Bradford™

Product Technical Statement

AiroMatic® Powered Roof Ventilator

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

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 SUR23137.
- Ventilation of roof spaces NCC 2019 Amend. 1 –
  - Cardno Performance Solution Report 80820109.
- 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 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.
- 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.
- 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.
- This product contains a fan which might be audible when in operation – avoid positioning the product directly over bedrooms, bedroom ensuites or on a roof area adjacent to, or overlooked by an upper storey level of the home where the fan noise may be heard.

AiroMatic® Powered Roof Ventilator

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[1]

Longest Horizontal Roof Dimension	Number of AiroMatic® Ventilators Required[2]	Number of Bradford Metal Eave Vents Required	Number of Bradford Poly Eave Vents Required	Unobstructed area for air replacement[3]
0 to <50m	1	4	6	0.15m²
50m to <100m	2	6	9	0.21m²

[1] Roof pitches with a slope range of 15° to 35° for tiled roofs and 3° to 35° for metal sheet roofs.
[2] At pre-fixed speed.
[3] 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 (m²) 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[1]	AiroMatics Required[2]	Metal Eave Vents	Poly Eave Vents	Make-Up Air Open Area[3]
> 22°	< 203 m²	1	4	6	0.15 m²
	< 407 m²	2	6	9	0.21 m²
≤ 22°	< 127 m²	1	4	6	0.15 m²
	< 254 m²	2	6	9	0.21 m²
	< 381 m²	3	8	12	0.28 m²

[1] Total Ceiling Area is defined as the total ceiling area directly under the roof/attic space.
[2] At pre-fixed speed.
[3] 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.

For general installation guidance refer to the product installation guide at www.bradfordventilation.com.au

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

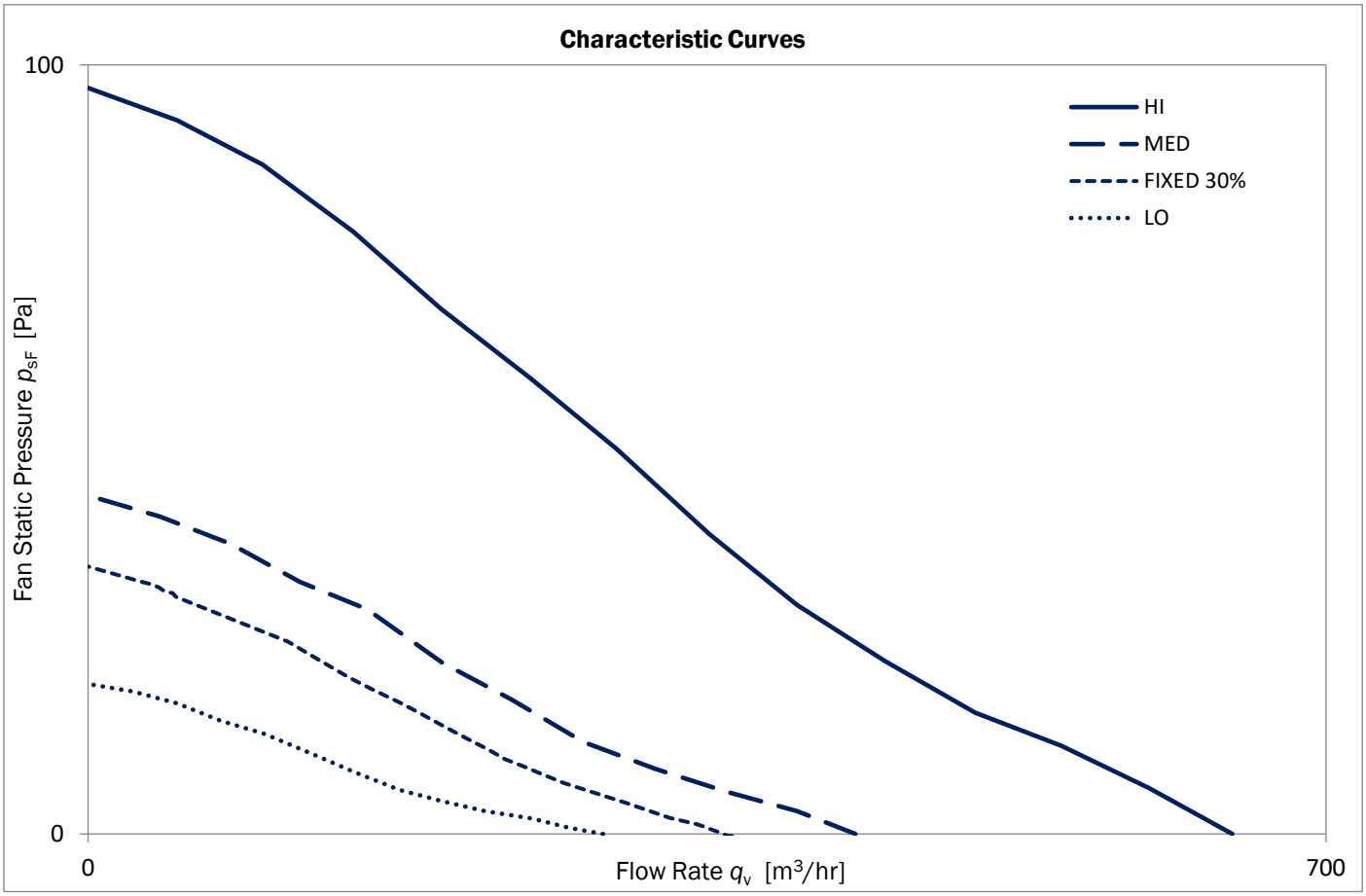
General	
Ventilator Type	Powered Roof Ventilator
Fan Diameter	230 mm
Minimum Throat Diameter (Not suitable for use in calculating NCC Ventilation opening requirements)	250 mm
NCC Ventilation Openings	NCC ventilation opening compliance requirements for Climate Zones 6, 7 and 8 are addressed by a Performance Solution, as detailed in the 'Compliance with the NCC' and 'Evidence of Suitability' sections above. The Performance Solution equates the NCC specified open area with a tested flow rate at a fixed speed for powered ventilators.
Product Weight	2.95 kg
Packaged Weight	3.70 kg
Roof Slope Installation Range	**Tiled Roofs** 15° to 35° **Metal Sheet Roofs** 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 m³/hr at 0Pa

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



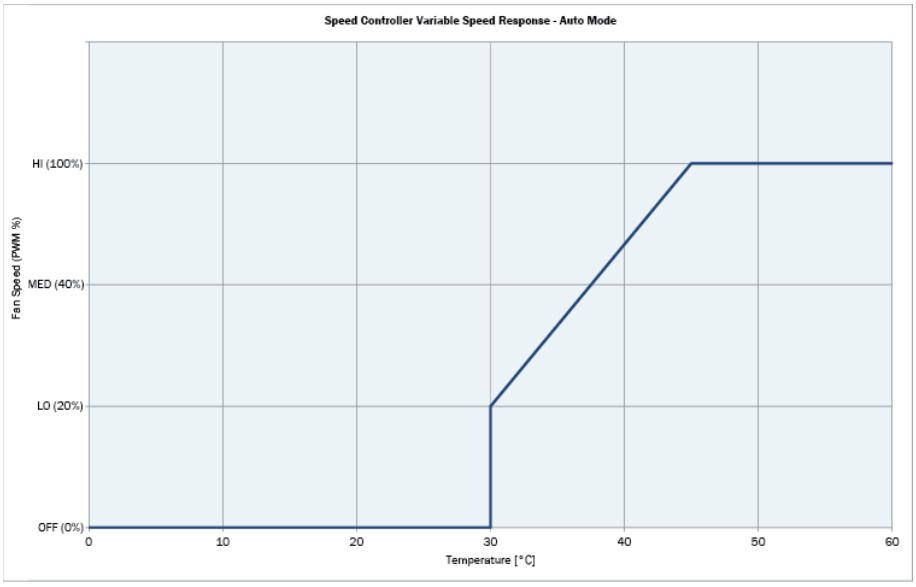
AiroMatic® Powered Roof Ventilator

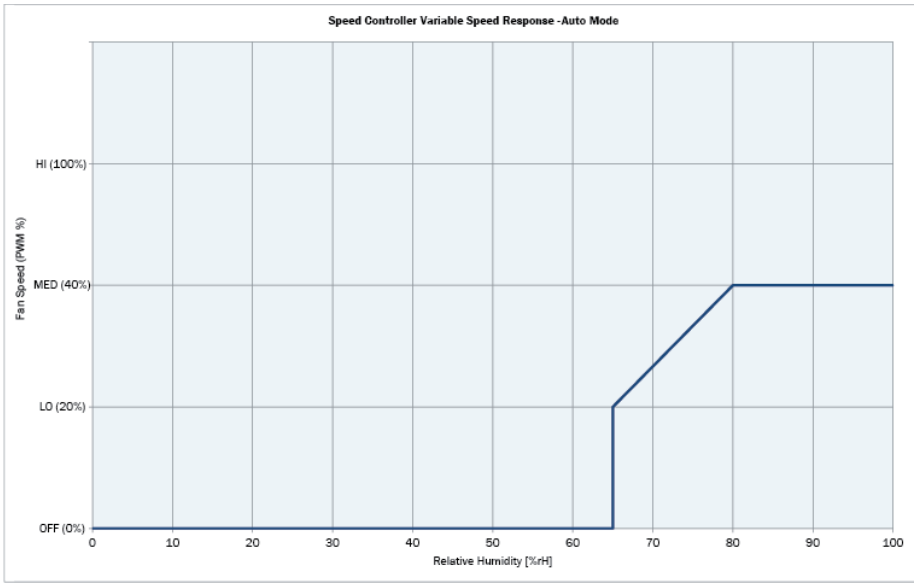
Ventilator Fan Speed Options

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.

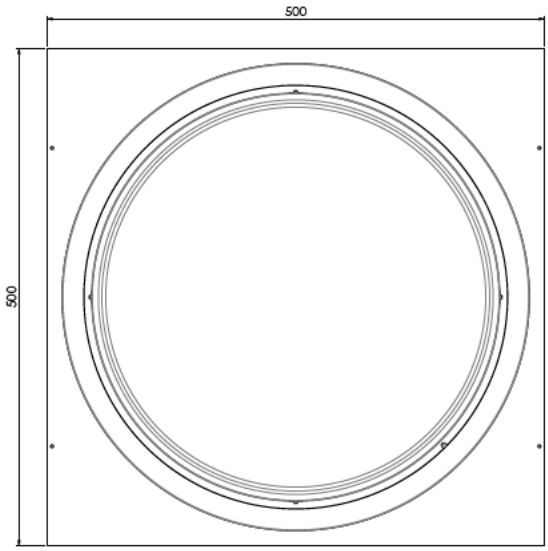




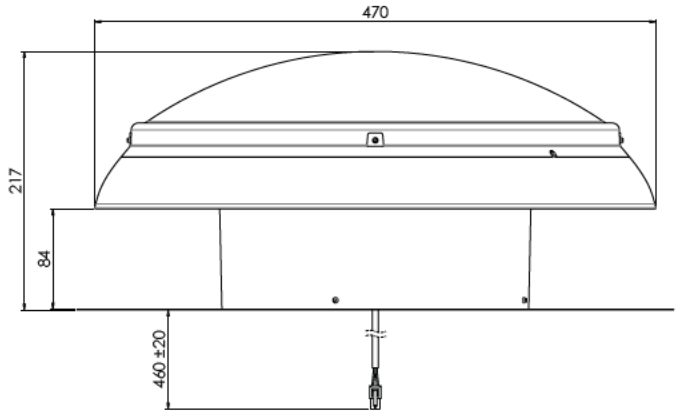
AiroMatic® Powered Roof Ventilator

Product Dimensions

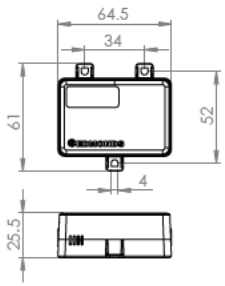
Top View



Front View



Speed Controller



Power Supply

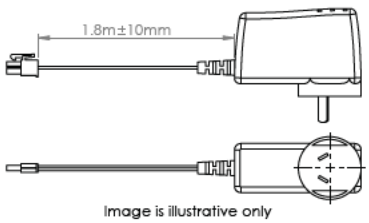


Image is illustrative only

CSR Bradford Locked Bag 1345 North Ryde BC NSW 1670
csrbradford.com.au

For further technical advice
call **1300 850 305** or visit **csrbradford.com.au**