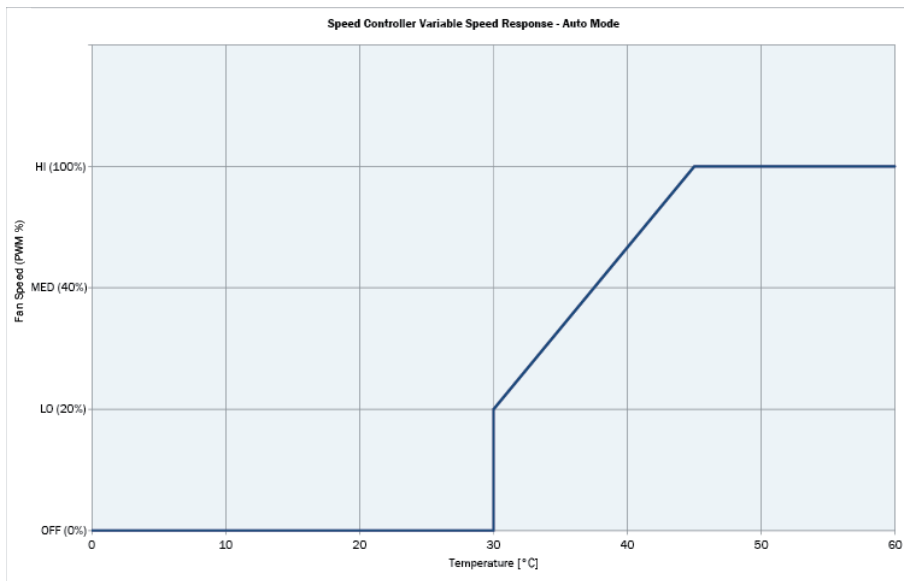
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### Ventilator Fan Speed Options

AiroMatic® has 3 fixed speed options available (LO, MED, HI) or a variable (AUTO) speed which responds to both ambient temperature and to ambient relative humidity.

- In AUTO when measuring the temperature, the fan response will be off below 30°C, LO speed at 30°C and a linear increase in speed until HI speed is reached at 45°C.
- In AUTO when measuring relative humidity, the fan response will be off below 65%rH. At 65%rH the fan will start in LO speed and there will be a linear increase in speed until MED speed is reached at 80%rH.

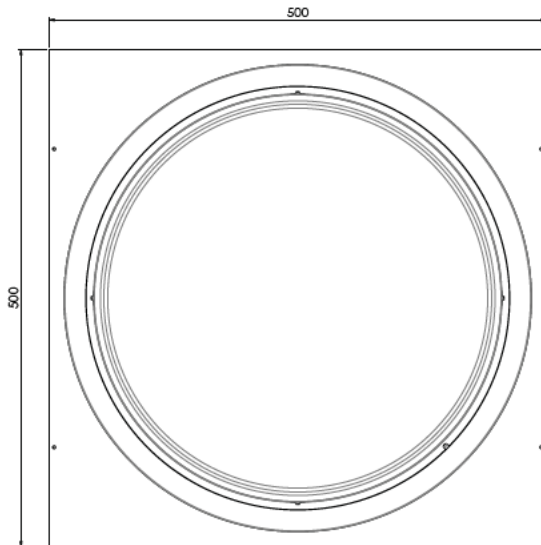
The two charts below summarise the fan response.



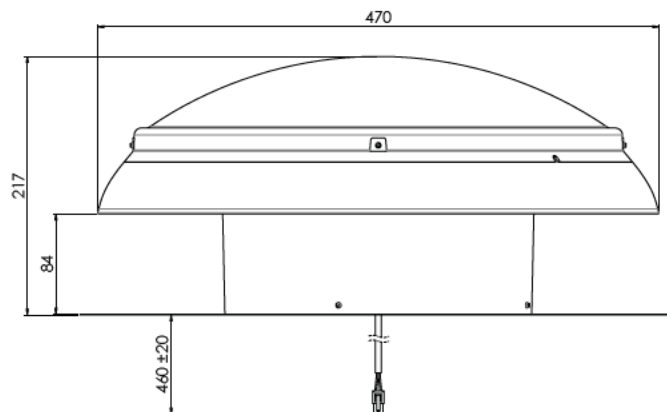
# AiroMatic® Powered Roof Ventilator

## Product Dimensions

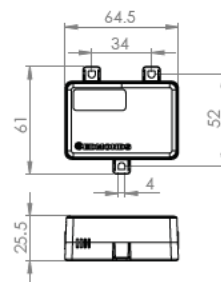
Top View



Front View



Speed Controller



Power Supply

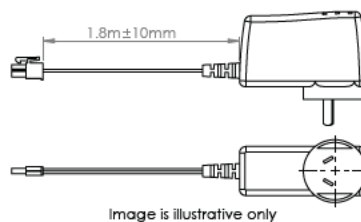


Image is illustrative only