

WindMaster™ BAL40

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

Issue **B**

Product Type & Application

The Bradford Ventilation WindMaster BAL40 is wind driven natural roof ventilator that is specifically designed and factory assembled to meet the requirements of BAL12.5 to BAL40 for Class 1 and 10a residential applications. Its non-combustible construction is designed to exhaust heat and moisture from the roof space, without the use of electrical energy.

Compliance with the NCC

For use in Australia, when correctly specified and installed, this product provides the following compliance:

NCC 2022

- **Ventilation of Roof Spaces** - Meets the requirements of NCC2022 Volume 1 F8D5 and ABCB Housing Provisions Standard 2022 10.8.3 as a Deemed to Satisfy solution for condensation management for NCC Climate Zones 6, 7 and 8.
- **Construction in Bushfire Prone Areas** - Meets the requirements of NCC 2022 Volume 1 G5D3 and NCC 2022 Volume 2 H7D4 through compliance with AS 3959.
- **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 1 Amend. 1 F6.4 and NCC 2019 Volume 2 Amend. 1 3.8.7.4 as a Deemed to Satisfy solution.
- **Construction in Bushfire Prone Areas** - Meets the requirements of NCC 2019 Volume 1 Amend. 1 G5 and NCC 2019 Volume 2 Amend. 1 3.10.5 through compliance with AS 3959.
- **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 - Bradford Ventilation DTS Solution Calculation.
- Construction in Bushfire Prone Areas – CSIRO Report FCO-3524.
- Weatherproofing –
 - Arcadis Report 30051677_4.
 - CSR Report ETR-00115.

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 is not suitable for BAL-FZ rated areas.
- 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 within 500m of a saltwater body.

Conditions of Storage, Use & Maintenance

- Store in the original packaging in a cool and dry area.
- Do not attempt to repair – contact Bradford Ventilation for service advice.
- The ember guard must be cleaned regularly to maintain product flowrate.

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 flashing must be formed to seal gaps between the roof cladding and flashing – gaps must be ≤2mm. Sealant may only be used for weatherproofing purposes.
- Assembly and installation must be accordance with the WindMaster BAL40 installation manual.
- The rotating head of this product must be installed horizontally to ensure correct operation.
- Refer to the tables below for recommended ventilation levels. Note that there are differences in requirements between NCC 2019 and NCC 2022.

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Specific Design or Installation Instructions cont.

NCC2022 Ventilation of Roof Spaces Deemed-To-Satisfy Solution Requirements Calculation in Table 1:

The table below indicates the ventilation opening requirements for condensation management in NCC Climate Zones 6, 7 and 8. The NCC gives an open area requirement per meter length of the longest horizontal dimension (e.g., the longest length of gutter) of the roof, the table indicates how many products are required based on this. Ventilation openings should be evenly distributed.

WindMaster BAL40 vents should be installed not more than 900mm below the ridge or highest point of the roof space, measured vertically.

Table 1. NCC 2022 Bradford Deemed-To-Satisfy Solution

Products	WindMaster BAL40 Roof Ventilator Requirement	Bradford Metal Eave Vent Requirement
Roof Pitch		
<10°		Install 1 Metal Eave Vent for every 0.7m of the longest horizontal roof length. These must be equally divided between the two opposing ends of the roof.
≥10° and <15°	1 WindMaster BAL40 for every 7.1m of the longest horizontal roof length.	1 Eave Vent for every 1.4m of the longest horizontal roof length.
≥15° and <75°	1 WindMaster BAL40 for every 7.1m of the longest horizontal roof length.	1 Eave Vent for every 5.0m of the longest horizontal roof length.
≥15° and <75° Cathedral	1 WindMaster BAL40 for every 7.1m of the longest horizontal roof length.	1 Eave Vent for every 1.4m of the longest horizontal roof length.

IMPORTANT APPLICATION NOTE: The number of vents required should be rounded up, not down, to ensure that the ventilation provided meets or exceeds the recommended requirement. For example, the ventilation requirement for a 10° pitched roof 20m long in the longest horizontal direction is calculated as follows:

- The ventilator requirement (1 per 7.1m) is calculated as follows: 20m divided by the recommended WindMaster BAL40 spacing of 7.1m = $20/7.1 = 2.8$ vents which should be rounded up to 3 WindMaster BAL40s, to be evenly distributed along the roof. The metal eave vent requirement (1 per 1.4m) is calculated as follows: 20m divided by the recommended metal eave vent spacing of 1.4m = $20/1.4 = 14.2$ eave vents which should be rounded up to 16 metal eave vents, evenly distributed around the roof.

NCC2019 Ventilation of Roof Spaces Deemed-To-Satisfy Solution Requirements Calculation in Table 2:

The table below indicates the ventilation opening requirements for condensation management in all NCC Climate Zones when kitchen, bathroom, sanitary compartment or laundry exhaust systems are discharging into the roof space.

- Calculate the area (m²) of ceiling directly under the roof space;
- Determine the pitch of the roof;
- Look-up the recommended number of WindMaster BAL40s and Bradford metal eave vents in the Deemed-To-Satisfy Solution Table 2 below;
- Distribute the WindMaster BAL40(s) and Bradford Metal Eave Vents evenly.

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Table 2. NCC 2019 Bradford Deemed-To-Satisfy Solution

Roof Pitch	Total Ceiling Area ¹ (m²)	Number of WindMaster BAL40s required	Bradford Metal Eave Vents required
> 22°	< 35	1	3
	< 71	2	5
	< 107	3	8
	< 143	4	10
	< 178	5	12
	< 214	6	15
≤ 22°	< 35	2	6
	< 71	4	10
	< 107	6	16
	< 143	8	20
	< 178	10	24
	< 214	12	30

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

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

Applicable Product Codes (SKU)

Mill 485200					
Basalt* 485201	Bluegum* 485202	Classic Cream* 485203	Cottage Green* 485204	Deep Ocean* 485205	Dover White* 485206
Dune* 485207	Evening Haze* 485208	Gully* 485209	Headland* 485211	Ironstone* 485212	Jasper* 485213
Manor Red* 485214	Monument* 485215	Night Sky* 485216	Pale Eucalypt* 485217	Paperbark* 485218	Shale Grey* 485219
Southerly* 485220	Surfmist* 485221	Wallaby* 485222	Windspray* 485223	Woodland Grey* 485224	



*Made to order.

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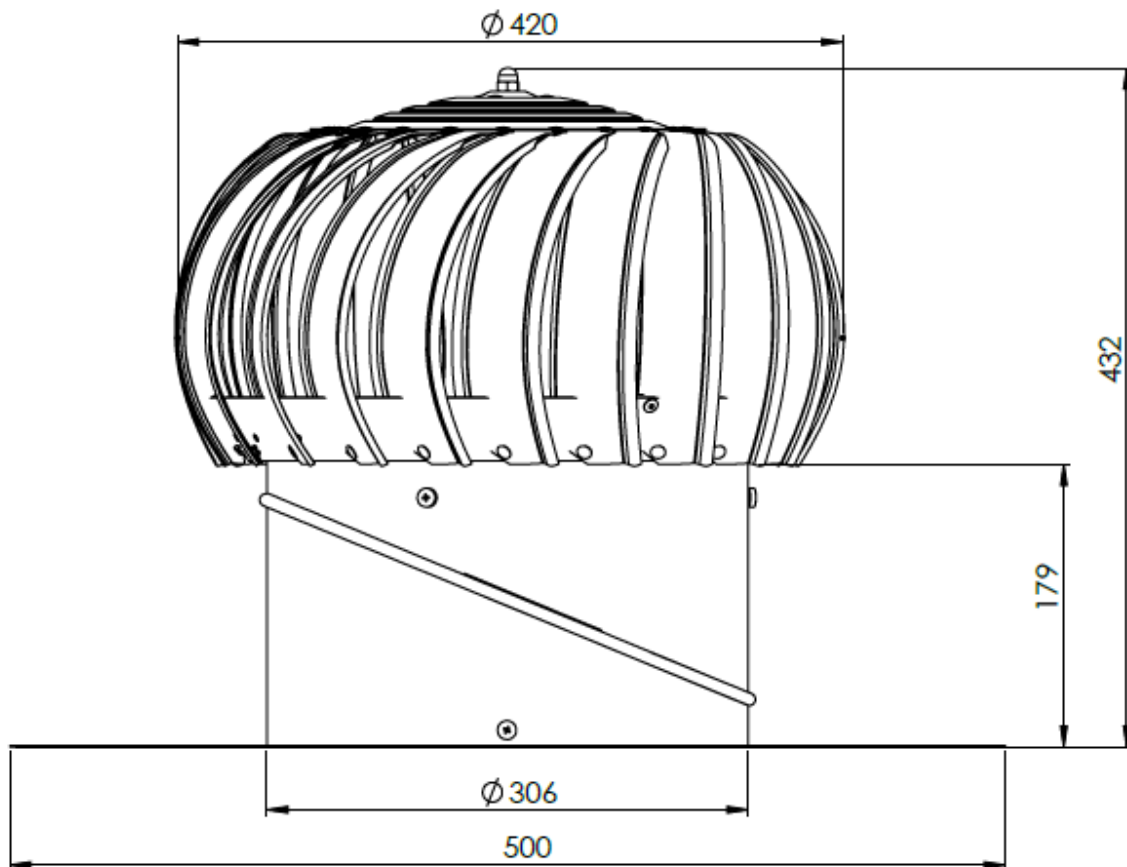
Product Specifications

General	
Ventilator Type	Natural Roof Ventilator
Turbine Diameter	420 mm
Varipitch Diameter	306 mm
Throat Open Area (including mesh)	35,800 mm ²
Product Weight	2.20 kg
Roof Pitch	Tiled Roofs 15° to 45° Metal Sheet Roofs 3° to 45° Note: Where applicable all roof pitches must comply to AS1562.1, the NCC & Australian Standards

Material	
Turbine	Aluminium
Varipitch	Aluminium
Flashing	Aluminium
Shaft	Zinc plated steel
Bearing Holder, Support Ring and Brackets	Aluminium
Mesh	Stainless Steel
Screws	Stainless Steel external and Zinc plated internal

Product Dimensions (in mm)

Front View



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Product Dimensions cont. (in mm)

Isometric Cut-out View

