

Airocle™

Think Natural.™
Think Smarter.



Y Series

EFFICIENT & EFFECTIVE PRESSURE RELIEF LOUVRES TO SUIT WALL AND ROOF



Roof Wall

Y SERIES

VENTS & VENTILATORS

PRESSURE RELIEF VENT

Previously **Armada Series**

CSIRO CERTIFIED



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

Natural Pressure Relief Ventilators



Wall
Solutions



Roof
Solutions



Passive
Natural
Ventilation



Engineered
Design



Market Leading
Performance

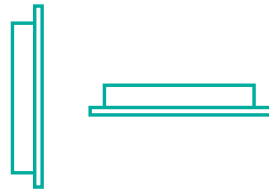


Ideal For
Sustainable
Building Design



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

Y SERIES



Reliable Pressure Ventilation

The **Y Series** of pressure relief louvres provide a weatherproof safeguard against potentially explosive atmospheres where overpressure and blast relief venting is required.

This includes the pre-emptive provisions required by numerous building codes including the Building Code of Australia (BCA) relating to facilities undertaking volatile operations or handling hazardous materials.

Features

- Effective pressure relief
- Fail-safe operation
- Re-closure after operation
- Simple efficient design
- Tested and certified Cd of 0.83



Design

Response

The revolutionary counter-weight operated blade design ensures rapid opening in the early stages of deflagration. This ensures a system which opens at low pressure levels giving your system the best option of relieving pressure before it is too late.

Safety

The complete absence of electrical componentry and careful selection of materials and fabrication methods ensures intrinsic safety throughout the system. Safety Integrity Level (SIL) suitability testing and ratings for each **Y Series** design ensure reliability in even the most demanding environments.

Integrity

Rapidly ventilating pressure is just the first stage. The **Y Series** is designed to close post-event to protect your internal environment from the elements. Air dampened blade-return delivers the ability for buildings to re-pressurise post-event and reduce implosive risk.

Benefits

No Blow Out

The inherent dangers of blow-out panels or inadequate vent area are all too well known. The **Y Series** provides a secure, structurally sound solution that allows spaces to relieve internal building pressure quickly and safely by utilising a ground-breaking operable louvre-style design.

Dampened Blade Return

Rapidly ventilating pressure to protect from building damage results in situations where a building will then experience an under pressure event. The **Y Series** is the result of IVR's investment in understanding the pressure relief cycle and engineering to ensure that blades are dampened when returning so that the building has enough time to pressurise to ambient and reduce any implosive risk.

Cyclone Rated

The **Y Series** can be engineered to suit cyclone regions up to and including Category D. With pressure relief vents providing a connection between internal and external environments, the ability to ensure that your project remains weatherproof in the harshest of

weather conditions is critical.

Rapid Response

Avoiding complicated processes of pressure identification, signalling and actuation found in electrically operated vent designs, the advanced counter-weight operated blade design allows the **Y Series** to work with a pressure relief event by harnessing the pressure itself. This ensures a more rapid, reliable response to deflagration or pressure relief events.

Intrinsically Safe

The elimination of electrical componentry and careful selection of fabrication techniques and materials lets the **Y Series** reach unparalleled levels of intrinsic safety. With no need to incorporate electrical wiring or switches, the **Y Series** presents designers a solution that is easy to specify, install and maintain in a safe and reliable operating manner.

Dust Protection

Pressure relief vents need to manage rapid ventilation demands with the protection of often sensitive environments. The **Y Series** incorporates a range of weather and hatch seals to prevent ingress and ensure the integrity of your internal environment.

Quality



RAIN
AS2428.1



WIND
AS2428.2



FIRE
AS2428.4

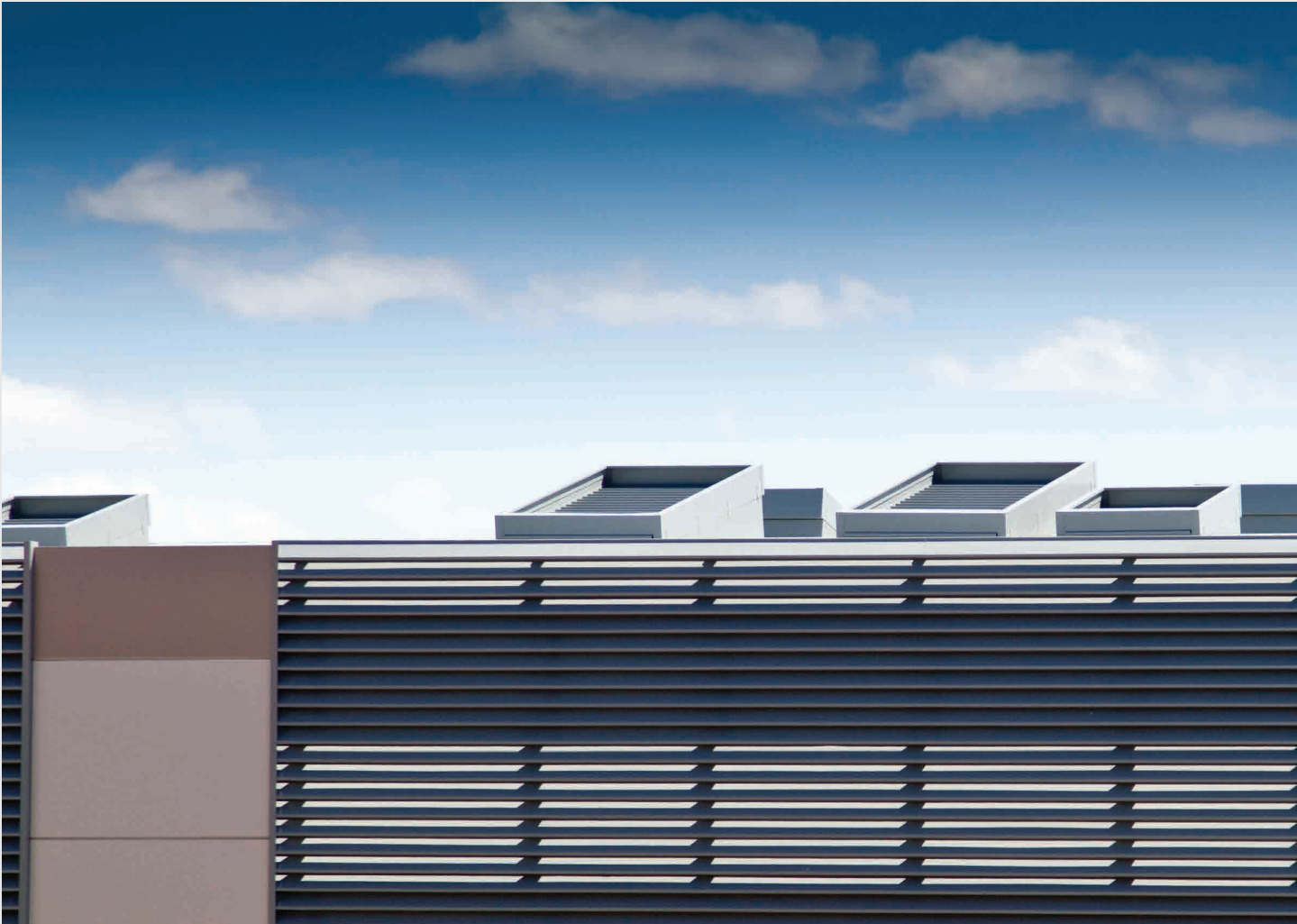


**COEFFICIENT
OF DISCHARGE**
AS2428.5



**CYCLONE
RATED**

The Y Series is designed for the most hazardous and demanding of environments. Engineered to withstand cyclonic conditions and meet the strictest of safety and reliability standards, the Y Series delivers performance and peace-of-mind to both building designers and occupants.



Y Series > Natural Pressure Relief Ventilators

The Y Series is specifically designed to ensure rapid ventilation response while retaining the ability to reclose and protect the integrity of sensitive internal environments.



PETROCHEMICAL PLANTS

ELECTRICITY SUBSTATIONS

GAS PROCESSING PLANTS

MINING OPERATIONS

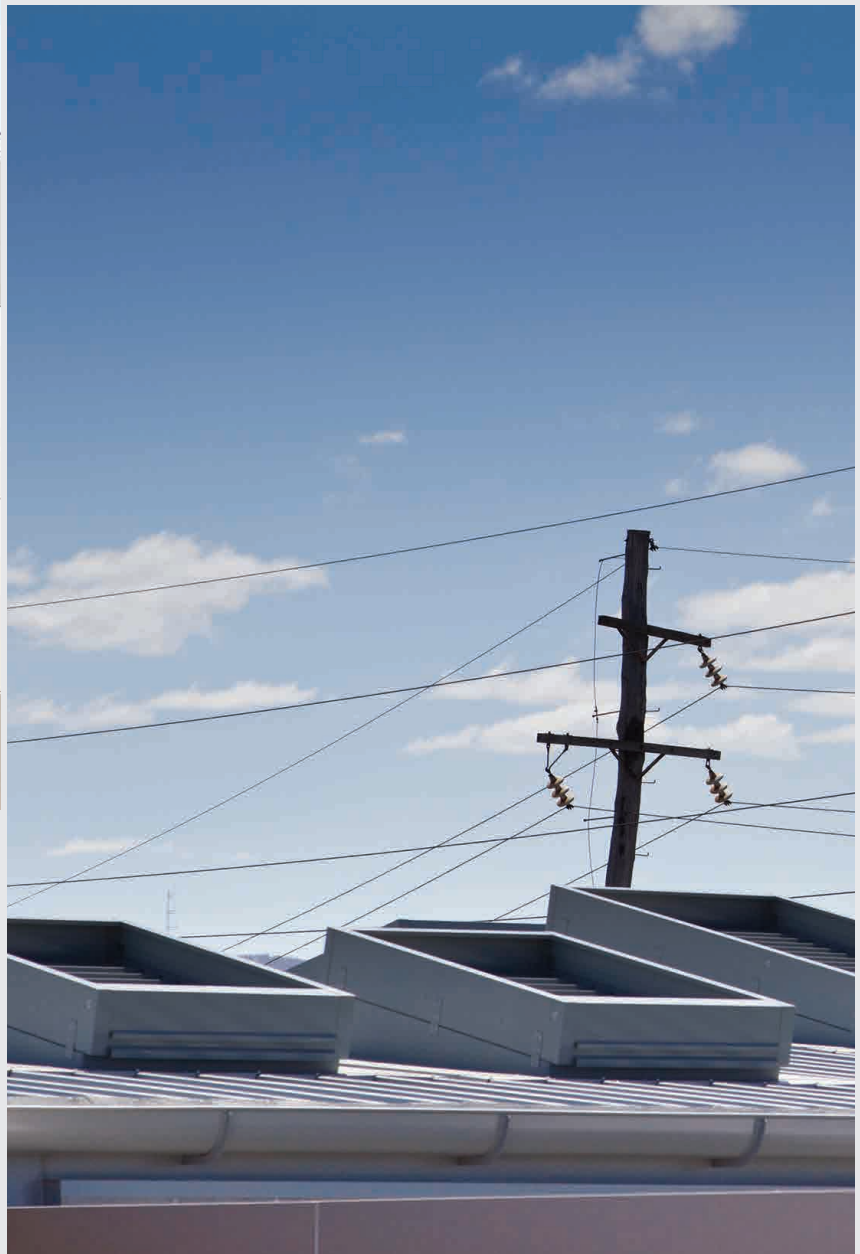
CHEMICAL STORAGE

AMMUNITION STORES

GRAIN STORAGE

LABORATORY TEST FACILITIES

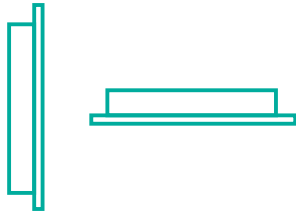
OFFSHORE OPERATIONS



Port Kembla
Zone Substation
NSW Australia
Pressure Relief Vent
Y Series

YS

PRESSURE RELIEF DESIGN



Y Series pressure relief ventilators are frequently utilised in situations where safety is a priority in the rapid ventilation of overpressurisation and in mitigating the dangers of air pressure in building designs.

The Y Series is CSIRO tested to AS2428 and has proven design advantages over other 'vented ridge' designs in the market.





IP Rating

The **Y Series** is free from electrical componentry ensuring that project designers are not required to accommodate solid particle and liquid ingress IP Rating issues that can plague other pressure relief designs. This allows project engineers flexibility, reliability and simplicity in their designing.

Opening Pressure

Designed to open at a minimum of 50 Pa the **Y Series** eliminates nuisance opening of the vent in pressurised scenarios that can be caused by air conditioning. This ensures that your vent remains closed until it is needed.

Fire Protection

The **Y Series** is engineered as to allow project designers to incorporate third party intumescent fire dampers behind each panel if required. This provides design flexibility and ensures that buildings can manage both pressure relief and fire incidents.

Workmanship

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

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.

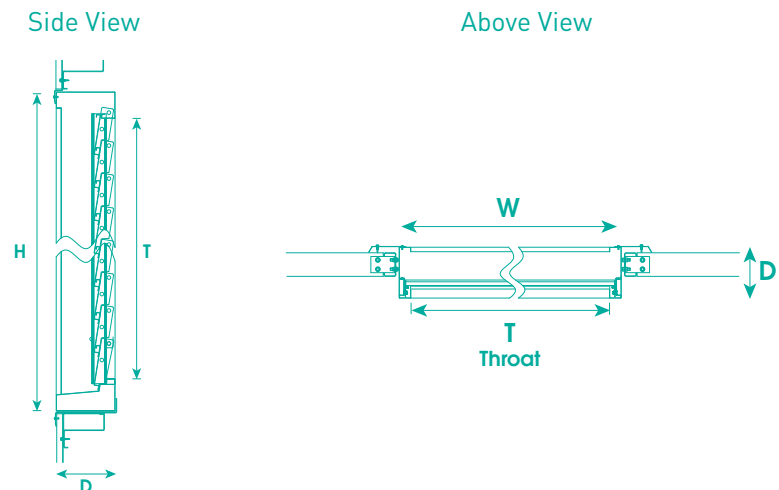
Y Series

Sizes and Dimensions

Designed as a reactive pressure venting wall louvre, the Y Series utilises a uniquely developed and integrated counterweight-activated blade system to provide rapid, reliable and effective relief of over-pressurisation from within a building. The Y Series is designed to accommodate a wide range of applications and pressure relief needs allowing a project to easily satisfy Building Code of Australia (BCA) requirements for ventilation.

Y Series

Wall Typical Section



MODEL	EXTERNAL SIZE (mm)			THROAT SIZE (mm)		THROAT EFFECTIVE AERODYNAMIC AREA EAA (F)* [m ²]	OPENING PRESSURE PA
	WIDTH	HEIGHT	DEPTH	WIDTH	LENGTH		
YPW.0809	800	938	220	700	719	0.41	450
YPW.0812	800	1182	220	700	963	0.55	350
YPW.0815	800	1548	220	700	1329	0.77	250
YPW.0818	800	1792	220	700	1573	0.91	200
YPW.0824	800	2402	220	700	2183	1.26	150
YPW.1009	1000	938	220	900	719	0.53	350
YPW.1012	1000	1182	220	900	963	0.71	250
YPW.1015	1000	1548	220	900	1329	0.99	200
YPW.1018	1000	1792	220	900	1573	1.17	150
YPW.1024	1000	2402	220	900	2183	1.63	100
YPW.1209	1200	938	220	1100	719	0.65	300
YPW.1212	1200	1182	220	1100	963	0.87	250
YPW.1215	1200	1548	220	1100	1329	1.21	200
YPW.1218	1200	1792	220	1100	1573	1.43	150
YPW.1224	1200	2402	220	1100	2183	1.99	100

Note: Full detail drawings for all products including site specific details are available on request. Please contact us for further details by calling 1800 805 062.

Y Series

Roof Mounted Pressure Relief

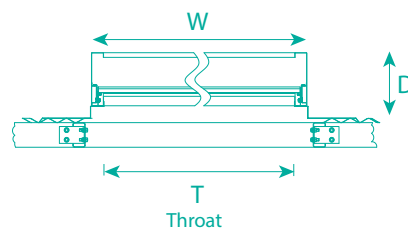
The development of Airocles Y Series roof mounted louvre provides additional or alternative overhead blast relief venting. Best utilised when enhanced pressure relief is desired and/or wall based mounting is restricted, the roof mounted Y Series affords a reliable, effective and cost efficient method of weatherproof overpressure ventilation.

Roof mounted Y Series ventilators are mounted on the roof slope (minimum 10°) and in accordance with Australian Standards requirements or as recommended by a design engineer. All units are available with specific bases to accommodate roof type and location.

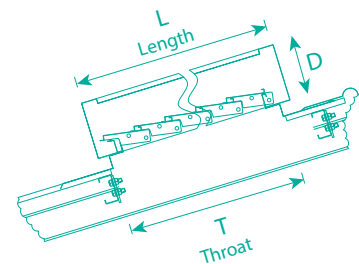
Y Series

Roof Typical Section

Side Section



Alternative Side Section



MODEL	EXTERNAL SIZE (mm)			THROAT SIZE (mm)		THROAT EFFECTIVE AERODYNAMIC AREA EAA (F)* [m ²]	OPENING PRESSURE PA
	WIDTH	LENGTH	HEIGHT	WIDTH	LENGTH		
YFR.0809	800	936	220	700	734	0.42	450
YFR.0812	800	1180	220	700	978	0.56	350
YFR.0815	800	1546	220	700	1344	0.78	250
YFR.0818	800	1790	220	700	1588	0.92	200
YFR.0824	800	2400	220	700	2198	1.27	150
YFR.1009	1000	936	220	900	734	0.54	350
YFR.1012	1000	1180	220	900	978	0.73	250
YFR.1015	1000	1546	220	900	1344	1.00	200
YFR.1018	1000	1790	220	900	1588	1.186	150
YFR.1024	1000	2400	220	900	2198	1.642	100
YFR.1209	1200	936	220	1100	734	0.67	300
YFR.1212	1200	1180	220	1100	978	1.07	250
YFR.1215	1200	1546	220	1100	1344	1.22	200
YFR.1218	1200	1790	220	1100	1588	1.44	150
YFR.1224	1200	2400	220	1100	2198	2.00	100

Note: Full detail drawings for all products including site specific details are available on request. Please contact us for further details by calling 1800 805 062.

Options

The advantage of using Airocle is our ability to tailor our vents to meet your custom requirements. 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.

Cyclone Projectile Mesh

The **Y Series** is able to be fitted with Cyclone Projectile Mesh which meets the highest levels for Cyclonic Debris Screening according to the requirements of AS1170.2:2011 with a Free Open Area of 60%. This protects against structural damage to the blades ensuring your pressure relief system remains functional in even extreme weather.

Insect Mesh

We understand that keeping birds and insects from entering the ventilator frame and space is important for sensitive internal environments. The **Y Series** is able to be fitted with stainless steel insect resistant mesh to protect from the curiosity of nature.

Bushfire Mesh

Bushfire embers pose the biggest risk to buildings during a fire event. The **Y Series** can be fitted with screens which comply with Australian Standard AS3959-2009. Stainless steel 0.56mm mesh with 1.5mm aperture ensures that your building is protected when fire becomes a real threat.

Security Mesh

The high value and sensitive nature of buildings requiring pressure relief venting means that security can be essential. The isolated 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.



Materials & Finishing

We have ability to suit every application including corrosive or volatile environments by fabricating the **Y Series** in a range of materials 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.

Shipping

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





How to Specify

Description

Pressure Relief Ventilator(s) shall be a counterweight-operated design incorporating dampened blade return and no electrical componentry. Design shall include all applicable dampers, fixings, trims, flashings and other specified fittings. Install to manufacturers recommendations.

Performance

The vent should be designed to have a minimum opening pressure of 50 Pa to avoid nuisance opening. Pressure Relief Ventilator(s) shall be tested and certified to a SIL 3 Safety Integrity Level Suitability rating (PFD 10-4 to 10-3).

			
RAIN AS2428.1	WIND AS2428.2	FIRE AS2428.4	COEFFICIENT OF DISCHARGE AS2428.5

Pressure Relief Ventilator(s) shall have a Coefficient of Discharge of ≥ 0.83 to ensure engineered ventilation design requirements for the space are met.

Size

Pressure Relief Ventilator(s) to have an internal size of _____ mm long x _____ mm wide with a throat area of _____ mm based on performance requirements as above.

Proprietary Item

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

Features

Ventilator shall incorporate:

- Bird Mesh in stainless steel with ≤ 11.2 mm aperture and $\geq 77\%$ FOA
- Insect Mesh in stainless steel with ≤ 6.8 mm aperture and $\geq 67\%$ FOA
- Bushfire Mesh in stainless steel with ≤ 2 mm aperture and $\geq 61\%$ FOA
- Security Mesh in 0.9mm 304 grade stainless steel with tamper resistant screws and frame with $\geq 61\%$ FOA
- Cyclone Mesh in 1.2mm 304 grade stainless steel with $\geq 61\%$ FOA and screw-clamp frame built to withstand projectiles at 44m/s

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



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