

Airocle™

Think Natural.™
Think Smarter.



6 Series

INSPIRED BY THE NATURAL FORCES FOR MAXIMUM ROOF-BASED VENTILATION



Roof

6 SERIES

VENTS & VENTILATORS

STATIONARY VENT

Previously **Zephyr Series**

CSIRO CERTIFIED



Tested and certified by CSIRO® for
airflow, fire and weather performance

Stationary Vents



Passive Natural Ventilation



Engineered Design



Market Leading Performance

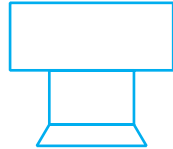


Ideal For Sustainable Building Design



Tested and certified by CSIRO® for airflow, fire and weather performance

6 SERIES



Removing heat and humidity in buildings and replacing with cool fresh air has never been easier.

The **6 Series** is the next generation in efficient and effective roof cowl design. Engineered and CSIRO tested to ensure high levels of air flow performance in all wind environments and designed to withstand and remain watertight in even the harshest of weather conditions , this ventilator design provides market leading security, integrity and performance.



Design

We designed the **6 Series** with a clever arrangement of internal baffles to eliminate backdraft while retaining the classic roof cowl look. This resulted in significantly better airflow performance and weather resistance while retaining the structural integrity, security, and reliability that roof cowls are renowned for.

The ability to incorporate operable damper control, entry restriction security, noise attenuation, and mechanical extraction/induction into the vent provides high levels of environmental performance and design flexibility for building designers.

Projects that benefit from the low silhouette design of the **6 Series** include:

- Plant Rooms and Treatment Plants
- High Security and Defence Buildings
- Heritage Buildings
- Laboratories and School Buildings
- Small-Medium Warehousing and Storage
- Ductwork Capping and Exhaust Points
- Cyclone Regions

Benefits

Security

Fabricated with no moving parts and designed with a focus on defending against vandalism and building entry, the **6 Series** has the option of being fitted with Structural Grade 304 Stainless Steel for bird/insect/fire mesh due to its performance in security applications. The integrity and low maintenance of the **6 Series** makes this a favourite for defence and high security buildings.

Heritage

By retaining the classic heritage external look, the **6 Series** is ideal for heritage buildings requiring the replacement or addition of roof ventilators or cowls. Our ability to match the full range of Colorbond and Dulux colours ensures that our vents look the part & achieve high levels of air flow performance - making meeting heritage requirements easy.

Performance

Our expertise in aerodynamics is key to delivering high airflow performance in all wind conditions. The strategic use of internal airflow deflectors creates a powerful design that embraces a range of natural forces resulting in air accelerating up through the ventilator and being positively impacted by wind flow – all while eliminating potential back draughts that plague previous generations

of roof cowls. With a CSIRO tested coefficient of discharge of 0.54 and throat diameters ranging from 150mm to 1200mm, the **6 Series** is the ideal solution for a large range of natural ventilation applications

Design Flexibility

Able to be mounted on the ridge or slope of a roof, or connected to ductwork, the **6 Series** provides a flexible and practical approach to installation. The ability to incorporate noise attenuation, mesh to meet security, bird, insect or bushfire standards, and booster fans to induce additional flow, allow the **6 Series** to provide unrivalled design flexibility.

Energy and Environment

Reducing energy use in your building can improve your electricity costs and your environmental performance. Through reducing costs normally associated with mechanical ventilation such as electrical wiring, increased structural support and maintenance, using natural ventilation allows your project to make reductions in resource use and save money during the construction and operation lifecycle of your building.

Quality



RAIN
AS2428.1



WIND
AS2428.2



FIRE
AS2428.4 & 1668.2



COEFFICIENT OF DISCHARGE
AS2428.5



CYCLONE RATED

A focus on quality and performance sees the 6 Series designed and tested to give maximum weather protection and airflow performance. Designed and made in Australia using Australian materials, the 6 Series is proven to perform and is CSIRO tested to:



6 Series > Stationary Vents

Using natural thermodynamic forces that drive air up and through the ventilator ensures that your 6 Series ventilation system is directly responsive to internal and external conditions.



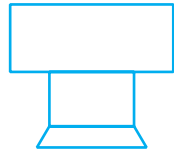
- WAREHOUSING + STORAGE
- INDUSTRIAL WORKSHOPS
- SCHOOLS + EDUCATION FACILITIES
- HALLS, GYMNASIUMS + INDOOR POOLS
- DEFENCE + GOVERNMENT BUILDINGS
- ELECTRICITY SUBSTATIONS + WATER PUMP HOUSES



Location
NSW
Stationary Vents
6 Series

6S

STATIONARY ROOF VENTS DESIGN

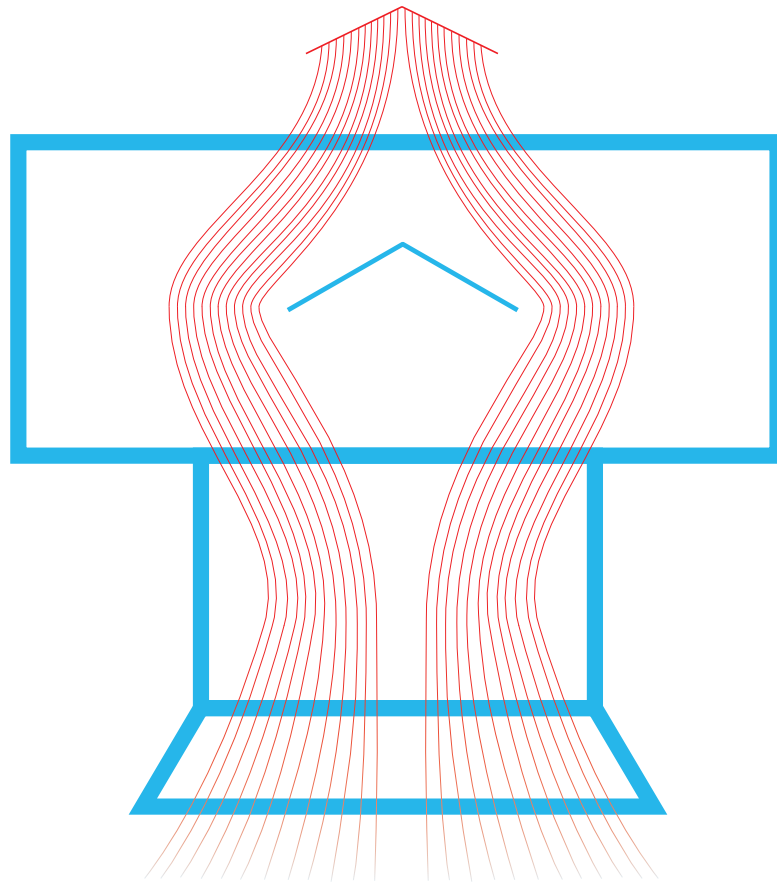


Scientific engineering principles has lead to our 6 Series providing optimal performance in all weather conditions and minimises the risk of back drafting and the entry of moisture.

The spherical design of the **6 Series** builds on this by promoting the effect of wind as it wraps around the spherical shaped head and draws from the leeward side. With a free open area 25% larger than a typical straight vane ventilator, we have maximised this wind effect ensuring high air flow performance rates. The unique blade design and large free open area maximises the efficiency of air moving through the ventilator and out of the building without compromising its Weather tight capabilities. The **6 Series** is CSIRO tested to AS2428 & AS1668 and has proven design advantages over other 'stationary roof vent' designs in the market.

Weather tight

Maintaining weather proofing in all wind conditions is essential for building integrity. The **6 Series** uses a clever system of internal guides to ensure maximum weather resistance while producing the maximum rate of exhaust. Tested by the CSIRO to AS2428.1 & 2 (Rain and Wind), we have made sure we protect your building from the elements.



Installation

The **6 Series** is quick and easy to install. Custom fabricated bases to match the pitch and profile of your roof make installation simple and efficient saving you time on the roof and ensuring your project runs smoothly even on the most complex roof.

Quality

Engineered and manufactured in Australia using high quality materials, the **6 Series** provides the integrity and longevity that is vital for the success of projects. With the ability to fabricate from aluminium, Zinalume®, Colorbond®, galvanised steel or stainless steel, this ventilator provides the design flexibility to meet the harshest environments.

Cyclone Rated

The **6 Series** is rated for up to Region C or D cyclone regions ensuring the structural integrity and performance across all parts of Australia. This has seen the **6 Series** become common feature on buildings throughout tropical regions including mining operations and cyclone shelters.

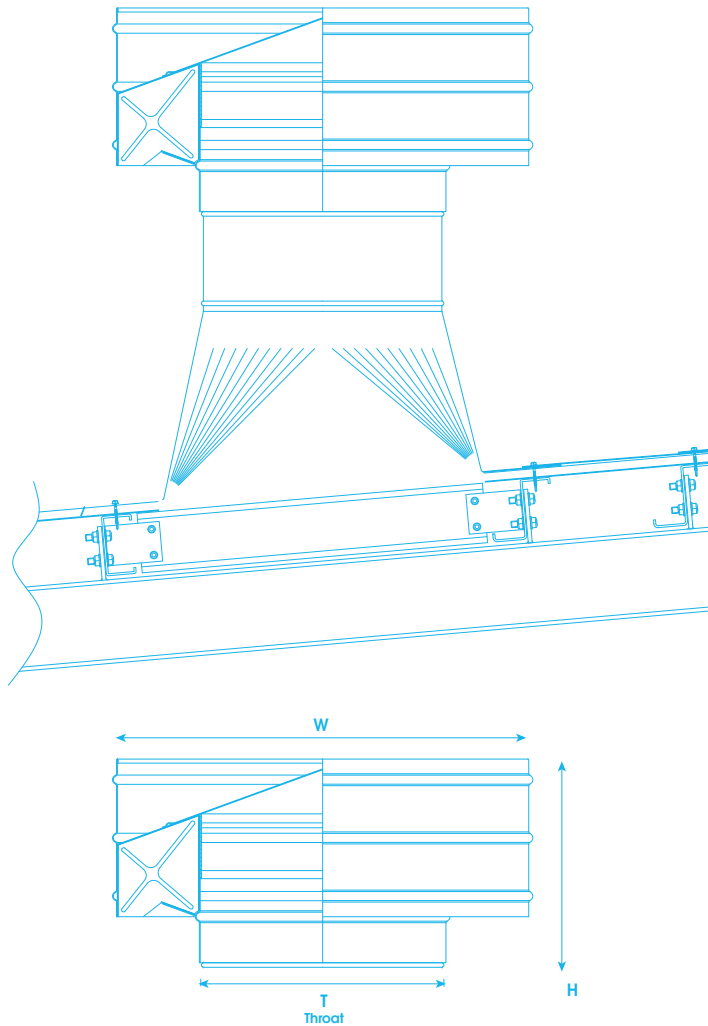
Inlet/Makeup Air

Due to the need for makeup air, adequate inlets are essential for any ventilation system to operate effectively. While it is recommended an inlet ratio of 1.5 : 1 (inlet : discharge) exist, Airocle can assist in designing or developing a ventilation system to suit custom circumstances.

Dimensions and Mass

MODEL	(T) (mm)	(W) (mm)	(H) (mm)	(A) (m ²)	MASS (kg)	CYCLONE RATED (Cat C) (Cat D)		FIRE RATED (AS1668.1)
60V.0150	150	270	180	0.018	2.1	4	4	4
60V.0225	225	406	230	0.039	3.3	4	4	4
60V.0300	300	540	300	0.070	5.1	4	4	4
60V.0380	380	680	357	0.113	7.3	4	4	4
60V.0450	450	812	450	0.159	9.2	4	4	4
60V.0600	600	1083	600	0.283	20.4	4	4	4
60V.0760	760	1212	715	0.453	25.3	4	4	4
60V.0900	900	1624	845	0.636	30.5	4	4	4
60V.1050	1050	1895	1000	0.866	36.2	4	4	4
60V.1200	1200	2165	1143	1.131	42.4	4	4	4

Note: Mass is based on Zinalume fabrication. Fabrication for alternative materials will alter published mass figures. Please contact us for further details if required. For ventilator performance please refer to the air flow performance chart in this catalogue.

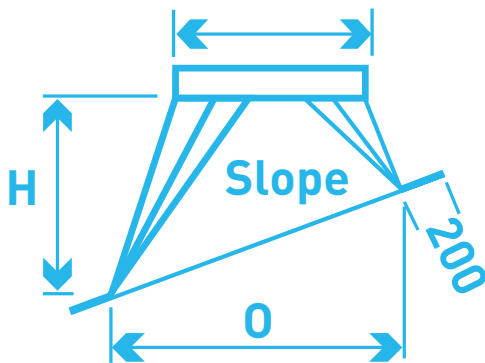


Note: Full detail drawings for all products including site specific details are available on request. Please contact us and we'll be sure to help.

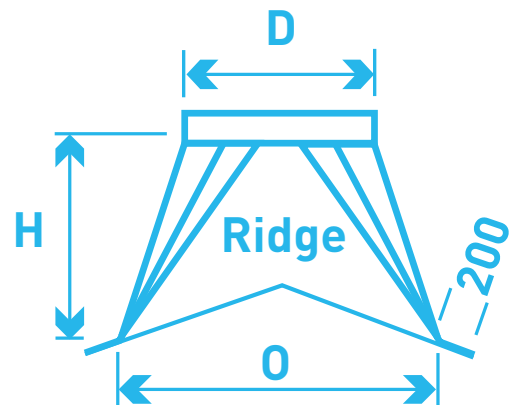
Transition Base

Providing 15% better airflow performance than traditional spigot bases, the transition base by Airocle continues our proud tradition of maximising air flow performance for your building. The square-to-round design promotes improved airflow through funnelling air into the ventilator while providing a stronger more stable base for harsh environments including for cyclone regions.

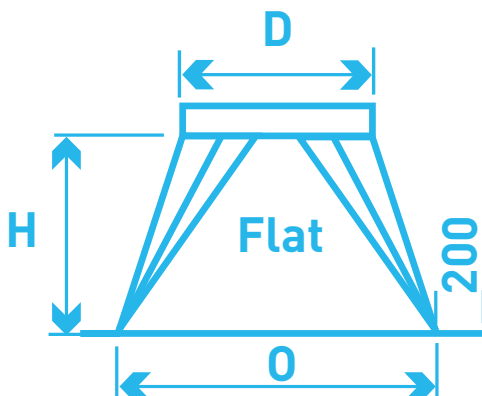
Base Type 1 Slope Mounted



Base Type 2 Ridge Mounted



Base Type 3 Flat Base



Transition Base Options and Details

Details

Base Diameter	D (mm)	O (mm)	H (mm)	Mass (kg)
6AV.0150	150	270	150	2.0
6AV.0225	225	370	175	3.0
6AV.0300	300	400	200	4.0
6AV.0380	380	500	250	5.9
6AV.0450	450	570	300	7.6
6AV.0600	600	800	400	10.3
6AV.0760	760	910	450	12.6
6AV.0900	900	1100	450	16.4
6AV.1050	1050	1220	600	18.1
6AV.1200	1200	1400	600	21.4

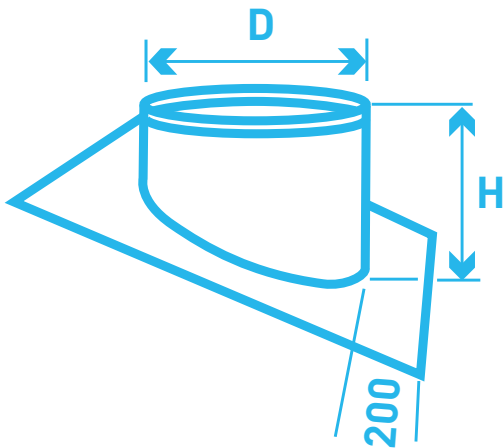
Options

PERABLE DAMPERS			BOOSTER FAN	CYCLONE RATED		Fire Rated (AS1668.1)	Bushfire Mesh (AS3959)
(Manual)	(Electric)	(Pneumatic)		(Cat C)	(Cat D)		
4	X	X	X	4	4	4	4
4	X	X	X	4	4	4	4
4	4	4	X	4	4	4	4
4	4	4	X	4	4	4	4
4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4
4	4	4	4	4	4	4	4

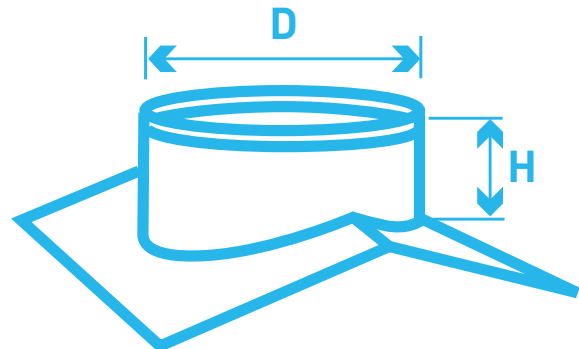
Spigot Base

The traditional spigot base delivers economy and a low profile to the 6 Series. Built from quality Australian materials, the spigot base provides installers and designers a simple, economical yet effective solution for implementing natural ventilation in their building.

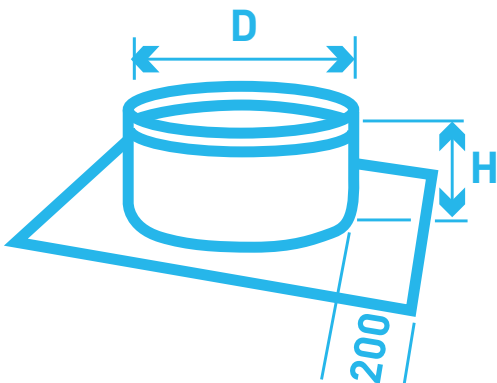
Base Type 4 Slope Mounted



Base Type 5 Ridge Mounted



Base Type 6 Flat Base



Spigot Base Options and Details

Details

Base Model	D (mm)	O (mm)	H (mm)	Mass (kg)
6BV.0150	150	150	100	1.7
6BV.0225	225	225	100	2.5
6BV.0300	300	300	100	3.2
6BV.0380	380	380	100	4.0
6BV.0450	450	450	100	6.1
6BV.0600	600	600	150	8.2
6BV.0760	N/A	N/A	N/A	N/A
6BV.0900	N/A	N/A	N/A	N/A
6BV.1050	N/A	N/A	N/A	N/A
6BV.1200	N/A	N/A	N/A	N/A

Options

OPERABLE DAMPERS			BOOSTER FAN	CYCLONE RATED		Fire Rated (AS1668.1)	Bushfire Mesh (AS3959)
(Manual)	(Electric)	(Pneumatic)		(Cat C)	(Cat D)		
4	X	X	X	X	X	4	4
4	X	X	X	X	X	4	4
4	4	4	X	X	X	4	4
4	4	4	X	X	X	4	4
4	4	4	4	X	X	4	4
4	4	4	4	X	X	4	4

Performance

To provide our customers with the best experience, we are working on upgrading our website to include a new calculator that will allow you to have all relevant information in a few clicks. In the meantime, please contact our sales team for assistance with any airflow calculations.

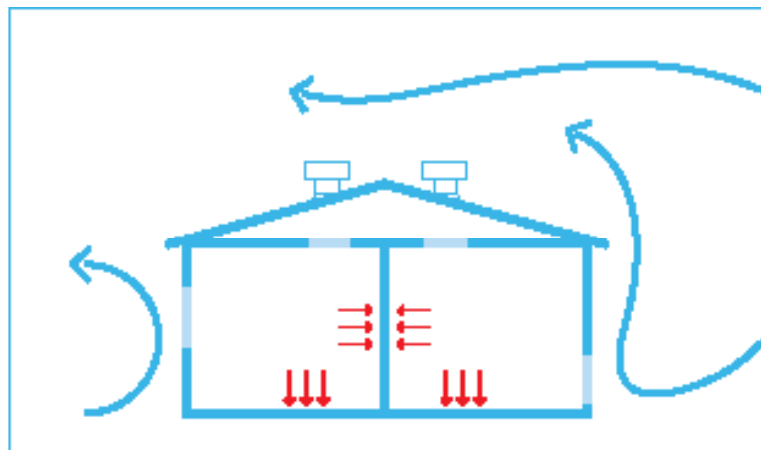
Options

The 6 Series has an option range to assist in specialised circumstances.

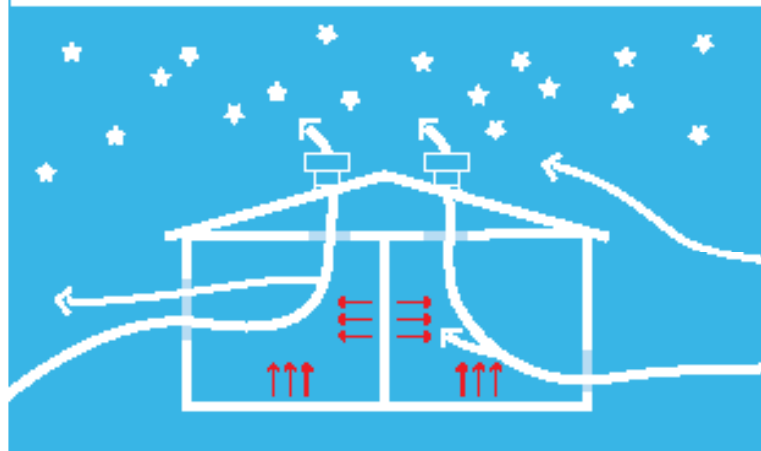
Night Purge

Night flushing works by opening up the Natural Ventilation system throughout the night, to cool down the thermal mass in a building by convection. Early in the morning before temperatures rise too far, the building is closed and kept sealed throughout the day to prevent hot air from outside entering. During the day, the cool mass absorbs heat from occupants and other internal loads.

DAY



NIGHT



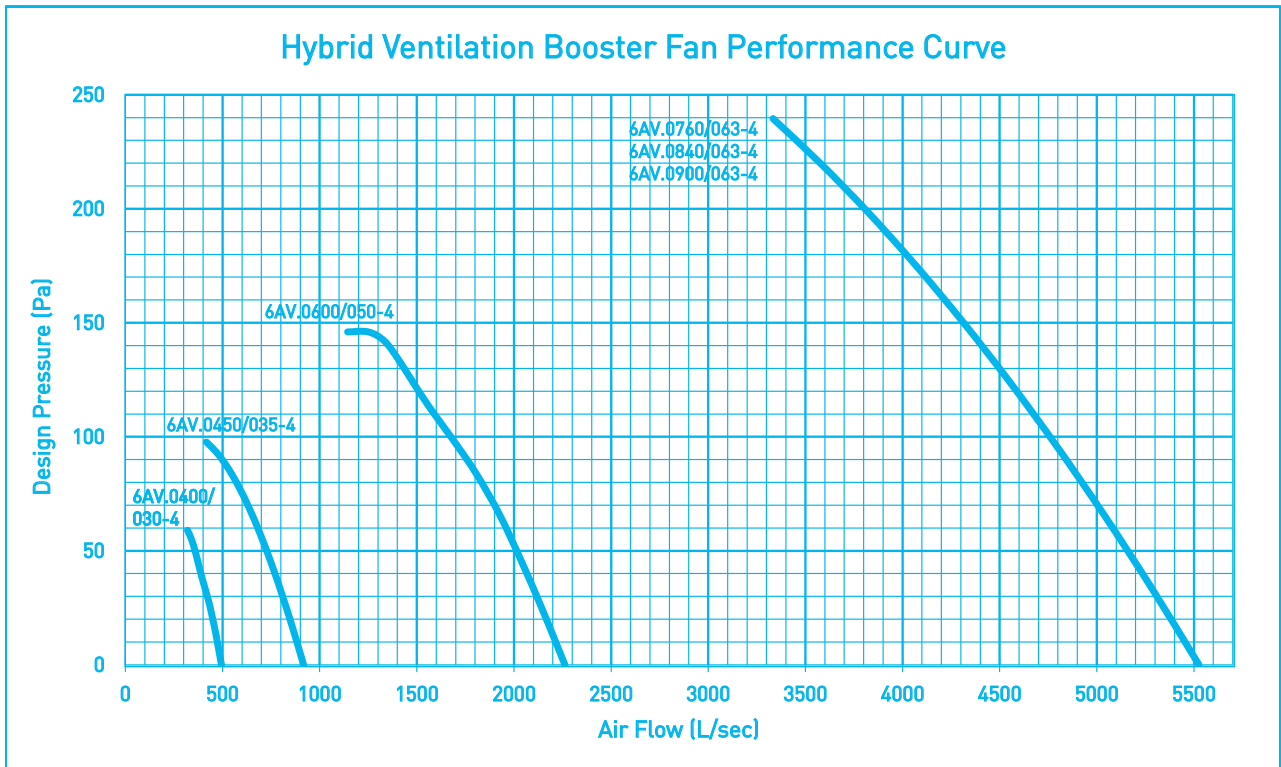
Booster fans with manual or automatic timing controls can play a fundamental role in getting the most out of your night purge system. By overcoming the often still air during night time periods, booster fans have successfully allowed classrooms, laboratories, halls and offices to achieve comfortable environments throughout the day while keeping windows and doors closed, and the noise outside.

Booster Fan

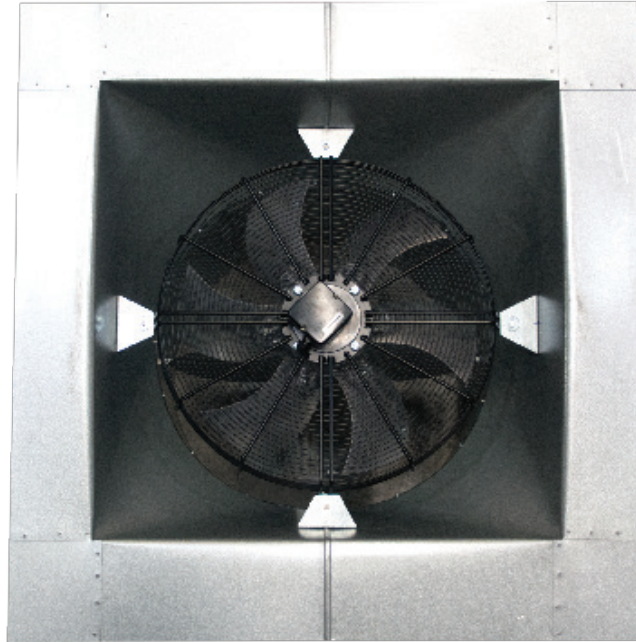
Incorporating a booster fan into your 6 Series gives building designers the combination of reliable smoke hazard management and natural ventilation. Switch between the economy and sustainability of natural airflow and the reliability of mechanical extraction, and embrace the cost and environmental benefits of using a truly hybrid system.

Booster fans give you the sustainability and energy efficiency of natural ventilation during normal operation with the security and reliability and flexibility of increased airflow performance in smoke management and night purge situations.

6 Series Hybrid Ventilation Booster Fan Performance Table



Performance curves are based on free inlet and discharge results will differ through Ventilator heat in natural field conditions



A Fire Rated Smoke Hazard Management Solution

The Fire Rated (FR) booster fan option along with our fire rated [6 Series](#) product range ensures that your hybrid system has the capability to be incorporated into high sensitivity and demanding environments.

Rated for 200°C for 120 minutes; 300°C for 30 minutes, meet all relevant fire brigade requirements, standards and building codes, while improving sustainability and project budgets.

Higher Performance

We have focused on providing designers a high performance natural ventilation product with the ability to reliably boost this natural force with established fan principles when required - achieving much higher air flow rates than comparative hybrid designs.

No Reduction In Throat Area

Our booster fan arrangement ensures that the throat area of each ventilator is not restricted.

By mounting each booster fan in the larger volumetric area of the underneath transition base, it allows air to move freely through to the ventilator during natural mode and deliver uninterrupted airflow.

****All smoke spill fans are custom made to order. Should you require a hybrid system for smoke spill, please contact Airocle****

Smoke Spill Fan	Airflow @ 50Pa	Motor Type	Electrical Supply	kW & Amps	SPLA @ 3m (dB)
	3000-5000L/sec	Class F (200degC @ 2hrs) Class H (300degC @ 1/2hr)	3 phase	Upon Request	Upon Request

Note: All installation must be in accordance with Airocle's fixing and connection details.

Dampers

Description

Using European designed electric actuators; the ability to open, close or restrict airflow through the ventilator makes it perfect for summer/winter operations or link to a range of control sensors. With the ability to be power or spring return open/close or even modulating, it provides an excellent way of controlling airflow while remaining completely Weather tight.

Pneumatically Operable Dampers

Pneumatic operable dampers provide the ability to control ventilation airflow and operate under power failure situations through our compressor and receiver tank design – making them an excellent Weather tight way to reliably perform smoke hazard management and operate during emergencies.

Manually Operable Dampers

Manually operated dampers make ventilation control easy. Supplied with cord, guides and a return spring shut damper blade, this option allows smaller buildings an economical and simple way of keeping building occupants in comfort.

Mesh

Bird Guards, Insect Mesh, Bushfire Mesh

Keeping birds, insects, debris and fire embers from entering the ventilator is important for sensitive internal environments and in bushfire prone zones. Our ability to incorporate a range of mesh materials and apertures within the [6 Series](#) ensures your building is secure.

MESH TYPE	APPERTURE (mm)	WIRE DIAMETER (Ømm)	OPEN AREA (%)	MATERIAL
Bushfire	1.4	0.56	61	Stainless Steel
Insect	1.4	1.6	67	Aluminium
Bird	11.2	1.6	77	Galvinised Steel

Cyclone Rated

The [6 Series](#) is rated for up to Category D cyclone regions under AS1170 ensuring the structural integrity and performance across all parts of Australia. This has seen the [6 Series](#) become common feature on buildings throughout tropical regions including mining operations and cyclone shelters.

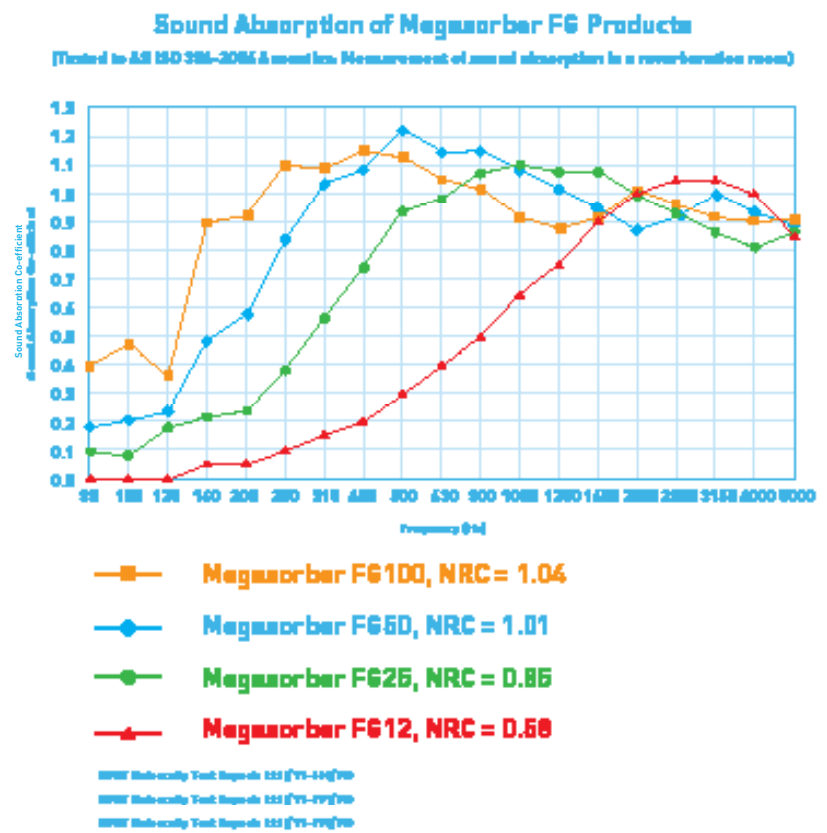
Acoustic Dampening

Our unique Phonic acoustic dampening system can be fully integrated into the 6 Series. An efficient method of noise attenuation, the use of ignition retardant and hydrolysis resistant insulation allows vents to reduce noise transmission both out of and into the building, and retain their high discharge coefficient heat and smoke ventilation properties.

Acoustic Performance

Tested to AS1045-1988 Reverberation Room.

FREQUENCY (HZ)	RANDOM INCIDENCE ABSORPTION COEFFICIENT		
	Megasorber FG25	Megasorber FG50	Megasorber FG100
100	0.08	0.21	0.47
125	0.18	0.24	0.37
160	0.22	0.49	0.90
200	0.24	0.58	0.92
250	0.38	0.85	1.10
315	0.56	1.04	1.09
400	0.74	1.09	1.15
500	0.94	1.23	1.13
630	0.98	1.15	1.05
800	1.07	1.15	1.01
1000	1.11	1.08	0.92
1250	1.08	1.02	0.88
1600	1.08	0.95	0.91
2000	0.99	0.87	1.01
2500	0.93	0.92	0.96
3150	0.86	1.00	0.91
4000	0.81	0.94	0.90
5000	0.86	0.89	0.91
NRC	0.85	1.01	1.04
αw	0.7(MH)	1.00	1.00

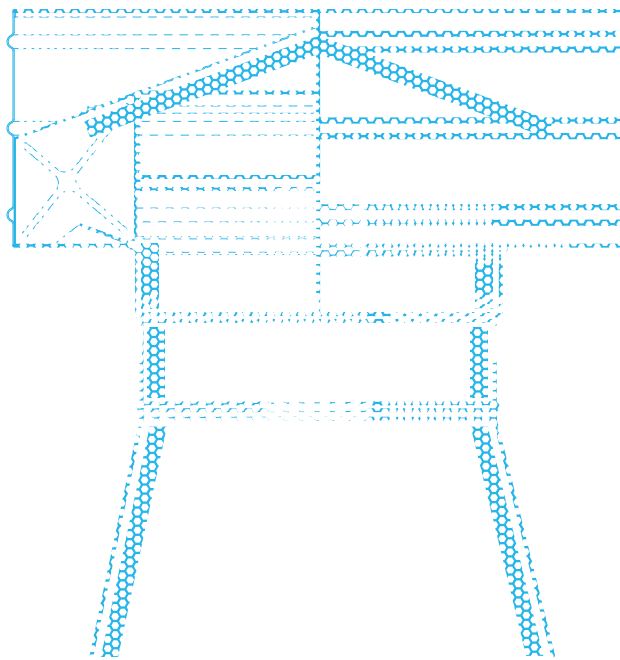


Airflow Control

Take control of your natural ventilation system through Airocle’s range of air flow controls and sensors. Whether it be for emergency response, safeguarding optimal internal conditions or ensuring efficient airflow performance, the 6 Series has a range of sensors, controls and air flow dampers to ensure that your system can achieve what you want it to.

A Sound Advantage

Finding a way to minimise the transmission of noise out of or into buildings while passively ventilating your building is easy. The ability to acoustically treat the 6 Series and achieve a minimum NATA tested Sound Transmission Class (STC) of 13 ensures that your ventilation system keeps the noise where it's meant to be.



Material Properties

COLOUR (Facing)	RECOMMENDED MAXIMUM SERVICE TEMPERATURE (°c)	THERMAL CONDUCTIVITY (W/mK)
Black	100	0.003

Chemical Resistance (facing)

ACETONE	MEK	PETROL	DIESEL
Swells*	Swells*	Good	Good

*Swells and then returns to normal on drying.

Flammability Properties

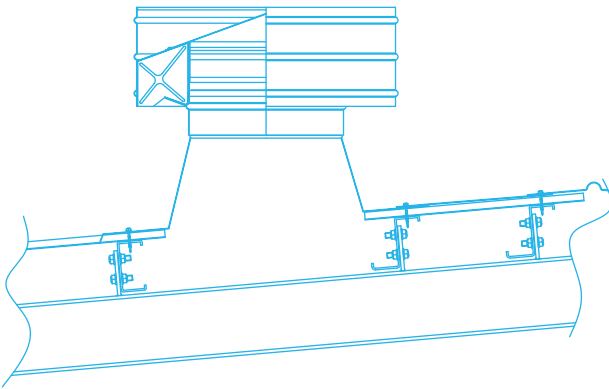
TEST METHOD	INDEX	RESULTS	DESCRIPTION
UL94	After flame time < 2 seconds	HB*	Horizontal Burn Test for foam
FMVSS-302	Burn rate - mm/min	Self Extinguishing	Automotive burn rate test

*Result applies to 12mm thickness.

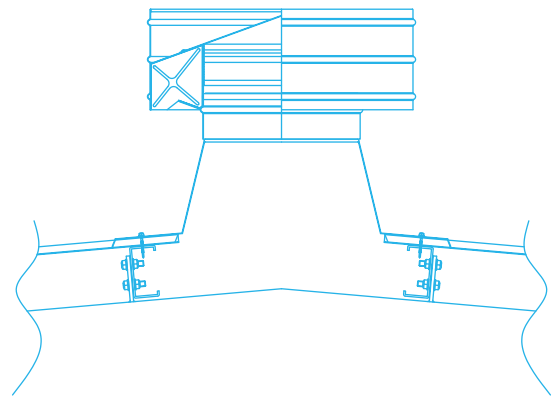
Typical Installation

An even distribution across the roof area is appropriate for flat or very shallow roofs, but venting in steep roofs would be more effective if located near the apex.

Slope Mounted



Ridge Mounted



Installing on Roofs

Installation is simple and quick due to each base being custom made to suit the pitch and profile of your roof. Vents are fully assembled as head and base components.

The building contractor must ensure that the vent is fitted appropriately to the roof structure and that any internal structural supports does not impede the flow path through the vent under normal operating conditions.

Installation details are available from Airocle IVR on request. Please contact us on 1800 805 062 as we are more than willing to help.

Determining Vent Location

Vents shall generally be located at 6 metre spacing to optimise airflow performance of each ventilator. Ventilators shall generally be placed at the highest point of a roof to maximise the impact of stack effect.



Ridge Line



Ridge Line



Ridge Line



Ridge Line

Avoid locating ventilators directly next to each other or against surfaces which may restrict the ability for efficient exhaust and wind effect.

Materials & Finishing

We have ability to suit every application including corrosive environments by fabricating the **6 Series** in:

- Colorbond
- Colorbond Ultra
- Zinalume
- Galvanised steel
- Aluminium
- Stainless steel
- Copper

Our manufacturing process also allows us to colour match custom colours as well as provide all Colorbond, Colorbond Metallic and Dulux colour finishes.

How to Specify

Description

Roof ventilator(s) shall be of a passive design incorporating a sealed bearing axle system. Design shall include all applicable dampers, accessories, fixings and flashings. Install to manufacturers recommendations.

Size

Roof ventilator(s) shall be ____ mm in diameter and located as per architectural drawings. Refer to architectural drawings or contact Airocle (1800 805 062) to calculate number of ventilators required, internal and external heat loads and air change required to maintain acceptable internal ambient temperature, and to provide proof of adequacy of design for purpose.

Base

Roof ventilator(s) shall be fitted with a **6AV**.xxxx transition base or **6BV**.xxxx spigot base to suit the ventilator diameter.

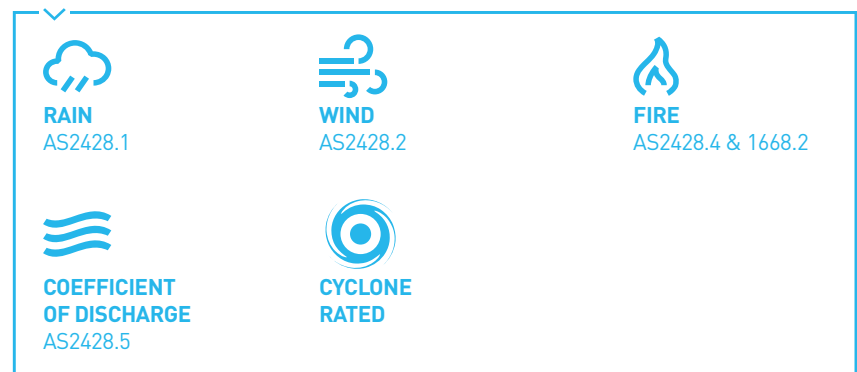
Performance

Each roof ventilator shall be capable of achieving ____ m³/sec under ____ km/h wind speed, ____ °ΔT and ____ m effective stack height parameters or

Each roof ventilator shall be capable of achieving ____ m³/sec under design conditions of _____.

Testing

Roof ventilator(s) shall be designed and made in Australia using Australian materials. Roof ventilator(s) shall have a minimum coefficient of discharge (Cd) of 0.70 and be tested to:



Proprietary Item

6 Series Model _____ as manufactured by Airocle
(www.airocle.com.au or 1800 805 062)

Features

Ventilator shall incorporate:

- Internal acoustic insulation with a sound transmission class (STC) of 13
- Fire Rated construction to 200°C/120min plus 300°C/30min as per AS1668.1
- Spring return open/close disc damper with pneumatic /240v/24v electric/ manual control to be located in the base throat
- Spring return open/close fire rated damper with pneumatic/electric/ manual control to be located in the base throat
- Booster Fan shall be of an axial fan design located in a transition base to ensure no throat area restriction, and be capable of achieving _____ m³/hr
- Stainless steel bush fire mesh to be located in the throat of the base to meet AS3959 consisting of a 2.0mm aperture, 0.56mmØ, 61% open area
- Security Mesh in 0.9mm 304 grade stainless steel with tamper resistant screws and frame with ≥61% FOA

Fabrication and Finish

Ventilator(s) to be constructed in Zinalume®/Colorbond®/Aluminium/ Stainless Steel/Galvanised Steel/Marine Grade Aluminium/Marine Grade Stainless Steel complete with standard/stainless steel working parts
Base(s) shall be constructed in Zinalume®/Colorbond®/Aluminium/ Stainless Steel/Galvanised Steel/ Marine Grade Aluminium/Marine Grade Stainless Steel

Colour to match adjacent roof sheeting unless specified. Refer to External Finishes Schedule.

Disclaimer

The information contained in this work has been provided with every effort having been made to ensure accuracy and completeness. However, many of the statements contained in the catalogue are of a general nature and no guarantee is given, nor responsibility taken by Airocle for errors or omissions and Airocle does not accept responsibility in respect of any information or advice given in relation to or as a consequence of anything contained herein. Purchasers should seek their own independent advice as to the suitability of the products and materials contained in the catalogue for their particular circumstances. As Airocle are committed to ongoing product development, all dimensions, designs, specifications, descriptions, text results and exhaust capacities represented in this catalogue are subject to change without prior written notice.



Australian owned, Airocle provides customers with a comprehensive and balanced portfolio of innovative natural ventilation solutions for sustainable commercial, industrial and community building design.

Think Natural. Think Smarter.

To find out more visit our website
Airocle.com.au or call **1800 805 062.**



KNOWLEDGE BANK
INSPIRE + EDUCATE

The Airocle Knowledge Bank is an online resource centre designed to inspire and educate you and your clients on the benefits of natural ventilation. To find out more visit [Airocle.com.au](https://www.airocle.com.au)



AUSTRALIAN
OWNED + MADE

IVR GROUP TRADING AS AIROCLE