Bradford™

Product **Technical** Statement

Roof Valve BAL Static Ventilator

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

Issue **D**

Product Type & Application

The Bradford Ventilation Roof Valve BAL is a bushfire rated static roof ventilator that allows the release of air from the roof space or internal space via flexible duct. It is constructed from material deemed non-combustible by the NCC with an ember guard assembled in the flashing of the ventilator. It is suitable for residential (Class 1), non-cyclonic applications on metal and tile roofs in BAL 12.5 to 40 zones.

Compliance with the NCC

When correctly specified and installed, this roof ventilator:

NCC2022

- **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.
- **Weatherproofing** - Meets the requirements of the NCC 2022 Volume 2 Weatherproofing Performance Requirement H2P2 via Deemed-to-Satisfy (DtS) and performance solution pathways.
- **Non-Combustibility** - Deemed non-combustible in accordance with AS3959 Clause 1.5.23.

NCC2019

- **Ventilation of Roof Spaces** - Meets the requirements of the NCC2019 Volume 1 Amend.1 F6.4 and NCC 2019 Volume 2 Amend.1 3.8.7.4 as a Deemed-To-Satisfy 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.
- **Non-Combustibility** - Deemed non-combustible in accordance with AS3959 Clause 1.5.23.

Evidence of Suitability

- Ventilation of roof spaces - Bradford Ventilation DTS Solution Calculation.
- Weatherproofing - Arcadis Report 30051677_4.
- Performance of CSR Roof Valve with respect to the construction requirements of AS3959-2018 - CSIRO Report FCO3477.

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.

Limitations of Use

- 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.
- Duct or connect only one Roof Valve BAL per bathroom/laundry vent.
- Product flowrate will be reduced if ember guard mesh is not adequately maintained.
- When connected to powered fan applications, consult with the fan manufacturer and product airflow performance graph within this PTS document.
- This product is suitable for BAL-Low up to BAL-40.
- This product is not suitable for BAL-FZ rated areas.

Specific Design or Installation Instructions

- Isolate power before installation.
- This product must be sealed at the roof penetration and the material used to seal the penetration shall be non-combustible.
- Any gaps greater than 2mm must be sealed with fire-rated sealant.
- Recommended Roof Valve BAL positioning:
  - Tiled Roof: Between third and fourth row of tiles from the ridge cap.
  - Metal Roof: Ideally at the ridge cap but no lower than 1.2m from the ridge cap.
- Installation must be in accordance with the Bradford Ventilation Roof Valve BAL Installation Instruction.
- When used in conjunction with flexible ducting to ventilate an internal space, consideration should be given to the pressure loss associated with the Roof Valve BAL and length of flexible duct.
- Refer to the tables below for recommended ventilation levels. Note that there are differences in requirements between NCC 2019 and NCC 2022.

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

Roof Valve BAL Static Ventilator

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 and 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.

Roof Valve BAL 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	Roof Valve BAL Static 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 Roof Valve BAL for every **1.4m** of the longest horizontal roof length.	1 Eave Vent for every **1.4m** of the longest horizontal roof length.
≥15° and <75°	1 Roof Valve BAL for every **1.4m** of the longest horizontal roof length.	1 Eave Vent for every **5.0m** of the longest horizontal roof length.
≥15° and <75° Cathedral	1 Roof Valve BAL for every **1.4m** 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 1.4m) is calculated as follows: 20m divided by the recommended Roof Valve BAL Static spacing of 1.4m = 20/1.4 = 14.3 vents which should be rounded up to 15 Roof Valve BAL Static 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 = 14.3 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 Roof Valve BALs and Bradford metal eave vents in the Deemed-To-Satisfy Solution Table below;
- Distribute the Roof Valve BALs and Bradford Metal Eave Vents evenly.

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

Roof Pitch	Total Ceiling Area (m²)	Number of Roof Valves required	Bradford Metal Eave Vents required
> 22°	15	1	2
	30	2	3
	46	3	4
	61	4	5
	77	5	6
	92	6	7
	108	7	8

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.

Bradford™

Product Technical Statement

Roof Valve BAL Static Ventilator

Applicable Product Codes (SKU)

Roof Valve BAL – 150mm Night Sky	481167

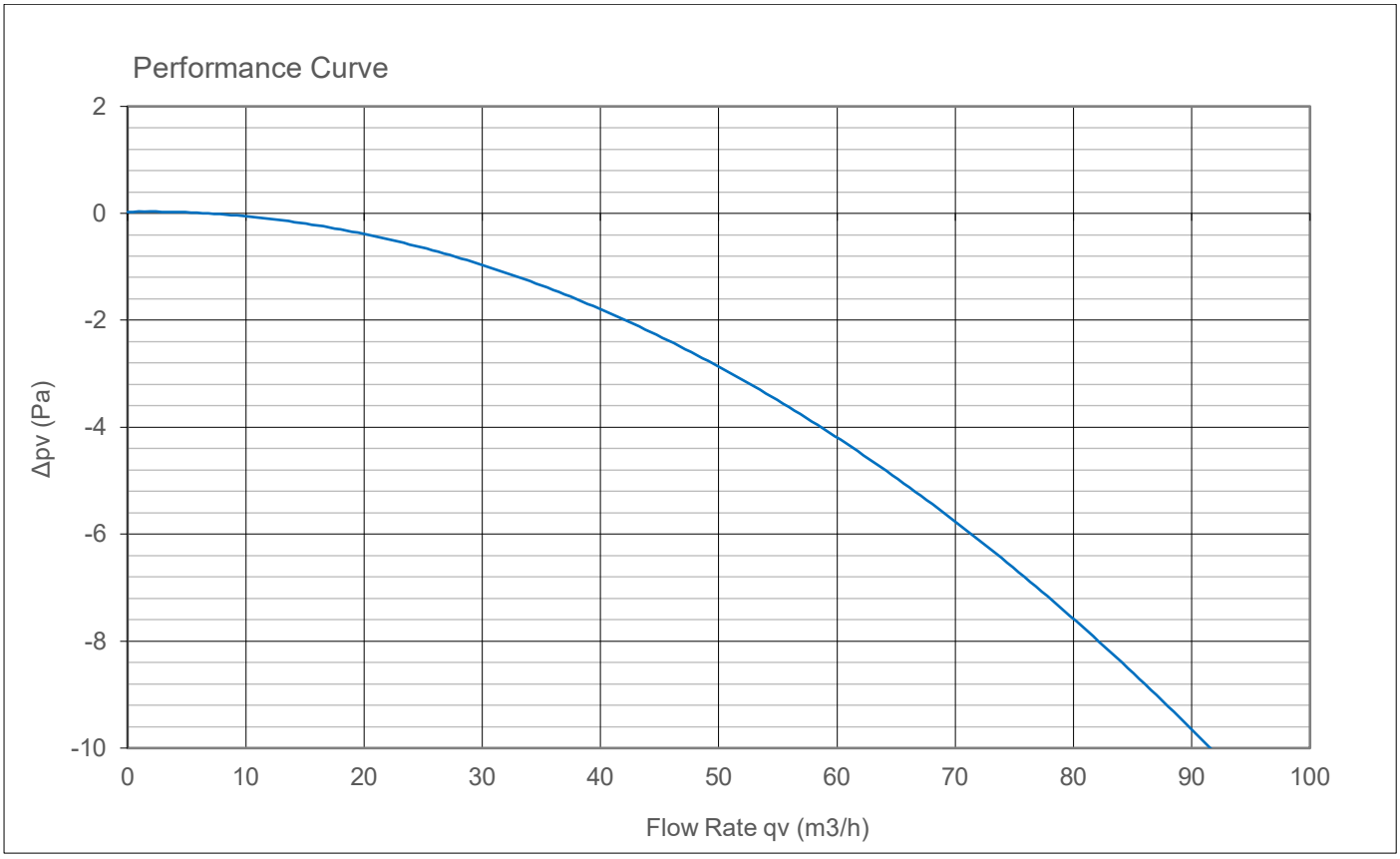
Product Specifications

General	
Ventilator Type	Static BAL Ventilator
Head Diameter	270.3 mm
Collar Diameter	147.0 mm
Product Weight	0.8 kg
Roof Pitch	**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.
Open Surface Area	7400 mm²

Material	
Ventilator Head	Aluminium
Ember Guard	Stainless Steel Woven Mesh
Flashing	Aluminium (0.7mm thickness)

Roof Valve BAL Static Ventilator

Product Airflow Performance –Roof Valve BAL Ventilator



Product Dimensions (in mm)