THERMOSASH

MECHANICAL AIR LOUVRES

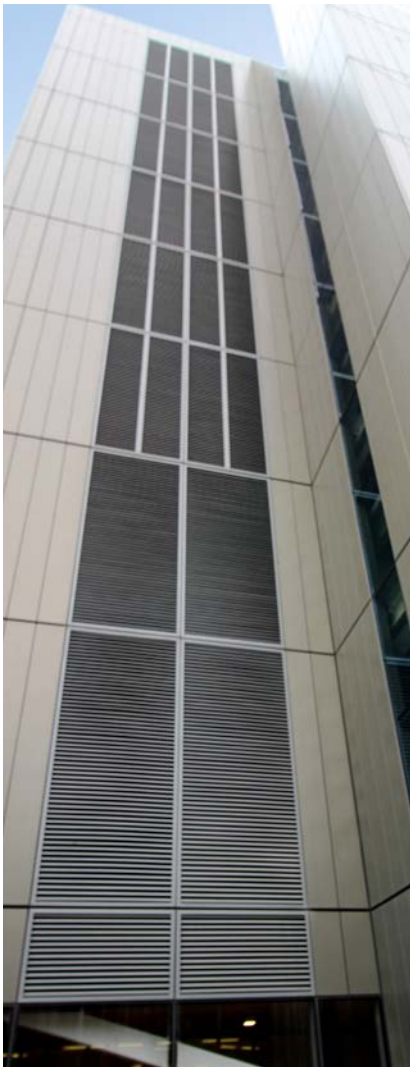
SINGLE BANK / DOUBLE BANK / TRIPLE BANK

Thermosash
BUILDING ENVELOPE SOLUTIONS™

Thermosash Commercial Ltd

158 Central Park Drive, Henderson
Auckland 0610, New Zealand

www.thermosash.co.nz



Our Aluminium is **green** to the core.

Thermosash is partnered with a NZ-owned extruder providing the lowest embodied carbon aluminium readily available in New Zealand*. The combination of high recycled content and low carbon virgin material forms the high quality extrusion that Thermosash uses.

*Achieving Toitū Carbonreduce certification which far out performs the global average. (Independent audits to stringent European standard PAS 2050 are regularly undertaken, please contact us for the most up to date carbonreduce CO2e/kg of aluminium figures).

Thermosash recycles 100% of all metal waste products produced during manufacturing operations.

We exclusively use local powder coaters who have stringent chemical handling processes and reuse or responsibly dispose of all waste powder.

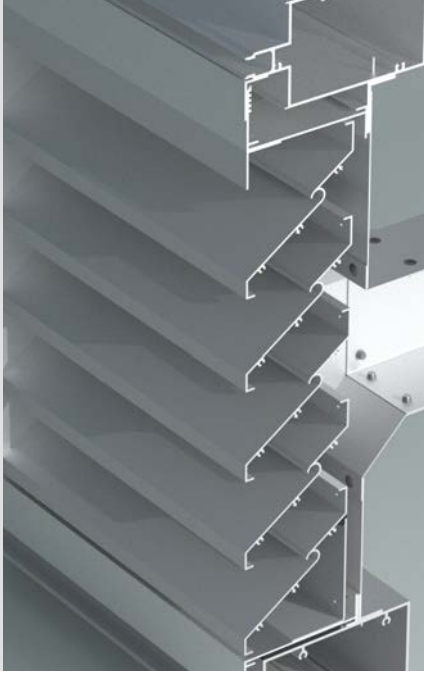
University of Auckland
ENGINEERING 405

GHD Building
NAPIER STREET, AUCKLAND

Giltrap Prestige
119 GREAT NORTH ROAD
AUCKLAND

OVERVIEW
MECHANICAL AIR LOUVRES

The Thermosash high performance mechanical louvre systems integrate into the Thermosash range of curtainwall and Commercial window and door systems, for facade integrated mechanical air inlet and extract requirements. These louvres are commonly specified as fresh air inlets for mechanical plant and mechanical plant screening.



PRODUCT SPECIFICATION

KEY PERFORMANCE FEATURES

- Performance Classification BS EN 13030:2001
- High performance frame system with drainable frame, collects and removes water
- Architecturally styled hidden mullions allowing continous line appearance, span varies based on site wind load and blade selection.
- Aluminium powdercoated / anodised construction for low maintenance and high corrosion resistance
- Seamless integration with Thermosash systems

PERFORMANCE TESTING

- BS EN 13030:2001

MASTERSPEC

Due to the potential unique and high performance design requirements, a bespoke specification will be created by a mechanical or facade engineer consultant. When integrated with Thermosash suites and referencing the inclusion we recommend using Masterpec 4211TS Curtainwalls and 4251TS Commercial Windows.

MATERIAL

MATERIAL GRADE

Alloy designation to comply with AS/NZS 1866. Aluminium extrusions from 6060 grade and with a Temper T6 alloy.

FINISH

Extrusions are high performance polyester powdercoated or anodised, prior to manufacturing.

Polyester powder organic coating in accordance with WGANZ PQAS and AS 3715, and AAMA 2604.

FIXINGS

Fixings and fastenings exposed to the weather are type 316 or 304 stainless steel typically but other suitable fixings back to structure may be designed for specific project requirements complying with AS/NZS 4680.

Fixing gauge and length in accordance with Thermosash PS1.

CAPABILITIES

SECTION SIZES

Single Bank	40mm |	100mm
Double Bank		100mm
Triple Bank		156mm

MAXIMUM SPANNING ABILITY

The spanning ability will vary depending on span required, structural system, and environmental loads (e.g. wind). Thermosash specifically engineers the best design options for your project.

PRODUCT VARIATIONS TO BASIC DESIGN

- Extended sill
- Insulated backpan for plenum attachment
- Hinged frame
- Front and rear security bars
- Filter racks
- A variety of vermin / bird / insect screens to all louvre types

INTEGRATED ELEMENTS

Thermosash Mechanical Air Louvres integrate into the Thermosash range of curtainwall and Commercial window and door systems.

Vermin guards can be integrated into Single, Double and Triple Bank mechanical air louvre types.

CLIMATE AND ENVIRONMENTAL ZONES

No louvres provide 100% weathering. Double Bank and Triple Bank provide increased weathering performance.

MAINTENANCE REQUIREMENTS

A maintenance manual is provided on completion of a project for all the elements integrated within a project. Compliance to a maintenance schedule is essential to maintaining the quality of the installed product over time. Using Thermosash-approved facade maintenance contractor/personnel ensures the highest standards are met.

It is recommended by almost all material suppliers that building washing should occur every 3-6 months to prevent staining to glass and prevent environmental pollutants from corroding metals and to maintain the material warranties.

WARRANTY

The standard warranty is 10 years from the date of practical completion for these products. This covers workmanship and weather tightness, providing the subcontract includes fabrication, installation and glazing of all components.

All warranties are subject to service and maintenance requirements.

SUSTAINABILITY

SUSTAINABLE MANUFACTURING

Thermosash manufactures all system components in New Zealand, and primarily source materials where available from the New Zealand market. Our precision machinery ensures optimised material usage with 100% of all metal waste products recycled in the factory, saving on-site waste. We recycle 100% uncontaminated soft plastics, timber, cardboard, paper and 99.5% commercial float glass and IGUs.

LOW CARBON ALUMINIUM EXTRUSIONS

Thermosash DecarbAL™ delivers a super low sustainable embodied carbon footprint per kilogram of aluminium. At the heart of Thermosash's sustainability journey is a partnership with a local New Zealand owned remelt facility producing extrusions with 80% recycled content and low carbon virgin material. Our aluminium supplier is audited annually, for up to date carbon figures please contact us.

LOW CARBON GLASS

Thermosash's commitment to sustainability also extends to our glass selection. With access to worldwide low-carbon glass suppliers, we ensure that our projects benefit from environmentally friendly and high performance glazing options, further reducing the carbon footprint

FACADE OPTIMISATION STRATEGIES

To achieve optimised high performance outcomes we offer our clients the option of a Project Sustainability Analysis that covers different aspects of the full sustainability cycle. When specifying our facade systems, clients can engage us to implement one or several of our Facade Optimisation Strategies to achieve their project sustainability goals. To gain the most from our strategies, talk to us early on in the design phase of your project.

Our Thermosash Sustainability Team can assess and provide analysis reports on embodied and operational carbon engineering optimisation and costs, energy and comfort optimisation and costs, as well as assistance with Green Star credits - these strategies help to guide material selection, shape a more efficient design and provide clarity on ROI payback periods.

REDUCTION OF OPERATIONAL EMISSIONS

Through a full measurement and target reductions audit undertaken by Toitū Envirocare, Thermosash Commercial Ltd achieved Carbonreduce Certification. This provides a baseline for subsequent emission reduction targets going forwards. Please contact us for up to date certification figures.

BENEFITS

Thermosash is a New Zealand based business and has been engineering and manufacturing specific design facade solutions across the country since 1973. We deliver solutions using our trusted and proven systems, offering increased value in terms of;

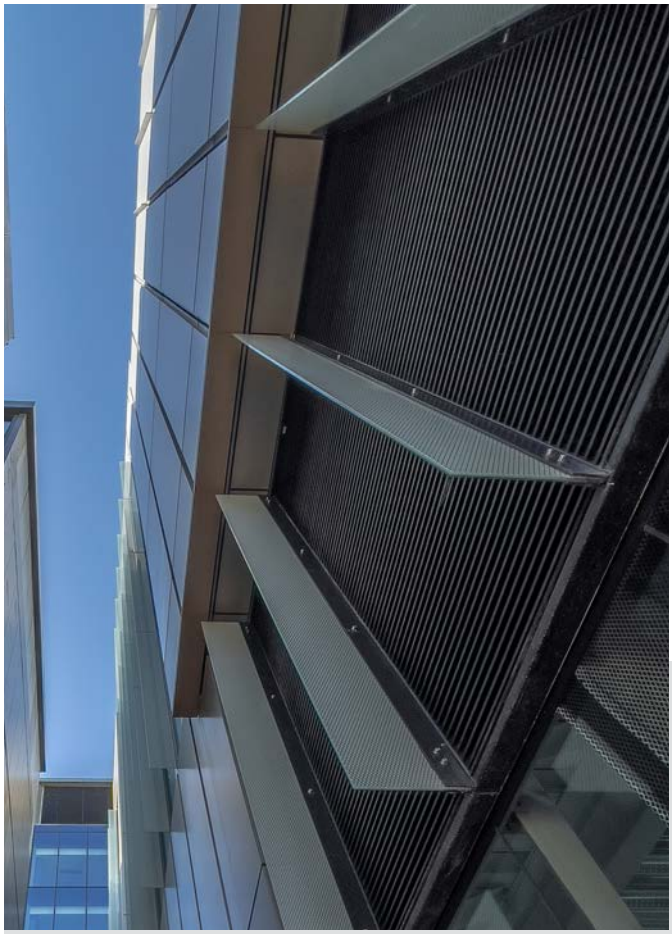
- 50 years of experience and expertise in the facade solutions industry in New Zealand
- ongoing trust within the industry
- high performance solutions
- durability of systems and longevity of product lifespan
- totally integrated service with ECI /ECE - engineering, producer statement generation, full shop drawings, manufacture and installation.
- design and detail to accommodate seismic loads and inter-storey differential movement, as well as wind loads
- Risk mitigation through one provider construction methodology and one warranty.

UNITISED SYSTEM ADVANTAGES

- Off-site fabrication and glazing
- Quality assurance controlled within a factory environment
- Speeds up site installation process due to modular construction - enclosing buildings rapidly and reducing onsite programme time
- Reduces on-site delays related to inclement weather - fabrication can continue even if site falls behind Unitised panels can be stored on completed floors in loading crates ready for installation
- Dramatically reduces scaffold and crane requirements
- Specifically engineered to accommodate environmental conditions and design constraints of the project
- Can incorporate a variety of cladding materials and integrated elements

COST SAVINGS

- Reduced number of junctions with other trades if Thermosash engineers, manufactures and installs the building envelope elements such as curtainwall, glazed and non-vision unitised panels, rainscreen, skylights, mechanical air louvres, solar shading and integrated elements, architectural metal folding, canopies, balustrades, flashings etc.
- Reduced number of council inspections during construction and possible delays, saving on compliance costs
- Specifically designed and engineered facade solutions that offer high performance and durability which contribute to cost savings on energy and maintenance over the lifespan of the building.



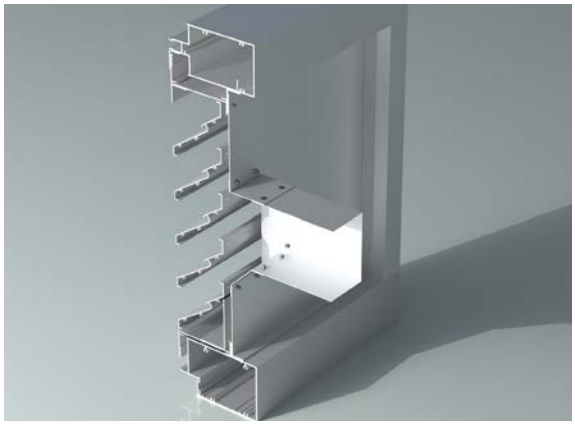
Grand Central Building
CHRISTCHURCH

TECHNICAL DATA
MECHANICAL AIR LOUVRES

PART	DESCRIPTION
FRAME	Alloy 6060T6 extruded aluminium - depth and thickness varies.
BLADES	Alloy 6060T6 extruded aluminium, 2.1mm nominal wall thickness. Blades are positioned at 37.5 degree angles and spaced nominally at 76mm centres.
SCREEN	Expanded, flattened aluminium vermin / bird / insect guard can be integrated into louvre.
FINISH	Extrusions are high performance polyester powdercoated /PVF2/ or anodised, prior to manufacturing.
APPROXIMATE SHIPPING WEIGHT	29.3 kg/m2
MAXIMUM SIZE	Designs are customised to suit engineering and specific project conditions.
SUPPORTS	Louvres may be provided with rear mountable blade supports that increase overall louvre depth depending on louvre size assembly configuration and windload.
PLENUM (OPTIONAL)	Plenum boxes can be provided to suit square mounting to rear of louvre cassette upon request.

Vermin / bird / insect guard can be integrated into the mechanical air louvres

Door with MAL 40mm Single Bank and integrated vermin guard - St Cuthberts School, Centennial Pool Complex, Auckland.



Mechanical supply or extract by Service Contractor. Size and location may vary subject to project specification / requirements.

NOTE: THIS BROCHURE CONTAINS SOME BUILDING PRODUCT INFORMATION REQUIREMENTS (BPIR) CLASS 2 DISCLOSURE INFORMATION - OUR COMPREHENSIVE DOCUMENTS CAN BE DOWNLOADED FROM:
HTTPS://WWW.THERMOSASH.CO.NZ/DOWNLOADS-RESOURCES/BPIR-DOCUMENTS/

THERMOSASH MECHANICAL AIR LOUVRE PRODUCT TYPES & PROFILES

MAL-40S*
40MM SINGLE BANK

Louvre use: doors

MAL-100S
100MM SINGLE BANK

Louvre use: Mechanical plant & plant screening

MAL-100D
100MM DOUBLE BANK

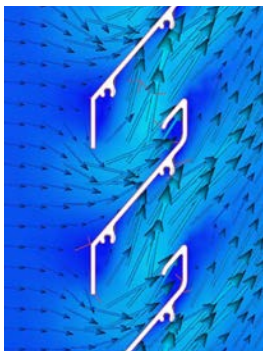
Louvre use: Mechanical plant & plant screening

MAL-156T
156 MM TRIPLE BANK

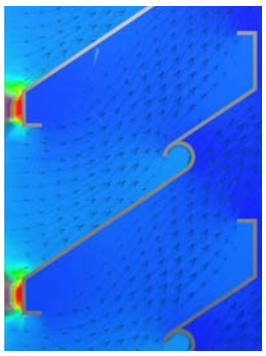
Louvre use: Mechanical plant & plant screening

*MAL-40S represents - Product: Mechanical Air Louvre (MAL) | Size: 40mm | Type: Single Bank

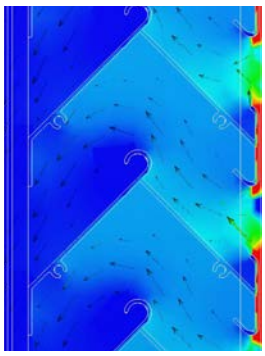
MAL-40S
SINGLE BANK PROFILE



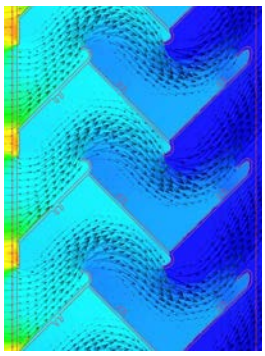
MAL-100S
SINGLE BANK PROFILE



MAL-100D
DOUBLE BANK PROFILE



MAL-156T
TRIPLE BANK PROFILE



THERMOSASH MECHANICAL AIR LOUVRE WEATHERING DATA (PERFORMANCE TESTED BS EN 13030: 2001)*

		Horizontal Class							Vertical Class	
Product Type		**MAL-40S**	**MAL-100S**		**MAL-100D**		**MAL-156T**		**MAL-156T/V**	**MAL-100D/V**
Profile		Single 40mm	Single 100mm		Double 100mm		Triple 156mm		Triple	Double
Pitch		53mm	76mm Pitch	53mm Pitch	61mm	53mm	75mm	53mm	53mm	53mm
Face Velocity	**m2/s**									
	0	B	B	A	A	A	A	A	A	A
	0.5	B	B	B	A	A	A	A	A	A
	1	C	C	B	B	A	A	A	A	A
	1.5	D	C	C	C	B	A	A	A	A
	2		C	C	D	C	D	C	B	A
	2.5		D	D		D		D	D	A
	3									D
Coefficient of Entry/Class		4	3	4	4	4	4	4	4	4
Coefficient of Discharge/Class		3	3	4	4	4	4	4	4	4

*BS EN 13030:2001 is a European standard specifying a method for measuring performance of louvres subjected to simulated rain and wind pressures, with and without airflow through the louvre under test.
Face Velocity - resistance to ingress of rain Classes A - D (classes indicate highest water resistance to least water resistance).
Coefficient entry / discharge - resistance to airflow Classes 1 - 4 (classes indicate least air resistance to highest air resistance).

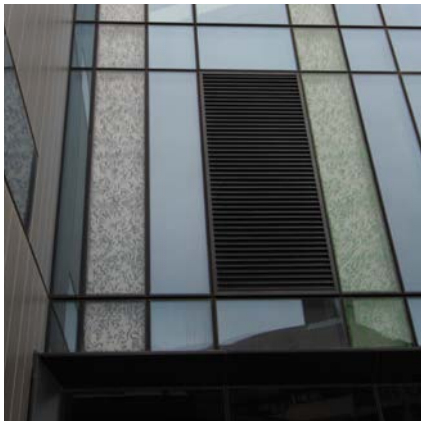
MAL 100mm Single Bank with hinged frame - Lambton Square Plaza, Wellington.

MAL 100mm Single Bank - Napier St, GHD Building, Auckland.

MAL 40mm louvres incorporated into doors
St Cuthberts School, Centennial Pool Complex, Auckland.

Doors with MAL 40mm Single Bank - 594-598 Manukau Rd, Auckland.

Door with MAL 40mm Single Bank & curtain wall with integrated MAL 100mm Single Bank - Vector Substation, Auckland.



100mm Double Bank Mechanical Air Louvres integrated into curtainwall and rainscreen - University of Auckland, Engineering B405.

OUR BRANCHES

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158-164 Central Park Drive
Auckland 0610, New Zealand
PO BOX 100-340 North Shore,
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Lower Hutt 5045 New Zealand
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Levin 5571, New Zealand
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Thermosash are members of:

NZGBC
TE KAUNIHERA HANGANGA TAUTAIAO

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