

Airocle™

Think Natural.™
Think Smarter.



4 Series

DESIGNED
FOR THE
EFFICIENT AND
EFFECTIVE
EXHAUST OF HIGH
HEAT LOADS



Roof

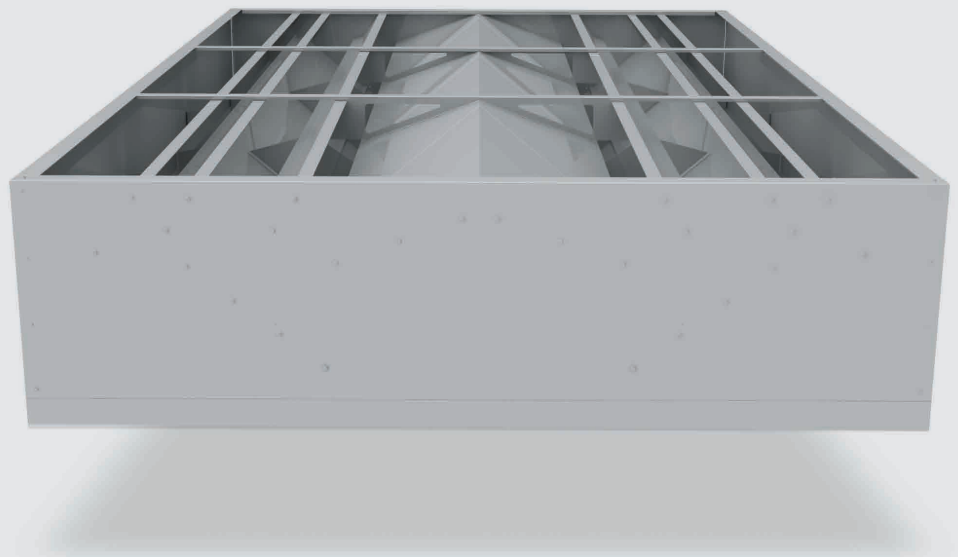
4 SERIES

VENTS & VENTILATORS

RIDGE & SLOPE VENTILATORS

Previously **Hotspur Series**

PERFORMANCE TESTED



Vents & Ventilators

Ridge & Slope Ventilators



Roof Solutions



Passive Natural Ventilation



Engineered Design



Market Leading Performance



Ideal For Sustainable Building Design

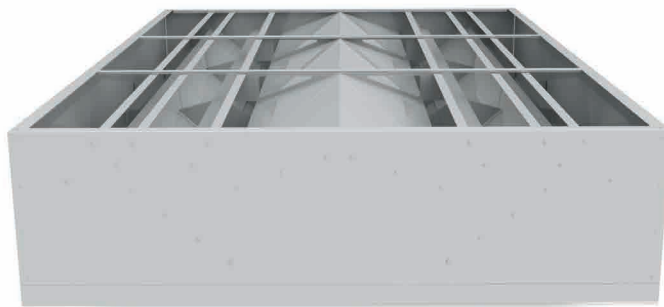
4 SERIES



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

The **4 Series** is designed for the efficient and effective removal of high heat loads where structural, engineering or architectural design requires a modular slope or ridge mounted ventilator with a large throat area.

Engineered to ensure reliable, weatherproof, high capacity natural ventilation, the **4 Series** is proven for wind and snow loading to DIN1055 Part 4 and is suitable for applications over 100m high and designed to withstand the harshest of environments including corrosive and cyclone conditions.



Design

The **4 Series** is a low profile, weathertight ventilator (under positive operating conditions*) with fully operable control capabilities and a large throat area opening. A high discharge coefficient and unique modular design delivers effective airflow performance and design flexibility for building designers.

Projects that benefit from the low silhouette design of the **4 Series** include:

- Aluminium Smelters and Industrial Complexes
- Heavy Industry including Steel Manufacturing
- Plant rooms and Treatment Plants
- Processing, Desalination and Treatment Plants
- Mining Workshops and Processing Facilities
- Gymnasiums, Halls and Sports Centres
- Rail Rolling Stock Sheds and

Benefits

Flexible Lightweight Modular Design

The light weight yet large throat area design of the **4 Series** makes this an optimal solution for building designs desiring minimal wind and dead loading or for existing buildings requiring upgraded ventilation. The modular 2000 x 3000 design allows vents to be located in a range of formations across a roof providing design flexibility in meeting heat load or architectural demands.

Cost and Energy Efficiency

Lower energy costs and reduced construction costs are only some of the reasons to choose natural ventilation and the **4 Series**. The biggest advantage over mechanical ventilation is that the higher the heat load and more demanding the environment, the better natural ventilation will perform. Combined with the ability for projects to reduce structural steel due to the pressure relief properties of natural ventilation systems, the **4 Series** is a big advantage for designers seeking cost efficient and sustainable design.

Smoke and Fire Management

Natural ventilation provides your project the ability to simultaneously deliver effective natural ventilation and smoke hazard management. With a tested coefficient of discharge figures along with a thorough scientific approach to calculating air flow performance, Airocle can work with you to develop a natural ventilation solution that will meet all BCA and fire brigade requirements even in nil wind speed situations.

Performance

The **4 Series** delivers performance. A coefficient of discharge of 0.43 and large throat area ensures that your project can exhaust even the largest heat loads. The ability to operate in even the most demanding environments to reduce heat and humidity build up ensures your building minimises the risk of structural corrosion and improves often challenging internal working environments.

Quality



RAIN
AS2428.1



WIND
AS2428.2



FIRE
AS2428.4



COEFFICIENT OF DISCHARGE
AS4740



CYCLONE RATED

Manufactured in Australia using Australian materials, the 4 Series has been designed and tested to give maximum weather protection with the least resistance to air flow. Tested to DIN1055 Part 4 for wind and snow loading, the 4 Series is particularly suited for weight sensitive applications where wind and dead loading factors are an important consideration in the overall building design.

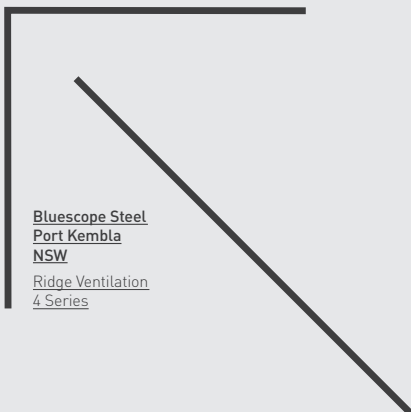
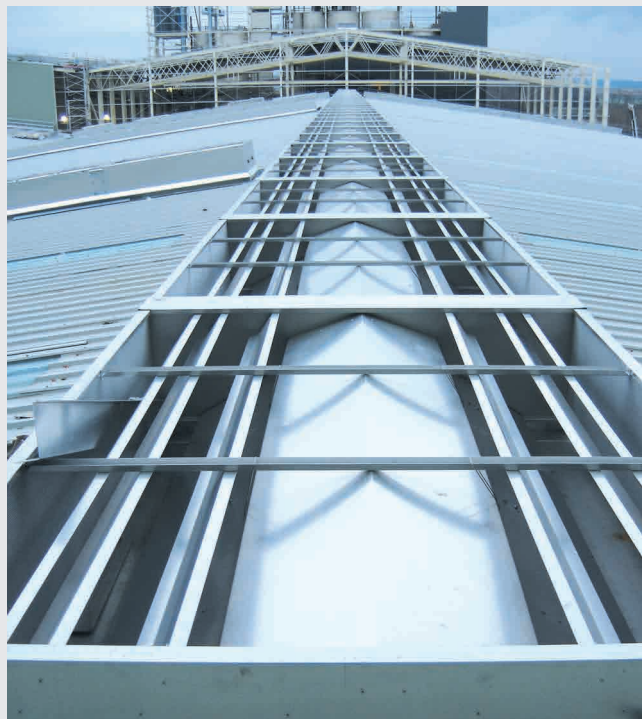


4 Series > Ridge + Slope

Scientific engineering principles
has lead to our 4 Series providing
optimal performance in all weather
conditions and minimises the risk
of back drafting and the entry of
moisture.



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



Bluescope Steel
Port Kembla
NSW
Ridge Ventilation
4 Series

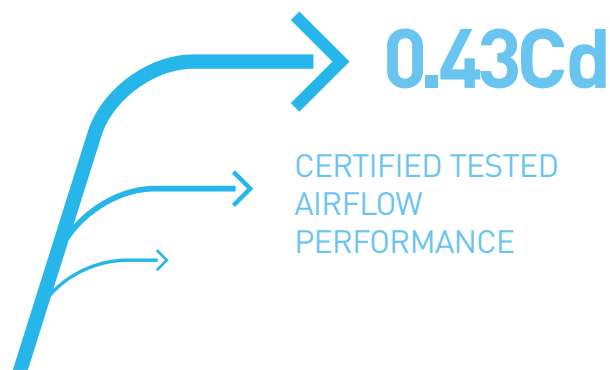
4S

RIDGE + SLOPE DESIGN



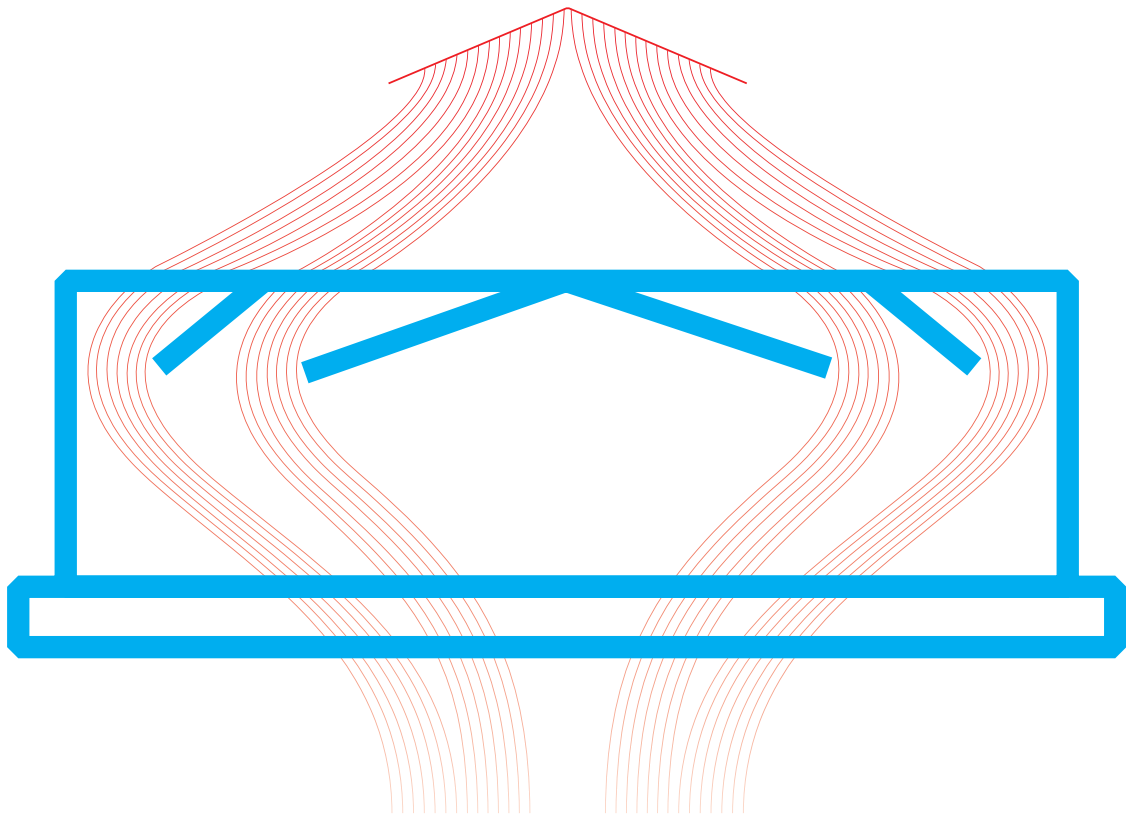
Scientific engineering principles has lead to our 4 Series providing optimal performance in all weather conditions and minimises the risk of back drafting and the entry of moisture*.

The 4 Series is certified tested to DIN 18 232, Part 3, Section 3.7.



Weathertight*

Clever design and engineering results in the 4 Series providing maximum weather protection with low resistance to air flow. Testing to international standards accredited to DIN13030 and certifying weather performance in excess of 99.9% at air speeds of up to 18m/s, the unique splitter baffle arrangement and gutter integration provides each unit with exceptional coefficient of discharge for such a large, lightweight and weather protected throat area.



Installation

The 4 Series is quick and easy to install with all components pre-fabricated prior to delivery. Easy to follow installation instructions means that your project costs are reduced through eliminating the need for excessive labour. The clever modular design ensures that vents are easy to install on even the most architecturally complex roof.

Quality

Engineered and manufactured in Australia using high quality materials, the 4 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 every design condition including cyclone and blizzard regions.

Weathertight

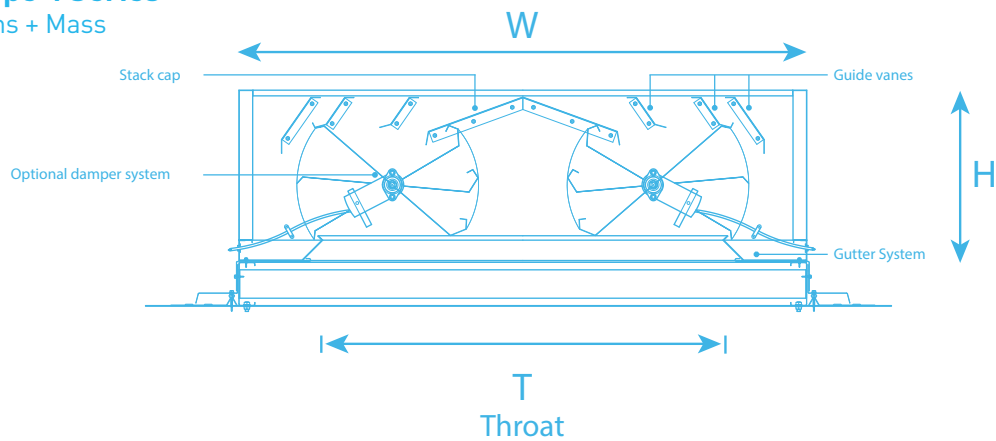
The advantage of having our own engineering design team is that we understand how to make our products properly. Through incorporating guidevanes (with option of operable dampers), it ensures our vents meet and exceed AS2428.1 & .2 (Rain and Wind) allowing them to operate in the most extreme weather.

Size & Dimensions

Scientific engineering principles has lead to our 4 Series providing optimal performance in all weather conditions and minimises the risk of back drafting and the entry of moisture.

Ridge Type 4 Series

Dimensions + Mass



MODEL	(W) WIDTH (mm)	(L) LENGTH (mm)	(H) HEIGHT (mm)	THROAT AREA Per Unit (m ²)	ZINCALUME MASS Per Unit (kg)	DAMPERS ELECTRIC	DAMPERS PNEUMATIC	CYCLONE RATED CAT C	CYCLONE RATED CAT D	FIRE RATED	BUSHFIRE MESH
4RV/4SV.1515	1500	1500	446	1.1	42	✓	✓	✓	✓	✓	✓
4RV/4SV.1524	1500	2400	446	2.1	68	✓	✓	✓	✓	✓	✓
4RV/4SV.1530	1500	3000	446	2.7	85	✓	✓	✓	✓	✓	✓
4RV/4SV.1560	1500	6000	446	5.9	169	✓	✓	✓	✓	✓	✓

MODEL	(W) WIDTH (mm)	(L) LENGTH (mm)	(H) HEIGHT (mm)	THROAT AREA Per Unit (m ²)	ZINCALUME MASS Per Unit (kg)	DAMPERS ELECTRIC	DAMPERS PNEUMATIC	CYCLONE RATED CAT C	CYCLONE RATED CAT D	FIRE RATED	BUSHFIRE MESH
4RV/4SV.2015	2000	1500	595	1.28	56	✓	✓	✓	✓	✓	✓
4RV/4SV.2024	2000	2400	595	2.5	90	✓	✓	✓	✓	✓	✓
4RV/4SV.2030	2000	3000	595	3.4	113	✓	✓	✓	✓	✓	✓
4RV/4SV.2060	2000	6000	595	7.6	226	✓	✓	✓	✓	✓	✓

MODEL	(W) WIDTH (mm)	(L) LENGTH (mm)	(H) HEIGHT (mm)	THROAT AREA Per Unit (m ²)	ZINCALUME MASS Per Unit (kg)	DAMPERS ELECTRIC	DAMPERS PNEUMATIC	CYCLONE RATED CAT C	CYCLONE RATED CAT D	FIRE RATED	BUSHFIRE MESH
4RV/4SV.2515	2500	1500	744	1.34	71	✓	✓	✓	✓	✓	✓
4RV/4SV.2524	2500	2400	744	2.9	113	✓	✓	✓	✓	✓	✓
4RV/4SV.2530	2500	3000	744	4.0	141	✓	✓	✓	✓	✓	✓
4RV/4SV.2560	2500	6000	744	9.3	282	✓	✓	✓	✓	✓	✓

MODEL	(W) WIDTH (mm)	(L) LENGTH (mm)	(H) HEIGHT (mm)	THROAT AREA Per Unit (m ²)	ZINCALUME MASS Per Unit (kg)	DAMPERS ELECTRIC	DAMPERS PNEUMATIC	CYCLONE RATED CAT C	CYCLONE RATED CAT D	FIRE RATED	BUSHFIRE MESH
4RV/4SV.3015	3000	1500	890	1.29	85	✓	✓	✓	✓	✓	✓
4RV/4SV.3024	3000	2400	890	3.2	135	✓	✓	✓	✓	✓	✓
4RV/4SV.3030	3000	3000	890	4.5	169	✓	✓	✓	✓	✓	✓
4RV/4SV.3060	3000	6000	890	10.8	338	✓	✓	✓	✓	✓	✓

Other sizes available upon request. Please contact Airocle for details.

Note: Fabrication for alternative materials will alter published mass figures. Please contact us for further details if required. For ventilator performance use this chart combined with the airflow performance chart to calculate ventilator airflow rates.

Performance

Stack height (m)	Temp diff (°C)	Velocity (km/hr)	3 Series	4 Series
			Calculated (m ³ /s / m ²)	
3	3	0	0.38	0.32
6	3	0	0.54	0.46
9	3	0	0.67	0.56
12	3	0	0.77	0.65
15	3	0	0.86	0.72
18	3	0	0.94	0.79
3	6	0	0.54	0.46
6	6	0	0.77	0.65
9	6	0	0.94	0.79
12	6	0	1.09	0.91
15	6	0	1.21	1.02
18	6	0	1.33	1.12
3	9	0	0.67	0.56
6	9	0	0.94	0.79
9	9	0	1.15	0.97
12	9	0	1.33	1.12
15	9	0	1.49	1.25
18	9	0	1.63	1.37
3	12	0	0.77	0.65
6	12	0	1.09	0.91
9	12	0	1.33	1.12
12	12	0	1.54	1.29
15	12	0	1.72	1.44
18	12	0	1.88	1.58
3	15	0	0.86	0.72
6	15	0	1.21	1.02
9	15	0	1.49	1.25
12	15	0	1.72	1.44
15	15	0	1.92	1.61
18	15	0	2.10	1.77
3	18	0	0.94	0.79
6	18	0	1.33	1.12
9	18	0	1.63	1.37
12	18	0	1.88	1.58
15	18	0	2.10	1.77
18	18	0	2.30	1.94

Working out what size ventilator for your project is easy. Using our tested coefficient of discharge along with performance calculations and modelling, the table below provides a useful reference for estimating air flow performance of the 4 Series based on a range of temperature differentials, effective stack heights and wind speed factors.

Capacity Table

This table provides a useful reference for estimating airflow performance for the 4 Series based on a range of temperature difference, effective stack and wind speed factors. Figures are stated as m³/sec for every m² of vent throat area.

Note: The above table capacities are based upon DIN 18 232 testing for Coefficient of Discharge and performance calculations. Figures are indicative only and should only be used as a guide to determine the approximate size of the opening required. Design elements such as inlet air, building design, internal impediments as well as geographic, meteorological and topographic factors are required to ensure specific performance rates.

Architects and engineers are invited to contact IVR Group for the early design stages of their projects, when exact requirements and system designs can be determined.

*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.

Performance Options

The advantage of using Airocle is our ability to tailor our vents to meet exactly what is required. Our constant drive for product innovation and tailored engineering solutions means your project has the ability of integrating a range of optional features leading to more efficient, effective and sustainable building designs.

Ridgelite® Natural Lighting

All 4 Series models are able to benefit from our Ridgelite® UV stabilised internal solar lighting system. Meeting AS4256.3 and letting in an abundance of natural light through the vent, incorporating this option can reduce lighting costs and improve internal working environments while not impeding the high levels of air flow and weather performance. Ridgelite® is available in 3 options:

	Material	Light Transmission (%)	Heat Transmission (%)	UV Transmission	Notes
Ridgelite® Standard	Fibre Reinforced Polyester	85	89	< 0.1	
Ridgelite® Cool-lite®	Fibre Reinforced Polyester	38	30	< 0.1	Incorporates 25 micron oven cured film
Ridgelite® 30+R Fire Retardant	Fire Retardant GPP	58	68	< 0.1	Tested to AS1530.3

Bird Guards, Insect Mesh, Bushfire Mesh

We understand that keeping birds, insects and fire embers from entering the ventilator is important for sensitive internal environments. Our ability to incorporate a range of mesh materials and apertures in to the [4 Series](#) allows you the peace of mind knowing that your project is secure.

Mesh Type	Aperture (mm)	Wire Diameter (Ømm)	Open Area (%)	Material
Bird	11.2	1.6	77	Stainless Steel
Insect	6.8	1.6	67	Stainless Steel
Bushfire	2.0	0.56	61	Stainless Steel

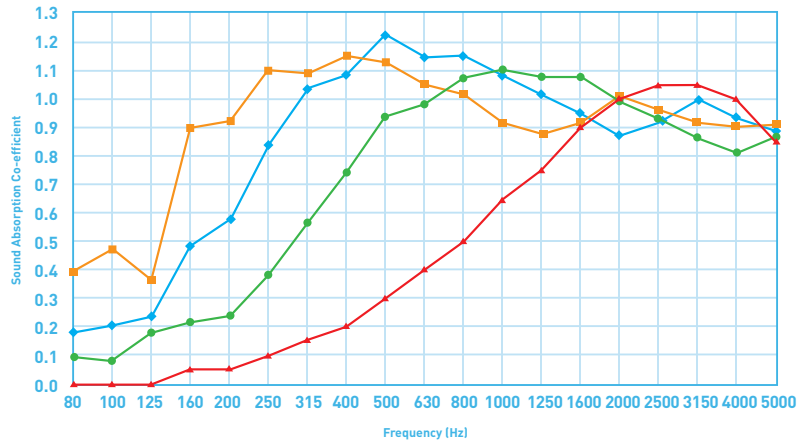
Phonic Acoustic Material

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

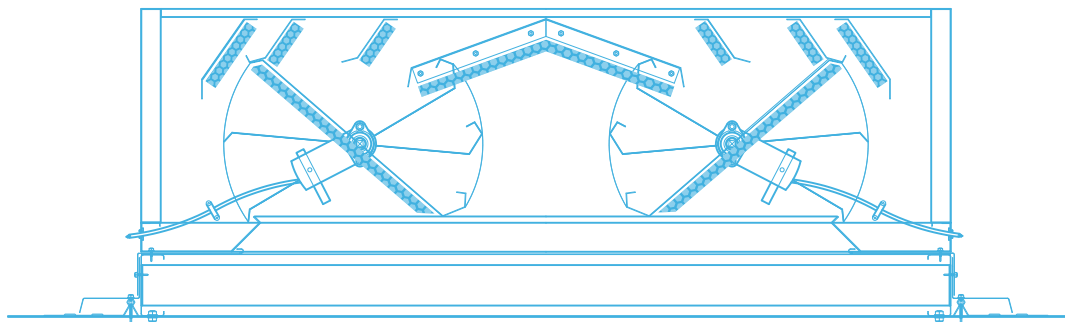
Sound Absorption of Megasorber FG Products

(Tested to AS ISO 354-2006 Acoustics: Measurement of sound absorption in a reverberation room)



- Megasorber FG100, NRC = 1.04
- ◆ Megasorber FG50, NRC = 1.01
- Megasorber FG25, NRC = 0.85
- ▲ Megasorber FG12, NRC = 0.58

RMIT University Test Report: 1211/11-169/PD
 RMIT University Test Report: 1211/11-171/PD
 RMIT University Test Report: 1211/11-173/PD



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 [4 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	0.033

Chemical Resistance (Facing)

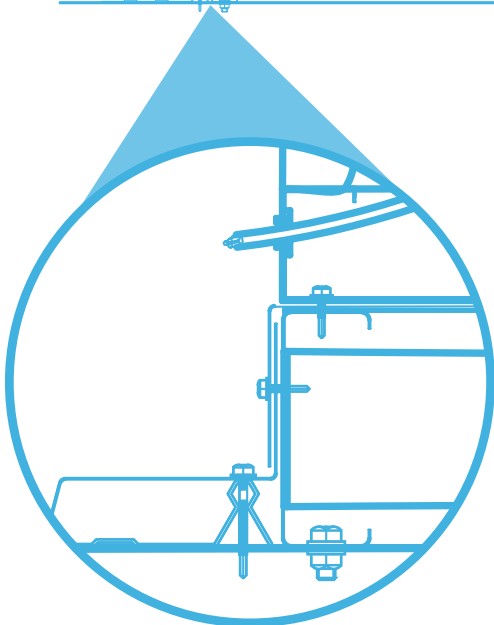
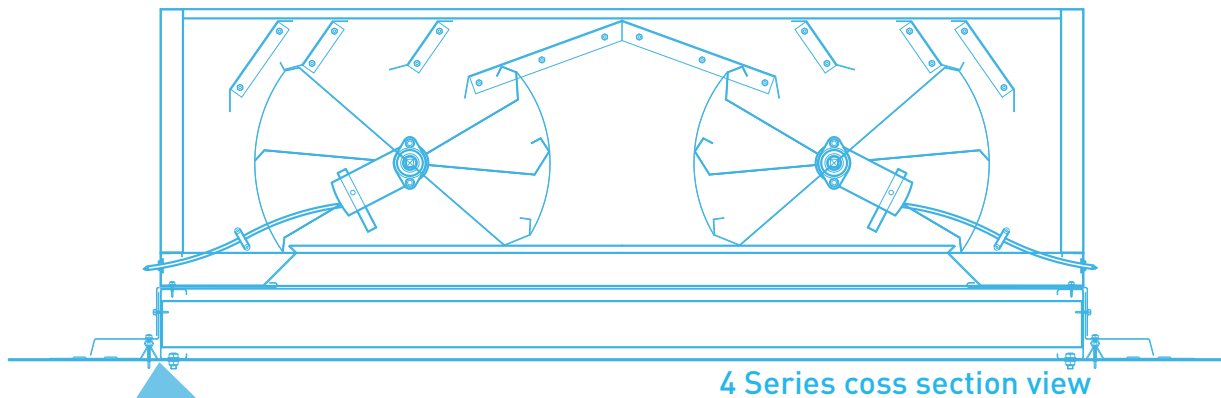
Acetone *Swells and then returns to normal on drying	MEK *Swells and then returns to normal on drying	Petrol	Diesel
Swells	Swells	Good	Good

Flammability Properties

Test Method	Index	Results *Result applies to 12mm thickness	Description
UL94	After flame time ≤ 2 seconds	HBF*	Horizontal Burn Test for foam materials.
FMVSS-302	Burn rate - mm/min	Self Extinguishing	Automotive burn rate test.

Install Details

The 4 Series is designed to provide quick and efficient installation with pre-fabricated and assembled units prior to dispatch for both Slope and Ridge application along with comprehensive installation instruction for both Fixed and Operable models.



Fixing detail of 4 Series soaker base.

Please contact Airocle to ensure you have site specific connection details.





Our 4 Series provides optimal performance in all weather conditions and minimises the risk of back drafting and the entry of moisture.

Materials & Finishing

We have ability to suit every application including corrosive environments by fabricating the **4 Series** in:

- Colorbond®
- Colorbond® Ultra
- Zinalume®
- Galvanised steel
- Aluminium
- Stainless steel
- Copper
- Fibre Reinforced Plastic (FRP)

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

Shipping






The **4 Series** is available in pre-fabricated units with gutter flashings ready for direct hoisting to roof.

How to Specify

Description

Ventilator(s) shall be a natural or passive updraft design including applicable dampers, fixings, trims, flashings and other specified fittings. Install to manufacturers recommendations.

Performance

 RAIN AS2428.1	 WIND AS2428.2	 FIRE AS2428.4
 COEFFICIENT OF DISCHARGE AS4740	 CYCLONE RATED	

Roof ventilator shall have a Coefficient of Discharge of ≥ 0.43 to ensure engineered ventilation design requirements for the space are met.

Size

Ventilator(s) to be _____ mm long with a throat diameter of _____ mm based on performance requirements as above.

Proprietary Item

4 Series Model _____ as manufactured by Airocle (airocle.com.au)

NATSPEC Worksection Title

0735P Airocle Natural Ventilation and Smoke Hazard Management

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.

Features

Ventilator shall incorporate:

- Bird Mesh with $\leq 11.2\text{mm}$ aperture and $\geq 77\%$ FOA
- Insect Mesh with $\leq 6.8\text{mm}$ aperture and $\geq 67\%$ FOA
- Bushfire Mesh with $\leq 2\text{mm}$ aperture and $\geq 61\%$ FOA
- Manual Operable Guidevane Dampers
- Electric Operable Guidevane Dampers with spring return open/close 240v/24v actuator
- Pneumatic Operable Guidevane Dampers with spring return open/close actuator
- Ridgelite® with $\geq __\%$ Light Transmission, $\leq __\%$ Heat Transmission and Airocle Transmission of ≤ 0.1
- Acoustic Treatment to ensure a minimum Sound Transmission Class (STC) Rating of 13
- Weather sensors and control to enable manual/automatic operations as per system design
- Airflow sensors and control to enable manual/automatic operations as per system design

Disclaimer

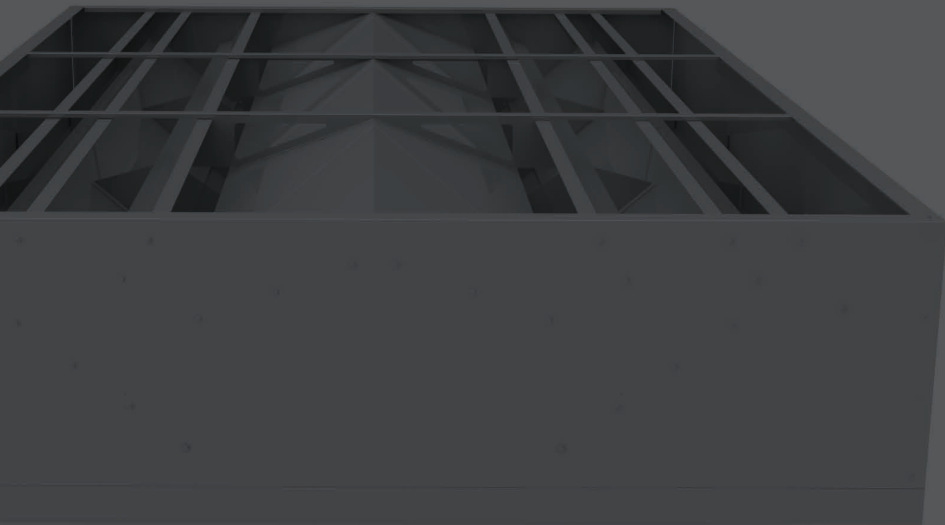
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Australian owned, Airocle provides customers with a comprehensive and balanced portfolio of innovative natural ventilation solutions for sustainable commercial, industrial and community building design.

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



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IVR GROUP TRADING AS AIROCLE