

TurboBeam™ Wind Driven Turbine Ventilator

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

Issue **A, 11/2023**

Product Type & Application

The Bradford Ventilation TurboBeam is a wind driven ventilator with a clear turbine, designed to remove heat and provide natural light to the roof space or storage area, without the use of electrical energy.

Compliance with the New Zealand Building Code

When correctly specified and installed, this product meets or contributes to compliance with the following performance requirements of the building code:

- **B2 Durability** B2.3.1(c) – The materials of construction of the Bradford Ventilation TurboBeam have a well-established history of use in service.
- **E2 External Moisture** E2.3.2 – The Bradford Ventilation TurboBeam has more than 20 years' history of use. It complies with the Australian NCC for use in all non-cyclonic wind zones and is tested to AS4046.9.
- **G4 Ventilation** G4.3.1, G4.3.3 (contribute to) - provides air changes to maintain air purity.
- **F2 Hazardous building materials** - F2.3.1 - The materials of construction of the Bradford Ventilation TurboBeam do not emit or give rise to harmful concentrations of gas, liquid, radiation or solid particles.

Basis of Compliance

- CSR Research Laboratory Test Report ETR-00093, TurboBeam Ventilator Dynamic Weather Resistance Test (in accordance with AS4046.9), 10 September 2021.
- Arcadis Report 30051677_4, CSR Bradford Roof Ventilator Weatherproofing Performance Solution, 17 December 2021.
- Acceptable Solutions and Verification Methods for New Zealand Building Code Clause B2 Durability Second edition (Amendment 12), 28 November 2019.
- Verification Methods E2/VM1 and Acceptable Solutions E2/AS1, E2/AS2 and E2/AS3 for New Zealand Building Code Clause E2 External Moisture Third edition (Amendment 10), 5 November 2020.
- Acceptable Solutions and Verification Methods for New Zealand Building Code Clause G4 Ventilation Fourth edition, 27 June 2019.

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.

Refer to the product warranty at bradfordventilation.com.au for more information.

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.
- Do not use for exhausting hazardous, abrasive, acidic and alkaline vapour or areas containing explosive or corrosive materials.
- This product has not been tested for use in cyclonic wind regions.
- This product is not subject to any warning or ban declared by MBIE under section 26 of the Building Act 2004.
- Seek technical advice from Bradford Ventilation on application suitability if unsure.

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.
- Installation must be accordance with the Bradford Ventilation Residential Turbine Ventilator Installation Instruction.
- New construction – refer to the tables below for recommended ventilation levels. (These tables are based on compliance with the Australian Building Code and provide design guidance for New Zealand).
- The rotating head of this product must be installed horizontally to ensure correct operation.

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

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Specific Design or Installation Instructions cont.

Table 1 below indicates how many ventilators and vents are required for condensation management based on the longest horizontal dimension (e.g., the longest length of gutter) of the roof. Ventilation openings should be evenly distributed.

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

Table 1. Ventilators and vents for condensation management

Products	TurboBeam 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 TurboBeam for every 9.2m of the longest horizontal roof length.	1 Eave Vent for every 1.4m of the longest horizontal roof length.
≥15° and <75°	1 TurboBeam for every 9.2m of the longest horizontal roof length.	1 Eave Vent for every 5.0m of the longest horizontal roof length.
≥15° and <75° Cathedral	1 TurboBeam for every 9.2m 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 9.2m) is calculated as follows: 20m divided by the recommended TurboBeam spacing of 9.2m = $20/9.2 = 2.2$ vents which should be rounded up to 3 TurboBeam Vents, 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.

Table 2 below indicates the ventilation opening requirements for condensation management 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 TurboBeams and Bradford metal eave vents in Table 2 below;
- Distribute the TurboBeam(s) and Bradford Metal Eave Vents evenly.

Table 2. Ventilators and vents for condensation management when exhaust systems are discharging into the roof space

Roof Pitch	Total Ceiling Area (m ²)	Number of TurboBeams required	Bradford Metal Eave Vents required
> 22°	46	1	4
	92	2	7
	138	3	10
	184	4	13
	231	5	16
	277	6	19
	323	7	22

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

Where the roof pitch is ≤ 22°, the number of ventilators and eave vents specified must be doubled for the same ceiling area.

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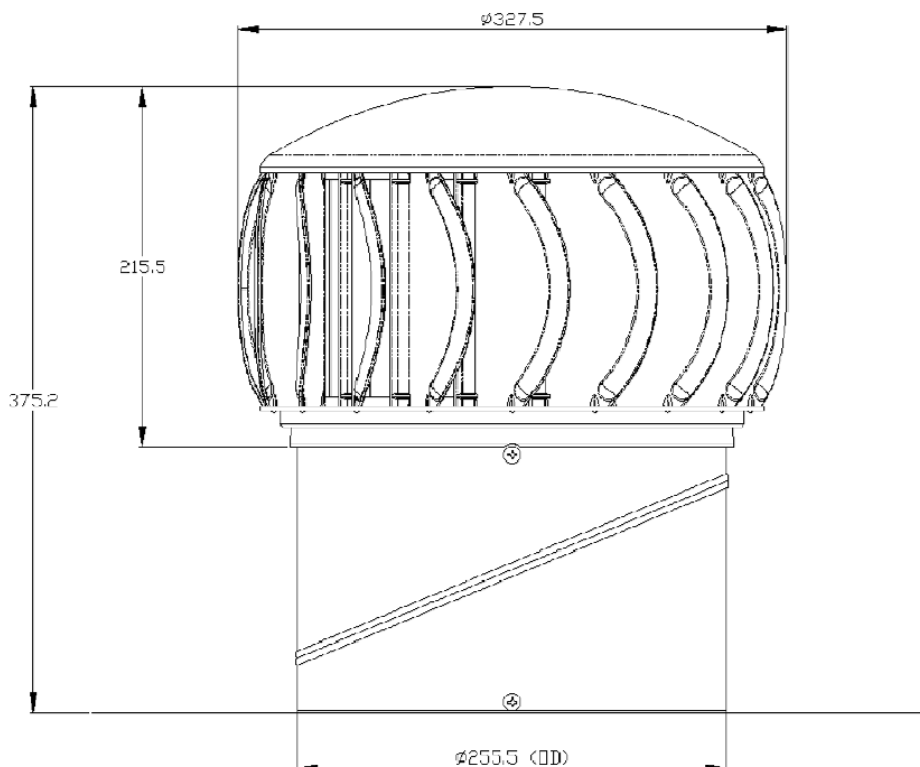
Applicable Product Codes (SKUs)

SKU	Finish
61183	Clear

Product Specifications

General		Material	
Ventilator Type	Wind Driven Natural Ventilator	Turbine	High Impact Acrylic
Turbine Diameter	327.5 mm	Varipitch	Aluminium
Varipitch Diameter	255.5 mm	Flashing	Aluminium
Product Weight	1.9 kg	Shaft	Aluminium
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 Building Code and associated standards.	Bearings	Twin Stainless-Steel Bearings

Product Dimensions (in mm)



Bradford NZ, 14 The Furlong, Takanini, Auckland For further technical advice call 0800 277 123/ visit bradfordinsulation.co.nz/ email bradford@csr.co.nz

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