

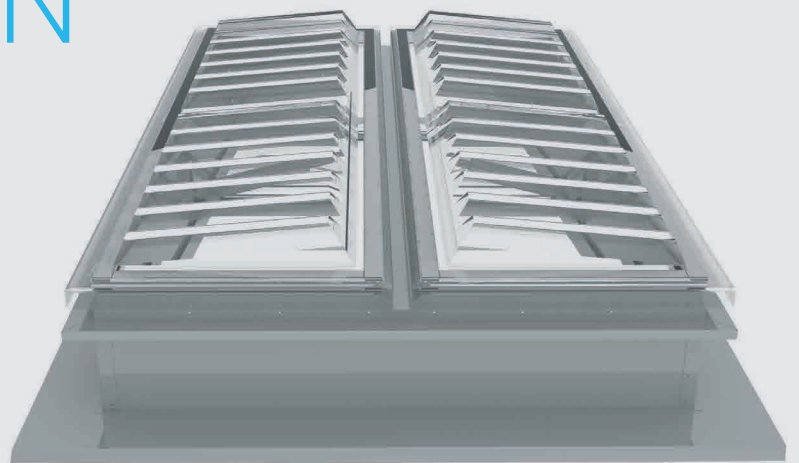
Airocle™

Think Natural.™  
Think Smarter.



7 Series

# INSPIRED BY THE NATURAL FORCES FOR MAXIMUM ROOF-BASED VENTILATION



Roof

**7 SERIES**

VENTS & VENTILATORS

FIRE & SMOKE VENT

Previously **Pyrmont Series**

CSIRO CERTIFIED



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

## Fire & Smoke Vents



Passive  
Natural  
Ventilation



Engineered  
Design



Market Leading  
Performance

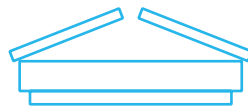


Ideal For  
Sustainable  
Building Design



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

# 7 SERIES

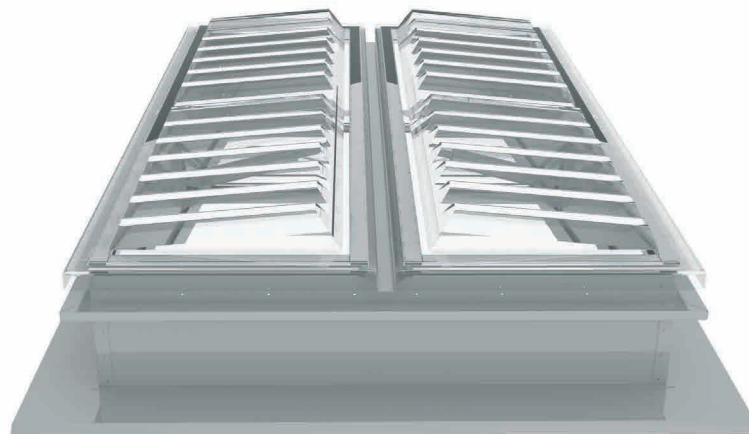


## Ideal for effective and efficient removal of smoke from a building.

The jewel in Airocles range of natural heat, smoke and fire ventilation, the **7 Series** range provides the highest possible levels in quality and performance making this ideal for projects requiring a natural ventilation solution of the highest order.

Refined for both the industrial and commercial sectors, the large vent openings, high exhaust coefficients and reliable performance make this ventilation range ideal for large scale heat and smoke ventilation and day to day natural sky lighting.

With the ability for these vents to be customised with weather activation controls, sky lighting, thermal and acoustic insulation as well as fire-rated fail safe CO2 activated backup, this vent has proven to be highly successful in a range of applications including large warehousing, hangers and atrium use.



## Design

### Exhaust Performance

Quick release mechanisms, a high coefficient of discharge and large effective aerodynamic areas make the **7 Series** ideal for effectively and efficiently exhausting smoke from a building. With CSIRO tested airflow performance, our ventilators provide designers certainty when implementing a natural smoke management system.

### Safety

With automatic control with manual override and fail safe fusible links, the **7 Series** ensures unparalleled reliability in emergency situations. With each system using full copper airlines (for pneumatic systems) or fire rated cabling (for electric systems), the certainty of keeping building occupants safe and exhausting dangerous heat and smoke is assured.

### Integrity

The **7 Series** is designed to close post-event to protect your internal environment from the elements. Designed and fabricated in Australia to stringent Australian Standards, the **7 Series** is engineered with the quality to ensure weather-tight security when closed and high levels of exhaust when open.

## Benefits

### Rapid Response

Non-stick-slip bidirectional operating cylinders ensure that the **7 Series** rapidly opens and closes on command with minimum delay. The ability to provide immediate response to changing weather, operational and emergency situations provides occupants, owners and emergency crews increased control in how they manage often variable environments.

### Weather Tight

Protecting the internal environment from the outside elements is essential for many buildings. With an engineered design focused on weather performance when closed, the **7 Series** has been trusted by the Australian Department of Defence to protect a range of aircraft and military equipment due to its weather tight performance in even storm and cyclone conditions.

### Fail Safe

Fusible links, manual release points, and controls with automatic and manual override ensure the **7 Series** has three layers of activation for fail safe operation. The use of copper airlines in the pneumatic version minimises the risk of air leaks in the system compared to PVC airlines. Fire rated cabling in electrically operated systems ensure reliable,

safe and dependable connections.

### Known Performance

CSIRO tested airflow performance provides building engineers design certainty. Coefficient of Discharge figure of 0.85 delivers high levels of air flow efficiency and effectiveness allowing you to get the most out of your design and ensure reliability in your smoke hazard management approach.

### Reduced Maintenance

The simplicity and clever engineered design of the **7 Series** reduces the level of maintenance and failure rates experienced by current mechanical ventilation systems. This results in lower servicing and maintenance costs and reduced energy use over the lifetime of your building.

## Projects

Unrivalled reliability, safety and response have made the **7 Series** the optimal pressure relief solution for:

- Atriums
- Warehousing
- Hangars
- Storage Facilities
- Smoke/Fire Ventilation

## Quality



**RAIN**  
AS2428.1



**WIND**  
AS2428.2



**FIRE**  
AS2428.4



**COEFFICIENT OF DISCHARGE**  
AS2428.5



**CYCLONE RATED**

The 7 Series is designed to meet fire engineer, Building Code of Australia and Australian Standards for the most hazardous and demanding of environments. Engineered to withstand cyclonic conditions and meet the strictest of safety and reliability standards, the 7 Series deliver performance and peace-of-mind to both building designers and occupants.



### 7 Series > Fire & Smoke Vent

Delivering high levels of air flow efficiency and effectiveness, 7 Series allows you to get the most out of your design and ensure reliability in your smoke hazard management approach.



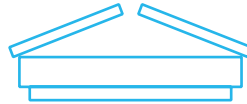
- WAREHOUSING + STORAGE
- INDUSTRIAL WORKSHOPS
- SCHOOLS + EDUCATION FACILITIES
- HALLS, GYMNASIUMS + INDOOR POOLS
- DEFENCE + GOVERNMENT BUILDINGS
- ELECTRICITY SUBSTATIONS + WATER PUMP HOUSES



Hanger  
Williamtown  
NSW  
Fire & Smoke Vent  
7 Series

# 7S

## FIRE & SMOKE VENT DESIGN



Designed and fabricated in Australia to stringent Australian Standards, the 7 Series is engineered to deliver high levels of air flow efficiency.

### Functionality

We understand that complete control over your system is important. With the option of pneumatic, electric or manual operation, and a range of timing, smoke and weather sensors, we have developed a fully functional solution that can be tailored to your building. Need a delay between an alarm and the vents opening to minimise false alarms? Want to open the vents manually to let natural light in and close again in rain? The control of every system is up to you.

### Reliability

The worst outcome for a smoke exhaust system during a fire is to not operate. The **7 Series** incorporates 3 fail safe points of activation to ensure smoke is reliably exhausted from your building. Automatic opening through FIP, BMS or Smoke Detector signalling, a 71°C fusible link, and manual latch override ensures that your vent system is guaranteed to open.

### Sustainability

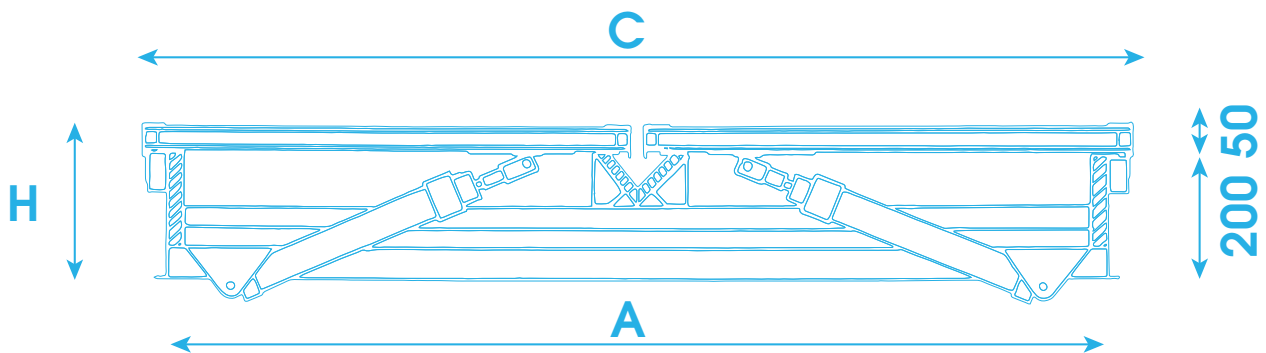
Improve the environmental and financial performance of your building by going natural. With the ability to remove costly mechanical fans, building designers and occupants are able to reduce electricity use and costs as well as reduce maintenance and servicing expenditure. The chance to improve their environmental and financial bottom line has seen the **7 Series** become a popular choice with new buildings as well as building refurbishments.


### Workmanship

Designed and manufactured in Australia using Australian materials, the **7 Series** is manufactured under strict quality control processes to ensure engineering integrity. Workshop drawings, documentation and technical support are available throughout the system design and installation process.

## Size & Dimensions


As each ventilator is unique in design to satisfy project design specifications, please contact Airocle to help you design and assist in specifying a particular model that will suit your project.



MODEL		THROAT OPENING (mm)		OVERALL DIMENSIONS (mm)		GEOMETRIC AREA (m <sup>2</sup> )	OVERALL HEIGHT WHEN CLOSED (mm)	OVERALL HEIGHT WHEN CLOSED (mm)
		WIDTH(A)	LENGTH(B)	AREA(C)	LENGTH(D)		ALUMINIUM FLAPS(H)	LUMINAIRE FLAPS(H)
7FV.1020		1000	2000	1125	2125	2.00	250	250
7FV.1525		1500	2500	1625	2625	3.75	250	250
7FV.2424		2400	2400	2500	2500	5.76	260	250

## Ventilation Capacity

These figures are examples only. Each Airocle 7 Series Ventilator is engineered and custom designed for each particular projects specified requirements. Contact Airocle for assistance in design and selection regarding this.

MODEL		Minimum Discharge Coefficient	Effective Aerodynamic Area (m <sup>2</sup> )
7FV.1020		0.78	1.56
7FV.1525		0.78	2.92
7FV.2424		0.78	4.49

## Energy Efficiency

Our 7 Series ventilator design has been engineered to maximise thermal, lighting and acoustic efficiency dependant on configuration.

- Optimum light transmission (over 60%)
- Reduced energy consumption
- Maximum co-efficient of heat transmission of 2.0w/m<sup>2</sup>K
- High coefficient of ventilation discharge levels
- Ability to be incorporated into a buildings BMS and/or FIP systems

By incorporating day lighting and acoustic insulation while providing high levels of natural heat/smoke and fire ventilation, it makes the 7 Series ideal in achieving a natural ventilation and lighting solution to meet the increasingly stringent demands being placed on building design by Australian Standards and the Building Code of Australia.

## 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.



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## Options

The 7 Series has an option range to assist in specialised circumstances.

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### Acoustic Insulation

For projects that require increased acoustic insulation such as performance stages, theatres, cinemas, halls, libraries and research buildings, all units are able to be fitted with increased acoustic insulation within the door and walls of each unit to meet a Sound Transmission Class (STC) of 12. We ensure that noise transmission into and out of your building is minimal.

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### Thermal Insulation

All **7 Series** models are provided with thermally insulated lids which utilise non-flammable mineral rockwool acoustic insulation to meet most existing roof insulation standards for typical building use.

For projects requiring increased thermal insulation, our unique internal frame design found in every **7 Series** model allows building designers to incorporate increased thermal insulation. Ring our design staff on 1800 805 062 to discuss how the **7 Series** can benefit your project.

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### Air Sensors and Controls

All **7 Series** models can be linked to a range of smoke, fire, temperature or air quality sensors to ensure that your ventilation system is responsive to your specific demands. Our purpose-designed control panel allow your vents to link with Fire Indicator Panels (FIPs) and Building Management Systems (BMS) and gives you complete control over your system.

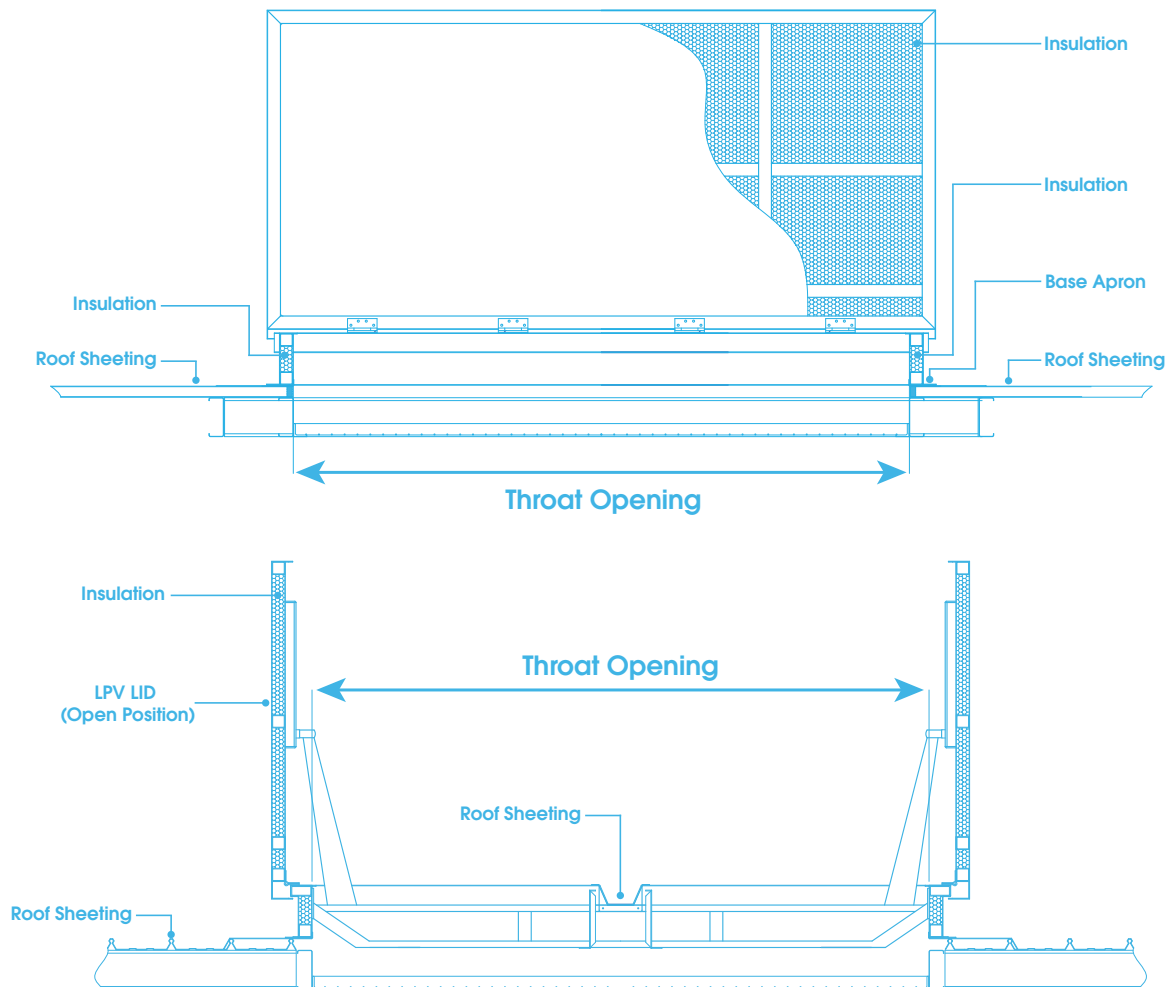
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### Security Mesh

The high value and sensitive nature of buildings requiring smoke and fire relief venting means that security can be essential. The nature of many of these buildings makes them the target of vandals and intruders. With the use of tamper-proof screws along with specifically engineered frames and mesh, this option ensures that your building remains secure even under the heaviest of attacks.

## Typical Installation

The 7 Series are delivered to site fully assembled and ready for hoisting to the roof. Installation must ensure that the centre gutter is aligned down the roof to ensure effective drainage.



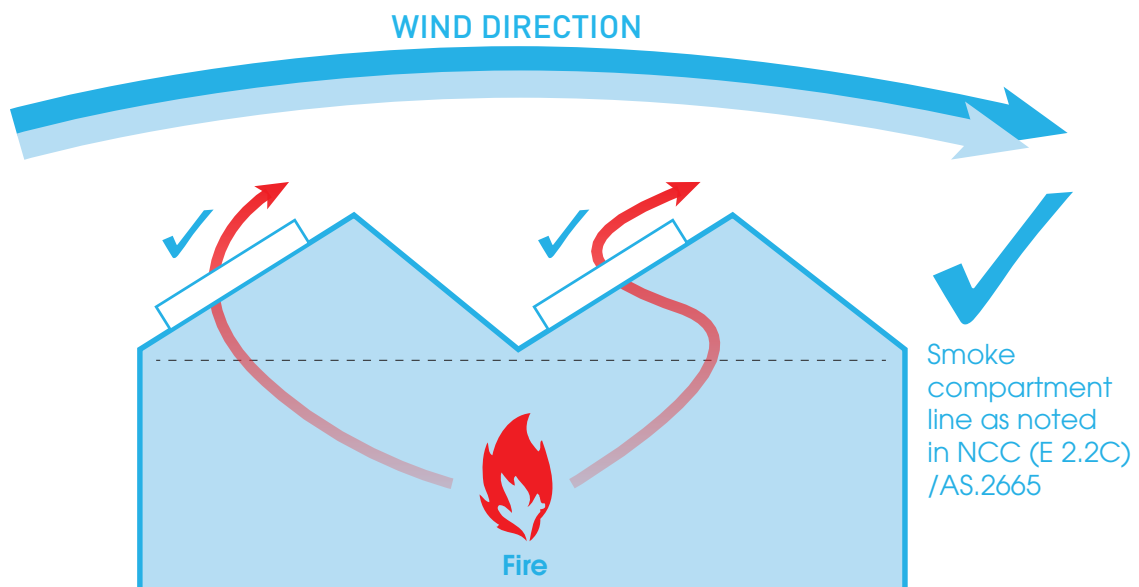
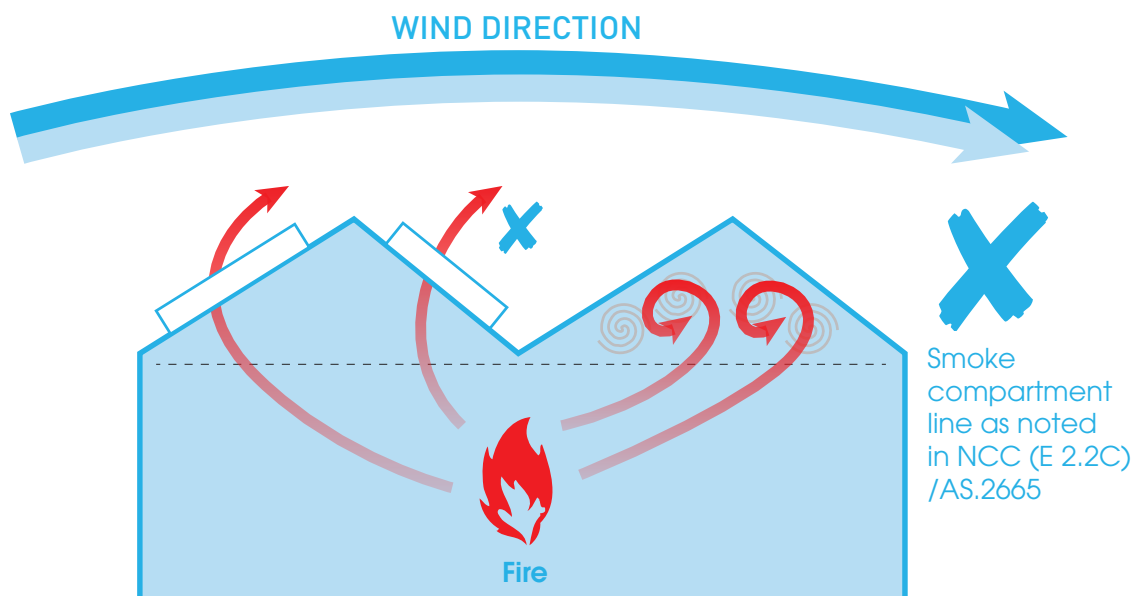
## Installing on Roofs

The building contractor must ensure that the vent is fitted appropriately to the roof structure and that any internal structural supports do not impede the flow path through the vent and that all vent doors are able to freely move such that they can fully open and close under normal operating conditions.

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

## Determining Vent Location

The most favourable location for smoke venting and fire relief is close to where anticipated incidents may occur and towards the highest point in that immediate area. When designing a smoke hazard management system which incorporates passive ventilation, ensure the appropriate design of potential smoke compartments to minimise airflow impediments and the build up or stagnation of smoke and other airborne contaminants.



## Materials & Finishing

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We have ability to suit every application including corrosive or volatile environments by fabricating the **7 Series** in a range of materials and finishes including:

- Colorbond®
- Colorbond® Ultra
- Zinalume®
- Aluminium
- Stainless steel

Our manufacturing process also allows us to colour match custom colours as well as provide all Colorbond®, Colorbond® Metallic and Dulux® colour finishes. All units are supplied with Matt Black internal as standard although this can be changed to meet specification.

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## Shipping

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The **7 Series** is available in completely assembled units ready for installation.

## How to Specify

### Description

Smoke relief ventilator(s) shall be a strut actuated openable door design incorporating bi-directional and fail safe operation. Design shall include all applicable actuators, thermal release links, manual release links, fixings, trims, flashings and other specified fittings. Install to manufacturers recommendations.

### Performance

Smoke relief ventilator(s) shall be designed to open upon the release of a 71°C fusible link or via manual or signalled release.

Smoke relief ventilator(s) shall be electrically/pneumatically/manually actuated and controlled via FIP/BMS/Smoke Detector. Ventilators shall also be linked to two (2) emergency break glass switches.

Smoke relief ventilator(s) shall have a Coefficient of Discharge of  $\geq 0.80$  (LPV) or  $\geq 0.85$  (LLP) to ensure engineered ventilation design requirements for the space are met.

### Size

Smoke relief Ventilator(s) to have an internal size of \_\_\_\_\_ mm long x \_\_\_\_\_ mm wide with a throat area of \_\_\_\_\_ m<sup>2</sup> based on performance requirements as above.

### Proprietary Item

**7 Series** Model \_\_\_\_\_ as manufactured by Airocle (www.airocle.com.au)

### Features

Ventilator shall incorporate:

- Internal acoustic insulation with a sound transmission class (STC) of 13
- Internal thermal insulation for reduced heat transmission
- Security Mesh in 0.9mm 304 grade stainless steel with tamper resistant screws and frame with  $\geq 61\%$  FOA

### Fabrication and Finish

Ventilator to be constructed in Zinalume®/Colorbond®/Aluminium/Stainless Steel/Copper with 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](http://Airocle.com.au)



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