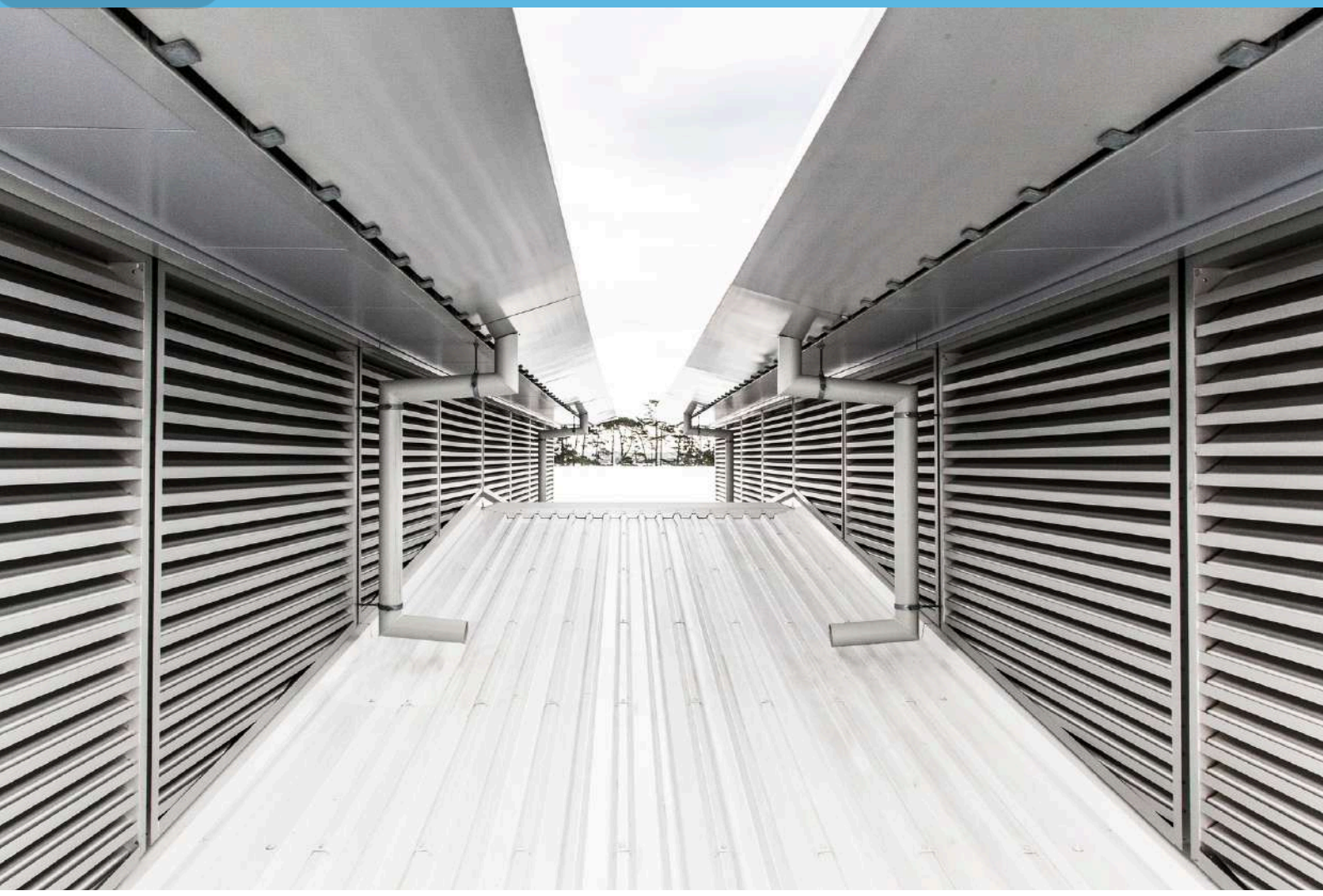
LOUVRE PRODUCT MANUAL



VENTÜER
Ventilation, Acoustic & Smoke Louvres

ABOUT VENTÜER

We provide engineered ventilation products for high performing building envelopes.

Ventüer is a leading provider of innovative ventilation products and systems. Since 2009, we have helped architects, builders and installation contractors by providing rigorously tested and certified natural and mechanical ventilation products and systems for a wide range of commercial construction projects.

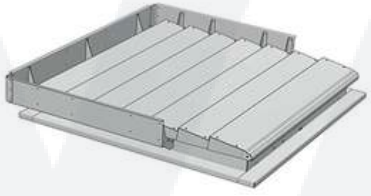
Our ventilation, acoustic and smoke louvre systems are robustly engineered, building code-compliant, and widely used on major commercial projects to create healthy and comfortable indoor environments. We have built a reputation on the ability to use our products to engineer ventilation solutions in tricky environments where ordinary products would be risky and ineffectual.

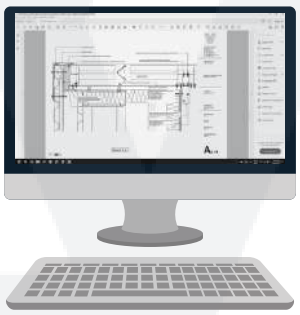
The wider Ventüer product range includes; ventilation louvres, acoustic louvres, louvre windows, turbine ventilators, natural smoke ventilation, low-flow external grills and cowls, internal grills and diffusers, ducts and fittings.

We take the responsibility, the risk and the care.

Our clients take the credit for the successful end result.

CONTENTS





VENTILATION LOUVRES

HOW DOES A VENTILATION LOUVRE WORK?

Ventilation louvres are used in building facades to allow air to enter the building, while preventing wind driven rain and debris from being blown through. They work by means of fixed or operable metal blades, typically formed from extruded aluminium, set within a perimeter frame and fixed into an opening within the building envelope.

There are two main considerations when selecting a ventilation louvre. One is resistance to air flow, and the other is rain defence effectiveness. The two performance characteristics work against each other, in that a louvre with very good rain defence performance will often have a high level of pressure drop, whereas a louvre with good air flow characteristics will tend to allow a high level of water ingress.

Louvres that are intended to provide high levels of weather protection are generally designed to be self-draining. This means that each blade captures the water that lands on it, and drains it out of the louvre by means of drainage channels in the perimeter frame. Non-drainable louvres can still offer reasonable levels of weather protection, however their performance in this regard decreases relative to the height of the louvre as each blade not only has to prevent the ingress of the water that lands directly upon it, but also has to deal with the run off from the blades above.

KEY FACTORS TO CONSIDER WHEN SPECIFYING VENTILATION LOUVRES

- Site position and exposure
- Prevailing weather conditions (especially wind direction)
- Location of the louvres on the building and exposure to wind driven rain
- Required airflow performance & acceptable pressure drop
- Level of permissible water penetration
- Exterior building design and aesthetics
- Acoustic requirements

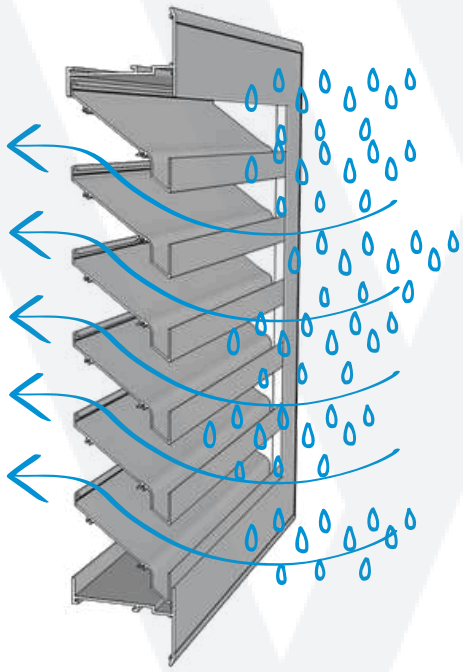


Fig. 1 - ventilation louvres allow air to enter and exit the building whilst minimising the entry of wind driven rain.

PERFORMANCE TESTING

VENTILATION LOUVRE TESTING

Ventüer has independently performance tested and certified its ventilation louvre systems to BS/EN:13030 for many years. This British European standard gives a highly accurate representation of field performance, resulting in a large quantity of data for mechanical consultants to base their decisions on. The tests are based on methods that simulate the real-life operating conditions a louvre will undergo when installed, and are purposed to establish the louvres effectiveness when subjected to wind pressure and rainfall at various flow rates. BS/EN:13030 tests louvres in three key performance areas shown below:

- **Water Penetration Effectiveness**: the ability to prevent rain penetrating the louvre.
- **Pressure Drop**: how freely the louvre allows air to pass through.
- **Overall Performance**: a combined measure of both water penetration effectiveness and pressure drop.

During the testing procedure for Water Penetration Effectiveness, air is driven at the face of the louvre panel by fan driven wind simulation equipment, whilst nozzles spray water parallel to the airstream, simulating 75mm/hour rainfall with 13m/second wind. Behind the louvre is a collection duct, which is sealed at the end by a water eliminator, resulting in the penetrated rain draining into a collection point and being measured. During the testing procedure for Pressure Drop, the chamber behind the water eliminator is fitted with a fan, drawing air inward to simulate the action of an air intake of a mechanical ventilation plant. The intake flow is varied, from 0.0m3/s to 3.5m3/s, and readings are taken to establish what level of pressure loss occurs at each intake rate. An accurate reading of this can be measured due to the fact that the plenum has a set of settling screens within to produce an even flow through the cones.

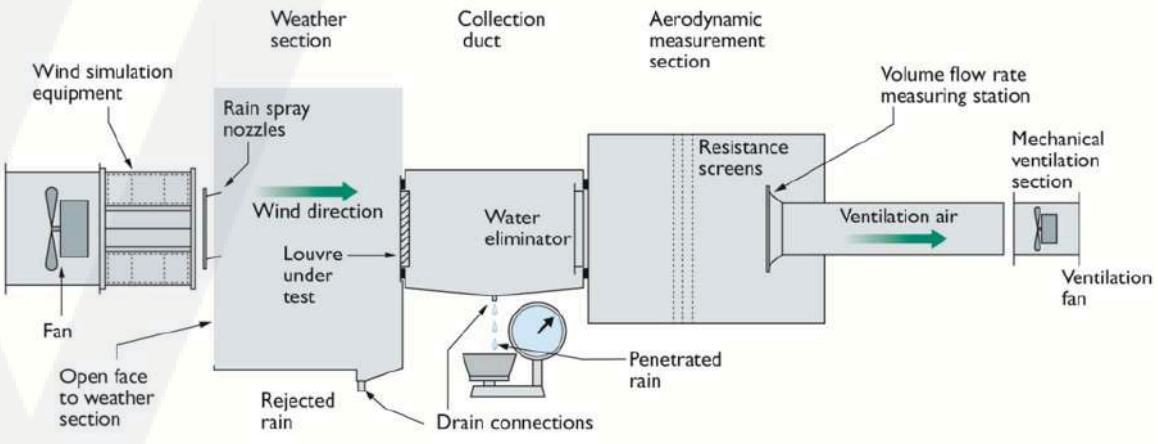


Fig. 2 - a representation of the rig used during a BS/EN: 13030 test.

VENTILATION LOUVRE RANGE OVERVIEW

VL-3SD Three Stage Drainable Louvre
Highly efficient three-stage ventilation louvre that provides ultimate protection from wind driven rain.
[Page 10]

VL-2SD Two Stage Drainable Louvre
Two-stage louvre system which ensures a high level of weather protection for exposed locations.
[Page 11]

VL-VF2 Two Stage Vertical Louvre
Ultra-high performing two-stage vertical weather louvre that provides almost 100% rain defence.
[Page 12]

VL-100S Twin Weatherstop Louvre
Twin weatherstop single-bank louvre with good weather protection and low pressure drop.
[Page 13]

VL-104D Single Stage Drainable Louvre
Highly effective drainable single-bank ventilation louvre that provides good protection from wind driven rain.
[Page 14]

VL-50PL Invisible Louvre
Drainable louvre blades set behind a perforated facing panel, providing great weather protection performance.
[Page 15]

VL-77EX Exhaust Louvre
Single-bank system with very low pressure drop, designed specifically for exhaust-type ventilators.
[Page 20]

VL-55S Slimline Louvre
Slimline louvre ideal for small ventilation grilles or louvred doors.
[Page 21]

OL-100S Operable Twin Weatherstop Louvre
Operable louvre system that provides adjustable airflow and exceptional weather protection.
[Page 22]

VL-70S Screening Louvre
Versatile single-bank ventilation louvre with a strong blade profile, ideal for visual screening.
[Page 23]

VL-100CM Screening Louvre
Highly cost effective screening louvre system designed specifically for plant screens and visual barriers.
[Page 26]

VL-50CM Screening Louvre
Fine bladed screening louvre with a concealed mullion support system.
[Page 27]

PROJECT
Clyde Quay Wharf

LOCATION
Wellington, NZ

ARCHITECT
Athfield Architects

MAIN CONTRACTOR
LT McGuinness

COMPLETION DATE
2013

PRODUCT
VL-3SD triple bank ventilation louvres

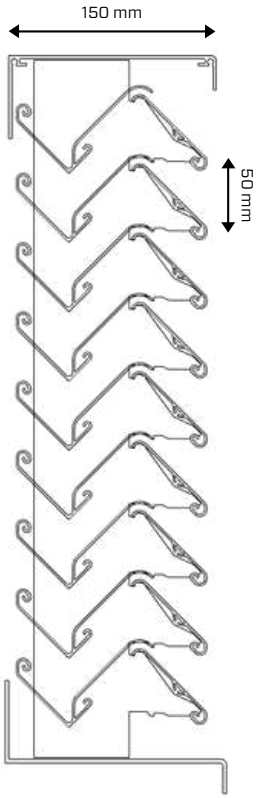
APPLICATION
Mechanical Plant Ventilation

VL-3SD

ULTIMATE WEATHER PROTECTION

The Ventüer VL-3SD louvre system is a high performing three-stage weather louvre that provides ultimate protection from wind driven rain. The louvre blades are supported on a two-piece pressure equalised mullion system, and bordered by a 150mm frame that ejects captured water to the front of the panel. It can be combined with the VL-50CM louvre system to provide cost savings in inactive (blanked off) areas, and can also be fitted with bird mesh, insect mesh or dust filters.

Follow this QR code to find out more about the VL-3SD louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

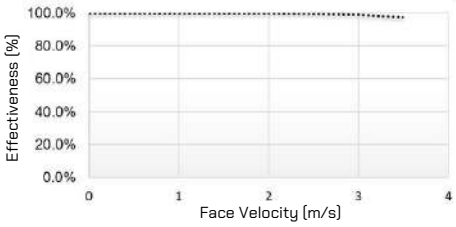


BS/EN 13030:2001 CLASSIFICATION

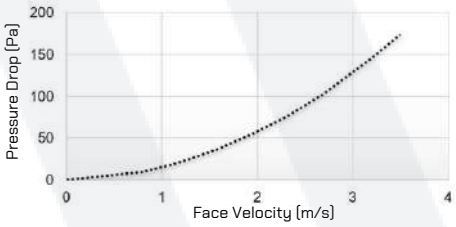
AERODYNAMIC COEFFICIENTS
Air Inlet: 0.201, Class 3
Air Extract: 0.157, Class 4

RAINWATER PENETRATION
Class A - up to 2.5m/s suction velocity
Class B - up to 3.5m/s suction velocity

Weathering Effectiveness



Pressure Drop



SHORT FORM SPECIFICATION

LOUVRE TYPE: Louvres to be Ventüer VL-3SD triple bank ventilation louvres.

FIXING METHOD: Louvre blades to be fixed within 150mm channel frame. Suitably finished openings shall be provided and taped with flexible flashing tape prior to the installation of louvre panels, in accordance with architectural drawings and Ventüer technical literature.

BIRD MESH & BLANKING: Louvre grilles to be fitted with 34/18 expanded aluminium bird mesh or 1.2mm aluminium blanking to rear if required, as specified by the Architect.

FINISH: Louvre blades and frame to be anodised / powdercoated as specified by the Architect

VL-2SD

HIGH WEATHER PROTECTION

Best in its class, the Ventüer VL-2SD is a high performing two-stage weather louvre that provides optimum rain defence. The louvre blades are supported on a two-piece pressure equalised mullion system, and bordered by a 150mm frame that ejects captured water to the front of the panel. Like the VL-3SD, it can be combined with the VL-50CM louvre system to provide cost savings in inactive (blanked off) areas, and can also be fitted with bird mesh, insect mesh or dust filters.

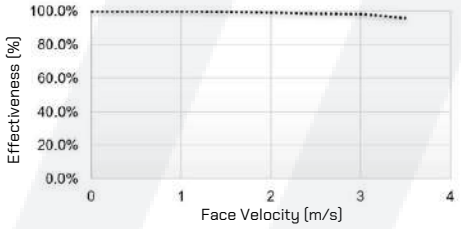
Follow this QR code to find out more about the VL-2SD louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

BS/EN 13030:2001 CLASSIFICATION

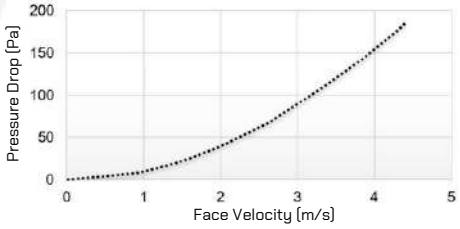
AERODYNAMIC COEFFICIENTS
Air Inlet: 0.247, Class 3
Air Extract: 0.260, Class 3

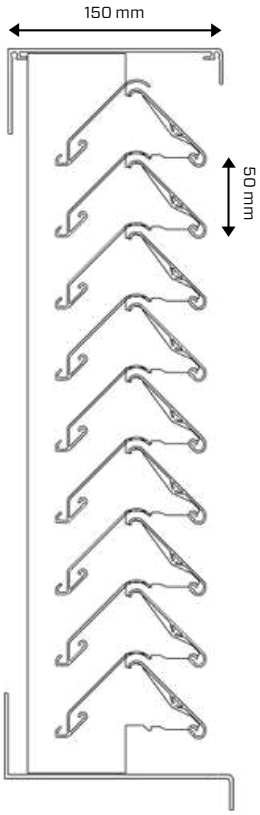
RAINWATER PENETRATION
Class A - up to 1.5m/s suction velocity
Class B - up to 3.5m/s suction velocity

Weathering Effectiveness



Pressure Drop





SHORT FORM SPECIFICATION

LOUVRE TYPE: Louvres to be Ventüer VL-2SD double bank ventilation louvres.

FIXING METHOD: Louvre blades to be fixed within 150mm channel frame. Suitably finished openings shall be provided and taped with flexible flashing tape prior to the installation of louvre panels, in accordance with architectural drawings and Ventüer technical literature.

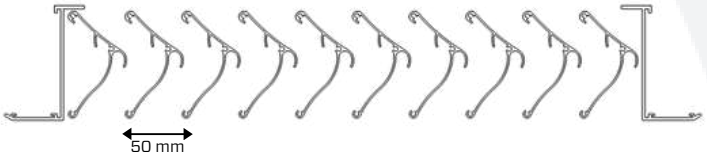
BIRD MESH & BLANKING: Louvre grilles to be fitted with 34/18 expanded aluminium bird mesh or 0.8mm aluminium blanking to rear if required, as specified by the Architect.

FINISH: Louvre blades and frame to be anodised / powdercoated as specified by the Architect

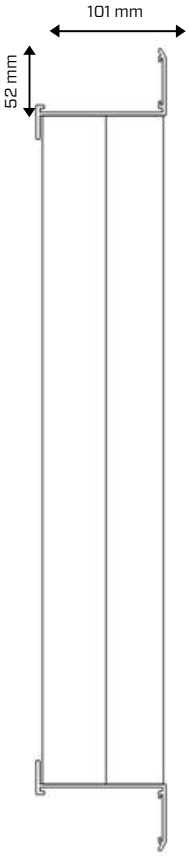
VL-VF2

VERTICAL LOUVRE BLADE

The Ventüer VL-VF2 is an ultra-high performing two-stage vertical weather louvre that provides almost 100% rain defence under even extreme weather conditions. The aerodynamically designed blade profiles also provide a low level of pressure loss, ensuring free flow of air. Available in flanged and channel options for easy fitting to different structure types, the 100mm deep frame ejects captured water to the front of the panel. It can be supplied with bird mesh, insect mesh or dust filters fitted to the rear face



Follow this QR code to find out more about the VL-VF2 louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

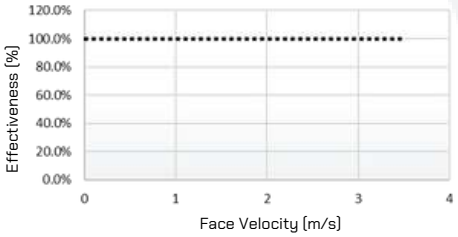


BS/EN 13030:2001 CLASSIFICATION

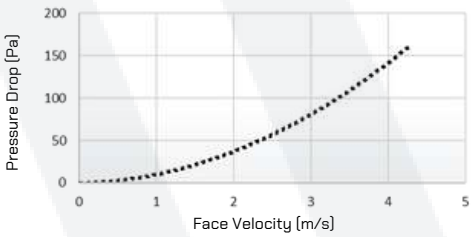
AERODYNAMIC COEFFICIENTS
Air Inlet: 0.260, Class 3
Air Extract: 0.254, Class 3

RAINWATER PENETRATION
Class A - up to 3.5m/s suction velocity

Weathering Effectiveness



Pressure Drop



SHORT FORM SPECIFICATION

LOUVRE TYPE: Louvres to be Ventüer VL-VF2 double bank vertically oriented ventilation louvres.

FIXING METHOD: Louvre blades to be fixed within flanged or channel frame. Suitably finished openings shall be provided and taped with flexible flashing tape prior to the installation of louvre panels, in accordance with architectural drawings and Ventüer technical literature.

BIRD MESH & BLANKING: Louvre grilles to be fitted with 34/18 expanded aluminium bird mesh or 1.2mm aluminium blanking to rear if required, as specified by the Architect.

FINISH: Louvre blades and frame to be anodised / powdercoated as specified by the Architect

VL-100S

TWIN WEATHER STOP

The Ventüer VL-100S louvre system is a single bank double weather stop ventilation louvre. It has good rain defence and medium pressure drop, making it an excellent choice where the same louvre type needs to be used in both exhaust and intake situations. It comes with a flanged perimeter frame, and can be fitted with bird mesh, insect mesh or dust filters.

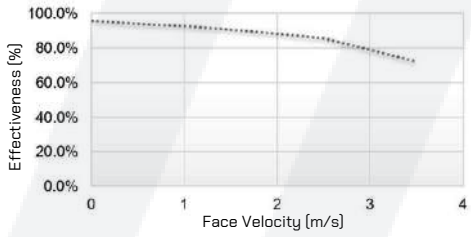
Follow this QR code to find out more about the VL-100S louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

BS/EN 13030:2001 CLASSIFICATION

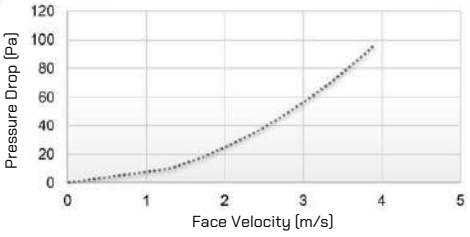
AERODYNAMIC COEFFICIENTS
Air Inlet: 0.313, Class 2
Air Extract: 0.304, Class 2

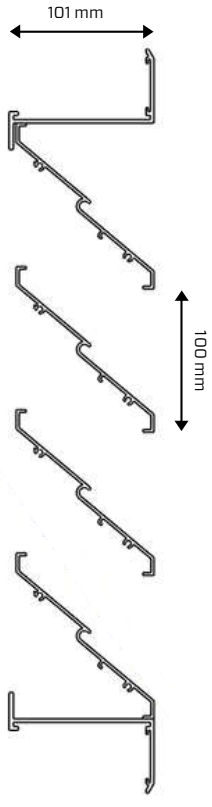
RAINWATER PENETRATION
Class B - up to 0.5m/s suction velocity
Class C - up to 2.5m/s suction velocity
Class D - up to 3.5m/s suction velocity

Weathering Effectiveness



Pressure Drop





SHORT FORM SPECIFICATION

LOUVRE TYPE: Louvres to be Ventüer VL-100S single bank double weatherstop ventilation louvres.

FIXING METHOD: Louvre blades to be fixed within flanged or channel frame. Suitably finished openings shall be provided and taped with flexible flashing tape prior to the installation of louvre panels, in accordance with architectural drawings and Ventüer technical literature.

BIRD MESH & BLANKING: Louvre grilles to be fitted with 34/18 expanded aluminium bird mesh or 0.8mm aluminium blanking to rear if required, as specified by the Architect.

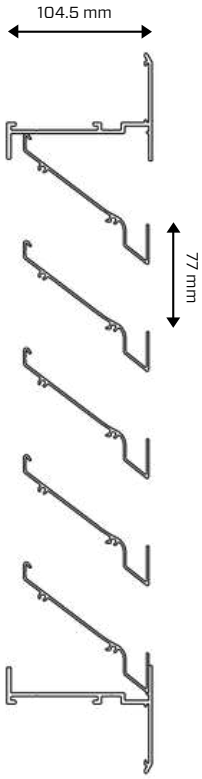
FINISH: Louvre blades and frame to be anodised / powdercoated as specified by the Architect

VL-104D

DRAINABLE SINGLE BANK

The Ventüer VL-104D louvre system is a single bank drainable ventilation louvre ideal for situations where rain defence is important whilst maintaining a low pressure drop. The flanged perimeter frame incorporates vertical gutters that drain the water away from the individual blades and eject it to the front of the panel. The rear of the louvre can be fitted with bird mesh, insect mesh or dust filters.

Follow this QR code to find out more about the VL-104D louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

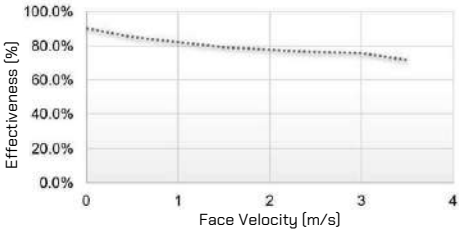


BS/EN 13030:2001 CLASSIFICATION

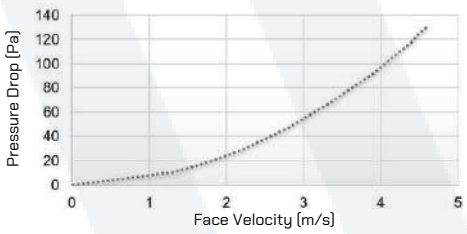
AERODYNAMIC COEFFICIENTS
Air Inlet: 0.317, Class 2
Air Extract: 0.317, Class 2

RAINWATER PENETRATION
Class C - up to 1.0m/s suction velocity
Class D - up to 3.5m/s suction velocity

Weathering Effectiveness



Pressure Drop



SHORT FORM SPECIFICATION

LOUVRE TYPE: Louvres to be Ventüer VL-104D single bank ventilation louvres.

FIXING METHOD: Louvre blades to be fixed within flanged frame. Suitably finished openings shall be provided and taped with flexible flashing tape prior to the installation of louvre panels, in accordance with architectural drawings and Ventüer technical literature.

BIRD MESH & BLANKING: Louvre grilles to be fitted with 34/18 expanded aluminium bird mesh or 0.8mm aluminium blanking to rear if required, as specified by the Architect.

FINISH: Louvre blades and frame to be anodised / powdercoated as specified by the Architect

VL-50PL

THE "INVISIBLE" LOUVRE

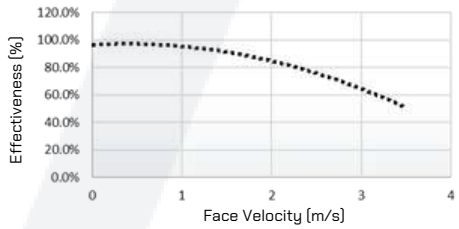
The Ventüer VL-50PL louvre system incorporates a horizontal drainable louvre blade set behind a perforated aluminium facing panel. With six different patterns of facing panel to choose from, this system not only offers great aerodynamic and weather protection performance but is also very visually discrete – virtually "disappearing" into the façade with no obvious lineal lines. It comes with flanged and channel frame options, and can be fitted with insect mesh or dust filters.

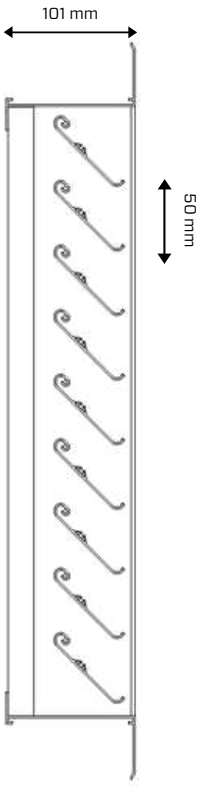
Follow this QR code to find out more about the VL-50PL louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

BS/EN 13030:2001 CLASSIFICATION

RAINWATER PENETRATION
Class B - up to 1.0m/s suction velocity
Class C - up to 2.5m/s suction velocity
Class D - up to 3.5m/s suction velocity

Weathering Effectiveness





SHORT FORM SPECIFICATION

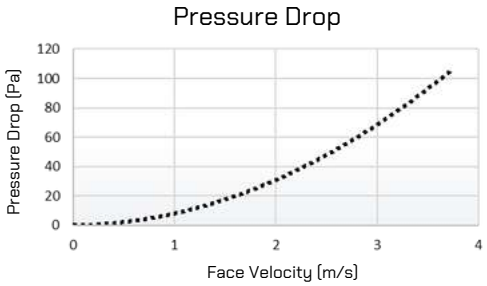
LOUVRE TYPE: Louvres to be Ventüer VL-50PL ventilation louvres with Type 1/2/3/4/5/6 (select one) perforated facing panel.

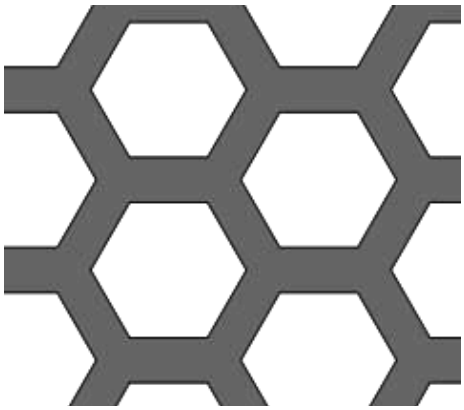
FIXING METHOD: Louvre blades to be fixed within flanged or channel frame. Suitably finished openings shall be provided and taped with flexible flashing tape prior to the installation of louvre panels, in accordance with architectural drawings and Ventüer technical literature.

FINISH: Louvre blades and frame to be anodised / powdercoated as specified by the Architect.

VL-50PL

VL-50PL1

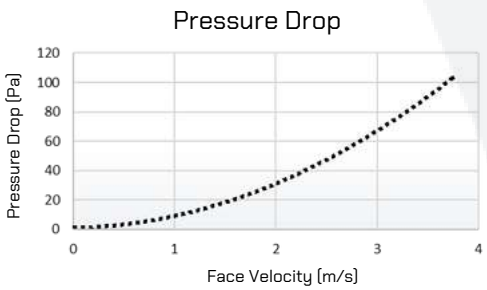


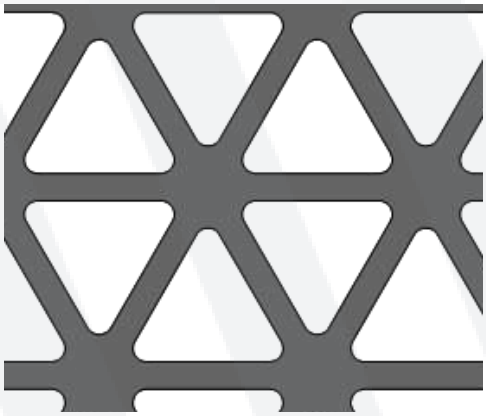


BS/EN 13030:2001 CLASSIFICATION AERODYNAMIC COEFFICIENTS

Air Inlet: 0.281, Class 3
Air Extract: 0.281, Class 3

VL-50PL2

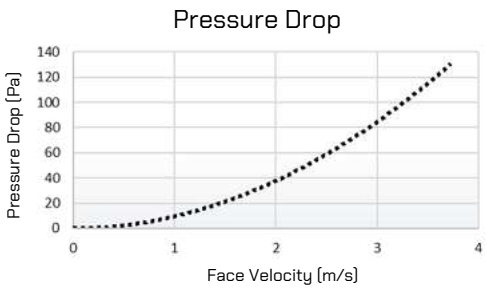


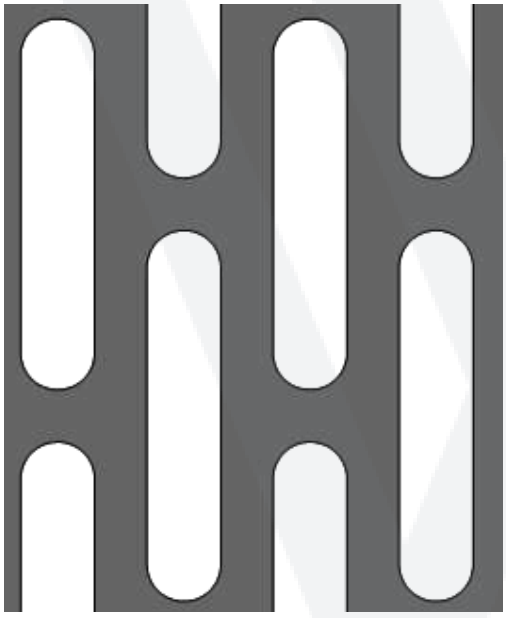


BS/EN 13030:2001 CLASSIFICATION AERODYNAMIC COEFFICIENTS

Air Inlet: 0.285, Class 3
Air Extract: 0.285, Class 3

VL-50PL3





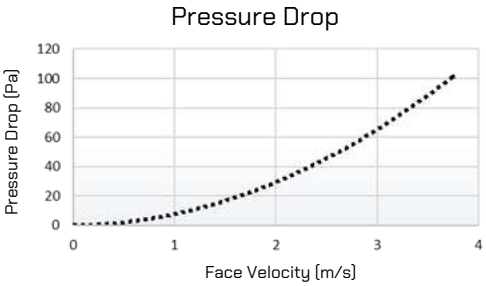
BS/EN 13030:2001 CLASSIFICATION AERODYNAMIC COEFFICIENTS

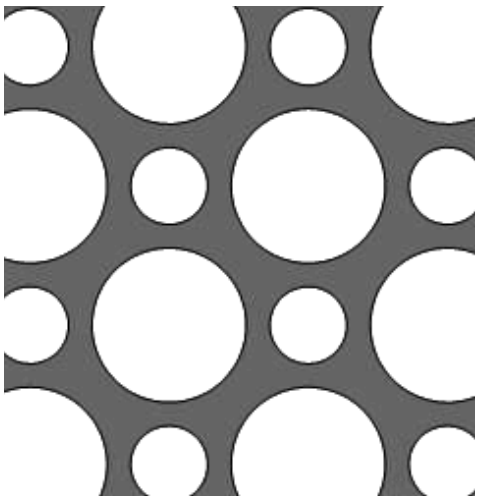
Air Inlet: 0.253, Class 3
Air Extract: 0.249, Class 3

*Patterns shown actual size

VL-50PL

VL-50PL4

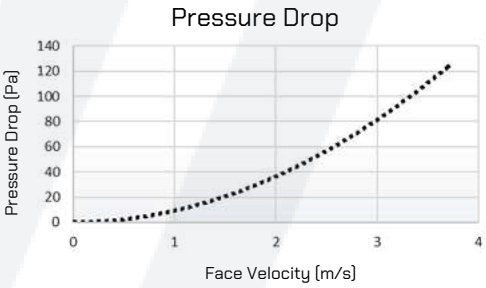


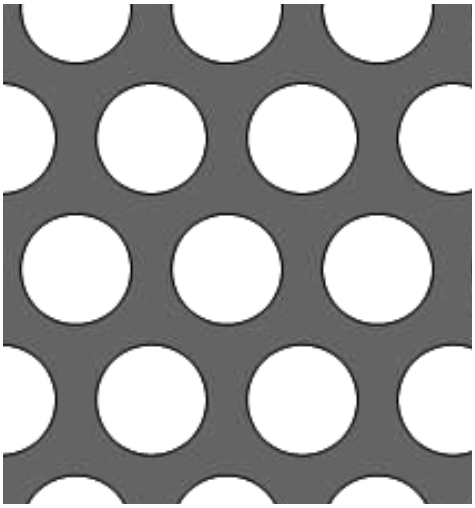


BS/EN 13030:2001 CLASSIFICATION AERODYNAMIC COEFFICIENTS

Air Inlet: 0.287, Class 3
Air Extract: 0.287, Class 3

VL-50PL5

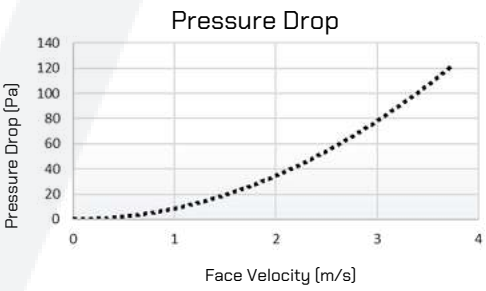


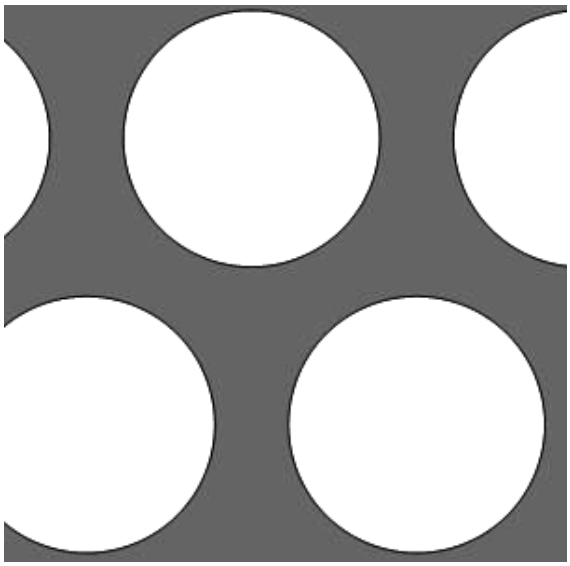


BS/EN 13030:2001 CLASSIFICATION AERODYNAMIC COEFFICIENTS

Air Inlet: 0.258, Class 3
Air Extract: 0.258, Class 3

VL-50PL6





BS/EN 13030:2001 CLASSIFICATION AERODYNAMIC COEFFICIENTS

Air Inlet: 0.264, Class 3
Air Extract: 0.264, Class 3

*Patterns shown actual size

PROJECT
University of Otago

LOCATION
Dunedin, NZ

ARCHITECT
Parker Warburton Team Architecture

MAIN CONTRACTOR
Leighs Construction

COMPLETION DATE
2017

PRODUCT
VL-2SD double bank louvres

APPLICATION
Mechanical Plant Ventilation

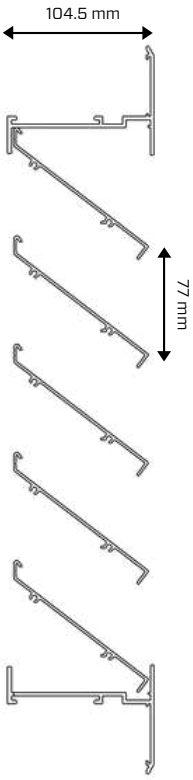

UNIVERSITY OF OTAGO
Te Whare Wānanga o Otāgo
Mellor Laboratories

VL-77EX

MAXIMUM AIR FLOW

The Ventüer VL-77EX louvre system is designed specifically for exhaust situations and provides a low pressure drop allowing maximum airflow with minimum mechanical assistance. It has a low rain defence effectiveness, however this is not typically an issue in exhaust scenarios. The rear of the louvre can be fitted with bird mesh, insect mesh or dust filters.

Follow this QR code to find out more about the VL-77EX louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

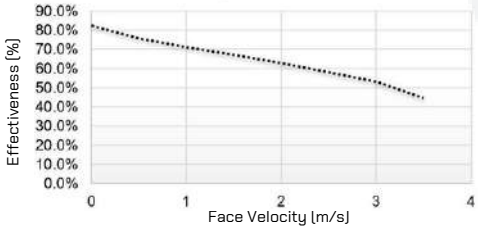


BS/EN 13030:2001 CLASSIFICATION

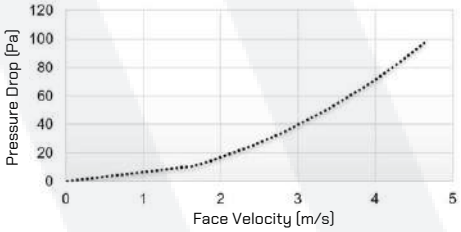
AERODYNAMIC COEFFICIENTS
Air Inlet: 0.376, Class 2
Air Extract: 0.376, Class 2

RAINWATER PENETRATION
Class C - up to 0.5m/s suction velocity
Class D - up to 3.5m/s suction velocity

Weathering Effectiveness



Pressure Drop



SHORT FORM SPECIFICATION

LOUVRE TYPE: Louvres to be Ventüer VL-77EX ventilation exhaust louvres.

FIXING METHOD: Louvre blades to be fixed within flanged or channel frame. Suitably finished openings shall be provided and taped with flexible flashing tape prior to the installation of louvre panels, in accordance with architectural drawings and Ventüer technical literature.

BIRD MESH & BLANKING: Louvre grilles to be fitted with 34/18 expanded aluminium bird mesh or 0.8mm aluminium blanking to rear if required, as specified by the Architect.

FINISH: Louvre blades and frame to be anodised / powdercoated as specified by the Architect

VL-55S

SLIMLINE VENTILATION

The Ventüer VL-55S louvre system is a slim single bank ventilation louvre ideal for small grilles, exhaust vents, louvred doors and mechanical screening. It comes with flanged and channel frame options, and can be fitted with bird mesh, insect mesh or dust filters.

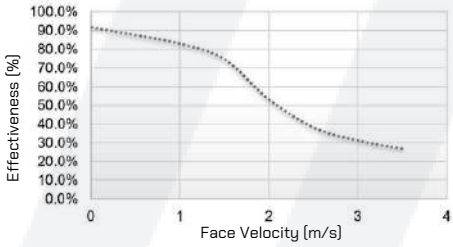
Follow this QR code to find out more about the VL-55S louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

BS/EN 13030:2001 CLASSIFICATION

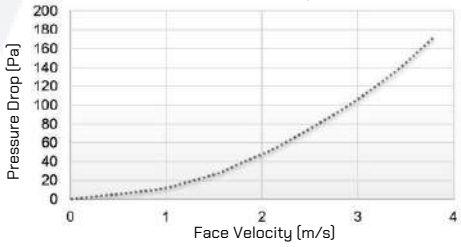
AERODYNAMIC COEFFICIENTS
Air Inlet: 0.226, Class 3
Air Extract: 0.231, Class 3

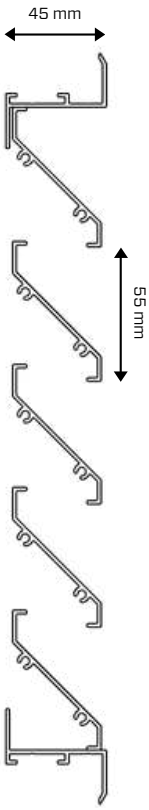
RAINWATER PENETRATION
Class C - up to 1.0m/s suction velocity
Class D - up to 3.5m/s suction velocity

Weathering Effectiveness



Pressure Drop





SHORT FORM SPECIFICATION

LOUVRE TYPE: Louvres to be Ventüer VL-55S single bank ventilation louvres.

FIXING METHOD: Louvre blades to be fixed within flanged or channel frame. Suitably finished openings shall be provided and taped with flexible flashing tape prior to the installation of louvre panels, in accordance with architectural drawings and Ventüer technical literature.

BIRD MESH & BLANKING: Louvre grilles to be fitted with 34/18 expanded aluminium bird mesh or 0.8mm aluminium blanking to rear if required, as specified by the Architect.

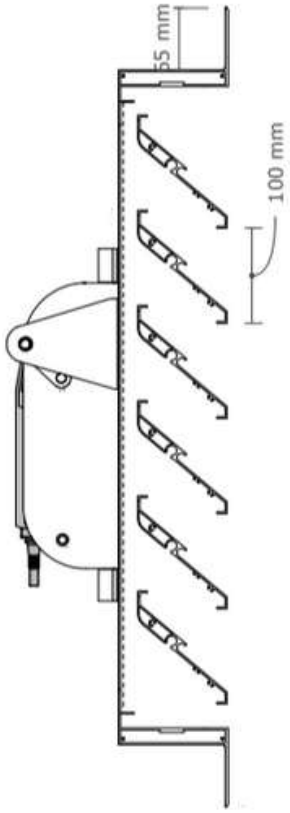
FINISH: Louvre blades and frame to be anodised / powdercoated as specified by the Architect

OL-100S

OPERABLE TWIN WEATHER STOP

Designed for demanding environments, the OL-100S is an operable louvre system that provides adjustable airflow and exceptional weather protection. Featuring twin weather stop blades with rubber seals, it ensures maximum rain defence when closed. The system can be operated manually or electrically, offering versatility for different applications. Its strong blade profile is capable of withstanding long spans and high wind loads, making it a reliable choice for gymnasiums, indoor pools, stadiums, and factories.

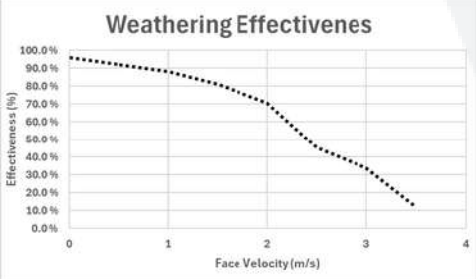
Follow this QR code to find out more about the OL-100S louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

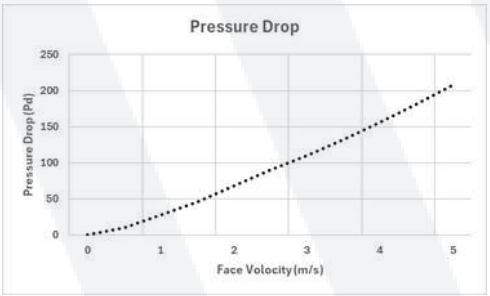


BS/EN 13030:2001 CLASSIFICATION

AERODYNAMIC COEFFICIENTS
Air Inlet: 0.244, Class 3
Extract: 0.255, Class 3

RAINWATER PENETRATION
Class B - up to 0.5m/s suction velocity
Class C - up to 2.5m/s suction velocity
Class D - up to 3.5m/s suction velocity





SHORT FORM SPECIFICATION

LOUVRE TYPE: Louvres to be Ventüer OL-100S operable twin weatherstop ventilation louvres.

FIXING METHOD: Louvre blades to be fixed within flanged or channel frame. Suitably finished openings shall be provided and taped with flexible flashing tape prior to the installation of louvre panels, in accordance with architectural drawings and Ventüer technical literature.

BIRD MESH & BLANKING: Louvre grilles to be fitted with 34/18 expanded aluminium bird mesh or 0.8mm aluminium blanking to rear if required, as specified by the Architect.

FINISH: Louvre blades and frame to be anodised / powdercoated as specified by the Architect

VL-70S

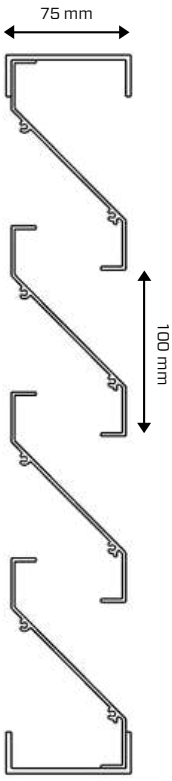
HIGH STRENGTH

The Ventüer VL-70S louvre system provides a medium level of protection from wind driven rain. It is primarily designed to be a cost effective visual screening louvre, ideal for use in car parking buildings and around mechanical plant. The rear of the louvre can be fitted with bird mesh, insect mesh or dust filters.

Follow this QR code to find out more about the VL-70S louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

BS/EN 13030:2001 CLASSIFICATION

As this louvre is typically used as visual screening, it has not been tested to BS/EN 13030:2001.



SHORT FORM SPECIFICATION

LOUVRE TYPE: Louvres to be Ventüer VL-70S single bank screening louvres.

FIXING METHOD: Louvre blades to be fixed within channel frame. Suitably finished openings shall be provided and taped with flexible flashing tape prior to the installation of louvre panels, in accordance with architectural drawings and Ventüer technical literature.

BIRD MESH & BLANKING: Louvre grilles to be fitted with 34/18 expanded aluminium bird mesh or 0.8mm aluminium blanking to rear if required, as specified by the Architect.

FINISH: Louvre blades and frame to be anodised / powdercoated as specified by the Architect

PROJECT
Burwood Hospital

LOCATION
Christchurch, NZ

ARCHITECT
Sheppard & Rout Architects

MAIN CONTRACTOR
Leighs Cockram JV

COMPLETION DATE
2016

PRODUCT
VL-50CM Screening Louvres

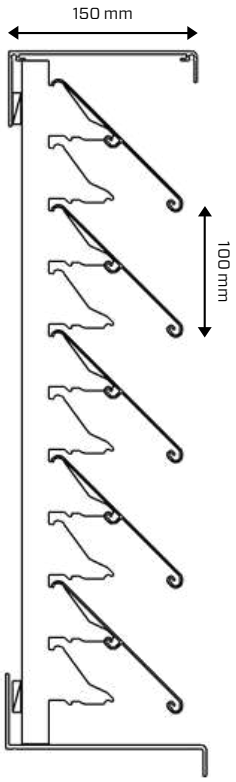
APPLICATION
Mechanical Plant Ventilation

Main
Entry

VL-100CM

LOW COST

Designed for low-cost visual screening, the Ventüer VL-100CM louvre system is a 100mm clip-fixed louvre that can be attached directly to structural columns or set within a 150mm channel perimeter frame. While it does not have a high level of rain defence, it does have a low pressure drop and is ideal for plant screens and other aread where water ingress is not important.



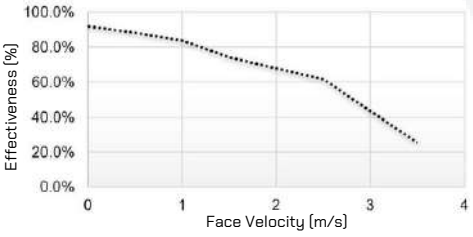
Follow this QR code to find out more about the VL-100CM louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

BS/EN 13030:2001 CLASSIFICATION

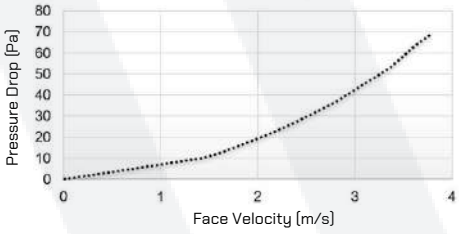
AERODYNAMIC COEFFICIENTS
Air Inlet: 0.351, Class 2
Air Extract: 0.370, Class 2

RAINWATER PENETRATION
Class C - up to 0.5m/s suction velocity
Class D - up to 3.5m/s suction velocity

Weathering Effectiveness



Pressure Drop



SHORT FORM SPECIFICATION

LOUVRE TYPE: Louvres to be Ventüer VL-100CM ventilation louvres.

FIXING METHOD: Louvre blades to be fixed within 150mm channel frame. Suitably finished openings shall be provided and taped with flexible flashing tape prior to the installation of louvre panels, in accordance with architectural drawings and Ventüer technical literature.

BIRD MESH & BLANKING: Louvre grilles to be fitted with 34/18 expanded aluminium bird mesh or 0.8mm aluminium blanking to rear if required, as specified by the Architect.

FINISH: Louvre blades and frame to be anodised / powdercoated as specified by the Architect

VL-50CM

MINIMALISTIC SCREENING

The Ventüer VL-50CM louvre system is a 50mm screening louvre that shares the same frame and concealed mullion system as are used by the high performing VL-2SD & VL-3SD products. While it does not have a high level of rain defence, it does have a low pressure drop and is ideal for plant screens, exhaust louvres and inactive (blanked-off) sections of double and triple bank systems.

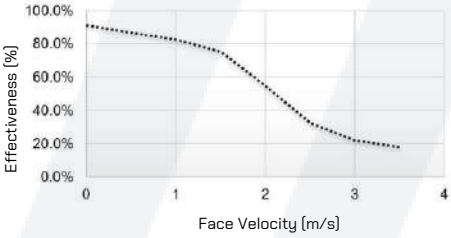
Follow this QR code to find out more about the VL-50CM louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

BS/EN 13030:2001 CLASSIFICATION

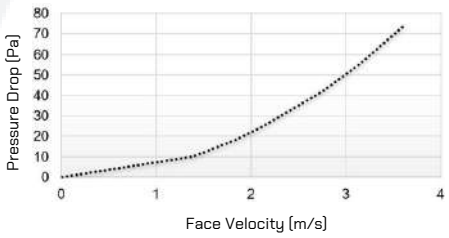
AERODYNAMIC COEFFICIENTS
Air Inlet: 0.332, Class 2
Air Extract: 0.389, Class 2

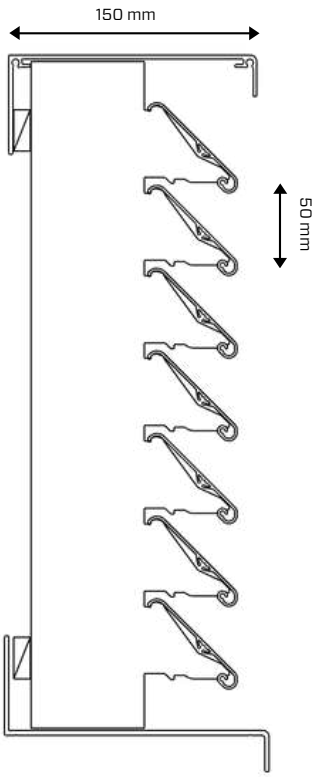
RAINWATER PENETRATION
Class C - up to 1.0m/s suction velocity
Class D - up to 3.5m/s suction velocity

Weathering Effectiveness



Pressure Drop





SHORT FORM SPECIFICATION

LOUVRE TYPE: Louvres to be Ventüer VL-50CM ventilation louvres.

FIXING METHOD: Louvre blades to be fixed within 150mm channel frame. Suitably finished openings shall be provided and taped with flexible flashing tape prior to the installation of louvre panels, in accordance with architectural drawings and Ventüer technical literature.

BIRD MESH & BLANKING: Louvre grilles to be fitted with 34/18 expanded aluminium bird mesh or 0.8mm aluminium blanking to rear if required, as specified by the Architect.

FINISH: Louvre blades and frame to be anodised / powdercoated as specified by the Architect

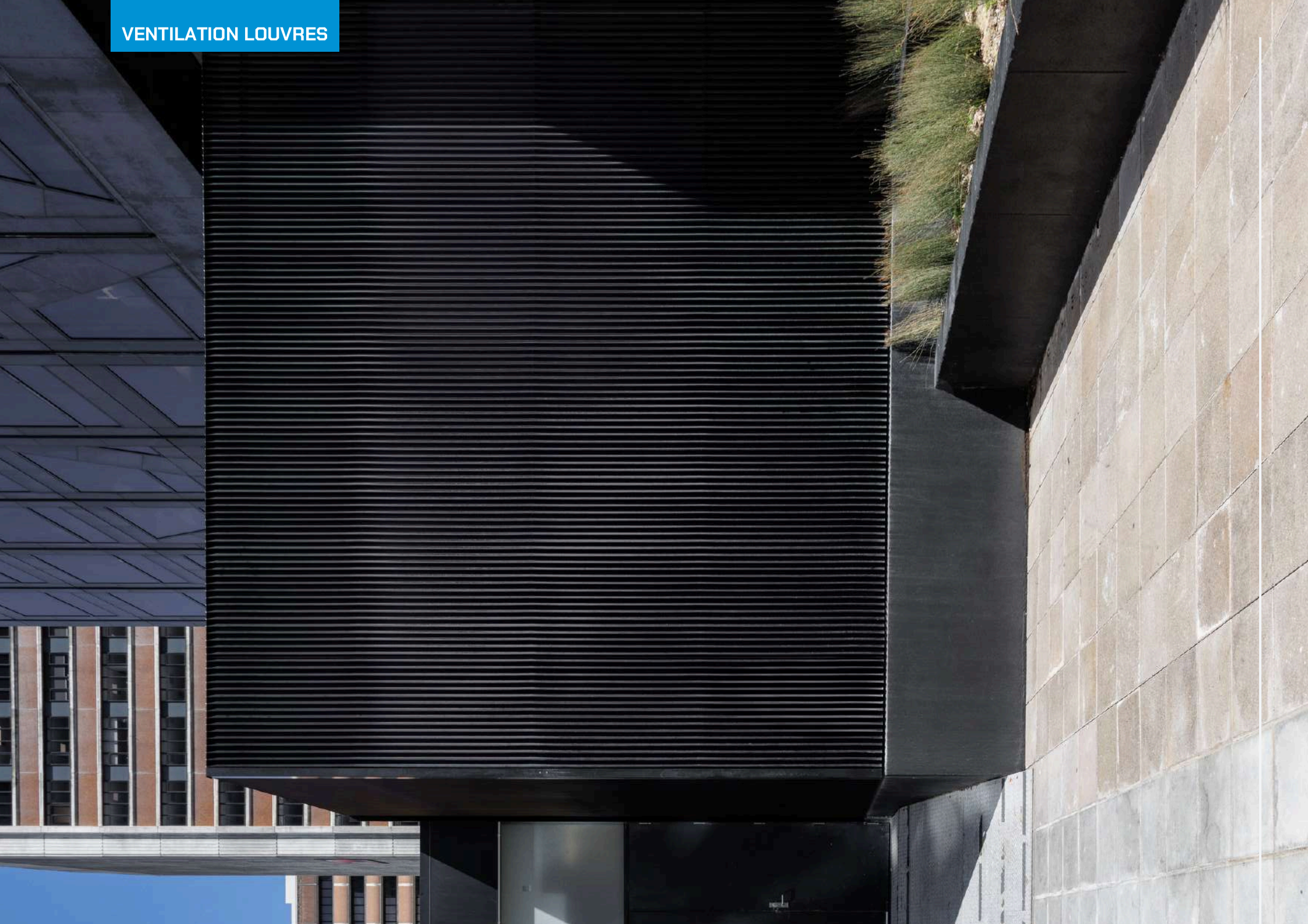
PROJECT
One Willis Street
LOCATION
Wellington, NZ

ARCHITECT
Tennent Brown Architects

MAIN CONTRACTOR
LT McGuinness

PRODUCT
VL-50CM Screening Louvres
& VL-VF2 Weather Louvres

APPLICATION
Mechanical Plant Ventilation



AL-SERIES ACOUSTIC LOUVRES

Preventing noise pollution is key in today's high density environments. The Ventüer acoustic ventilation products help control and absorb building generated sound.

The Ventüer "AL" series is a suite of acoustic louvres that are fabricated from either aluminium, colorsteel or stainless steel and fitted with high density mineral wool sound absorption material. Unique to Ventüer, they include an optional tried and tested weather louvre profile to the exposed front face. This results in an acoustic louvre that not only has great pressure drop and acoustic performance, but also significantly reduces the amount of water that is blown through the louvres under storm conditions. There are four different models available, ranging from 100mm thick up to 600mm thick. The level of attenuation required and the space available in the building design will in most cases govern the model selection.

Independently tested at the Auckland University, each of the AL-series louvre has a full test report (to ISO 10140-2) available on demand. Pressure drop values are also available for assistance in determining the louvre size or mechanical plant requirements

Like traditional weather louvres, these acoustic louvres can be fitted with a wide range of ancillaries including solid blanking, insect or vermin mesh, volume control dampers or integral duct plenums.

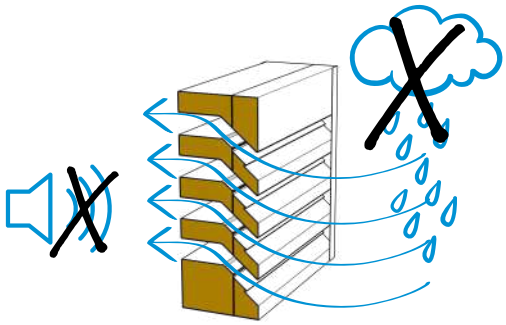
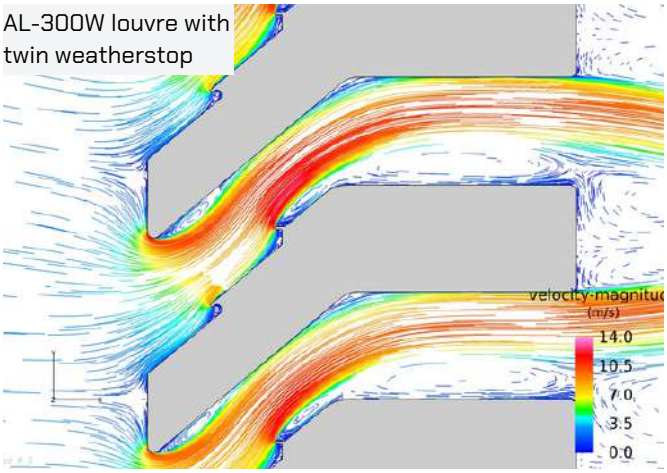


Fig. 1 - Ventüer acoustic louvres allow air to enter and exit the building whilst minimising the entry of wind driven rain and reducing the transmission of building generated noise.

Fig. 2 - Ventüer louvres undergoing acoustic testing at Auckland University laboratory.

AL-300W louvre with twin weatherstop



AL-300 louvre without weatherstop

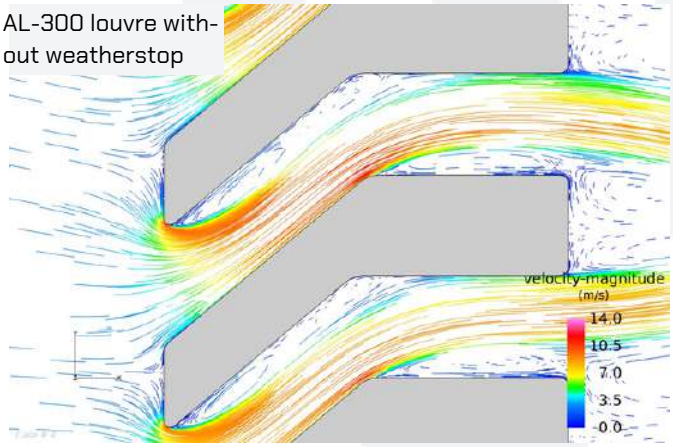


Fig. 3 - The AL-series of acoustic louvres can be manufactured with either a twin-weatherstop nosing profile (denoted with a "W" in the product code) or a flat nosing profile. The twin-weatherstop profile assists with preventing the ingress of wind driven rain but is more restrictive to air flow than the flat nosing profile. The images above show CFD modelling carried out during early design to demonstrate pressure drop differences.

RANGE OVERVIEW

AL-600W

- 600mm deep
- Maximum sound absorption
- Excellent airflow performance
- Designed for enclosed plant rooms

[Page 34]

AL-600V

- 600mm deep
- Maximum sound absorption
- Double sided weather protection
- Designed for open-top plant enclosures

[Page 35]

AL-450W

- 450mm deep
- High sound absorption
- Excellent airflow performance
- Designed for enclosed plant rooms

[Page 36

AL-450V

- 450mm deep
- High sound absorption
- Double sided weather protection
- Designed for open-top plant enclosures

[Page 37]

AL-300W

- 300mm deep
- Medium sound absorption
- Excellent airflow performance
- Designed for enclosed plant rooms

[Page 38]

AL-300V

- 300mm deep
- Medium sound absorption
- Double sided weather protection
- Designed for open-top plant enclosures

[Page 39]

AL-150W

- 150mm deep
- Slimline design
- Low pressure drop
- Suitable for louvred doors

[Page 40]

AL-100W

- 100mm deep
- Slimline design
- Low pressure drop
- Suitable for louvered doors

[Page 41]

AL-150WGB

- 150mm deep
- Continuous blade design
- Simple assembly
- Designed for open-top plant enclosures

[Page 44]

AL-500SGB

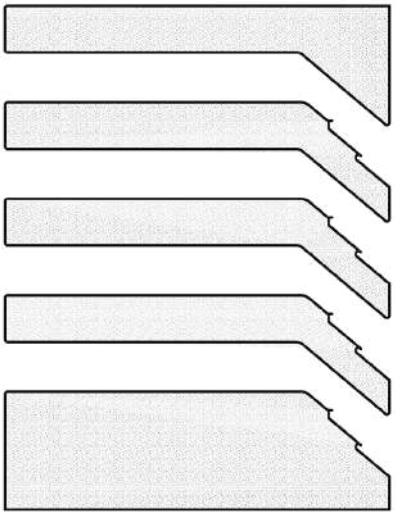
- 500mm deep
- Continuous blade design
- Simple assembly
- Designed for open-top plant enclosures

[Page 45]

PROJECT
Burwood Hospital Boiler House

LOCATION
Christchurch, NZ

PRODUCT
AL-300 acoustic louvres



AL-600W

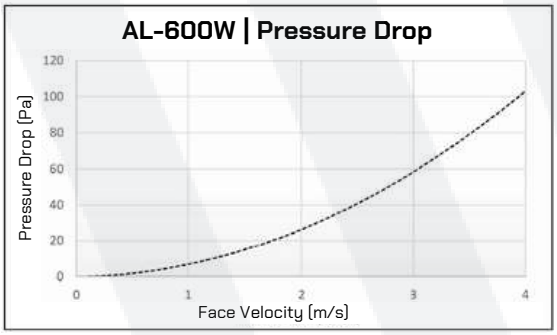
ULTIMATE ATTENUATION

A high performing acoustic attenuator, the Ventüer AL-600W louvre system is 600mm deep and is designed for enclosed plantrooms where high level noise reduction is required.

Follow this QR code to find out more about the AL-600W louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

TECHNICAL DATA

DIMENSIONS	Height: min. 450mm, max. 2400mm Length: min. 300mm, max. 2400mm Depth: 600mm
BLADE SPACINGS	150mm
BASE MATERIAL	Aluminium
ACOUSTIC INFILL	Mineral wool
RAIN DEFENCE PERFORMANCE BS/EN:13030	Class A - up to 0.5m/s suction velocity Class B - up to 1.5m/s suction velocity Class C - up to 2.0m/s suction velocity Class D - up to 3.5m/s suction velocity
AERODYNAMIC PERFORMANCE BS/EN:13030	Air Inlet: 0.213, Class 3 Air Extract: 0.228, Class 3
SURFACE FINISH OPTIONS	Powdercoated Anodised Mill (raw) finish
STC RATING	20
TEST CERTIFICATION	ISO 10140-2
ANCILLARIES	Vermin mesh Insect mesh Dust filters Solid blanking

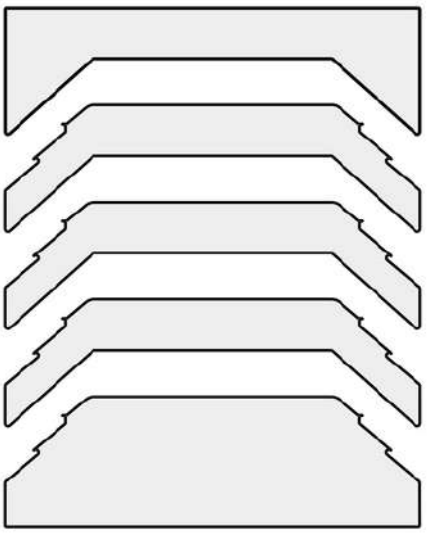


Sound Reduction Index (SRI)	
Frequency f Hz	**R One-third octave dB**
50 63 80	7.4 6.1 4.7
100 125 160	4.3 6.5 6.1
200 250 315	7.1 7.3 8.5
400 500 630	12.4 15.3 19.4
800 1000 1250	24.8 30.1 35.6
1600 2000 2500	40.0 42.7 44.9
3150 4000 5000	45.2 42.8 39.1

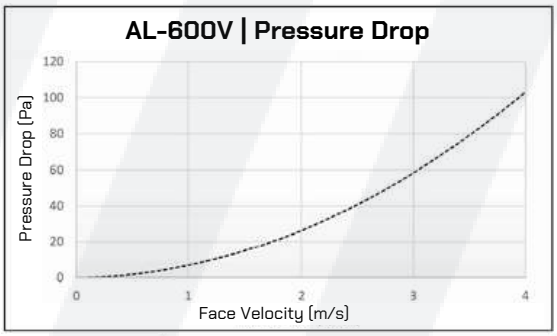
AL-600V

ULTIMATE ATTENUATION

The highest performing attenuator specifically designed for use in environments where both sides of the louvre are exposed to rain, the Ventüer AL-600V louvre system is 600mm deep and is ideal for acoustic plant screens where maximum noise reduction is required.



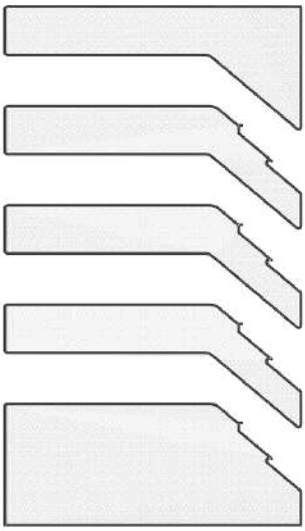
Follow this QR code to find out more about the AL-600V louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.



Sound Reduction Index (SRI)	
Frequency f Hz	**R One-third octave dB**
50 63 80	9.8 8.0 7.0
100 125 160	7.0 6.5 7.1
200 250 315	8.2 8.8 9.8
400 500 630	14.1 17.9 22.3
800 1000 1250	28.2 33.2 35.5
1600 2000 2500	38.6 41.4 44.3
3150 4000 5000	44.8 45.2 43.6

TECHNICAL DATA

DIMENSIONS	Height: min. 450mm, max. 2400mm Length: min. 300mm, max. 2400mm Depth: 600mm
BLADE SPACINGS	150mm
BASE MATERIAL	Aluminium
ACOUSTIC INFILL	Mineral wool
RAIN DEFENCE PERFORMANCE BS/EN:13030	Class B - up to 0.5m/s suction velocity Class C - up to 1.5m/s suction velocity Class D - up to 3.5m/s suction velocity
AERODYNAMIC PERFORMANCE BS/EN:13030	Air Inlet: 0.224, Class 3 Air Extract: 0.224, Class 3
SURFACE FINISH OPTIONS	Powdercoated Anodised Mill (raw) finish
STC RATING	22
TEST CERTIFICATION	ISO 10140-2
ANCILLARIES	Vermin mesh Insect mesh Dust filters Solid blanking



AL-450W

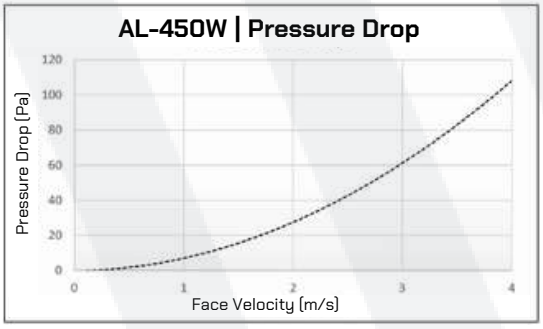
HIGH ATTENUATION

The Ventüer AL-450W louvre system is a 450mm deep, high performing acoustic louvre ideal for enclosed plantroom installations where high levels of noise reduction and extra space is required.

Follow this QR code to find out more about the AL-450W louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

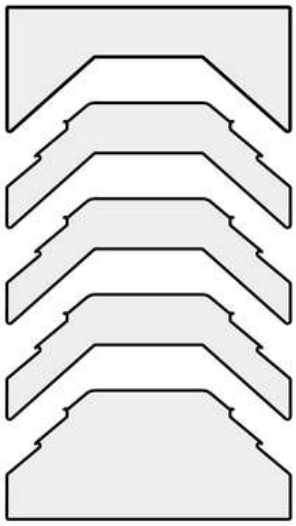
TECHNICAL DATA

DIMENSIONS	Height: min. 450mm, max. 2400mm Length: min. 300mm, max. 2400mm Depth: 450mm
BLADE SPACINGS	150mm
BASE MATERIAL	Aluminium
ACOUSTIC INFILL	Mineral wool
RAIN DEFENCE PERFORMANCE BS/EN:13030	Class A - up to 0.5m/s suction velocity Class B - up to 1.5m/s suction velocity Class C - up to 2.0m/s suction velocity Class D - up to 3.5m/s suction velocity
AERODYNAMIC PERFORMANCE BS/EN:13030	Air Inlet: 0.226, Class 3 Air Extract: 0.239, Class 3
SURFACE FINISH OPTIONS	Powdercoated Anodised Mill (raw) finish
STC RATING	18
TEST CERTIFICATION	ISO 10140-2
ANCILLARIES	Vermin mesh Insect mesh Dust filters Solid blanking



Sound Reduction Index (SRI)	
Frequency f Hz	**R One-third octave dB**
50 63 80	7.7 6.2 4.8
100 125 160	4.6 5.1 5.3
200 250 315	5.8 6.4 7.2
400 500 630	9.9 12.4 15.5
800 1000 1250	19.9 24.1 28.4
1600 2000 2500	32.0 34.4 36.8
3150 4000 5000	37.4 35.0 32.0

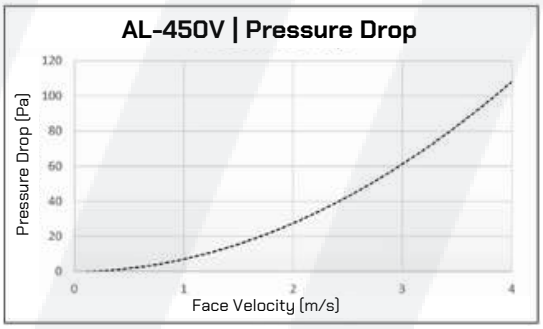
AL-450V



HIGH ATTENUATION

Specifically designed for use in environments where both sides of the louvre are exposed to rain, the Ventüer AL-450V louvre system is 450mm deep and is ideal for acoustic plant screens where high level noise reduction is required.

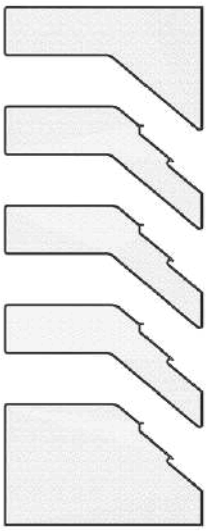
Follow this QR code to find out more about the AL-450V louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.



Sound Reduction Index (SRI)	
Frequency f Hz	**R One-third octave dB**
50 63 80	9.1 7.7 8.1
100 125 160	7.4 5.4 5.7
200 250 315	6.5 7.8 8.4
400 500 630	11.5 14.4 17.5
800 1000 1250	21.7 25.7 28.0
1600 2000 2500	30.6 32.7 35.5
3150 4000 5000	36.6 36.7 36.6

TECHNICAL DATA

DIMENSIONS	Height: min. 450mm, max. 2400mm Length: min. 300mm, max. 2400mm Depth: 450mm
BLADE SPACINGS	150mm
BASE MATERIAL	Aluminium
ACOUSTIC INFILL	Mineral wool
RAIN DEFENCE PERFORMANCE BS/EN:13030	Class B - up to 0.5m/s suction velocity Class C - up to 1.5m/s suction velocity Class D - up to 3.5m/s suction velocity
AERODYNAMIC PERFORMANCE BS/EN:13030	Air Inlet: 0.225, Class 3 Air Extract: 0.225, Class 3
SURFACE FINISH OPTIONS	Powdercoated Anodised Mill (raw) finish
STC RATING	19
TEST CERTIFICATION	ISO 10140-2
ANCILLARIES	Vermin mesh Insect mesh Dust filters Solid blanking



AL-300W

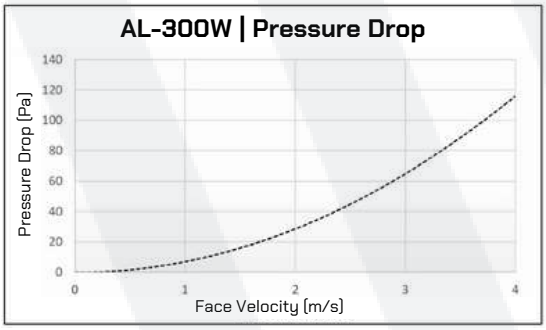
MEDIUM ATTENUATION

At 300mm deep, the Ventüer AL-300W louvre system is a mid-range acoustic attenuator suitable for use in enclosed plantrooms where medium levels of noise reduction and extra space is required.

Follow this QR code to find out more about the AL-300W louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

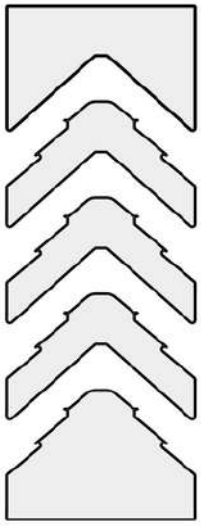
TECHNICAL DATA

DIMENSIONS	Height: min. 450mm, max. 2400mm Length: min. 300mm, max. 2400mm Depth: 300mm
BLADE SPACINGS	150mm
BASE MATERIAL	Aluminium
ACOUSTIC INFILL	Mineral wool
RAIN DEFENCE PERFORMANCE BS/EN:13030	Class A - up to 0.5m/s suction velocity Class B - up to 1.5m/s suction velocity Class C - up to 2.0m/s suction velocity Class D - up to 3.5m/s suction velocity
AERODYNAMIC PERFORMANCE BS/EN:13030	Air Inlet: 0.202, Class 3 Air Extract: 0.229, Class 3
SURFACE FINISH OPTIONS	Powdercoated Anodised Mill (raw) finish
STC RATING	14
TEST CERTIFICATION	ISO 10140-2
ANCILLARIES	Vermin mesh Insect mesh Dust filters Solid blanking



Sound Reduction Index (SRI)	
Frequency f Hz	**R One-third octave dB**
50 63 80	6.4 5.9 4.7
100 125 160	5.3 5.6 4.5
200 250 315	3.4 4.3 5.5
400 500 630	7.1 8.6 11.0
800 1000 1250	14.2 17.1 20.2
1600 2000 2500	22.8 24.3 36.1
3150 4000 5000	26.7 25.5 24.0

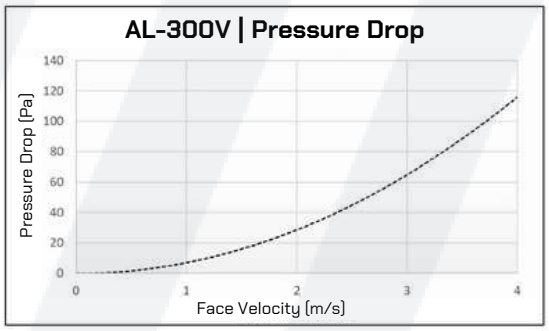
AL-300V



MEDIUM ATTENUATION

Specifically designed for use in environments where both sides of the louvre are exposed to rain, the Ventüer AL-300V louvre system is 300mm deep and is ideal for acoustic plant screens where medium noise reduction is required.

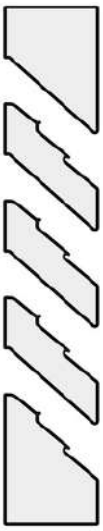
Follow this QR code to find out more about the AL-300V louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.



Sound Reduction Index (SRI)	
Frequency f Hz	**R One-third octave dB**
50	9.3
63	7.5
80	7.7
100	8.4
125	6.7
160	5.4
200	5.1
250	5.4
315	6.8
400	9.3
500	10.9
630	11.9
800	13.2
1000	14.7
1250	16.7
1600	20.3
2000	21.1
2500	21.3
3150	21.3
4000	21.0
5000	20.0

TECHNICAL DATA

DIMENSIONS	Height: min. 450mm, max. 2400mm Length: min. 300mm, max. 2400mm Depth: 300mm
BLADE SPACINGS	150mm
BASE MATERIAL	Aluminium
ACOUSTIC INFILL	Mineral wool
RAIN DEFENCE PERFORMANCE BS/EN:13030	Class B - up to 0.5m/s suction velocity Class C - up to 1.5m/s suction velocity Class D - up to 3.5m/s suction velocity
AERODYNAMIC PERFORMANCE BS/EN:13030	Air Inlet: 0.241, Class 3 Air Extract: 0.241, Class 3
SURFACE FINISH OPTIONS	Powdercoated Anodised Mill (raw) finish
STC RATING	15
TEST CERTIFICATION	ISO 10140-2
ANCILLARIES	Vermin mesh Insect mesh Dust filters Solid blanking



AL-150W

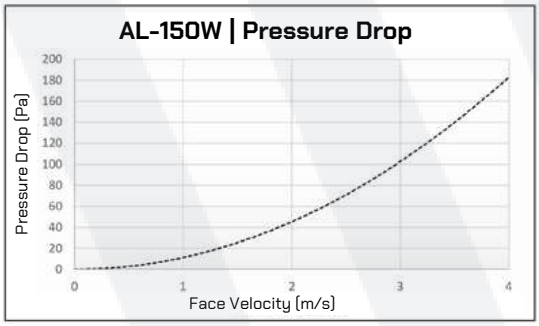
SLIMLINE ACOUSTIC

The Ventüer AL-150W louvre system is a 150mm deep slimline acoustic attenuator ideal for situations where space is restricted and high levels of sound absorption are not required.

Follow this QR code to find out more about the AL-150W louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

TECHNICAL DATA

DIMENSIONS	Height: min. 450mm, max. 2400mm Length: min. 300mm, max. 2400mm Depth: 150mm
BLADE SPACINGS	150mm
BASE MATERIAL	Aluminium
ACOUSTIC INFILL	Mineral wool
RAIN DEFENCE PERFORMANCE BS/EN:13030	Class B - up to 0.5m/s suction velocity Class C - up to 1.5m/s suction velocity Class D - up to 3.5m/s suction velocity
AERODYNAMIC PERFORMANCE BS/EN:13030	Air Inlet: 0.192 Class 4 Air Extract: 0.207, Class 3
SURFACE FINISH OPTIONS	Powdercoated Anodised Mill (raw) finish
STC RATING	9
TEST CERTIFICATION	ISO 10140-2
ANCILLARIES	Vermin mesh Insect mesh Dust filters Solid blanking



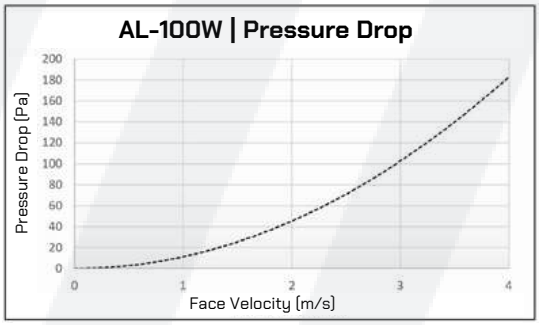
Sound Reduction Index (SRI)	
Frequency f Hz	**R One-third octave dB**
50	8.6
63	6.1
80	6.1
100	7.0
125	6.1
160	4.8
200	4.1
250	3.8
315	3.6
400	4.6
500	5.8
630	7.0
800	7.9
1000	9.0
1250	10.0
1600	11.2
2000	12.2
2500	12.8
3150	12.8
4000	12.0
5000	11.7

AL-100W

SLIMLINE ACOUSTIC

The Ventüer AL-100W louvre system is a 100mm deep slimline acoustic attenuator ideal for situations where space is restricted and high levels of sound absorption are not required.

Follow this QR code to find out more about the AL-100W louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.



Sound Reduction Index (SRI)	
Frequency f Hz	**R One-third octave dB**
50 63 80	5.8 5.1 6.5
100 125 160	5.6 5.9 4.8
200 250 315	3.7 3.2 3.3
400 500 630	3.3 3.5 4.7
800 1000 1250	5.9 7.0 8.2
1600 2000 2500	9.3 9.8 10.6
3150 4000 5000	10.6 10.4 10.3

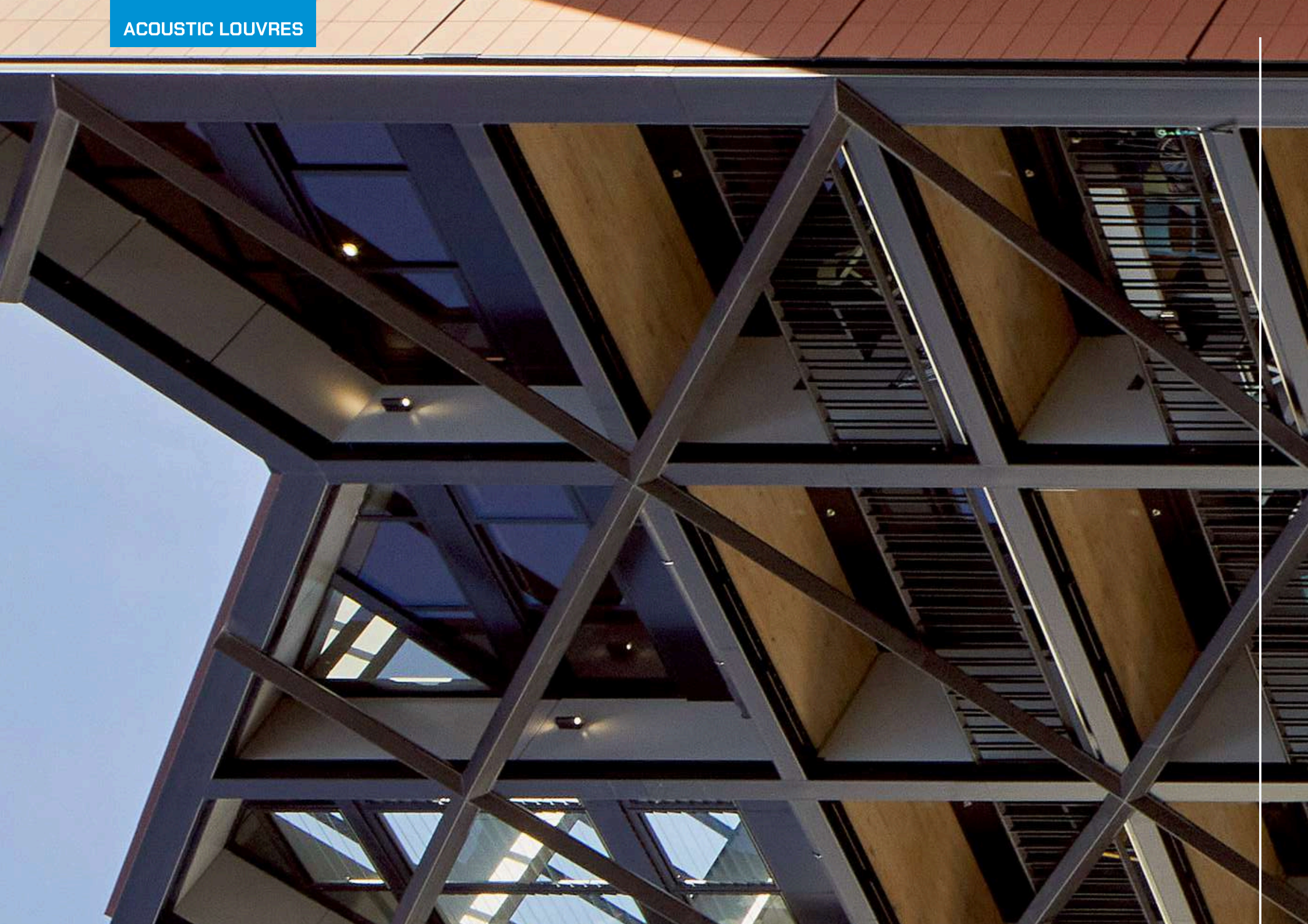
TECHNICAL DATA

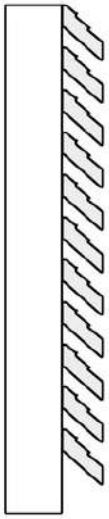
DIMENSIONS	Height: min. 450mm, max. 2400mm Length: min. 300mm, max. 2400mm Depth: 100mm
BLADE SPACINGS	150mm
BASE MATERIAL	Aluminium
ACOUSTIC INFILL	Mineral wool
SURFACE FINISH OPTIONS	Powdercoated Anodised Mill (raw) finish
STC RATING	7
TEST CERTIFICATION	ISO 10140-2
ANCILLARIES	Vermin mesh Insect mesh Dust filters Solid blanking

PROJECT
Auckland City Mission ‘HomeGround’

LOCATION
Auckland, NZ

PRODUCT
AL-300 acoustic louvres





AL-150WGB

SOUNDWALL - SHALLOW

The Great Barrier AL-150WGB kitset blade and stancion system offers continuous lengths up to 6.5m without joins for un-interrupted aesthetic and simple on site assembly. Ideal for situations where space is restricted and high levels of sound absorption are not required.

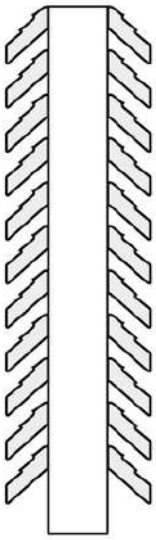
Follow this QR code to find out more about the AL-150WGB louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

TECHNICAL DATA

DIMENSIONS	Height: min. 300mm, no max Length: min. 300mm, no max Depth: 150mm (blade only)
BLADE SPACINGS	150mm
BASE MATERIAL	Aluminium
ACOUSTIC INFILL	Mineral wool
SURFACE FINISH OPTIONS	Powdercoated Anodised Mill (raw) finish
STC RATING	9
TEST CERTIFICATION	ISO 10140-2
ANCILLARIES	Vermin mesh Insect mesh Dust filters Solid blanking

Sound Reduction Index (SRI)	
Frequency f Hz	**R One-third octave dB**
50 63 80	8.6 6.1 6.1
100 125 160	7.0 6.1 4.8
200 250 315	4.1 3.8 3.6
400 500 630	4.6 5.8 7.0
800 1000 1250	7.9 9.0 10.0
1600 2000 2500	11.2 12.2 12.8
3150 4000 5000	12.8 12.0 11.7

AL-500SGB



SOUNDWALL - DEEP

The Great Barrier AL-500SGB kitset blade and stancion system offers continuous lengths up to 6.5m without joins for un-interrupted aesthetics and simple on site assembly. Ideal for situations where medium to high noise reduction is required.

Follow this QR code to find out more about the AL-500SGB louvre online, and to download the Ventüer **Louvre Calculator** for precise sizing and performance specification.

Sound Reduction Index (SRI)	
Frequency f Hz	**R One-third octave dB**
50 63 80	10.1 6.2 6.6
100 125 160	7.7 6.9 7.0
200 250 315	7.2 7.8 8.0
400 500 630	10.6 12.3 13.7
800 1000 1250	14.8 17.0 19.1
1600 2000 2500	20.3 23.1 24.3
3150 4000 5000	24.3 22.4 21.8

TECHNICAL DATA

DIMENSIONS	Height: min. 300mm, no max. Length: min. 300mm, no max. Depth: 500mm. (Blade and standard stanchion).
BLADE SPACINGS	150mm
BASE MATERIAL	Aluminium
ACOUSTIC INFILL	Mineral wool
SURFACE FINISH OPTIONS	Powdercoated Anodised Mill (raw) finish
STC RATING	17
TEST CERTIFICATION	ISO 10140-2
ANCILLARIES	Vermin mesh Insect mesh Dust filters Solid blanking

PROJECT
Auckland Zoo

LOCATION
Auckland, NZ

ARCHITECT
Ignite Architects

MAIN CONTRACTOR
NZ Strong

PRODUCT
Electrically Operable
Ventilation Louvres

APPLICATION
Natural Ventilation


DANGER
HIGH VOLTAGE

LOUVRE ANCILLARIES

To ensure the performance and longevity of every Ventüer louvre installation, we offer a full range of ancillary components designed to complement our core product range. From bird and insect mesh, flashings, and fixing brackets to mullions, sub-frames, and installation hardware, each item is engineered for compatibility, durability, and ease of installation.

Glazed In Louvres

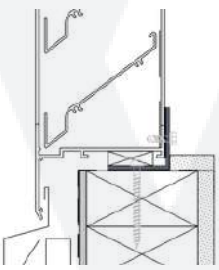
The Ventüer glazed-in frame is designed for integration into curtain wall and window systems.

[Page 50]

Plenums

Correct plenum construction and detailing is crucial to preventing leaks and ensuring unrestricted airflow.

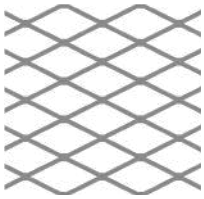
[Page 51]



Mounting Angles

Fixing of performance louvres to the surrounding building structure often requires the use of a perimeter mounting angle.

[Page 52]



Backing Mesh

Preventing birds and other intruders from entering the building via ventilation louvres requires an appropriate backing mesh.

[Page 52]

Volume Control Dampers

Ventüer volume control dampers can be fitted to fixed-blade performance louvres to allow regulation of airflow.

[Page 53]

Louvred Doors

Louvred doors are commonly installed in plant rooms, service enclosures, and other areas requiring both ventilation and secure access.

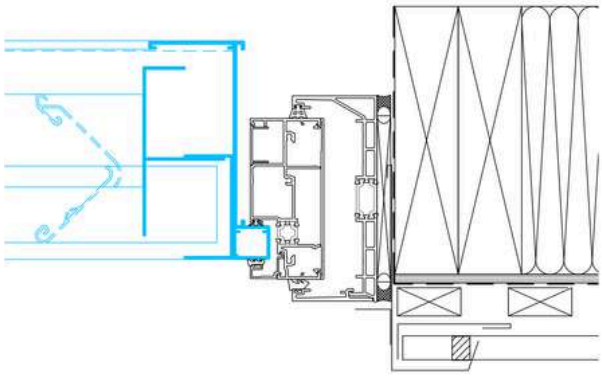
[Page 53]

GLAZED IN LOUVRES

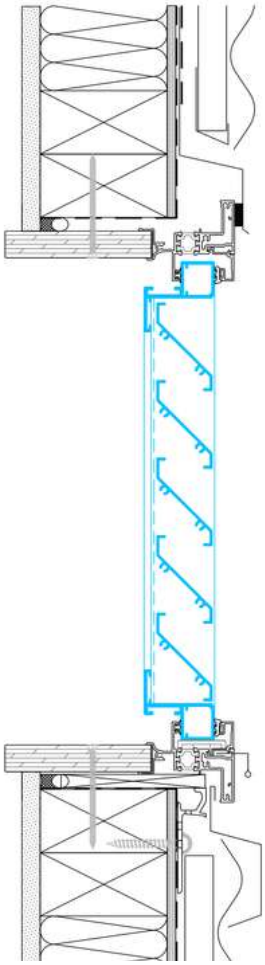
The Ventüer glazed-in louvre frame is purpose-designed for integration into curtain wall and other double-glazed window joinery. It features an extruded aluminium bead that allows for the louvre to be wedge rubbered in the standard joinery just like a standard IGU or infill panel.

Glazing in louvres to window joinery in this manner provides multiple benefits, including improved weather tightness, standardisation of detailing, simplification of contract packages and faster installation.

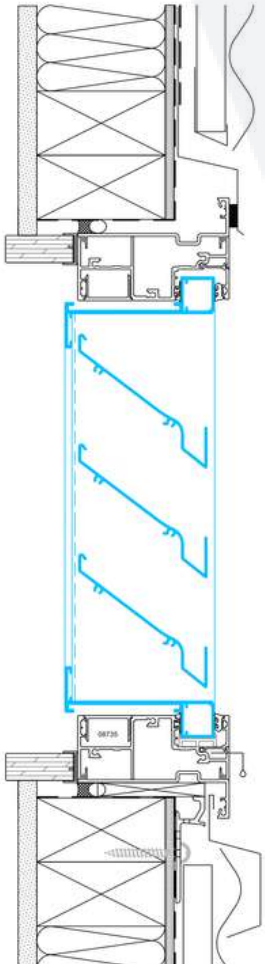
Ventüer provides three different depths of glazed in frame that allow this installation methodology to be utilised on all louvre models.



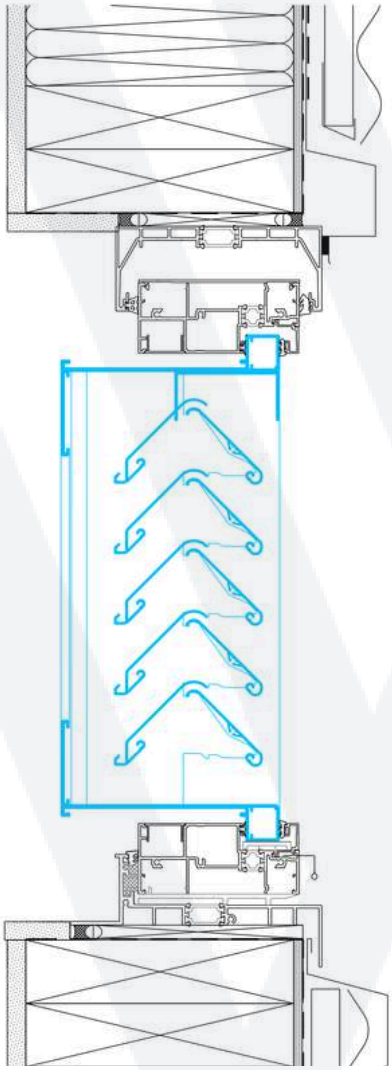
VL-2SD - Typical Glazed In Jamb Detail



VL-55S - Typical Glazed In Vertical Section Detail



VL-104D - Typical Glazed In Vertical Section Detail



VL-2SD - Typical Glazed In Vertical Section Detail

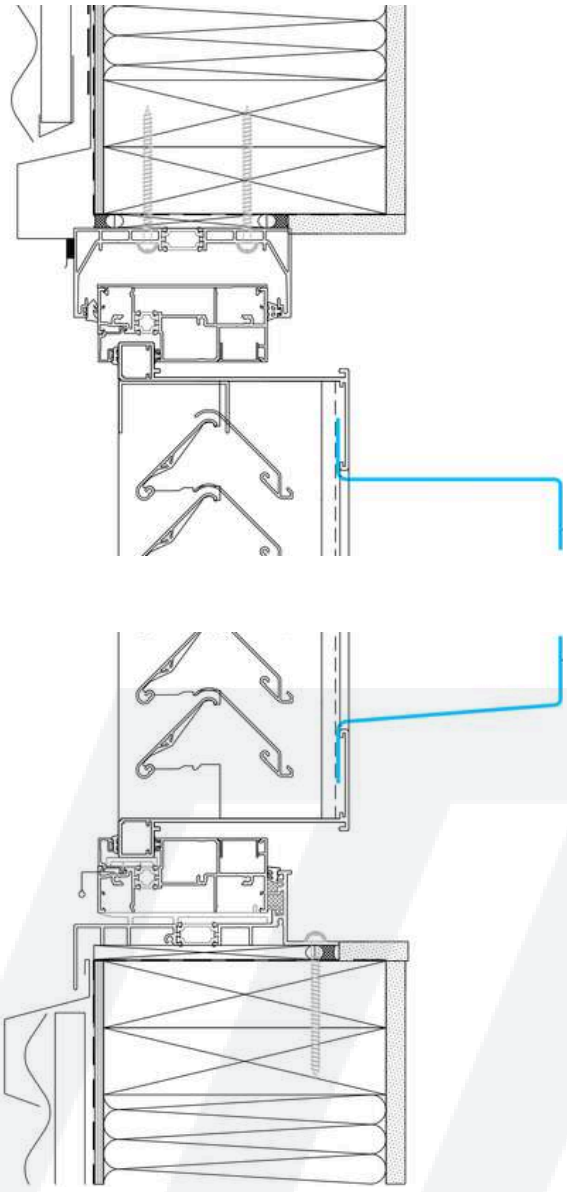
LOUVRE PLENUMS

A well-designed plenum is critical to the performance of any louvre system connected to mechanical ductwork. It ensures that airflow is distributed evenly across the louvre face, prevents pressure drop issues, and helps avoid water ingress by managing air velocity and drainage correctly. Poorly designed or improvised plenums can lead to noise issues, reduced ventilation efficiency, and leaks.

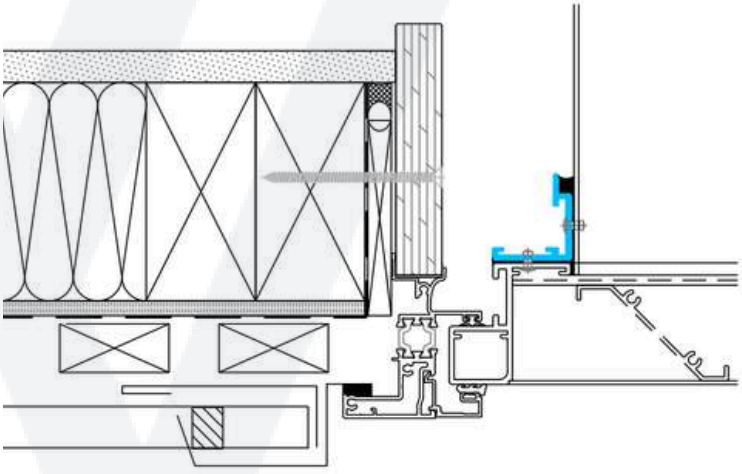
Ventüer provides two primary types of plenum:

- **Type 1:** fully welded and factory-fitted integrated aluminium plenums designed to ensure that any water penetrating the louvre blades is quickly drained back to the exterior of the building.

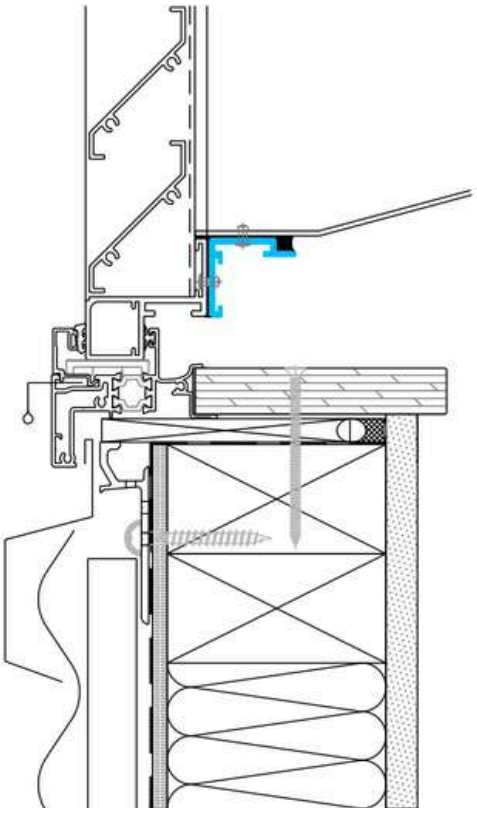
- **Type 2:** proprietary plenum adaptor profile that is factory-fitted to the rear of the louvre and enables secondary plenums to be site-fitted after the louvres are installed. Use of this plenum adaptor ensures plenums are set at the correct height and are adequately sealed to prevent leaks.



TYPE 1 - VL-2SD louvre with fully welded plenum



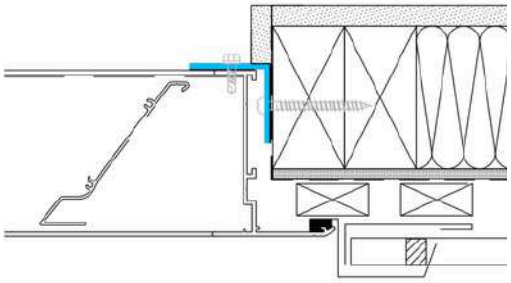
TYPE 2 - VL-55S louvre jamb detail with integrated plenum adaptor



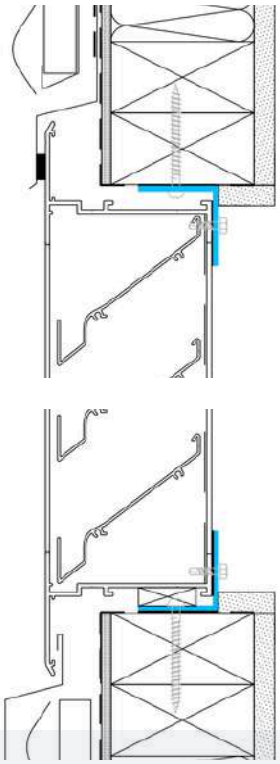
TYPE 2 - VL-55S louvre sill detail with integrated plenum adaptor

MOUNTING ANGLES

Ventüer perimeter mounting angles provide a simple, secure method for fixing louvre panels to structural openings. Fabricated from extruded aluminium, these angles are available in a range of sizes and finishes to suit different framing conditions. When bed sealed to the lined structure and to the louvre frame, they also provide a secondary line of defence against moisture ingress. Pre-machined fixing holes allow for fast, accurate installation, and custom configurations can be supplied to suit project-specific requirements.



VL-104D - Typical mounting angle to jamb



VL-104D - Typical mounting angle to head and sill

BACKING MESH

Backing Mesh Type 1
Also known as bird or vermin mesh, this aluminium backing mesh is designed to prevent birds, rodents, and other animals from entering through the louvres, without significantly impacting airflow. Made from expanded and flattened aluminium, it features 2mm wide strands in a 38mm x 19mm diamond pattern, with a thickness of 1.2mm and a high free area of 77%. Available in mill finish or powdercoated

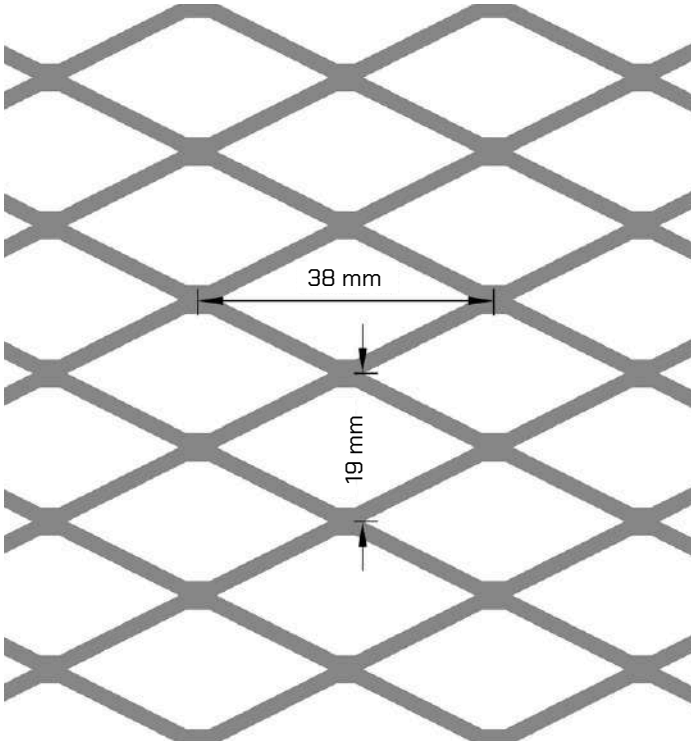


Image Scale 1:1

Backing Mesh Type 2
Often referred to as insect mesh or bug screen, this stainless steel backing mesh is designed to block insects and other small creatures from entering through the louvres. Constructed from woven 0.7mm wires at 2mm centres, it forms a rigid 1.5mm thick panel that requires no tensioning during installation. Finished with a black PVDF coating for corrosion resistance.

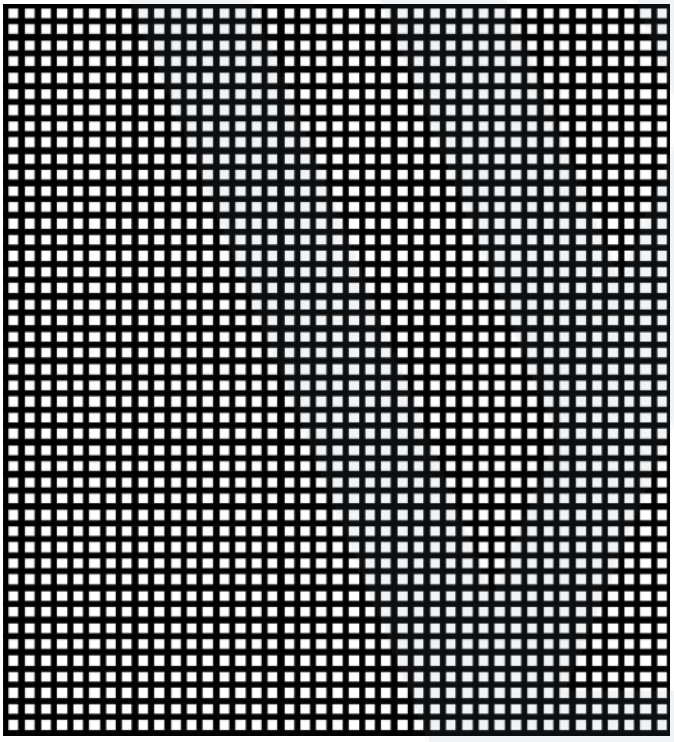
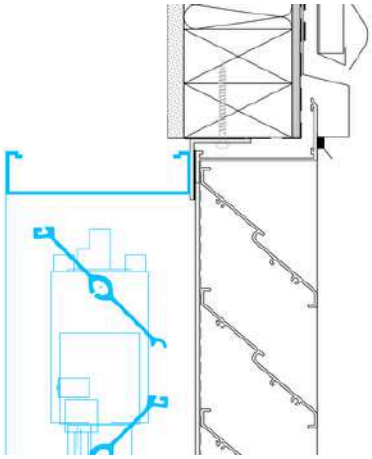
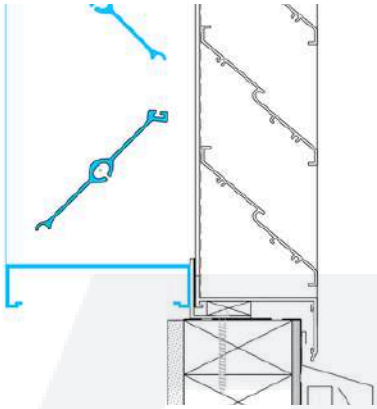


Image Scale 1:1

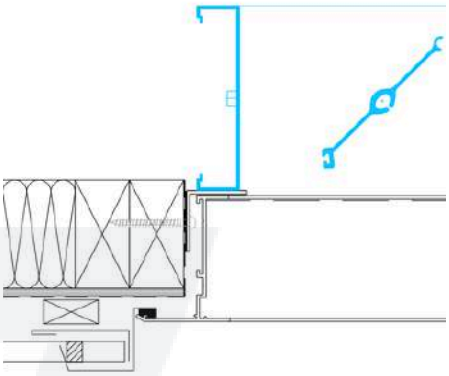
VOLUME CONTROL DAMPERS

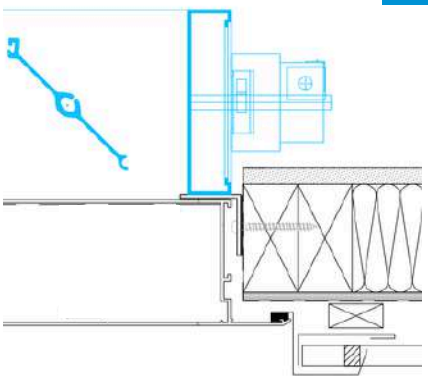
When installed to the rear of louvre systems, Ventüer volume control dampers allow precise regulation of airflow through the opening. These dampers can be manually or electrically-operated and are ideal for balancing air volumes in mechanical ventilation systems or isolating airflow when required. Constructed from extruded aluminium, they are designed to integrate neatly with the full range of Ventüer performance louvres and are available in parallel or opposed blade configurations depending on control requirements.





VERTICAL SECTION - volume control damper fitted to VL-100S louvre

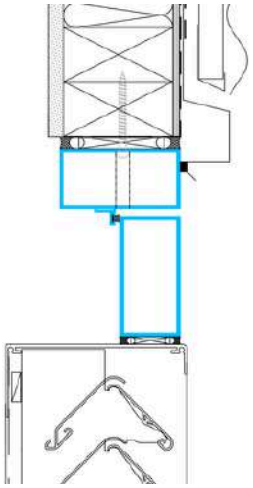


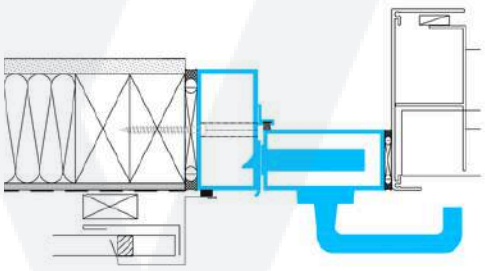


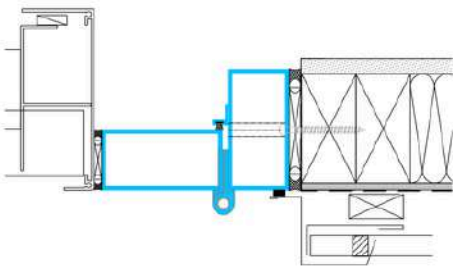
HORIZONTAL SECTION - volume control damper fitted to VL-100S louvre

LOUVRE DOORS

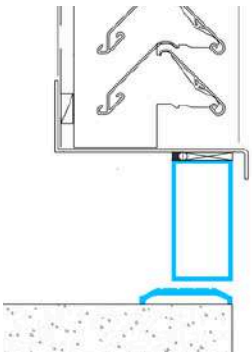
Louvred doors provide secure, ventilated access to plant rooms, service enclosures, and mechanical spaces. Constructed using the same louvre blades as fixed panels, they ensure consistent airflow performance and visual continuity across the façade. Available in single or double leaf configurations, with optional hardware including locks, panic bars, and closers, these doors are custom-made to suit project-specific dimensions and performance requirements. Durable, weather-resistant, and easy to integrate, Ventüer louvred doors combine functionality with clean architectural detailing.







HORIZONTAL SECTION - single leaf door with VL-2SD louvre infill



VERTICAL SECTION - single leaf door with VL-2SD louvre infill

SMOKE VENTILATOR RANGE OVERVIEW

MERCOR ROOF VENTILATORS

- Louvred roof-mounted smoke ventilator
- Optional insulated or translucent blades
- Multiple control / actuator options
- Suitable for natural passive ventilation as well as smoke exhaust

(Page 52)

MERCOR FACADE VENTILATORS

- Louvred facade-mounted smoke ventilator
- Suitable for integration into multiple cladding types
- Optional insulated or translucent blades
- Suitable for natural passive ventilation as well as smoke exhaust

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HAHN GLAZED VENTILATORS

- Aesthetically pleasing
- Options of double and triple glazing
- High open area percentage for rapid smoke extraction
- Provides natural lighting as well as ventilation
- Burglar proof, impact resistant and noise reducing

(Page 62)

CONTROL SYSTEMS

- Suitable for fire alarm or BMS integration
- Standalone or networked control panel options
- Fully customisable to suit project requirements
- Manual switching and rainsensor options for comfort ventilation
- UPS and inbuilt battery backup options

(Page 66)

SMOKE VENTILATORS

WHY USE NATURAL SMOKE VENTILATION?

Statistics show that more than 60% of fatalities and injuries in building fires are due to occupants being overcome by or inhaling hot gases or smoke. Less than 40% are caused directly by the fire itself.

Smoke control systems are thus life-saving systems. They greatly increasing an occupants chances of survival in the event of a fire by keeping escape routes smoke-free, and help firefighters tackle blazes more safely and effectively - saving more lives and reducing damage to the building.

There are two primary methods of ventilating smoke - natural and mechanical. Natural smoke ventilation uses the inherent buoyancy of hot smoke and air to remove the toxic gases through openings in the building facade or roof. Mechanical smoke ventilation uses fans to force the smoke through shafts or ducts, and is generally used where space is at a premium and / or where the natural airflow is insufficient to achieve the required performance.

Ventüer smoke ventilators are designed for use in natural smoke ventilation systems. A full range of certified roof vents, facade vents and controls work together to ensure the maximum safety for the occupants of your building.

Fig. 1 - fire breaking out in an unprotected room (i.e. without smoke ventilation) will rapidly fill the room with smoke. Occupants can be disorientated and overcome by the heat and toxic gases, and firefighters are forced to work under reduced visibility.

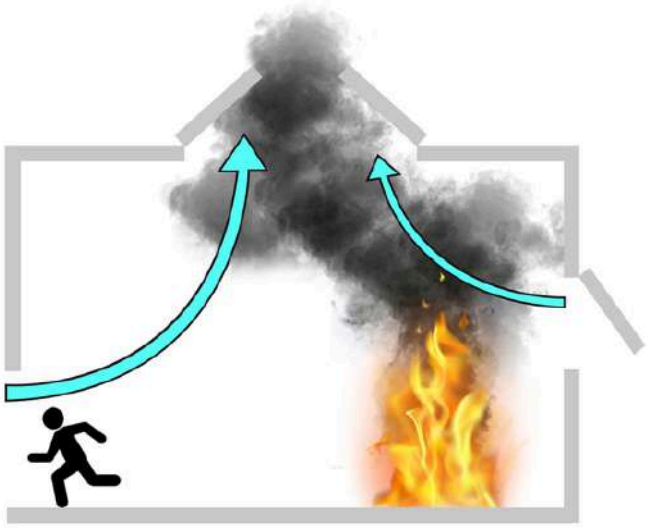
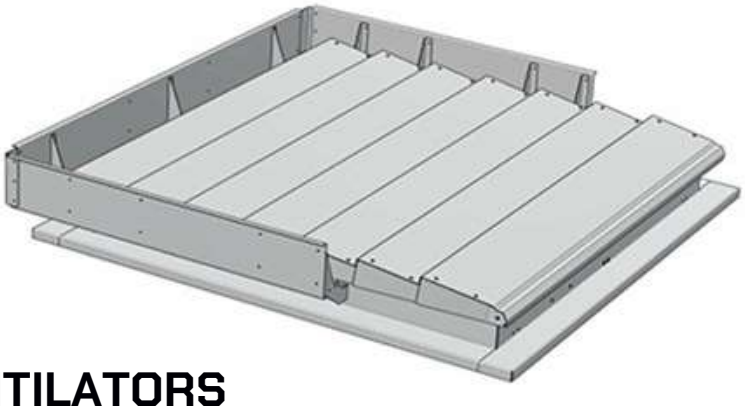


Fig. 2 - when buildings are suitably protected with a properly designed smoke ventilation system, the hot air and smoke created by the fire is exhausted through openings on or near the roof. This ensures a clear area of breathable air near the floor, allowing occupants to safely escape and firefighters clear access.

MERCOR-MLR



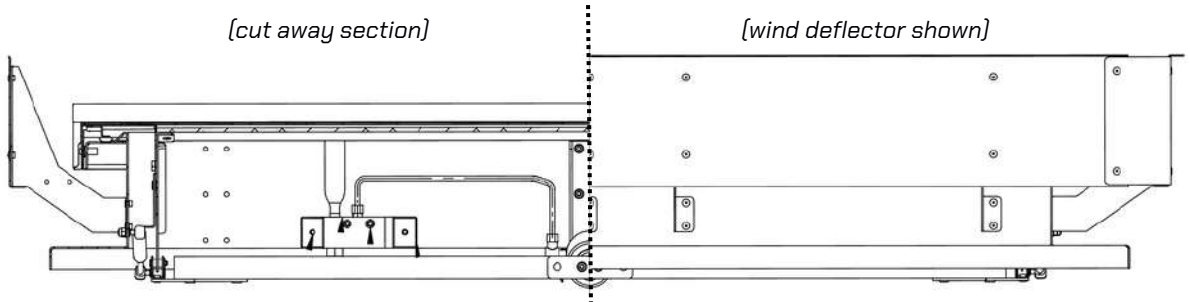
ROOF-MOUNTED SMOKE VENTILATORS

Ventüer MERCOR-LAM (MLR) louvred smoke ventilators are used in natural smoke and heat exhaust ventilation systems. Mounted on roofs, louvre smoke vents exhaust smoke and heat from a building, allowing low level escape routes to be kept clear of smoke. MLR smoke ventilators are fully certified to EN 12101-2. They are particularly suited to industrial and warehouse buildings and may also be used to provide natural comfort ventilation.

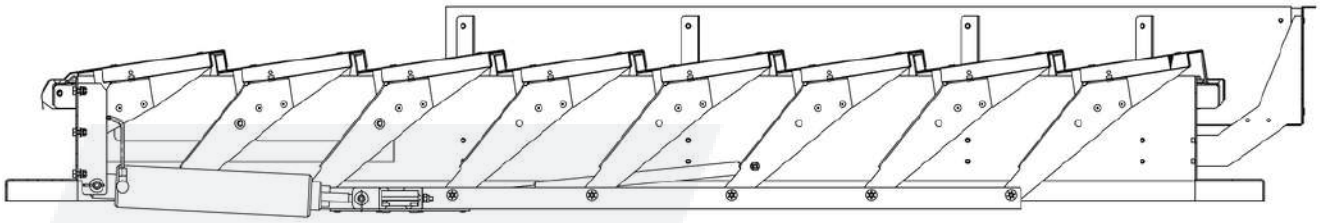
They are available in a wide range of sizes and types of upstands. They may be installed at any angle from 0 to 90°, but are generally installed horizontally and supplied with aerodynamic wind shields as standard. They consume minimal energy during the opening and closing cycle and have high resistance to weather and are therefore suited for use on exposed and high wind areas. They provide good security, are impact resistant and do not create a fall hazard when open.

TECHNICAL DATA | MERCOR-MLR

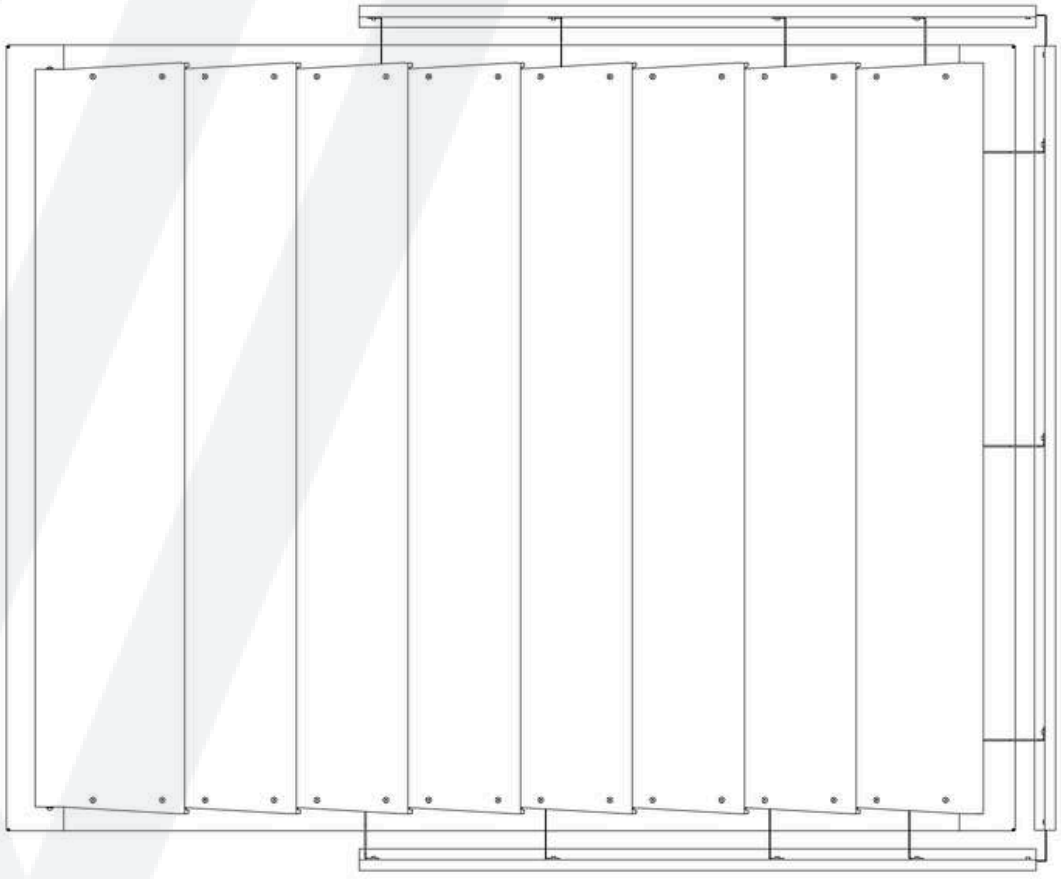
DIMENSIONS	Minimum Depth	800 mm
	Maximum Depth	3800 mm
	Minimum Width (blade span)	500 mm
	Maximum Width (blade span)	2500 mm
MATERIAL	Blade Material Type Options	- 16 mm thick polycarbonate multi-skin sheet - 25 mm thick polycarbonate multi-skin sheet - Double-skin non-insulated aluminium louvres - Double-skin insulated aluminium louvres
	Base Material Types Options	- Aluminium - Galvanised Steel
	Surface Finish Options	- Unpainted - Powdercoated RAL colours
CONTROLS	Actuator Options	- 24 V DC electric actuators - 230 V AC electric actuators - Single action pneumatic cylinder - Double action pneumatic cylinder
	Thermal Release Option	Yes
USE	Emergency smoke ventilation	Yes
	Daily natural ventilation	Yes
EN12101-2 CERTIFICATION	Operational Reliability (smoke ventilation)	- Re300 (300 cycles): vent with E1 electric control and C1, C2 pneumatic control - Re1000 (1000 cycles): vent with C3 pneumatic control with gas spring)
	Operational Reliability (daily ventilation)	- Re10000 (10 000 cycles)
	Wind Load Class	- WL1500 (1500 N/m2): for all louvered vent types - WL3000 (3000N/m2): vents (max. 12 blades) of length 150 cm - WL4000 (4000 N/m2): vents (max. 12 blades) of length 100 cm
	Resistance to High Temperature	- B300 (300°C)
	Resistance to Low Temperature	- T (-25) or T(00): resistance of vents to low temperature of -25°C or 0°C
	Maximum vent opening time	- 60 seconds – maximum vent opening time to working position



Section through MERCOR-MLR ventilator *(parallel to blades)*



Section through MERCOR-MLR ventilator *(perpendicular to blades)*



Top View of MERCOR-MLR ventilator

MERCOR-MLR TECHNICAL PARAMETERS

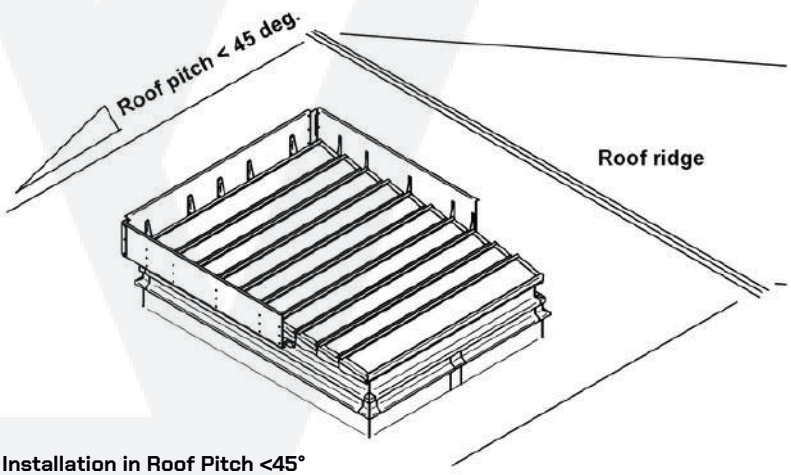
Product Code	Ventilator Throat Depth (mm)	Ventilator Throat Width (blade length - mm)	No. Blades	Max. Wind Load	Aerodynamic Active Area (M2)	Electric Actuator Size (A)						Approximate Weight (Min - Max kg)
						1300 Pa Snow Load	950 Pa Snow Load	750 Pa Snow Load	500 Pa Snow Load	250 Pa Snow Load	125 Pa Snow Load	
MLR-4-500	800	500	4	4 kPa	0.24	0.8	0.8	0.8	0.8	0.8	-	23 - 27
MLR-4-800	800	800	4	4 kPa	0.39	1.3	1	0.8	0.8	0.8	-	27 - 32
MLR-4-1000	800	1000	4	4 kPa	0.496	1.3	1	0.8	0.8	0.8	-	30 - 36
MLR-4-1200	800	1200	4	3 kPa	0.595	2	1.3	1	0.8	0.8	-	33 - 40
MLR-4-1400	800	1400	4	3 kPa	0.694	2	1.3	1	0.8	0.8	-	35 - 43
MLR-4-1600	800	1600	4	1.5 kPa	0.806	2.6	1.8	1.3	1	0.8	-	38 - 47
MLR-4-1700	800	1700	4	1.5 kPa	0.857	2.6	1.8	1.3	1	0.8	-	40 - 49
MLR-5-500	1000	500	5	4 kPa	0.3	1	0.8	0.8	0.8	0.8	-	26 - 31
MLR-5-1000	1000	1000	5	4 kPa	0.62	2	1.3	1	0.8	0.8	-	34 - 41
MLR-5-1200	1000	1200	5	3 kPa	0.756	2	1.3	1.3	1	0.8	-	37 - 46
MLR-5-1400	1000	1400	5	3 kPa	0.882	2.6	2	1.6	1	0.8	-	40 - 50
MLR-5-1600	1000	1600	5	1.5 kPa	1.008	2 x 1.3	2	1.6	1.3	0.8	-	43 - 54
MLR-5-1800	1000	1800	5	1.5 kPa	1.134	2 x 1.3	2.6	2	1.3	0.8	-	47 - 58
MLR-5-2000	1000	2000	5	1.5 kPa	1.26	1 x 2.0	2.6	2	1.3	0.8	-	50 - 63
MLR-5-2100	1000	2100	5	1.5 kPa	1.323	2 x 2	2 x 1.3	2.6	2	1	-	52 - 67
MLR-6-500	1200	500	6	4 kPa	0.366	2	1.3	1.3	1	0.8	-	26 - 32
MLR-6-1000	1200	1000	6	4 kPa	0.756	2	1.3	1.3	1	0.8	-	38 - 47
MLR-6-1200	1200	1200	6	3 kPa	0.907	2.6	2	1.6	1	0.8	-	42 - 52
MLR-6-1400	1200	1400	6	3 kPa	1.058	2 x 1.3	2	2	1.3	0.8	-	45 - 57
MLR-6-1600	1200	1600	6	1.5 kPa	1.21	2 x 1.6	2.6	2	1.3	0.8	-	49 - 61
MLR-6-1800	1200	1800	6	1.5 kPa	1.382	2 x 2.0	2 x 1.3	2	1.6	0.8	-	53 - 66
MLR-6-2000	1200	2000	6	1.5 kPa	1.536	2 x 2.0	2 x 1.3	2.6	2	1	-	56 - 71
MLR-6-2200	1200	2200	6	1.5 kPa	1.69	-	2 x 2.0	2 x 1.3	2.6	1	-	60 - 76
MLR-6-2400	1200	2400	6	1.5 kPa	1.843	-	2 x 2.0	2 x 1.3	2.6	1	-	63 - 81
MLR-6-2500	1200	2500	6	1.5 kPa	1.92	-	2 x 2.0	2 x 1.3	2.6	1	-	67 - 85
MLR-6-500	1400	500	6	4 kPa	0.427	2.6	2	1.6	1	0.8	-	30 - 36
MLR-7-600	1400	600	7	4 kPa	0.521	2.6	2	1.6	1	0.8	-	32 - 38
MLR-7-1000	1400	1000	7	4 kPa	0.882	2.6	2	1.6	1	0.8	-	42 - 52
MLR-7-1200	1400	1200	7	3 kPa	1.058	2 x 1.3	2	2	1.3	0.8	-	47 - 58
MLR-7-1400	1400	1400	7	3 kPa	1.235	2 x 2.0	2.6	2	1.3	0.8	-	51 - 63
MLR-7-1600	1400	1600	7	1.5 kPa	1.434	2 x 2.0	2 x 1.3	2.6	2	0.8	-	54 - 68
MLR-7-1800	1400	1800	7	1.5 kPa	1.613	2 x 2.0	2 x 1.3	2 x 1.3	2	1	-	58 - 73
MLR-7-2000	1400	2000	7	1.5 kPa	1.792	2 x 2.6	2 x 2.0	2 x 1.3	2	1	-	61 - 78
MLR-7-2200	1400	2200	7	1.5 kPa	1.971	-	2 x 2.0	2 x 2.0	2 x 1.3	1.3	-	65 - 83
MLR-7-2400	1400	2400	7	1.5 kPa	2.15	-	2 x 2.0	2 x 2.0	2 x 1.3	1.3	-	69 - 89
MLR-7-2500	1400	2500	7	1.5 kPa	2.24	-	2 x 2.0	2 x 2.0	2 x 1.3	1.3	-	72 - 93
MLR-8-550	1600	550	8	4 kPa	0.537	2 x 1.3	2	1.6	1.3	0.8	-	32 - 38
MLR-8-700	1600	700	8	4 kPa	0.694	2 x 1.3	2	1.6	1.3	0.8	-	40 - 50
MLR-8-1000	1600	1000	8	4 kPa	1.008	2 x 1.3	2	1.6	1.3	0.8	-	46 - 57
MLR-8-1200	1600	1200	8	3 kPa	1.21	2 x 1.6	2.6	2	1.3	0.8	-	52 - 65
MLR-8-1400	1600	1400	8	3 kPa	1.434	2 x 2.0	2 x 1.3	2.6	2	0.8	-	58 - 72
MLR-8-1600	1600	1600	8	1.5 kPa	1.638	2 x 2.0	2 x 1.6	2 x 1.3	2	1	-	63 - 79
MLR-8-1800	1600	1800	8	1.5 kPa	1.843	2 x 2.6	2 x 2.0	2 x 1.3	2	1	-	69 - 86
MLR-8-2000	1600	2000	8	1.5 kPa	2.048	-	2 x 2.0	2 x 1.6	2.6	1.3	-	74 - 94
MLR-8-2200	1600	2200	8	1.5 kPa	2.253	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	80 - 101
MLR-8-2400	1600	2400	8	1.5 kPa	2.458	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	86 - 108
MLR-8-2500	1600	2500	8	1.5 kPa	2.56	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	91 - 114
MLR-9-600	1800	600	9	4 kPa	0.67	-	2,0	1,3	1,3	0,8	-	42 - 52
MLR-9-800	1800	800	9	4 kPa	0.907	-	2,0	1,3	1,3	0,8	-	45 - 55
MLR-9-1000	1800	1000	9	4 kPa	1.134	2 x 1.6	2.6	2	1.3	0.8	-	51 - 63
MLR-9-1200	1800	1200	9	3 kPa	1.382	2 x 2.0	2 x 1.3	2.6	1.6	0.8	-	57 - 71
MLR-9-1400	1800	1400	9	3 kPa	1.613	2 x 2.0	2 x 1.6	2 x 1.3	2	1	-	63 - 79
MLR-9-1600	1800	1600	9	1.5 kPa	1.843	2 x 2.6	2 x 2.0	2 x 1.3	2	1	-	69 - 86
MLR-9-1800	1800	1800	9	1.5 kPa	2.074	-	2 x 2.0	2 x 1.6	2.6	1.3	-	75 - 94
MLR-9-2000	1800	2000	9	1.5 kPa	2.304	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	81 - 102
MLR-9-2200	1800	2200	9	1.5 kPa	2.534	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	87 - 110
MLR-9-2400	1800	2400	9	1.5 kPa	2.765	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	93 - 118
MLR-9-2500	1800	2500	9	1.5 kPa	2.88	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	99 - 125
MLR-10-650	2000	650	10	4 kPa	0.806	2 x 2.0	2 x 1.3	2	1.3	0.8	-	52 - 64
MLR-10-1000	2000	1000	10	4 kPa	1.26	2 x 2.0	2 x 1.3	2	1.3	0.8	-	55 - 68
MLR-10-1200	2000	1200	10	3 kPa	1.536	2 x 2.0	2 x 1.3	2.6	2	1	-	61 - 77
MLR-10-1400	2000	1400	10	3 kPa	1.792	2 x 2.6	2 x 2.0	2 x 1.3	2	1	-	68 - 85
MLR-10-1600	2000	1600	10	1.5 kPa	2.048	-	2 x 2.0	2 x 1.6	2.6	1.3	-	74 - 94
MLR-10-1800	2000	1800	10	1.5 kPa	2.304	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	81 - 102
MLR-10-2000	2000	2000	10	1.5 kPa	2.56	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	88 - 111
MLR-10-2200	2000	2200	10	1.5 kPa	2.816	-	-	2 x 2.0	2 x 2.0	1.3	-	94 - 120
MLR-10-2400	2000	2400	10	1.5 kPa	3.12	-	-	2 x 2.0	2 x 2.0	1.3	-	101 - 128
MLR-10-2500	2000	2500	10	1.5 kPa	3.25	-	-	2 x 2.0	2 x 2.0	1.3	-	107 - 136
MLR-11-700	2200	700	11	4 kPa	0.97	2 x 2.0	2 x 1.3	2.6	2	0.8	-	59 - 73
MLR-11-1000	2200	1000	11	4 kPa	1.386	2 x 2.0	2 x 1.3	2.6	2	0.8	-	59 - 73
MLR-11-1200	2200	1200	11	3 kPa	1.69	2 x 2.6	2 x 2.0	2 x 1.3	2	1	-	66 - 83
MLR-11-1400	2200	1400	11	3 kPa	1.971	-	2 x 2.0	2 x 1.3	2.6	1	-	73 - 92
MLR-11-1600	2200	1600	11	1.5 kPa	2.253	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	80 - 101
MLR-11-1800	2200	1800	11	1.5 kPa	2.534	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	87 - 110
MLR-11-2000	2200	2000	11	1.5 kPa	2.816	-	-	2 x 2.6	2 x 1.6	1.6	-	94 - 120
MLR-11-2200	2200	2200	11	1.5 kPa	3.146	-	-	-	2 x 2.0	2	-	101 - 129
MLR-11-2400	2200	2400	11	1.5 kPa	3.432	-	-	-	2 x 2.0	2	-	109 - 138
MLR-11-2500	2200	2500	11	1.5 kPa	3.575	-	-	-	2 x 2.0	2	-	116 - 146
MLR-12-800	2400	800	12	4 kPa	1.21		2 x 2.0	2 x 1.3	2.6	1	-	63 - 79
MLR-12-1000	2400	1000	12	4 kPa	1.536		2 x 2.0	2 x 1.3	2.6	1	-	63 - 79
MLR-12-1200	2400	1200	12	3 kPa	1.843	2 x 2.6	2 x 2.0	2 x 1.3	2	1	-	70 - 89
MLR-12-1400	2400	1400	12	3 kPa	2.15	-	2 x 2.0	2 x 2.0	2 x 1.3	1.3	-	78 - 99
MLR-12-1600	2400	1600	12	1.5 kPa	2.458	-	2 x 2.6	2 x 2.0	2 x 1.3	1.3	-	86 - 109
MLR-12-1800	2400	1800	12	1.5 kPa	2.765	-	-	2 x 2.0	2 x 1.6	1.6	-	93 - 118
MLR-12-2000	2400	2000	12	1.5 kPa	3.12	-	-	2 x 2.6	2 x 2.0	2	-	101 - 128
MLR-12-2200	2400	2200	12	1.5 kPa	3.432	-	-	-	2 x 2.6	2.6	-	109 - 138
MLR-12-2400	2400	2400	12	1.5 kPa	3.744	-	-	-	2 x 2.6	2.6	-	116 - 148
MLR-12-2500	2400	2500	12	1.5 kPa	3.9	-	-	-	2 x 2.6	2.6	-	124 - 157

MERCOR-MLR TECHNICAL PARAMETERS

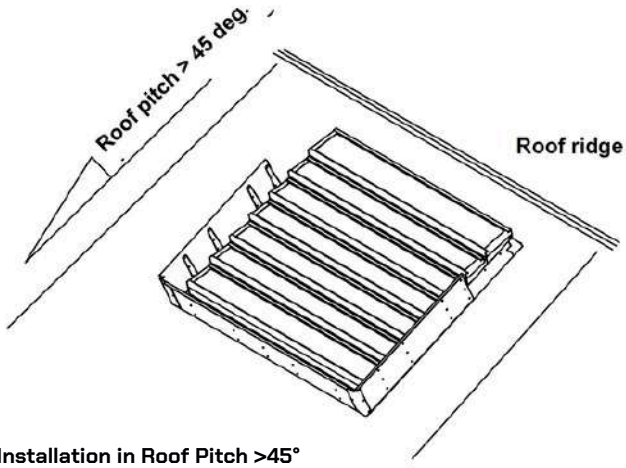
Product Code	Ventilator Throat Depth (mm)	Ventilator Throat Width (blade length - mm)	No. Blades	Max. Wind Load	Aerodynamic Active Area (M2)	Electric Actuator Size (A)						Approximate Weight (Min - Max kg)
						1300 Pa Snow Load	950 Pa Snow Load	750 Pa Snow Load	500 Pa Snow Load	250 Pa Snow Load	125 Pa Snow Load	
MLR-13-850	2600	850	13	1.5 kPa	1.392	-	-	2 x 2.0	2 x 1.3	1.3	-	75 - 95
MLR-13-1200	2600	1200	13	1.5 kPa	1.997	-	-	2 x 2.0	2 x 1.3	1.3	-	75 - 95
MLR-14-900	2800	900	14	1.5 kPa	1.588	-	-	2 x 2.6	2 x 2.0	2	-	80 - 101
MLR-14-1200	2800	1200	14	1.5 kPa	2.15	-	-	2 x 2.6	2 x 2.0	2	-	80 - 101
MLR-14-1400	2800	1400	14	1.5 kPa	2.509	-	-	2 x 2.6	2 x 2.0	2	-	88 - 112
MLR-14-1600	2800	1600	14	1.5 kPa	2.867	-	-	2 x 2.6	2 x 2.0	2	-	97 - 123
MLR-14-1800	2800	1800	14	1.5 kPa	3.276	-	-	-	2 x 2.0	2	-	106 - 135
MLR-14-2000	2800	2000	14	1.5 kPa	3.64	-	-	-	2 x 2.6	2.6	-	114 - 146
MLR-14-2200	2800	2200	14	1.5 kPa	4.004	-	-	-	2 x 2.6	2.6	-	123 - 157
MLR-14-2400	2800	2400	14	1.5 kPa	4.368	-	-	-	-	2 x 1.3	-	131 - 168
MLR-14-2500	2800	2500	14	1.5 kPa	4.55	-	-	-	-	2 x 1.3	-	140 - 178
MLR-15-950	3000	950	15	1.5 kPa	1.824	-	-	2 x 2.6	2 x 2.0	2	-	84 - 107
MLR-15-1200	3000	1200	15	1.5 kPa	2.304	-	-	2 x 2.6	2 x 2.0	2	-	84 - 107
MLR-15-1400	3000	1400	15	1.5 kPa	2.688	-	-	2 x 2.6	2 x 2.0	2	-	93 - 119
MLR-15-1600	3000	1600	15	1.5 kPa	3.072	-	-	2 x 2.6	2 x 2.0	2	-	103 - 131
MLR-15-1800	3000	1800	15	1.5 kPa	3.51	-	-	-	2 x 2.0	2	-	112 - 143
MLR-15-2000	3000	2000	15	1.5 kPa	3.9	-	-	-	2 x 2.6	2.6	-	121 - 155
MLR-15-2100	3000	2100	15	1.5 kPa	4.095	-	-	-	2 x 2.6	2.6	-	125 - 160
MLR-15-2200	3000	2200	15	1.5 kPa	4.29	-	-	-	2 x 2.6	2.6	-	130 - 166
MLR-15-2300	3000	2300	15	1.5 kPa	4.485	-	-	-	-	2 x 1.3	-	134 - 172
MLR-15-2400	3000	2400	15	1.5 kPa	4.68	-	-	-	-	2 x 1.3	-	139 - 178
MLR-15-2500	3000	2500	15	1.5 kPa	4.875	-	-	-	-	2 x 1.3	-	148 - 189
MLR-16-1050	3200	1050	16	1.5 kPa	2.15	-	-	-	-	2 x 1.3	2 x 0.8	89 - 113
MLR-16-1200	3200	1200	16	1.5 kPa	2.458	-	-	-	-	2 x 1.3	2 x 0.8	89 - 113
MLR-16-1400	3200	1400	16	1.5 kPa	2.867	-	-	-	-	2 x 1.3	2 x 0.8	98 - 125
MLR-16-1600	3200	1600	16	1.5 kPa	3.277	-	-	-	-	2 x 1.3	2 x 0.8	108 - 138
MLR-16-1800	3200	1800	16	1.5 kPa	3.744	-	-	-	-	2 x 1.3	2 x 0.8	118 - 150
MLR-16-2000	3200	2000	16	1.5 kPa	4.16	-	-	-	-	2 x 1.3	2 x 0.8	127 - 163
MLR-16-2200	3200	2200	16	1.5 kPa	4.576	-	-	-	-	2 x 1.3	2 x 0.8	137 - 176
MLR-16-2400	3200	2400	16	1.5 kPa	4.992	-	-	-	-	2 x 1.3	2 x 1.0	146 - 188
MLR-16-2500	3200	2500	16	1.5 kPa	5.2	-	-	-	-	2 x 1.3	2 x 1.0	156 - 199
MLR-17-1100	3400	1100	17	1.5 kPa	2.394	-	-	-	-	2 x 1.3	2 x 0.8	93 - 119
MLR-17-1200	3400	1200	17	1.5 kPa	2.611	-	-	-	-	2 x 1.3	2 x 0.8	93 - 119
MLR-17-1400	3400	1400	17	1.5 kPa	3.046	-	-	-	-	2 x 1.3	2 x 0.8	104 - 132
MLR-17-1600	3400	1600	17	1.5 kPa	3.536	-	-	-	-	2 x 1.3	2 x 0.8	114 - 145
MLR-17-1800	3400	1800	17	1.5 kPa	3.978	-	-	-	-	2 x 1.3	2 x 0.8	124 - 158
MLR-17-2000	3400	2000	17	1.5 kPa	4.42	-	-	-	-	2 x 1.3	2 x 0.8	134 - 172
MLR-17-2200	3400	2200	17	1.5 kPa	4.862	-	-	-	-	2 x 1.3	2 x 1.0	144 - 185
MLR-17-2400	3400	2400	17	1.5 kPa	5.304	-	-	-	-	2 x 1.3	2 x 1.0	154 - 198
MLR-17-2500	3400	2500	17	1.5 kPa	5.525	-	-	-	-	2 x 1.3	2 x 1.0	159 - 205
MLR-18-1150	3600	1150	18	1.5 kPa	2.65	-	-	-	-	2 x 1.3	2 x 0.8	98 - 125
MLR-18-1200	3600	1200	18	1.5 kPa	2.765	-	-	-	-	2 x 1.3	2 x 0.8	98 - 125
MLR-18-1400	3600	1400	18	1.5 kPa	3.226	-	-	-	-	2 x 1.3	2 x 0.8	109 - 139
MLR-18-1600	3600	1600	18	1.5 kPa	3.744	-	-	-	-	2 x 1.3	2 x 0.8	119 - 153
MLR-18-1800	3600	1800	18	1.5 kPa	4.212	-	-	-	-	2 x 1.3	2 x 0.8	130 - 167
MLR-18-2000	3600	2000	18	1.5 kPa	4.68	-	-	-	-	2 x 1.3	2 x 0.8	140 - 181
MLR-18-2200	3600	2200	18	1.5 kPa	5.148	-	-	-	-	2 x 1.3	2 x 1.0	151 - 195
MLR-18-2400	3600	2400	18	1.5 kPa	5.616	-	-	-	-	2 x 1.3	2 x 1.0	162 - 209
MLR-18-2500	3600	2500	18	1.5 kPa	5.85	-	-	-	-	2 x 1.3	2 x 1.0	167 - 216
MLR-19-1200	3800	1200	19	1.5 kPa	2.918	-	-	-	-	2 x 1.3	2 x 0.8	103 - 131
MLR-19-1400	3800	1400	19	1.5 kPa	3.405	-	-	-	-	2 x 1.3	2 x 0.8	114 - 145
MLR-19-1600	3800	1600	19	1.5 kPa	3.952	-	-	-	-	2 x 1.3	2 x 0.8	125 - 160
MLR-19-1800	3800	1800	19	1.5 kPa	4.446	-	-	-	-	2 x 1.3	2 x 0.8	136 - 175
MLR-19-2000	3800	2000	19	1.5 kPa	4.94	-	-	-	-	2 x 1.3	2 x 1.0	147 - 189
MLR-19-2200	3800	2200	19	1.5 kPa	5.434	-	-	-	-	2 x 1.3	2 x 1.0	158 - 204
MLR-19-2400	3800	2400	19	1.5 kPa	5.928	-	-	-	-	2 x 1.3	-	169 - 219
MLR-19-2500	3800	2500	19	1.5 kPa	6.175	-	-	-	-	2 x 1.3	-	175 - 226

Installation of MERCOR-MLR

Roof vents need to be supported by the roof structure components, such as purlins, trimmers, metal decking, curbs, etc. If the roof pitch is less than 45° the vent should be oriented with the louver blades running perpendicular to the roof ridge and for greater pitches the louver blades should preferably run parallel to the roof ridge (tilt up to open configuration).



Installation in Roof Pitch <45°



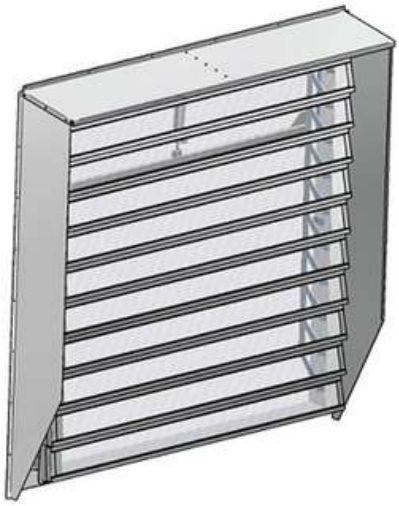
Installation in Roof Pitch >45°

MERCOR-MLR
Roof-mounted Smoke Ventilator
(blades closed)

MERCOR-MLR
Roof-mounted Smoke Ventilator
(blades open)

MERCOR-MLW
Facade-mounted Smoke Ventilator
(blades closed)

MERCOR-MLW



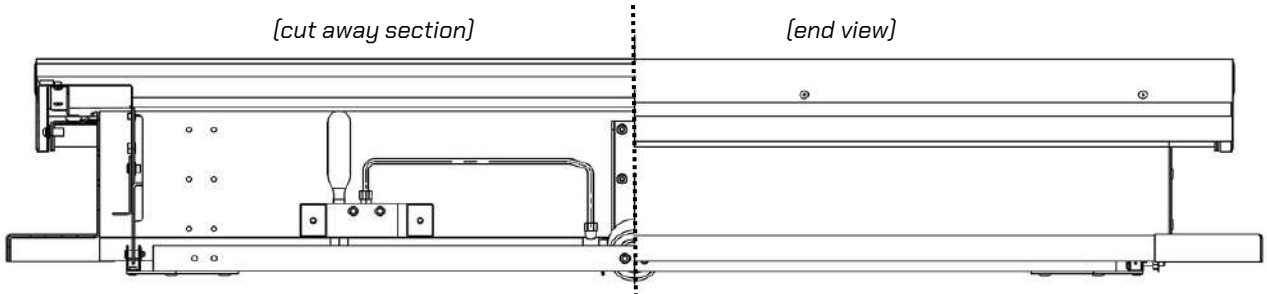
FACADE-MOUNTED SMOKE VENTILATORS

Mounted in the building facade, Ventüer MERCOR-LAM (MLW) louvred smoke ventilators exhaust smoke and heat from a building allowing escape routes to be kept clear of smoke and are fully certified to EN 12101-2. They are particularly suited to industrial and warehouse buildings and may also be used to provide natural comfort ventilation.

They are available in a wide range of sizes. The blades can be constructed from solid aluminium or translucent polycarbonate, and the perimeter fitted with optional rainshields. They consume minimal energy during the opening and closing cycle and have high resistance to weather and are therefore suited for use on exposed and high wind areas.

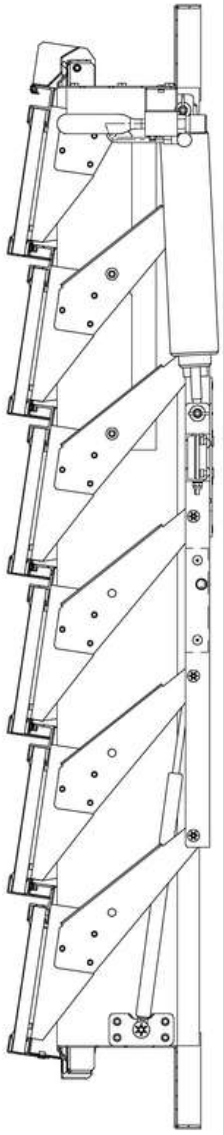
TECHNICAL DATA | MERCOR-MLW

DIMENSIONS	Minimum Depth	800 mm
	Maximum Depth	3800 mm
	Minimum Width (blade span)	500 mm
	Maximum Width (blade span)	2500 mm
MATERIAL	Blade Material Type Options	- 16 mm thick polycarbonate multi-skin sheet - 25 mm thick polycarbonate multi-skin sheet - Double-skin non-insulated aluminium louvres - Double-skin insulated aluminium louvres
	Base Material Types Options	- Aluminium - Galvanised Steel
	Surface Finish Options	- Unpainted - Powdercoated RAL colours
CONTROLS	Actuator Options	- 24 V DC electric actuators - 230 V AC electric actuators - Single action pneumatic cylinder - Double action pneumatic cylinder
	Thermal Release Option	Yes
USE	Emergency smoke ventilation	Yes
	Daily natural ventilation	Yes
EN12101-2 CERTIFICATION	Operational Reliability (smoke ventilation)	- Re300 (300 cycles): vent with E1 electric control and C1, C2 pneumatic control - Re1000 (1000 cycles): vent with C3 pneumatic control with gas spring)
	Operational Reliability (daily ventilation)	- Re10000 (10 000 cycles)
	Wind Load Class	- WL1500 (1500 N/m2): for all louvered vent types - WL3000 (3000N/m2): vents (max. 12 blades) of length 150 cm - WL4000 (4000 N/m2): vents (max. 12 blades) of length 100 cm
	Resistance to High Temperature	- B300 (300°C)
	Resistance to Low Temperature	- T (-25) or T(00): resistance of vents to low temperature of -25°C or 0°C
	Maximum vent opening time	- 60 seconds – maximum vent opening time to working position



Section through MERCOR-MLW ventilator *(parallel to blades)*

Face View of MERCOR-MLW ventilator



Section through MERCOR-MLW ventilator *(perpendicular to blades)*

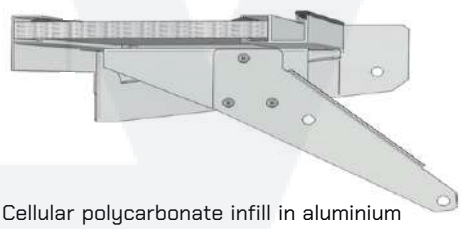
MERCOR-MLW TECHNICAL PARAMETERS

Product Code	Ventilator Throat Height (mm)	Ventilator Throat Width (blade length - mm)	No. Blades	Max. Wind Load	Aerodynamic Active Area (M2)	Electric Actuator Size (A)	Approximate Weight (Min - Max kg)
MLW-4-500	800	500	4	4 kPa	0.24 m2	0.8	23 - 27
MLW-4-800	800	800	4	4 kPa	0.39 m2	0.8	27 - 32
MLW-4-1000	800	1000	4	4 kPa	0.49 m2	0.8	30 - 36
MLW-4-1200	800	1200	4	3 kPa	0.6 m2	0.8	33 - 40
MLW-4-1400	800	1400	4	3 kPa	0.7 m2	0.8	35 - 43
MLW-4-1600	800	1600	4	1.5 kPa	0.8 m2	0.8	38 - 47
MLW-4-1700	800	1700	4	1.5 kPa	0.85 m2	0.8	40 - 49
MLW-5-500	1000	500	5	4 kPa	0.3 m2	0.8	26 - 31
MLW-5-1000	1000	1000	5	4 kPa	0.62 m2	0.8	34 - 41
MLW-5-1200	1000	1200	5	3 kPa	0.75 m2	0.8	37 - 46
MLW-5-1400	1000	1400	5	3 kPa	0.88 m2	0.8	40 - 50
MLW-5-1600	1000	1600	5	1.5 kPa	1.01 m2	0.8	43 - 54
MLW-5-1800	1000	1800	5	1.5 kPa	1.14 m2	0.8	47 - 58
MLW-5-2000	1000	2000	5	1.5 kPa	1.27 m2	0.8	50 - 63
MLW-5-2100	1000	2100	5	1.5 kPa	1.32 m2	0.8	52 - 67
MLW-6-500	1200	500	6	4 kPa	0.36 m2	0.8	26 - 32
MLW-6-1000	1200	1000	6	4 kPa	0.75 m2	0.8	38 - 47
MLW-6-1200	1200	1200	6	3 kPa	0.91 m2	0.8	42 - 52
MLW-6-1400	1200	1400	6	3 kPa	1.06 m2	0.8	45 - 57
MLW-6-1600	1200	1600	6	1.5 kPa	1.22 m2	0.8	49 - 61
MLW-6-1800	1200	1800	6	1.5 kPa	1.37 m2	0.8	53 - 66
MLW-6-2000	1200	2000	6	1.5 kPa	1.53 m2	0.8	56 - 71
MLW-6-2200	1200	2200	6	1.5 kPa	1.68 m2	0.8	60 - 76
MLW-6-2400	1200	2400	6	1.5 kPa	1.84 m2	0.8	63 - 81
MLW-6-2500	1200	2500	6	1.5 kPa	1.92 m2	0.8	67 - 85
MLW-6-500	1400	500	6	4 kPa	0.42 m2	0.8	30 - 36
MLW-7-600	1400	600	7	4 kPa	0.52 m2	0.8	32 - 38
MLW-7-1000	1400	1000	7	4 kPa	0.88 m2	0.8	42 - 52
MLW-7-1200	1400	1200	7	3 kPa	1.06 m2	0.8	47 - 58
MLW-7-1400	1400	1400	7	3 kPa	1.24 m2	0.8	51 - 63
MLW-7-1600	1400	1600	7	1.5 kPa	1.43 m2	0.8	54 - 68
MLW-7-1800	1400	1800	7	1.5 kPa	1.61 m2	0.8	58 - 73
MLW-7-2000	1400	2000	7	1.5 kPa	1.79 m2	0.8	61 - 78
MLW-7-2200	1400	2200	7	1.5 kPa	1.97 m2	0.8	65 - 83
MLW-7-2400	1400	2400	7	1.5 kPa	2.15 m2	0.8	69 - 89
MLW-7-2500	1400	2500	7	1.5 kPa	2.24 m2	0.8	72 - 93
MLW-8-550	1600	550	8	4 kPa	0.53 m2	0.8	32 - 38
MLW-8-700	1600	700	8	4 kPa	0.69 m2	0.8	40 - 50
MLW-8-1000	1600	1000	8	4 kPa	1.01 m2	0.8	46 - 57
MLW-8-1200	1600	1200	8	3 kPa	1.22 m2	0.8	52 - 65
MLW-8-1400	1600	1400	8	3 kPa	1.43 m2	0.8	58 - 72
MLW-8-1600	1600	1600	8	1.5 kPa	1.63 m2	0.8	63 - 79
MLW-8-1800	1600	1800	8	1.5 kPa	1.84 m2	0.8	69 - 86
MLW-8-2000	1600	2000	8	1.5 kPa	2.05 m2	0.8	74 - 94
MLW-8-2200	1600	2200	8	1.5 kPa	2.26 m2	0.8	80 - 101
MLW-8-2400	1600	2400	8	1.5 kPa	2.47 m2	0.8	86 - 108
MLW-8-2500	1600	2500	8	1.5 kPa	2.57 m2	0.8	91 - 114
MLW-9-600	1800	600	9	4 kPa	0.67 m2	0,8	42 - 52
MLW-9-800	1800	800	9	4 kPa	0.9 m2	0,8	45 - 55
MLW-9-1000	1800	1000	9	4 kPa	1.14 m2	0.8	51 - 63
MLW-9-1200	1800	1200	9	3 kPa	1.37 m2	0.8	57 - 71
MLW-9-1400	1800	1400	9	3 kPa	1.61 m2	0.8	63 - 79
MLW-9-1600	1800	1600	9	1.5 kPa	1.84 m2	0.8	69 - 86
MLW-9-1800	1800	1800	9	1.5 kPa	2.08 m2	0.8	75 - 94
MLW-9-2000	1800	2000	9	1.5 kPa	2.31 m2	1	81 - 102
MLW-9-2200	1800	2200	9	1.5 kPa	2.55 m2	1	87 - 110
MLW-9-2400	1800	2400	9	1.5 kPa	2.78 m2	1	93 - 118
MLW-9-2500	1800	2500	9	1.5 kPa	2.9 m2	1	99 - 125
MLW-10-650	2000	650	10	4 kPa	0.8 m2	0.8	52 - 64
MLW-10-1000	2000	1000	10	4 kPa	1.27 m2	0.8	55 - 68
MLW-10-1200	2000	1200	10	3 kPa	1.53 m2	0.8	61 - 77
MLW-10-1400	2000	1400	10	3 kPa	1.79 m2	0.8	68 - 85
MLW-10-1600	2000	1600	10	1.5 kPa	2.05 m2	0.8	74 - 94
MLW-10-1800	2000	1800	10	1.5 kPa	2.31 m2	1	81 - 102
MLW-10-2000	2000	2000	10	1.5 kPa	2.57 m2	1	88 - 111
MLW-10-2200	2000	2200	10	1.5 kPa	2.84 m2	1.3	94 - 120
MLW-10-2400	2000	2400	10	1.5 kPa	3.1 m2	1.3	101 - 128
MLW-10-2500	2000	2500	10	1.5 kPa	3.23 m2	1.3	107 - 136
MLW-11-700	2200	700	11	4 kPa	0.97 m2	0.8	59 - 73
MLW-11-1000	2200	1000	11	4 kPa	1.4 m2	0.8	59 - 73
MLW-11-1200	2200	1200	11	3 kPa	1.68 m2	0.8	66 - 83
MLW-11-1400	2200	1400	11	3 kPa	1.97 m2	0.8	73 - 92
MLW-11-1600	2200	1600	11	1.5 kPa	2.26 m2	0.8	80 - 101
MLW-11-1800	2200	1800	11	1.5 kPa	2.55 m2	1	87 - 110
MLW-11-2000	2200	2000	11	1.5 kPa	2.84 m2	1	94 - 120
MLW-11-2200	2200	2200	11	1.5 kPa	3.12 m2	1.3	101 - 129
MLW-11-2400	2200	2400	11	1.5 kPa	3.41 m2	1.3	109 - 138
MLW-11-2500	2200	2500	11	1.5 kPa	3.56 m2	1.3	116 - 146

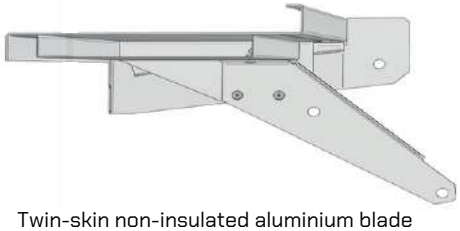
MERCOR-MLW TECHNICAL PARAMETERS

Product Code	Ventilator Throat Height (mm)	Ventilator Throat Width (blade length - mm)	No. Blades	Max. Wind Load	Aerodynamic Active Area (M2)	Electric Actuator Size (A)	Approximate Weight (Min - Max kg)
MLW-12-800	2400	800	12	4 kPa	1.21 m2	0.8	63 - 79
MLW-12-1000	2400	1000	12	4 kPa	1.52 m2	0.8	63 - 79
MLW-12-1200	2400	1200	12	3 kPa	1.84 m2	0.8	70 - 89
MLW-12-1400	2400	1400	12	3 kPa	2.15 m2	0.8	78 - 99
MLW-12-1600	2400	1600	12	1.5 kPa	2.47 m2	1	86 - 109
MLW-12-1800	2400	1800	12	1.5 kPa	2.78 m2	1	93 - 118
MLW-12-2000	2400	2000	12	1.5 kPa	3.1 m2	1.3	101 - 128
MLW-12-2200	2400	2200	12	1.5 kPa	3.41 m2	1.3	109 - 138
MLW-12-2400	2400	2400	12	1.5 kPa	3.73 m2	1.3	116 - 148
MLW-12-2500	2400	2500	12	1.5 kPa	3.88 m2	1.3	124 - 157
MLW-13-850	2600	850	13	1.5 kPa	1.39 m2	1	75 - 95
MLW-13-1200	2600	1200	13	1.5 kPa	1.99 m2	1	75 - 95
MLW-14-900	2800	900	14	1.5 kPa	1.58 m2	1.3	80 - 101
MLW-14-1200	2800	1200	14	1.5 kPa	2.15 m2	1.3	80 - 101
MLW-14-1400	2800	1400	14	1.5 kPa	2.52 m2	1.3	88 - 112
MLW-14-1600	2800	1600	14	1.5 kPa	2.88 m2	1.3	97 - 123
MLW-14-1800	2800	1800	14	1.5 kPa	3.25 m2	1.3	106 - 135
MLW-14-2000	2800	2000	14	1.5 kPa	3.62 m2	1.3	114 - 146
MLW-14-2200	2800	2200	14	1.5 kPa	3.99 m2	1.3	123 - 157
MLW-14-2400	2800	2400	14	1.5 kPa	4.35 m2	1.3	131 - 168
MLW-14-2500	2800	2500	14	1.5 kPa	4.54 m2	1.3	140 - 178
MLW-15-950	3000	950	15	1.5 kPa	1.82 m2	1.3	84 - 107
MLW-15-1200	3000	1200	15	1.5 kPa	2.3 m2	1.3	84 - 107
MLW-15-1400	3000	1400	15	1.5 kPa	2.7 m2	1.3	93 - 119
MLW-15-1600	3000	1600	15	1.5 kPa	3.09 m2	1.3	103 - 131
MLW-15-1800	3000	1800	15	1.5 kPa	3.49 m2	1.3	112 - 143
MLW-15-2000	3000	2000	15	1.5 kPa	3.88 m2	1.3	121 - 155
MLW-15-2100	3000	2100	15	1.5 kPa	4.08 m2	1.3	125 - 160
MLW-15-2200	3000	2200	15	1.5 kPa	4.27 m2	1.3	130 - 166
MLW-15-2300	3000	2300	15	1.5 kPa	4.47 m2	1.3	134 - 172
MLW-15-2400	3000	2400	15	1.5 kPa	4.67 m2	1.3	139 - 178
MLW-15-2500	3000	2500	15	1.5 kPa	4.87 m2	1.3	148 - 189
MLW-16-1050	3200	1050	16	1.5 kPa	2.15 m2	0.8	89 - 113
MLW-16-1200	3200	1200	16	1.5 kPa	2.46 m2	0.8	89 - 113
MLW-16-1400	3200	1400	16	1.5 kPa	2.88 m2	0.8	98 - 125
MLW-16-1600	3200	1600	16	1.5 kPa	3.3 m2	0.8	108 - 138
MLW-16-1800	3200	1800	16	1.5 kPa	3.72 m2	0.8	118 - 150
MLW-16-2000	3200	2000	16	1.5 kPa	4.14 m2	0.8	127 - 163
MLW-16-2200	3200	2200	16	1.5 kPa	4.56 m2	0.8	137 - 176
MLW-16-2400	3200	2400	16	1.5 kPa	4.98 m2	0.8	146 - 188
MLW-16-2500	3200	2500	16	1.5 kPa	5.19 m2	0.8	156 - 199
MLW-17-1100	3400	1100	17	1.5 kPa	2.39 m2	0.8	93 - 119
MLW-17-1200	3400	1200	17	1.5 kPa	2.61 m2	0.8	93 - 119
MLW-17-1400	3400	1400	17	1.5 kPa	3.06 m2	0.8	104 - 132
MLW-17-1600	3400	1600	17	1.5 kPa	3.51 m2	0.8	114 - 145
MLW-17-1800	3400	1800	17	1.5 kPa	3.96 m2	0.8	124 - 158
MLW-17-2000	3400	2000	17	1.5 kPa	4.4 m2	0.8	134 - 172
MLW-17-2200	3400	2200	17	1.5 kPa	4.85 m2	0.8	144 - 185
MLW-17-2400	3400	2400	17	1.5 kPa	5.3 m2	0.8	154 - 198
MLW-17-2500	3400	2500	17	1.5 kPa	5.52 m2	0.8	159 - 205
MLW-18-1150	3600	1150	18	1.5 kPa	2.65 m2	0.8	98 - 125
MLW-18-1200	3600	1200	18	1.5 kPa	2.77 m2	0.8	98 - 125
MLW-18-1400	3600	1400	18	1.5 kPa	3.24 m2	w0.8	109 - 139
MLW-18-1600	3600	1600	18	1.5 kPa	3.72 m2	0.8	119 - 153
MLW-18-1800	3600	1800	18	1.5 kPa	4.19 m2	0.8	130 - 167
MLW-18-2000	3600	2000	18	1.5 kPa	4.66 m2	0.8	140 - 181
MLW-18-2200	3600	2200	18	1.5 kPa	5.14 m2	0.8	151 - 195
MLW-18-2400	3600	2400	18	1.5 kPa	5.61 m2	0.8	162 - 209
MLW-18-2500	3600	2500	18	1.5 kPa	5.85 m2	0.8	167 - 216
MLW-19-1200	3800	1200	19	1.5 kPa	2.93 m2	2 x 0.8	103 - 131
MLW-19-1400	3800	1400	19	1.5 kPa	3.43 m2	2 x 0.8	114 - 145
MLW-19-1600	3800	1600	19	1.5 kPa	3.93 m2	2 x 0.8	125 - 160
MLW-19-1800	3800	1800	19	1.5 kPa	4.43 m2	2 x 0.8	136 - 175
MLW-19-2000	3800	2000	19	1.5 kPa	4.93 m2	2 x 0.8	147 - 189
MLW-19-2200	3800	2200	19	1.5 kPa	5.43 m2	2 x 0.8	158 - 204
MLW-19-2400	3800	2400	19	1.5 kPa	5.93 m2	2 x 0.8	169 - 219
MLW-19-2500	3800	2500	19	1.5 kPa	6.18 m2	2 x 0.8	175 - 226

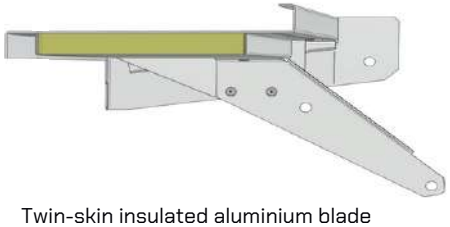
MLR & MLW Louvre Blade Infill Options



Cellular polycarbonate infill in aluminium frame (opal or transperant)



Twin-skin non-insulated aluminium blade



Twin-skin insulated aluminium blade

LOUVRE WINDOWS

The Ventüer glazed louvre windows are high-performance smoke ventilators, designed for installation into facade apertures or curtain walling. Electrically operated, with battery backup and / or fail-safe actuators, these ventilators fully open in under 60 seconds - ensuring rapid smoke and heat release from stairwells, corridors, lobbies and atriums.

With single, double and triple glazed options and thermally broken frames, these louvre windows are also highly energy efficient. Ideal for comfort ventilation and natural light supply as well as being highly effective smoke ventilators, they can be proudly incorporated as a design feature to the facade of any building.

(1) *Required wind load must be considered*

(2) *For easier transportation and handling large window elements may be divided into sections to be connected on site*

(3) *Subject to control type*

(4) *Technical requirements must be considered*

(5) *Certified calculation of Uw value in consideration of: Vent size, amount and size of blades, Ug value of insulated glass and Psi valve of edge bound. The Uw value changes depending on these considerations.*

(6) *Cvo indication for ratio-window width/height < 0,75, up to 10 louvres with a max. opening. For the calculation of the geometric free area Av = height x width. For the calculation of the aerodynamic free area Aa = Cvo x Av*

Louvre Window Technical Information Summary

		Tairmo Allglass	Tairmo	S9iVt-05	S9iVt-05 Allglass	Integral	S9-iV	S9	S9-45°
Profiles	Louvre frame construction	AL-profiles, thermally broken	AL-profiles, thermally broken	AL-profiles, thermally broken	AL-profiles, thermally broken	AL-profiles, thermally broken	AL-profiles, non-thermally broken	AL-profiles, non-thermally broken	AL-profiles, thermally broken
	Blade frame construction	AL-profiles, thermally broken	AL-profiles, thermally broken	AL-profiles, thermally broken	AL-profiles, thermally broken	AL-profiles, thermally broken	AL-profiles, non broken	No frame	No frame
Dimensions	Width (min./max.) [1]	250 mm / 2500 mm	250 mm / 2500 mm	250 mm / 1800 mm	250 mm / 1600 mm	250 mm / 1800 mm	250 mm / 1800 mm	250 mm / 1600 mm	250 mm / 1600 mm
	Height (min./max.) [2]	290 mm / up to any height	260 mm / up to any height	200 mm / up to any height	250 mm / up to any height	520 mm / up to any height	200 mm / up to any height	200 mm / up to any height	225 mm / up to any height
	Blade Height (min./max.) [1]	220 mm / 400 mm	180 mm / 400 mm	150 mm / 350 mm	200 mm / 350 mm	150 mm / 350 mm	150 mm / 350 mm	150 mm / 300 mm	180 mm / 300 mm
	Frame depth	66 mm	66 mm	47 mm	47 mm / 50,4 mm	80 mm	46 mm	46 mm	47 mm
	Max. Louvre opening angle [3]	90 °	90 °	84 °	84 °	83 °	84 °	84 °	84 °
Type of Glass	Type of Glass	Triple glazing	Triple glazing	Double or triple glazing	Double or triple glazing	Double or triple glazing	Double glazing	Single glazing	Single glazing
	Glass thickness	52 mm	40 mm	28 / 32 mm	32 mm / 34 mm	28 mm	24 mm	8 / 10 / 12 mm	8 / 10 / 12 mm
	Standard glass combination	6 / 16 / 6 / 16 / 8	6 / 12 / 4 / 12 / 6 4 / 14 / 4 / 14 / 4	6 / 16 / 6 6 / 20 / 6	4 / 22 / 6 6 / 20 / 8	6 / 16 / 6	4 / 16 / 4	–	–
	Type of glass [1] [4]	Float, semi-tempered, toughened or laminated glass	Float, semi-tempered, toughened or laminated glass	Float, semi-tempered, toughened or laminated glass	Float, semi-tempered, toughened or laminated glass	Float, semi-tempered, toughened or laminated glass	Float, semi-tempered, toughened or laminated glass	Toughened or laminated glass	Toughened or laminated glass
	Alternative types of infill [1]	Composite panels	Composite panels	Composite panels	–	Composite panels	Composite panels	Timber, aluminium,etc.	Timber, aluminium,etc.
Operation Method	Manual	✓	✓	✓	✓	✓	✓	✓	✓
	Electric	✓ 24 / 230V	✓ 24 / 230V	✓ 24 / 230V	✓ 24 / 230V	✓ 24V (integr./implemented)	✓ 24V / 230V	✓ 24 / 230V	✓ 24 / 230V
	Pneumatic	✓	✓	✓	✓	–	✓	✓	✓
	Finger entrapment protection [3]	✓	✓	✓	✓	✓	✓	✓	✓
	Surface finish	Anodised / powder coated	Anodised / powder coated	Anodised / powder coated	Anodised / powder coated	Anodised / powder coated	Anodised / powder coated	Anodised / powder coated	Anodised / powder coated
Performance Characteristics	CE- certified Smoke vents (EN 12101-2)	✓ Smoke vent	✓ Smoke vent	✓ Smoke vent	✓ Smoke vent	✓ Smoke vent	✓ Smoke vent	✓ Smoke vent	–
	Aerodynamic performance Cv [6]	0.56	0.56	0.56	0.54	0.54	0.59	0.65	–
	Air permeability (EN 12207)	Class 3	Class 4	Class 3	Class 3	Class 3	Class 2	Class 2	Class 2
	Watertightness (EN 12208)	Class 7A	Class 6A	Class 4A	Class 4A	Class 3A	Class 3A	Class 3A	Class 1A
	Resistance against wind load (EN 12210)	Class C4	Class C5	Certified	Certified	Certified	Certified	Certified	Certified
	U value (EN ISO 10077) [5]	Uw (max) = 0,9 W/m²K	Uw (max) = 0,8 W/m²K	Uw (max) = 1,4 W/m²K	Uw (max) = 1,3 W/m²K	Uw (max) = 1,5 W/m²K	Uw (max) = 2,1 W/m²K	–	–
	Other characteristics	-	Ball protection (DIN 18032-3)	Security certified Ball protection (DIN 18032-3) Sound insulation certified (EN 14351-1)	Ball protection (DIN 18032-3)	Ball protection (DIN 18032-3)	Sound insulation certified (DIN 52210)	–	Sound insulation certified (DIN 52210)

PROJECT
University of Cologne

LOCATION
Cologne, Germany

PRODUCT
HAHN-S9iVA
glazed smoke ventilators

CONTROL SYSTEMS

No smoke ventilation system is complete without a certified and correctly designed control system. Ventüer-supplied control panels can be configured as standalone systems or integrated into existing fire alarm or building management systems.

In-built battery backup and UPS options are available, as well as manual switching, thermostats and wind / rain sensors for combined control of comfort ventilation systems. Adaptable and customisable, they can be easily tailored to meet project specific requirements.

Contact Ventüer for product recommendations, design advice and assistance with smoke ventilator control systems.

SERVICES

Equipment Selection

Ventüer provides assistance with equipment selection and sizing, helping ensure that the correct louvres are specified to meet the project specific requirements.

Engineering

With over a decade of experience in the facade industry, Ventüer has a wealth of experience in facade, structural, seismic and acoustic engineering. This enables us to provide fully engineered project specific solutions, supported by producer statements, calculation packages, and - where required - physical mock ups and load tests.

Shop Drawings

Detailed and accurate shop drawings are the key to a successful and compliant installation. Ventüer provides detailed shop drawings for all projects, including integration details with adjacent facade systems and elements.

Site Measures

Ventüer offers a site measure service for clients wanting peace of mind that their products will arrive on site at the right size.

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