

**THERMOSASH**

# **MECAHNICAL 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](http://www.thermosash.co.nz)





## Our Aluminium is green to the core.

Thermosash is partnered with the lowest embodied carbon NZ-owned extruder in the world\*.

The combination of high recycled content and low carbon virgin material forms the super-low embodied carbon 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.

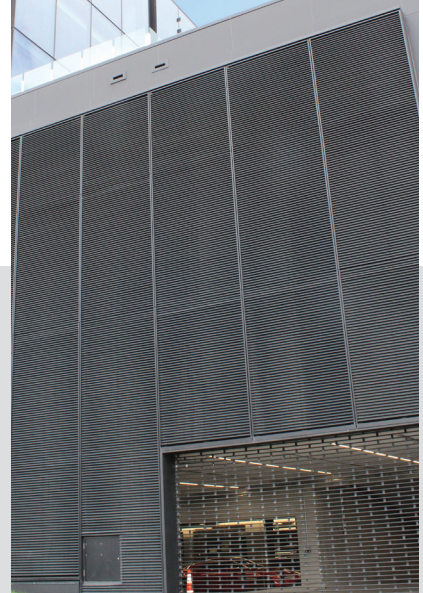
We exclusively use local powder coaters who have stringent chemical handling processes and reuse or responsibly dispose of all waste powder.



**University of Auckland**  
ENGINEERING 405



**GHD Building**  
NAPIER STREET, AUCKLAND

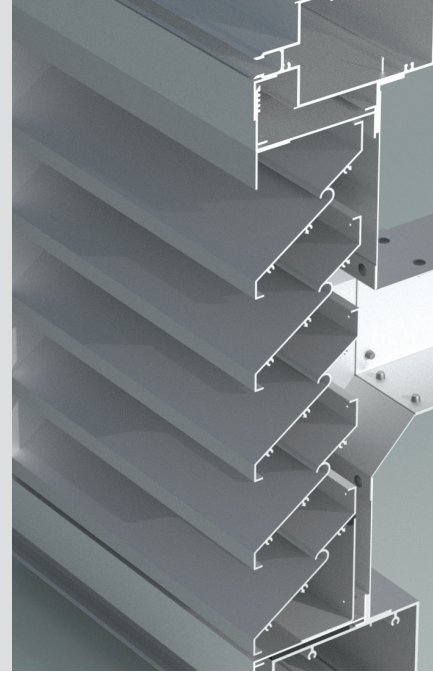


**Giltrap Prestige**  
119 GREAT NORTH ROAD  
AUCKLAND

# 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 continuous 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 314 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 full maintenance manual is provided on completion of a project for all the elements integrated within a project.

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



## WARRANTY

**10 YEARS** from the date of practical completion.

Min 5 years for design, engineering, quality of materials, fabrication, installation and performance.

Warranty is provided in the form of a site-specific producer statement (PS3 Construction). Warranty commences from the date of practical completion of the contract works.

All warranties are subject to service and maintenance requirements.

## SUSTAINABILITY

### SUSTAINABLE MANUFACTURING

Thermosash manufactures all components in New Zealand, and primarily source materials where available from the New Zealand market.

### ALUMINIUM EXTRUSIONS

Thermosash extruded aluminium holds Toitū Carbon Reduce certification and we are approved as a partner of the accredited Toitū scheme - making our suites the lowest CO<sub>2</sub>e/kg\* systems available in New Zealand.

\*Toitū Carbon Reduce certification is achieved through an independent audit to stringent European standard PAS 2050 for scope 1 & 2 (for the most up to date carbon reduce figures please contact us).

## BENEFITS & COST SAVINGS

### BENEFITS

Thermosash is a New Zealand based business and has been engineering and manufacturing specific design facade solutions across the country since 1973 - under a single company entity. 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 - 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 warranty.

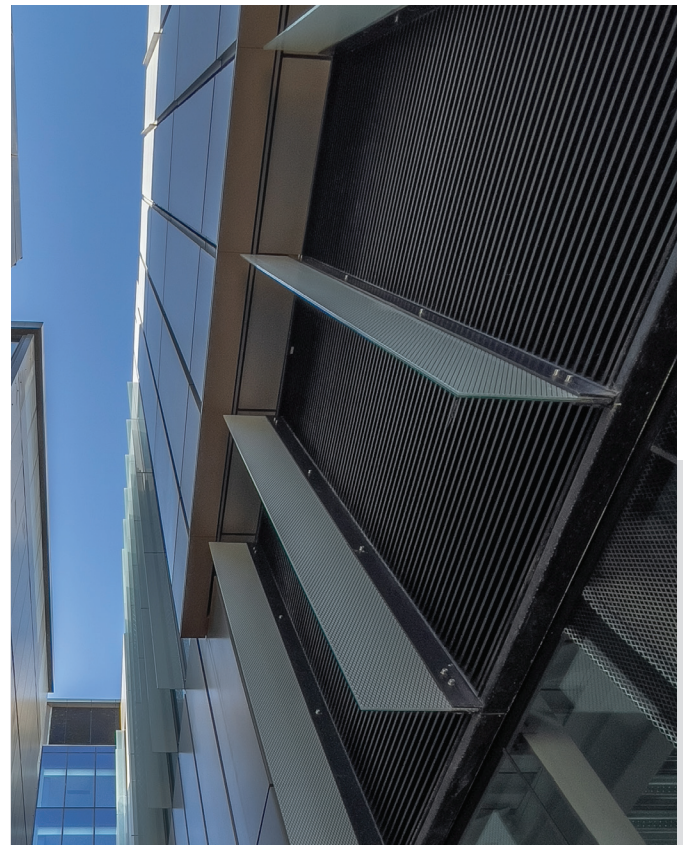
### COST SAVINGS

- 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
- Reduced number of trades involved if Thermosash engineers, manufactures and installs the building envelope elements such as curtainwall, glazed and non-vision unitised panels, rainscreen, skylights, and integrated elements such as mechanical air louvres, solar shading, architectural metal folding, canopies, balustrades, flashings etc.
- Specifically designed and engineered facade solutions that offer high performance and durability which contribute to cost savings



## St Cuthberts School

CENTENNIAL POOL COMPLEX, AUCKLAND



## Grand Central Building

CHRISTCHURCH



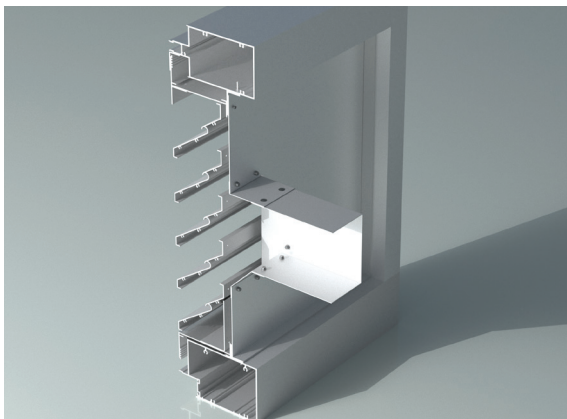
# TECHNICAL DATA

## 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/m <sup>2</sup>
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



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

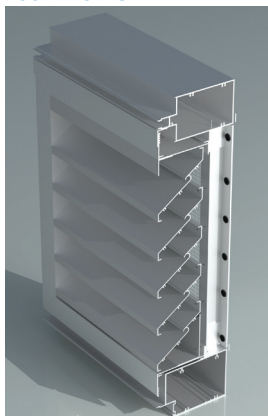
## THERMOSASH MECHANICAL AIR LOUVRE PRODUCT TYPES & PROFILES

**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

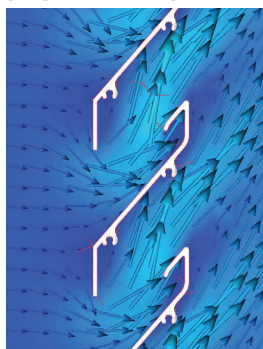
**MAL-156T**  
156 MM TRIPLE BANK



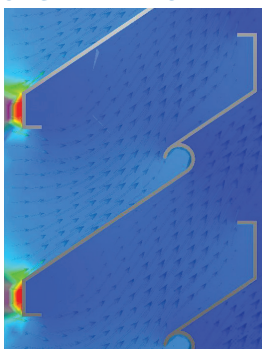
Louvre use: Mechanical plant & plant screening

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

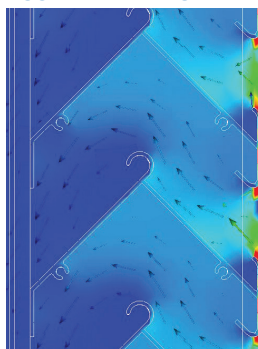
**MAL-40S**  
SINGLE BANK PROFILE



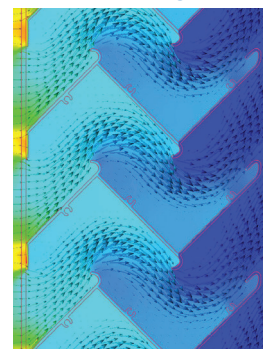
**MAL-100S**  
SINGLE BANK PROFILE



**MAL-100D**  
DOUBLE BANK PROFILE



**MAL-156T**  
TRIPLE BANK PROFILE



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

Product Type	Horizontal Class							Vertical Class	
	MAL-40S	MAL-100S		MAL-100D		MAL-156T		MAL-156T/V	MAL-100D/V
	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.



Door with MAL 40mm Single Bank and integrated vermin guard - 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

## AUCKLAND

158-164 Central Park Drive  
Auckland 0610, New Zealand  
PO BOX 100-340 North Shore,  
Auckland 0745, New Zealand  
09 444 4944

## WELLINGTON

17-19 Marine Parade, Petone,  
Lower Hutt 5012, New Zealand  
PO BOX 38-645 Wellington Mail Centre,  
Lower Hutt 5045 New Zealand  
04 939 4500

## LEVIN

13 Enterprise Drive,  
Levin 5571, New Zealand  
PO BOX 38-645 Wellington Mail Centre,  
Lower Hutt 5045 New Zealand  
06 949 1717

## CHRISTCHURCH

12 Braeburn Drive  
hornby, Christchurch 8042  
PO BOX 313, Christchurch 8140  
New Zealand  
03 348 4004

[www.thermosash.co.nz](http://www.thermosash.co.nz)  
[info@thermosash.co.nz](mailto:info@thermosash.co.nz)

Thermosash are members of:



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