

# Hurricane Standard (H) Turbine Ventilator

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

Issue **A, 11/2023**

## Product Type & Application

The Bradford Hurricane Standard (H) is a wind-driven turbine ventilator designed to exhaust heat and moisture from commercial roofs.

## 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 Hurricane Standard (H) turbine ventilator have a well-established history of use in service.
- **E2 External Moisture** E2.3.2 - The Bradford Ventilation Hurricane has more than 30 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 - provides air changes to maintain air purity.
- **F2 Hazardous building materials** F2.3.1 - The materials of construction of the Bradford Hurricane Standard (H) turbine ventilator do not emit or give rise to harmful concentrations of gas, liquid, radiation or solid particles.

## Limitations of Use

- **IMPORTANT** - Do Not Modify This Product: Performance and safety are 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 suitable for use within 500m of a saltwater body.
- 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.

## Conditions of Storage, Use & Maintenance

- Store in the original packaging in a cool and dry area.
- Do not attempt to repair – contact Bradford Ventilation.

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

## Basis of Compliance

- Tested to AS/NZS 4740:2000 (R2016) Natural ventilators - classification and performance.
- CSR Research Laboratory Test Report ETR-00101, Hurricane 100mm Ventilator Dynamic Weather Resistance Test (in accordance with AS4046.9), 21 July 2022.
- CSR Research Laboratory Test Report ETR-00102, Hurricane 400mm Ventilator Dynamic Weather Resistance Test (in accordance with AS4046.9), 21 July 2022.
- CSR Research Laboratory Test Report ETR-00103, Hurricane 900mm Ventilator Dynamic Weather Resistance Test (in accordance with AS4046.9), 21 July 2022.
- Northrop Report Ref: SY222211-00-RPFA1, CSR Bradford Roof Ventilator Weatherproofing Performance Solution, 26 May 2023.
- 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.

## Specific Design or Installation Instructions

- Isolate power before installation.
- **Caution:** The turbine head of this product can rotate without warning (even during installation) – always keep body parts away from moving components.
- This is a general-purpose ventilation product, always refer to the installation guidance provided with the product prior to installation.
- The table below shows the minimum make-up air requirement per ventilator that should be provided in accordance with AS1668.2

Product	Make-Up Air* per Ventilator
Hurricane 100-400	≥ 0.3m <sup>2</sup>
Hurricane 450-600	≥ 0.5m <sup>2</sup>
Hurricane 700-900	≥ 0.9m <sup>2</sup>

- \*Make-up air should be provided via evenly distributed openings which are permanently open and positioned to help the ventilator work more effectively and efficiently (refer to the product installation guide for guidance).
- The rotating head of this product must be installed horizontally to ensure correct operation – adjustment of the varipitch and base flashing is critical to achieve this orientation (refer to the installation guide for details).

## Hurricane Standard (H) Turbine Ventilator

### Specific Design or Installation Instructions cont.

- If the product is installed with a stainless-steel mesh, it should be periodically inspected to remove foreign objects and/or dust build-up to maintain airflow.
- 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 size of the ventilator should be selected based upon the available roof area and required airflow performance.

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

Bradford NZ, 14 The Furlong, Takanini, Auckland For further technical advice call 0800 277 123/ visit [bradfordinsulation.co.nz/](http://bradfordinsulation.co.nz/) email [bradford@csr.co.nz](mailto:bradford@csr.co.nz)

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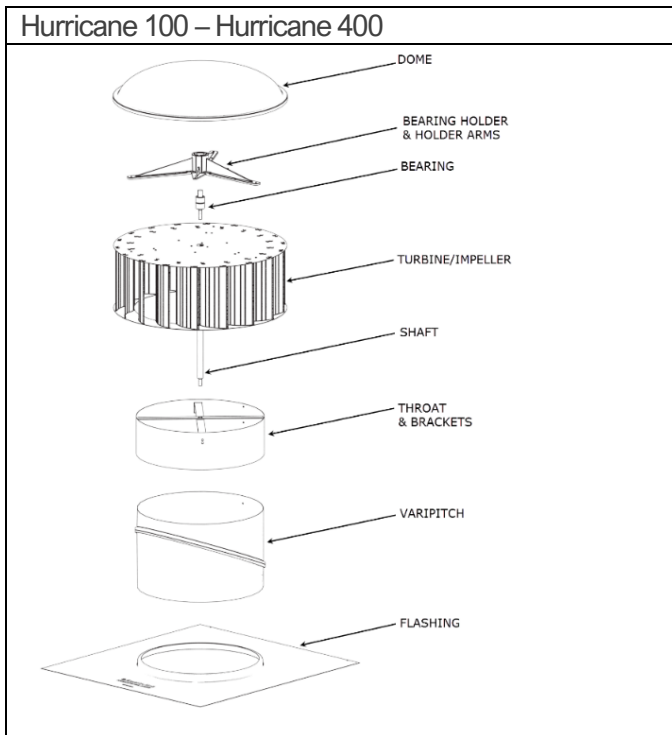


## Hurricane Standard (H) Turbine Ventilator

### Applicable Product Codes (SKU)

Hurricane 100mm	Hurricane 150mm	Hurricane 300mm	Hurricane 400mm
Mill Finished 61452	Mill Finished 61478	Mill Finished 61504	Mill Finished 61530
Custom 601150	Custom 601162	Custom 600670	Custom 600671

### Product Specifications (in exploded view)



### Product Information Summary H100 / H150 / H300 / H400

Ventilator Range	Hurricane®			
Ventilator Model	H100	H150	H300	H400
Ventilator Type (AS/NZS 4740:2000 cl 1.5)	Type 4 – Rotating Wind-Driven Roof Ventilator			
Ventilator Performance Class (AS/NZS 4740:2000 Table 1.2)				
Rain Resistance	50 m/s No Water - Class A	50 m/s No Water - Class A	50 m/s No Water - Class A	50 m/s No Water - Class A
Effective Aerodynamic Area, EAA	0.003 m <sup>2</sup>	0.009 m <sup>2</sup>	0.044 m <sup>2</sup>	0.082 m <sup>2</sup>
Discharge Coefficient, C <sub>d</sub>	0.539 - Class 2	0.529 - Class 2	0.712 - Class 1	0.731 - Class 1
Flow Coefficient, C <sub>f</sub>	0.2 - Class 4	0.21 - Class 4	0.27 - Class 3	0.24 - Class 4
Nominal Performance* (m <sup>3</sup> /h)				
0 m/s	25 m <sup>3</sup> /h	76 m <sup>3</sup> /h	375 m <sup>3</sup> /h	699 m <sup>3</sup> /h
3 m/s	26 m <sup>3</sup> /h	79 m <sup>3</sup> /h	397 m <sup>3</sup> /h	742 m <sup>3</sup> /h
6 m/s	28 m <sup>3</sup> /h	87 m <sup>3</sup> /h	457 m <sup>3</sup> /h	857 m <sup>3</sup> /h

\*In accordance to AS/NZS 4740:2000 nominal performance parameters where  $h = 6m$ ,  $\Delta T = 14^{\circ}C$ ,  $T = 20^{\circ}C$

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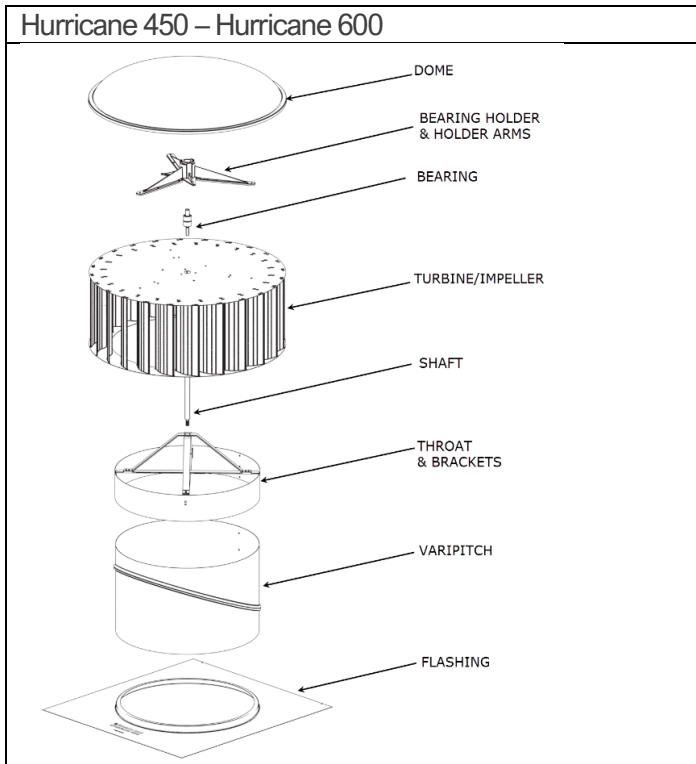


## Hurricane Standard (H) Turbine Ventilator

### Applicable Product Codes (SKU)

Hurricane 450mm	Hurricane 500mm	Hurricane 600mm
Mill Finished 61556	Mill Finished 61582	Mill Finished 61608
Custom 600672	Custom 600673	Custom 600674

### Product Specifications (in exploded view)



### Product Information Summary H450 / H500 / H600

Ventilator Range	Hurricane®		
Ventilator Model	H450	H500	H600
Ventilator Type (AS/NZS 4740:2000 cl 1.5)	Type 4 – Rotating Wind-Driven Roof Ventilator		
Ventilator Performance Class (AS/NZS 4740:2000 Table 1.2)			
Rain Resistance	50 m/s No Water - Class A	50 m/s No Water - Class A	50 m/s No Water - Class A
Effective Aerodynamic Area, EAA	0.108 m <sup>2</sup>	0.137 m <sup>2</sup>	0.165 m <sup>2</sup>
Discharge Coefficient, C <sub>d</sub>	0.764 - Class 1	0.780 - Class 1	0.639 - Class 2
Flow Coefficient, C <sub>f</sub>	0.30 - Class 3	0.31 - Class 3	0.24 - Class 4
Nominal Performance* (m <sup>3</sup> /h)			
0 m/s	921 m <sup>3</sup> /h	1169 m <sup>3</sup> /h	1408 m <sup>3</sup> /h
3 m/s	988 m <sup>3</sup> /h	1259 m <sup>3</sup> /h	1475 m <sup>3</sup> /h
6 m/s	1165 m <sup>3</sup> /h	1497 m <sup>3</sup> /h	1660 m <sup>3</sup> /h

\*In accordance to AS/NZS 4740:2000 nominal performance parameters where  $h = 6m$ ,  $\Delta T = 14^{\circ}C$ ,  $T = 20^{\circ}C$

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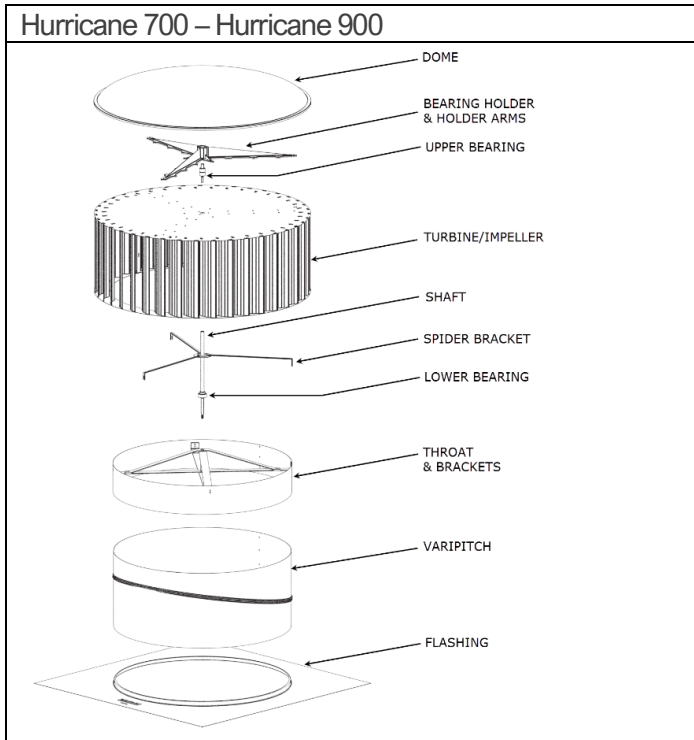


## Hurricane Standard (H) Turbine Ventilator

### Applicable Product Codes (SKU)

Hurricane 700mm	Hurricane 900mm
Mill Finished 61634	Mill Finished 61686
Custom 600675	Custom 600677

### Product Specifications (in exploded view)



### Product Information Summary H700 / H900

Ventilator Range	Hurricane®	
Ventilator Model	H700	H900
Ventilator Type (AS/NZS 4740:2000 cl 1.5)	Type 4 – Rotating Wind-Driven Roof Ventilator	
Ventilator Performance Class (AS/NZS 4740:2000 Table 1.2)		
Rain Resistance	50 m/s No Water - Class A	50 m/s No Water - Class A
Effective Aerodynamic Area, EAA	0.226 m <sup>2</sup>	0.372 m <sup>2</sup>
Discharge Coefficient, C <sub>d</sub>	0.631 - Class 2	0.63 - Class 2
Flow Coefficient, C <sub>f</sub>	0.18 - Class 4	0.22 - Class 4
Nominal Performance* (m <sup>3</sup> /h)		
0 m/s	1929 m <sup>3</sup> /h	3175 m <sup>3</sup> /h
3 m/s	1978 m <sup>3</sup> /h	3297 m <sup>3</sup> /h
6 m/s	2119 m <sup>3</sup> /h	3638 m <sup>3</sup> /h

\*In accordance to AS/NZS 4740:2000 nominal performance parameters where  $h = 6m$ ,  $\Delta T = 14^{\circ}C$ ,  $T = 20^{\circ}C$

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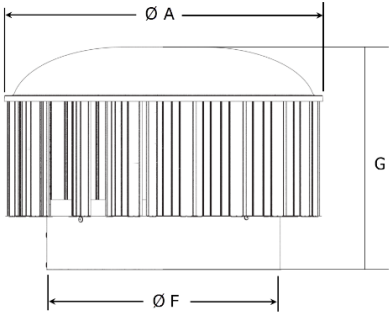
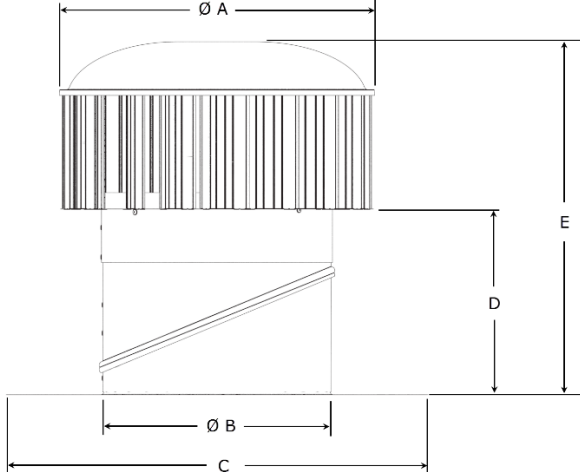
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## Hurricane Standard (H) Turbine Ventilator

### Product Dimensions (in mm)

Turbine					Assembly							
												
Model	Dimension (mm)			Weight (kg)	Model	Dimension (mm)					Weight (kg)	Roof Slope Range
	ØA	ØF	G		ØA	ØB	C	D	E			
H100	290	107	253	1.3	H100	290	98.6	430 x 430	139	313	1.8	0° - 45°
H150	332	155	283	1.9	H150	332	145.6	430 x 430	164	363	2.4	0° - 45°
H300	477	308	364	3.7	H300	477	298	600 x 500	225	480	4.9	0° - 45°
H400	561	410	389	4.5	H400	561	401	750 x 700	274	560	6.3	0° - 45°
H450	648	462	443	6.2	H450	648	452	750 x 700	319	634	8.1	0° - 45°
H500	702	511	459	6.9	H500	702	502	750 x 700	345	700	9.2	0° - 45°
H600	766	602	484	8.1	H600	766	592	1000 x 1000	359	724	11.8	0° - 45°
H700	876	705	556	11.6	H700	876	695	1000 x 1000	371	796	15.8	0° - 22.5°
H900	1096	897	643	18.1	H900	1096	891	1200 x 1200	421	936	24.1	0° - 22.5°

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