

09 – Technical Data and Manufacturers Data

09

FINE FISSURED AND FINE FISSURED PLANK



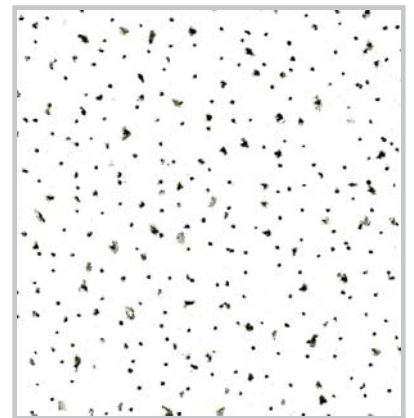
FINE FISSURED Square Edge with PeakForm Prelude XL 24mm Exposed Tee grid

BENEFITS

- Total Acoustics Performance (NRC+CAC)
 - High sound absorption for reduced reverberation and quieter spaces
 - High sound attenuation, improving room to room privacy
- Cost effective ceiling solution
- Reliable, proven performance
- High light reflective finish
- RH99 Humidity Resistant
- Sustainable – Green Star contribution

APPLICATION AREAS

- Offices
- Education
- Healthcare
- Corridors
- Libraries



Inspiring Great Spaces

Armstrong®
CEILING SOLUTIONS

FINE FISSURED AND FINE FISSURED PLANK



RH99
Humidity
Resistant



Up to
56%
Recycled Content
EN ISO 14021



85%
Light Reflectance



Acoustical
Comfort



Total
Acoustics

Panel Options	SQUARE LAY-IN	ANGLED TEGULAR	BEVELLED TEGULAR		K2C2 EDGE
	Prelude 24mm Grid	Prelude 24mm Grid	Suprafine 15mm Grid	Silhouette 15mm Grid	One Way / Modular Grid
Fine Fissured					
48 x 24 x 5/8in	1730	*	*		—
600 x 600 x 15mm	3510	3572	3577		—
1200 x 600 x 15mm	3570	3574	*		*
Fine Fissured Plank					
1200 x 400 x 19mm	4830	4833	*		4844
1350 x 450 x 19mm	4831	4834	*		4845
1500 x 500 x 19mm	4832	4835	*		4846

* Special item on request. Other sizes and profiles, including Fine Fissured High Acoustic K2C2 edge for semi-concealed grid systems upon request.
— Not available



NRC: 0.60 (Fine Fissured)
0.70 (Fine Fissured High Acoustic)



CAC: 33 (Fine Fissured Square Lay In)
35 (Fine Fissured Tegular and K2C2 Edge)
35 (Fine Fissured High Acoustic)



RH99% at 0°C – 49°C



Conforms with BCA Spec. C1.10 and tested to AS/NZS 3837:1998
— Group 1, AS/NZS 1530.3, ISO 5660 – Group 1 – S



Thermal Insulation (R- Value)
0.26 m²K/W (Fine Fissured)
0.40 m²K/W (Fine Fissured High Acoustic)



3 kg/m² (items: 1730, 1734, 3510, 3570-3574)
5.3 kg/m² (items 4120-4123)
5.37 kg/m² (items 4830-4846)

Green Star: Potential contribution

MAN	IEQ			ENE	MAT and Mat. Calc.				
Waste Management	Daylight Factor	Noise Levels	Emissions	Energy	Modular & Design for Disassembly	Level A Certified Product	Product Stewardship	EMS to ISO 14001	Recycled Content
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Material

Wet-formed mineral fibre

Surface Finish

Factory-applied vinyl latex paint with painted "BioBlock™" mould/mildew inhibitor"

Backloading Recommendation

Contact your local Armstrong representative

Recycled Content

26% for items: 1730, 1734, 3510, 3570-3574, 47% for items: 4120-4123, 43% for items: 4830-4846. Note: 51% for Items 3510ATV and 3570ATV

Suspension Systems

PeakForm Steel options above, with 'Blue Tongue' Aluminium upon request



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Inspiring Great Spaces

Armstrong®
CEILING SOLUTIONS



Everything else is just plasterboard

Perforated Plasterboard

Acoustic performance
with design freedom

Including Rigitone™,
Gyptone™ and Standard ranges

The CSR logo consists of the letters 'CSR' in a white, bold, sans-serif font, centered within a solid red square. The square is framed by a thin white border.

CSR

Make an impression

Excellence in design is achieved with a balance of aesthetics and functionality. The Gyprock range of perforated plasterboard allows architects and designers to create beautiful ceilings and walls that achieve high levels of acoustic performance.

The panel perforations together with acoustic fabric lining and insulation, where used, reduce echo and noise reverberation to create more comfortable environments for work and leisure.



Gyprock seeks to develop exclusive relationships with leading manufacturers throughout the world to deliver the best technologies and products to the Australian construction industry.

As part of the International Alliance program, the perforated range includes four Rigitone™ options with edge to edge, continuous patterns and three Gyptone™ options with patterns laid out in grids, developed by worldwide plasterboard specialist, Saint-Gobain. These products feature innovative Activ'Air technology to help improve indoor air quality.



The contemporary patterns of the Rigitone and Gyptone ranges, along with the more traditional Gyprock Standard 6mm Round option provide a wide range of design versatility and acoustic performance for ceiling and wall projects.





Acoustic control

Good acoustic design includes control of both sound transmission and sound absorption. Sound transmission is controlled by using solid or cavity elements sealed to prevent sound leakage. To combat sound transmission, Gyprock provides a range of systems which achieve high transmission reduction targets.

Sound absorption is the control of sound within a room where absorbing surfaces reduce the amount of sound bouncing back into the room of origin. The total amount of sound absorption in a room and hence the reverberation time, is critically important for speech intelligibility, privacy and general noise levels.

Gyprock's range of perforated plasterboard provides high levels of reverberation control with much greater freedom for designers:

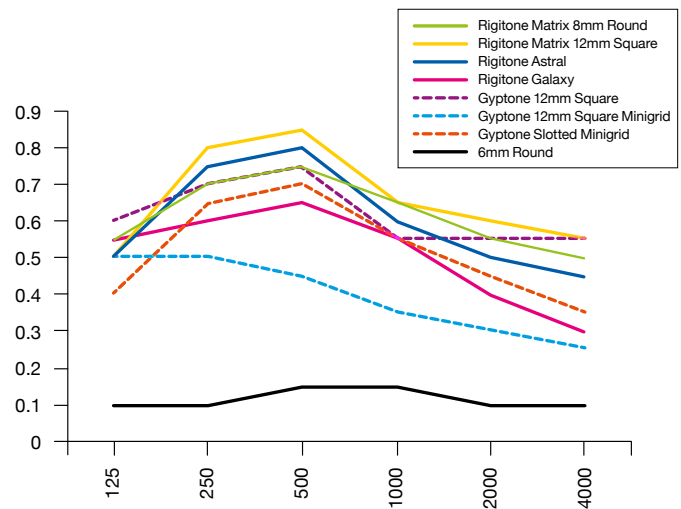
- Suitable for both ceilings and walls**
- Plasterboard provides ease of installation and versatility
- The surface is more durable than mineral fibre or similar acoustic absorbers

Acoustic assessment

A material's sound absorbing properties are expressed by the noise reduction coefficient (NRC), a simple measure that averages the absorption values over just a few frequencies. NRC typically ranges from 0 (total reflection) to 1.00 (total absorption). For perforated products, the NRC is dependent on the amount of open surface area, the type of acoustic fabric, the use of additional insulation material and the depth of the air cavity (plenum) behind the lining. Boards in the Rigitone and Gyptone ranges were tested for sound absorption in CSIRO Melbourne and Auckland University laboratories. Testing was performed with air cavities of 200mm and, in some cases 600mm, with and without

insulation (50mm CSR Bradford glasswool batts at 14kg/m³). PKA Acoustic Consulting provided complete acoustic predictions based on this data for the Rigitone and Gyptone ranges and previous testing data for the Standard 6mm Round board, along with perforated and slotted resonance formula calculations, as well as their database of sound absorption coefficient and acoustic laboratory tests. The acoustic absorption results graph shows the absorption coefficients for all boards in the perforated plasterboard range, with an uninsulated 200mm cavity installation. The table below provides a quick comparison of the range's NRC values. Copies of the test reports are available by contacting DesignLINK Technical Support on 1800 621 117.

Acoustic absorption performance summary:
200mm plenum (air cavity), uninsulated
(Full details on following pages)



All boards in the Rigitone and Gyptone ranges are supplied with acoustic fabric backing as standard and were tested as supplied, resulting in far better acoustic performance results than Standard 6mm Round, which was tested as supplied without acoustic fabric. Standard 6mm Round is an entry level perforated product, often specified for aesthetics over performance. However, installers may use a third party acoustic fabric to provide far higher levels of acoustic performance if required.

NRC value summary:
(Full details on following pages)

Perforated Pattern	Sheet Size (mm)	Open Area %	Acoustic Fabric	Plenum (Air Cavity)					
				65mm		200mm		600mm	
				Empty	Batts*	Empty	Batts*	Empty	Batts*
Gyprock Rigitone									
Matrix 8mm Round	1188 x 1998 x 12.5	15.5%	Yes	N/A	N/A	0.65	0.75	0.65	0.75
Matrix 12mm Square	1200 x 2000 x 12.5	23.0%	Yes	N/A	N/A	0.70	0.90	0.70	0.85
Astral	1188 x 1980 x 12.5	19.6%	Yes	N/A	N/A	0.65	0.85	0.65	0.80
Galaxy	1200 x 1960 x 12.5	10.0%	Yes	N/A	N/A	0.55	0.60	0.60	0.65
Gyprock Gyptone									
12mm Square	1200 x 2400 x 12.5	16.0%	Yes	0.55	0.70	0.65	0.70	0.65	0.70
12mm Square Minigrid	1200 x 2400 x 12.5	6.0%	Yes	0.35	0.40	0.40	0.40	0.40	0.45
Slotted Minigrid	1200 x 2400 x 12.5	13.0%	Yes	0.45	0.60	0.60	0.60	0.55	0.60
Gyprock Standard									
6mm Round	1200 x 3600 x 13	8.3%	No	0.10	0.35	0.15	0.40	0.15	0.45

Bold values in all tables are test report data. Non-bold values are PKA's acoustic predictions.

*Batts denotes that 50mm Bradford glasswool batts (14kg/m³) were included in the cavity.

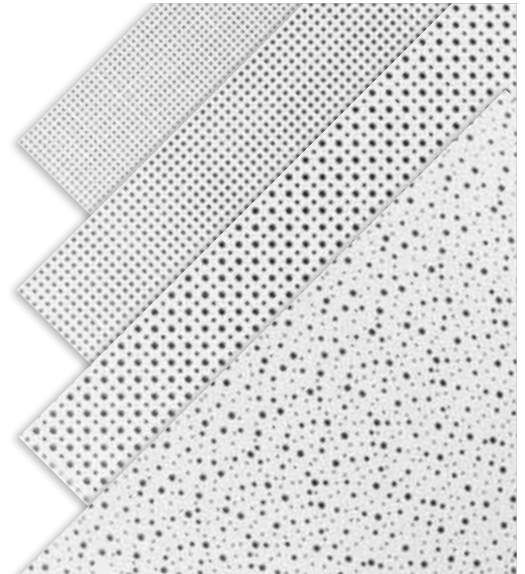
**Rigitone is suitable for ceilings only.

Three core ranges

Gyprock Rigitone™ Range

Rigitone perforated plasterboard is a superior and modern acoustic solution that delivers a monolithic design due to its edge to edge pattern layouts. The Rigitone range combines functionality and aesthetics in the modern design of ceilings. Integrating lighting, ventilation systems, loudspeakers and such is straightforward and simple. Due to the variety of perforation sizes and patterns, board dimensions vary slightly but are nominally 1200mm x 2000mm x 12.5mm.

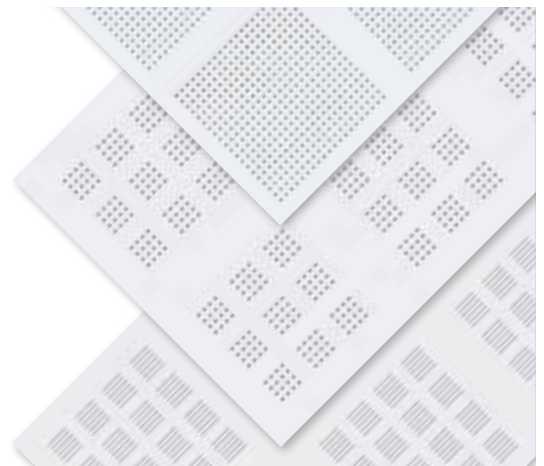
The edges of Rigitone boards are square cut and pre-primed for a unique installation method using ready-mixed Rigitone Filler, creating a continuous, seamless finish.



Gyprock Gyptone™ Range

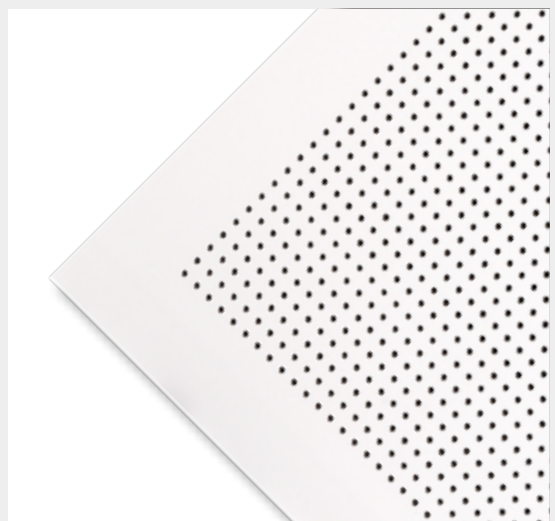
Gyptone perforated plasterboard contributes to aesthetics and excellent acoustics for walls and ceilings. The range features three contemporary perforation patterns, each with different percentages of open area to meet most acoustic application requirements. Each board in the range is supplied at a size of 1200mm x 2400mm x 12.5mm.

Unlike standard plasterboard, all four edges of Gyptone perforated plasterboards are recessed to make flush jointing quicker and easier with the normal tape and three coat jointing system.



Gyprock Standard 6mm Round

6mm Round is the traditional Gyprock perforated board product that has been extensively used throughout Australia for many years. It provides an economical aesthetic solution for ceilings or walls. This 1200mm x 3600mm x 13mm board features recesses on the two long edges with square cuts at each short edge. 6mm Round is supplied without an acoustic fabric backing and acoustic performance is adequate for most situations where moderate levels of attenuation are required.

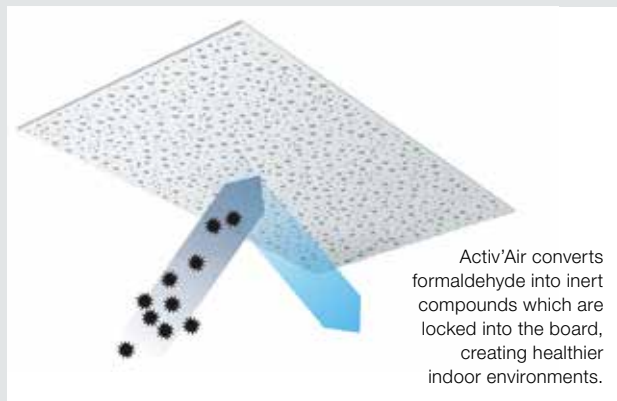




Many materials, such as particleboard, furniture, carpets and paint emit formaldehyde, one of the most prevalent VOCs. This means that high concentrations of formaldehyde, which has been classified as a known carcinogen by The World Health Organisation and the US Department of Health, can frequently be found in the air we breathe in many indoor spaces.

Activ'Air is a patented technology that converts formaldehyde into non-harmful inert compounds that are permanently locked in the board and cannot be released back into the air. Controlled testing has shown that Activ'Air can reduce the concentration of formaldehyde within an environment by up to 60% when installed in ceilings, even when there is continuous airflow containing formaldehyde.

Installing Rigitone or Gyptone plasterboard containing Activ'Air technology to ceilings and/or walls will have an enduring impact on air quality and will improve the environment for people working and living in the space.



Activ'Air converts formaldehyde into inert compounds which are locked into the board, creating healthier indoor environments.

Acoustic fabric

Rigitone and Gyptone perforated plasterboard is supplied with a highly effective acoustic fabric that dramatically improves the acoustic performance of the board. This unique fabric is exclusive to Gyprock and apart from improved acoustic performance, it provides other benefits:

- Eliminates dust from ceiling cavities coming down into the room
- Effectively masks the ceiling framework so that it is not seen from below through the perforations
- Contributes to better fire protection compared to a board without fabric backing

Rigitone and Gyptone boards are supplied with a black fabric as standard, though initial imports of Gyptone 12mm Square will also be available with white fabric. The fabric colour for all Rigitone and Gyptone boards can be stipulated as black or white for special orders, with minimum order quantities and lead times applicable.

Perforated plasterboard is not recommended for installation in areas subject to greater than 70% relative humidity including indoor swimming pools and bathrooms. Gyptone boards support point loads up to 3kg. Adequate independent or additional support must be provided for services and lighting systems that exceed this limit.





Gyptone Access Panels

Access panels are available in each of the three Gyptone board patterns. These consist of a plasterboard frame that is easily set into the ceiling and a 510mm x 510mm hatch piece with a matching perforation pattern that fits neatly into the frame. These panels provide access to the ceiling cavity while ensuring a seamless look across the surface.







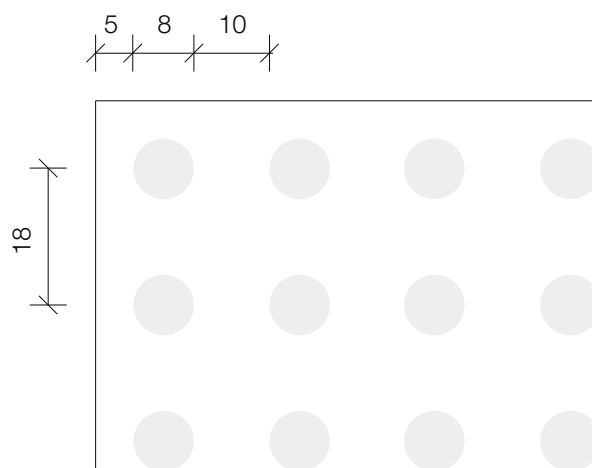
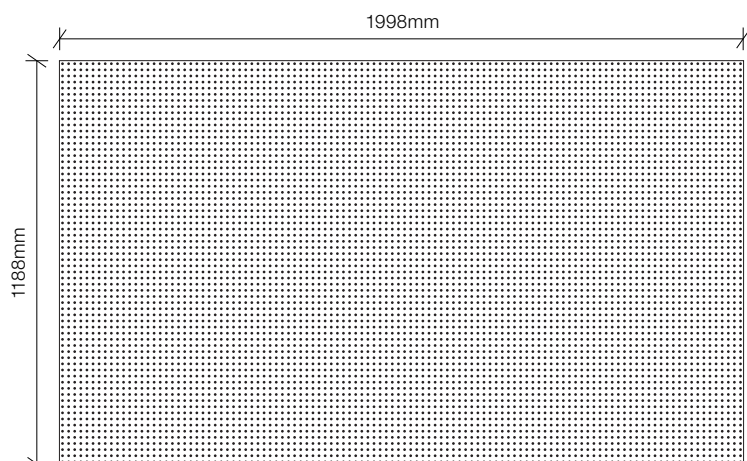


Rigitone Matrix 8mm Round (8/18)

A pattern of 8mm round perforations spaced at 18mm centres, providing a 15.5% open area. Supplied with a black acoustic fabric backing.

Matrix 8mm Round 15.5% open area				Sound Absorption Coefficient α_p					
Plenum (Air Cavity)	Plenum Insulation	α_w	NRC	Octave Band Centre Frequencies (Hz)					
				125	250	500	1000	2000	4000
200mm	Empty	0.60 (L)	0.65	0.55	0.70	0.75	0.65	0.55	0.50
	50mm glasswool (14kg/m ³)	0.75 (L)	0.75	0.70	0.80	0.75	0.75	0.70	0.70
600mm	Empty	0.65(L)	0.65	0.60	0.70	0.65	0.60	0.60	0.55
	50mm glasswool (14kg/m ³)	0.75	0.75	0.70	0.75	0.70	0.70	0.75	0.75

Bold values are test report data conducted at the CSIRO Melbourne laboratories. Non-bold values are acoustic predictions by PKA Acoustic Consulting. (L) denotes excess performance at 250Hz





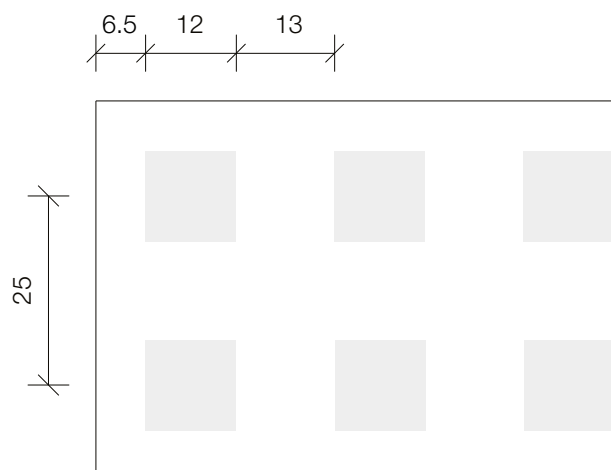
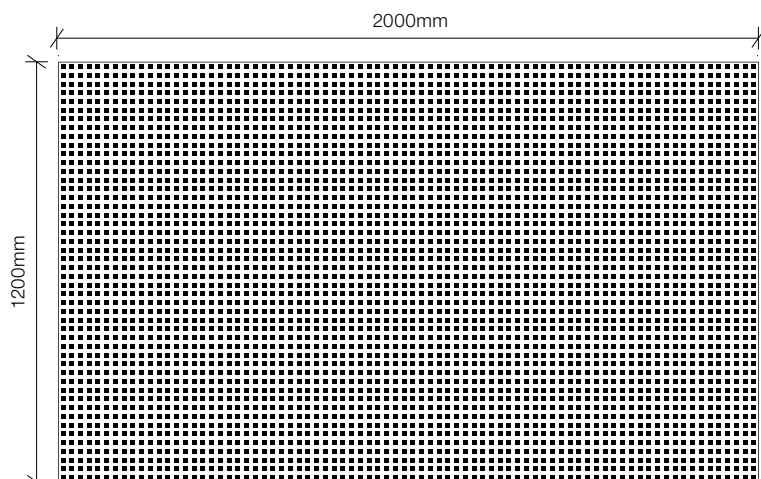
Rigitone Matrix 12mm Square (12/25 Q)



A pattern of 12mm square perforations spaced at 25mm centres, providing a 23% open area. Supplied with a black acoustic fabric backing.

Matrix 12mm Square 23% open area				Sound Absorption Coefficient α_p					
Plenum (Air Cavity)	Plenum Insulation	α_w	NRC	Octave Band Centre Frequencies (Hz)					
				125	250	500	1000	2000	4000
200mm	Empty	0.65 (L)	0.70	0.50	0.80	0.85	0.65	0.60	0.55
	50mm glasswool (14kg/m ³)	0.85 (L)	0.90	0.70	0.90	0.90	0.90	0.80	0.75
600mm	Empty	0.65 (L)	0.70	0.65	0.70	0.65	0.70	0.65	0.55
	50mm glasswool (14kg/m ³)	0.90	0.85	0.70	0.70	0.85	0.95	0.90	0.95

Bold values are test report data conducted at the CSIRO Melbourne laboratories. Non-bold values are acoustic predictions by PKA Acoustic Consulting. (L) denotes excess performance at 250Hz





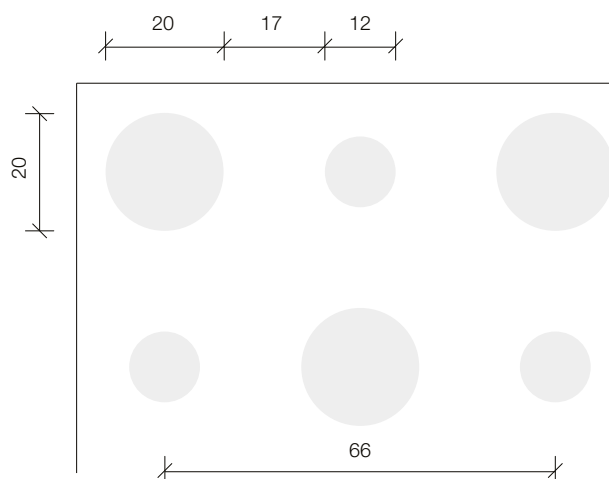
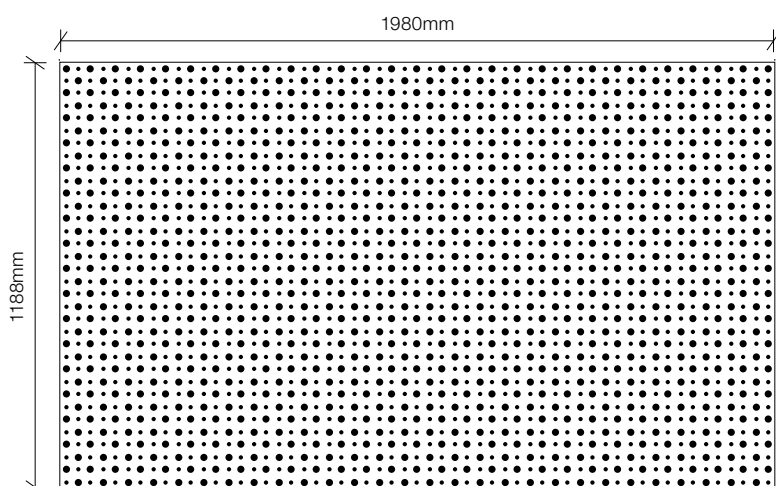
Rigitone Astral (12-20/66)



A regularly staggered pattern consisting of 12mm and 20mm round perforations spaced at 33mm centres, providing a 19.6% open area. Supplied with a black acoustic fabric backing.

Astral 19.6% open area				Sound Absorption Coefficient α_p					
Plenum (Air Cavity)	Plenum Insulation	α_w	NRC	Octave Band Centre Frequencies (Hz)					
				125	250	500	1000	2000	4000
200mm	Empty	0.55(LM)	0.65	0.50	0.75	0.80	0.60	0.50	0.45
	50mm glasswool (14kg/m ³)	0.80(L)	0.85	0.70	0.85	0.85	0.85	0.70	0.70
600mm	Empty	0.65	0.65	0.60	0.65	0.65	0.65	0.60	0.50
	50mm glasswool (14kg/m ³)	0.80	0.80	0.70	0.70	0.80	0.85	0.75	0.75

Bold values are test report data conducted at the CSIRO Melbourne laboratories. Non-bold values are acoustic predictions by PKA Acoustic Consulting. (L) denotes excess performance at 250Hz (M) denotes excess performance at 500Hz, 1000Hz





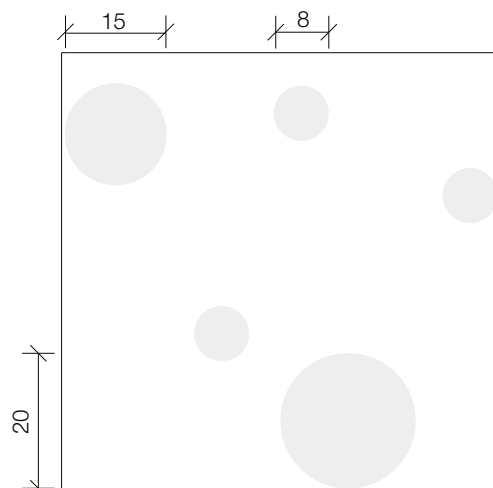
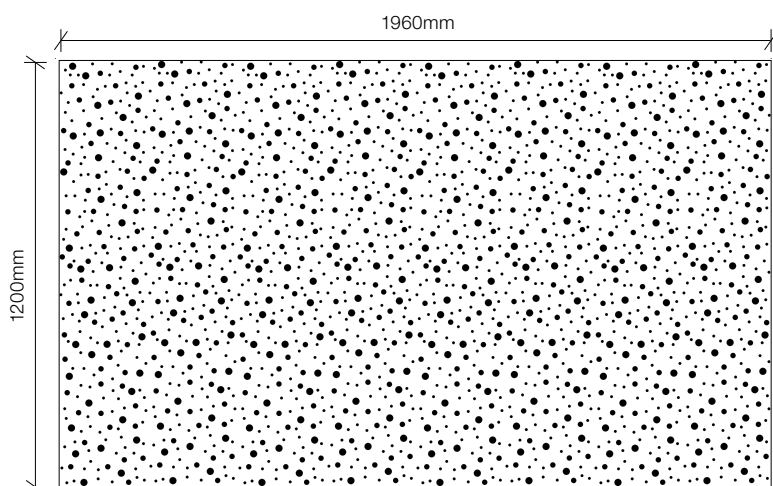
Rigitone Galaxy (8-15-20 Super)



An irregular scattered pattern consisting of 8mm, 15mm and 20mm round perforations, providing a 10% open area. Supplied with a black acoustic fabric backing.

Galaxy 10% open area				Sound Absorption Coefficient α_p					
Plenum (Air Cavity)	Plenum Insulation	α_w	NRC	Octave Band Centre Frequencies (Hz)					
				125	250	500	1000	2000	4000
200mm	Empty	0.45 (L)	0.55	0.55	0.60	0.65	0.55	0.40	0.30
	50mm glasswool (14kg/m ³)	0.55 (L)	0.60	0.60	0.65	0.60	0.60	0.45	0.45
600mm	Empty	0.60	0.60	0.60	0.60	0.60	0.60	0.50	0.50
	50mm glasswool (14kg/m ³)	0.65	0.65	0.60	0.60	0.65	0.70	0.55	0.55

Bold values are test report data conducted at the CSIRO Melbourne laboratories. Non-bold values are acoustic predictions by PKA Acoustic Consulting. (L) denotes excess performance at 250Hz







Gyptone

12mm Square (41)

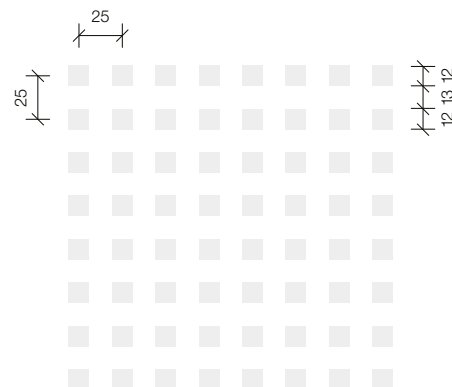
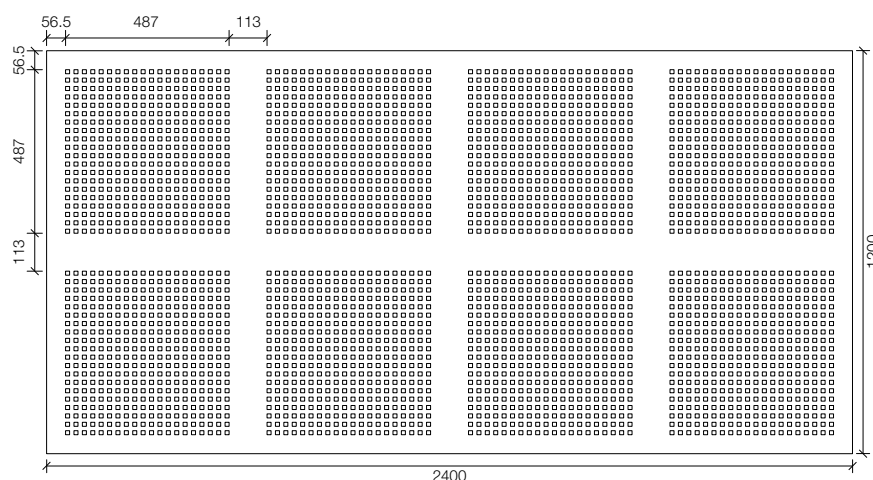


Eight large square groupings per sheet, each with 400 x 12mm square perforations at 25mm centres, providing a 16% open area. Supplied with either black or white acoustic fabric backing.

An access panel consisting of a frame and matching 510mm x 510mm hatch is available.

12mm Square 16% open area		Sound Absorption Coefficient α_p							
Plenum (Air Cavity)	Plenum Insulation	α_w	NRC	Octave Band Centre Frequencies (Hz)					
				125	250	500	1000	2000	4000
65mm	Empty	0.55	0.55	0.20	0.35	0.55	0.75	0.60	0.40
	50mm glasswool (14kg/m ³)	0.70	0.70	0.40	0.65	0.80	0.70	0.65	0.55
200mm	Empty	0.60(L)	0.65	0.60	0.70	0.75	0.55	0.55	0.55
	50mm glasswool (14kg/m ³)	0.70	0.70	0.65	0.70	0.70	0.65	0.65	0.60
600mm	Empty	0.65(L)	0.65	0.65	0.70	0.65	0.60	0.60	0.65
	50mm glasswool (14kg/m ³)	0.70	0.70	0.70	0.65	0.70	0.70	0.70	0.70

Bold values are test report data conducted at the Auckland University acoustic laboratory. Non-bold values are acoustic predictions by PKA Acoustic Consulting. (L) denotes excess performance at 250Hz





Gyptone 12mm Square Minigrid (47)

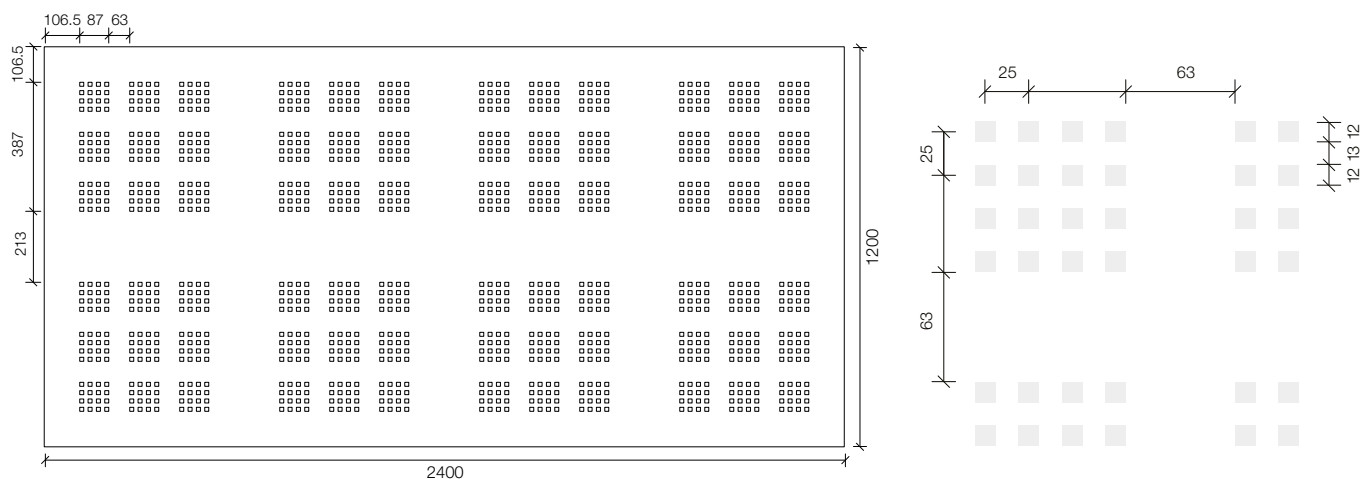


Eight large square groupings per sheet, each with nine mini grids of 16 x 12mm square perforations at 25mm centres. This subtle pattern provides an open area of 6% and features a black acoustic fabric backing.

An access panel consisting of a frame and matching 510mm x 510mm hatch is available.

12mm Square Minigrid 6% open area				Sound Absorption Coefficient α_p					
Plenum (Air Cavity)	Plenum Insulation	α_w	NRC	Octave Band Centre Frequencies (Hz)					
				125	250	500	1000	2000	4000
65mm	Empty	0.35	0.35	0.20	0.25	0.35	0.45	0.35	0.20
	50mm glasswool (14kg/m ³)	0.35(L)	0.40	0.35	0.45	0.50	0.40	0.30	0.25
200mm	Empty	0.35(L)	0.40	0.50	0.50	0.45	0.35	0.30	0.25
	50mm glasswool (14kg/m ³)	0.40(L)	0.40	0.55	0.50	0.45	0.40	0.30	0.30
600mm	Empty	0.40(L)	0.40	0.55	0.50	0.35	0.40	0.35	0.35
	50mm glasswool (14kg/m ³)	0.45	0.45	0.60	0.45	0.45	0.45	0.35	0.40

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Gyptone

Slotted Minigrid (6)

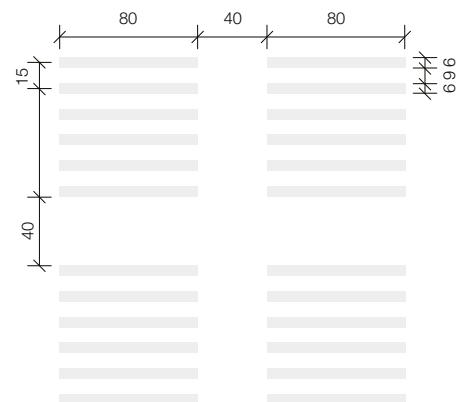
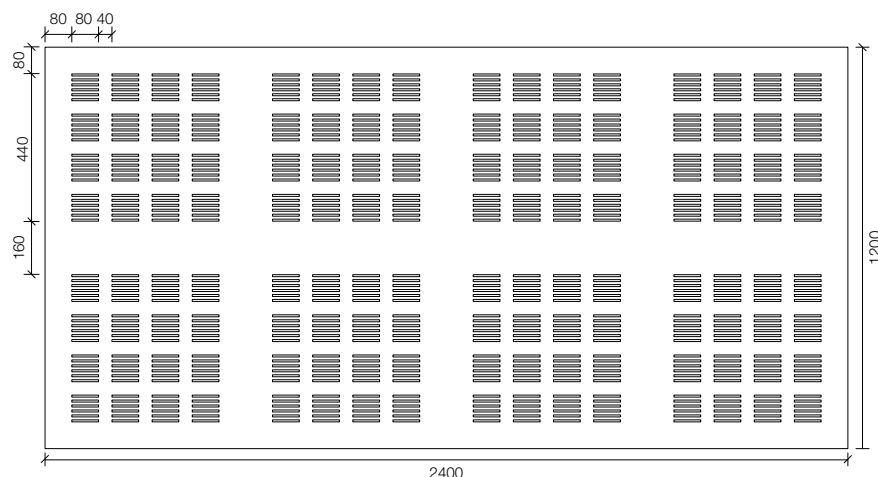


Eight large square groupings per sheet, each with 16 mini grids of six 6mm x 80mm slot perforations. This contemporary design provides 13% open area and is supplied with a black acoustic fabric backing.

An access panel consisting of a frame and matching 510mm x 510mm hatch is available.

Slotted Minigrid 13% open area				Sound Absorption Coefficient α_p					
Plenum (Air Cavity)	Plenum Insulation	α_w	NRC	Octave Band Centre Frequencies (Hz)					
				125	250	500	1000	2000	4000
65mm	Empty	0.45	0.45	0.15	0.25	0.45	0.55	0.45	0.30
	50mm glasswool (14kg/m ³)	0.55(L)	0.60	0.45	0.60	0.70	0.60	0.50	0.40
200mm	Empty	0.50(L)	0.60	0.40	0.65	0.70	0.55	0.45	0.35
	50mm glasswool (14kg/m ³)	0.55(L)	0.60	0.60	0.65	0.60	0.55	0.50	0.40
600mm	Empty	0.50(L)	0.55	0.65	0.60	0.55	0.50	0.45	0.40
	50mm glasswool (14kg/m ³)	0.60	0.60	0.65	0.55	0.60	0.60	0.55	0.45

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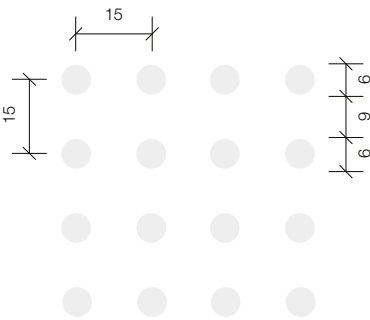
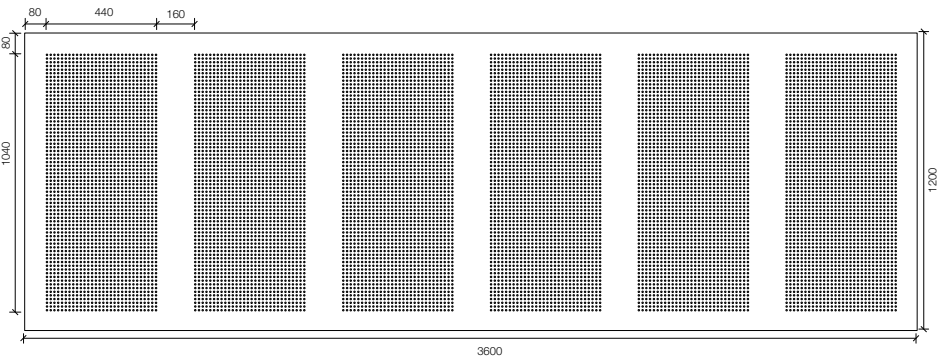
Standard 6mm Round

Six large rectangular groupings per sheet, each with 2,100 x 6mm diameter perforations at 15mm centres to provide an open area of 8.3%. This board is supplied with no acoustic fabric backing.

6mm Round is suitable for any room where moderate acoustic control and a simple design is required.

Standard 6mm Round 8.3% open area				Absorption Coefficient α_p					
Plenum (Air Cavity)	Plenum Insulation	α_w	NRC	Octave Band Centre Frequencies (Hz)					
				125	250	500	1000	2000	4000
65mm	Empty	0.15	0.10	0.05	0.10	0.10	0.15	0.10	0.10
	50mm glasswool (14kg/m ³)	0.30	0.35	0.15	0.25	0.40	0.50	0.30	0.15
200mm	Empty	0.15	0.15	0.10	0.10	0.15	0.15	0.10	0.10
	50mm glasswool (14kg/m ³)	0.25 (LM)	0.40	0.40	0.45	0.60	0.40	0.20	0.15
600mm	Empty	0.15	0.15	0.20	0.15	0.15	0.10	0.10	0.10
	50mm glasswool (14kg/m ³)	0.30 (LM)	0.45	0.50	0.50	0.60	0.40	0.25	0.15

These acoustic predictions are for standard 6mm Round perforated plasterboard without acoustic fabric. Installers may use a third party acoustic fabric to provide far higher levels of acoustic performance if required. (L) denotes excess performance at 250Hz (M) denotes excess performance at 500Hz, 1000Hz



Installation

Rigitone accessories

The unique, seamless finish of Gyprock Rigitone is made possible by the use of a specialised primer, filler and installation tools.

While all four edges of the boards are pre-primed, Rigitone Primer is used to prepare cut edges for jointing.

Patten Spacers are available to ensure boards are fixed with the exact gap required for jointing.

Rigitone joints are achieved using the Rigitone Filler sausage, dispensed with the Accessory Kit.

The Rigitone Accessory Kit includes the tools required to achieve the Rigitone system joint. From the barrel gun with proprietary nozzles that dispenses the filler accurately, to the screw head filler template and cleaning brush, this kit is an all-in-one installation solution.



Rigitone Primer



Rigitone Filler
Accessory Kit



Rigitone Pattern Spacer



Rigitone Filler



Rigitone installation

Rigitone is specially designed to be screw fixed to suspended ceilings. Its unique installation method allows the product's perforated pattern to continue uninterrupted where sheets meet. Unlike the traditional three coat plasterboard jointing systems, Rigitone boards are jointed by directing a specialised compound into a gap between the sheets. The filling method is made possible by the unique Rigitone Filler Accessory Kit, combined with the Rigitone Filler compound. While all four edges of Rigitone sheets are pre-primed, cut edges must be sealed with Rigitone Primer prior to installation, readying the surface for the filler compound.

Gyptone and Standard installation

Gyptone and Standard 6mm Round perforated plasterboard products are screw fixed to suspended concealed grid, or direct fixed to framing and finished with a three coat jointing system. The sheets are installed with the long edges at right angles to the direction of the framing with maximum 600mm centres.

Insulation is limited to 50mm thick and 14kg/m³ density.

Joints should be sanded smooth prior to decoration. Full installation details can be found in the Gyprock Commercial Installation Guide Addendum, available for download from gyprock.com.au under the Resources tab.

Painting

After the joints are completed, the surface of the plasterboard is painted in accordance with the paint manufacturer's specifications using a paint roller, taking care to paint the surface only, and not the voids.

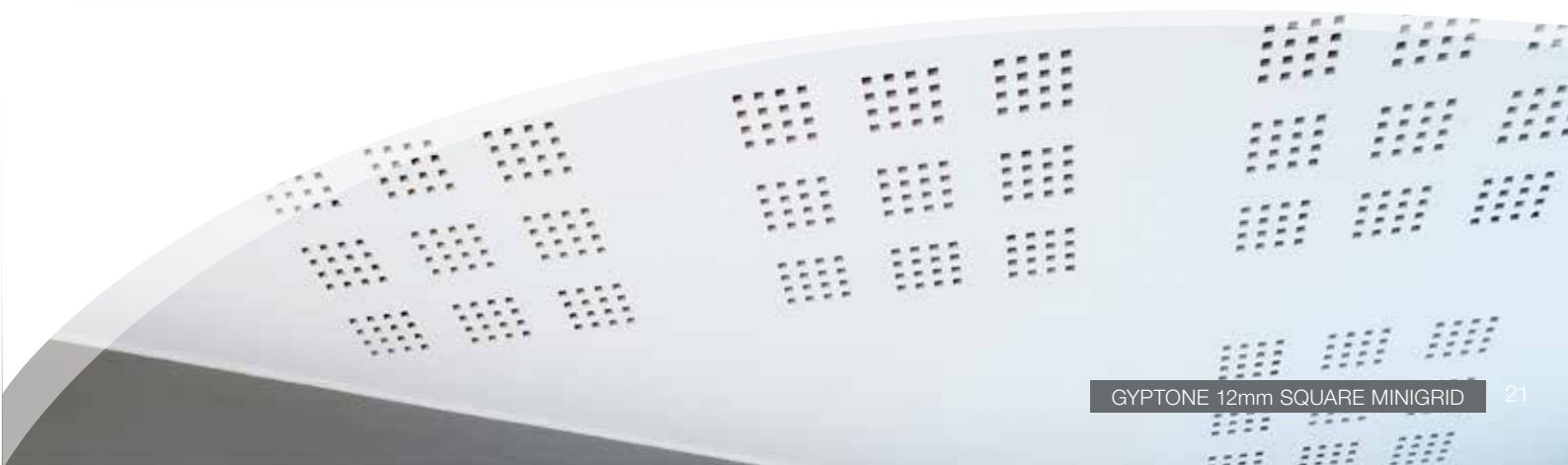
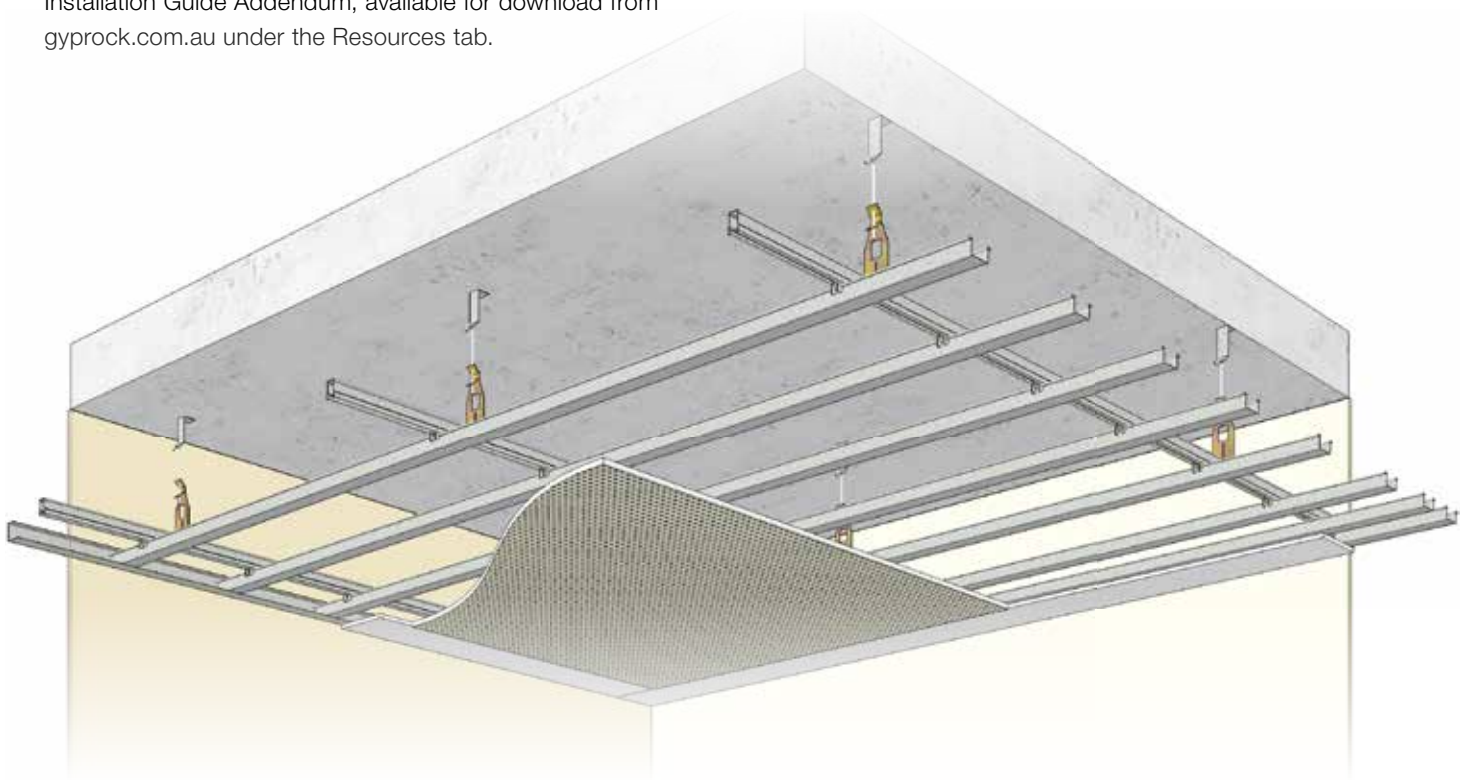
Long nap and heavily loaded paint rollers should be avoided for this reason. Water-based paints are required for boards that contain Activ'Air technology. Repainting will not impact the performance of Activ'Air.

Warranties

Gyprock products are designed to achieve optimal performance when part of a CSR integrated system.

Gyprock Standard 6mm Round perforated plasterboard is Manufactured For Life in Australia and is warranted by CSR for the usual lifetime of the product.

CSR warrants its International Alliance Gyprock Rigitone and Gyptone products to remain free of defects in material and manufacture for a minimum of 7 years.





DesignLINK Support

DesignLINK is a team of engineers, building design professionals and architects, working to support Gyprock and Cemintel product and system specification in projects across Australia. With impressive knowledge of the building industry, DesignLINK partners with clients to value-engineer, simplify system specifications and workshop complex design issues, delivering building performance while easing the way for builder and contractor.

Based at Gyprock's Research and Development Centre in Wetherill Park, New South Wales, the DesignLINK team is a driving force in Gyprock's innovation agenda, representing customer experience and bringing problem solving skills to the table. The Wetherill Park site houses Gyprock's NATA accredited laboratory and several test rigs, as well as being a manufacturing site for Gyprock and Cemintel products.

What does DesignLINK offer?

The DesignLINK service, offered to architects, engineers and other design professionals, includes phone support for enquiries, assistance with planning major projects, provision of complex testing data and supply of CAD files for increased productivity.

Phone and email support

All enquiries are handled with care. Where possible, we'll provide you with an answer on the spot, otherwise we'll escalate your enquiry to the most qualified team member.

Assistance with major projects

DesignLINK is available to support major projects, delivering performance and simplification. This service is offered in conjunction with your local Account Manager to ensure you receive the very best local knowledge, combined with DesignLINK's technical expertise.

System performance data

Fire and acoustic reports are available for a wide variety of systems. Whether you're looking to prove performance or better understand the options available and what differentiates them, the team's thorough understanding of performance requirements and results will have your query solved in no time. Looking for a bespoke solution? Our Acoustic Predictor provides opinions based on hundreds of data points, saving time and money, and delivering a fast solution.

How do I contact the DesignLINK team?

Call 1800 621 117 or email DesignLINK@csr.com.au

For more information about
Gyprock® Perforated Plasterboard, call **1300 306 556**
or visit **gyprock.com.au**



Everything else is just plasterboard

Triniti 3, 39 Delhi Road, North Ryde, NSW 2113, Australia
CSR Building Products ABN 55 008 631 356



Innovators in Tunnel Lining & Noise Walls



Fire resistant

Abrasion resistant

Impact resistant

Cost-effective

**Fast to install and
easily replaceable**

Flat or curved panels

**Short response time,
no delays**

**Variety of panel sizes
and thicknesses to suit
individual projects**

Weather / UV resistant

**Easy to clean,
low maintenance**

Unlimited colour range

Colour fade resistance

Ceramic-like coating

Graffiti resistant

Bacteria and mould resistant

Maintains light reflectivity

**Meets international
product standards**

Various fixing methods to
suit each project

Design solutions support.

For more information on please contact:

VITR  GROUP[®]
Architectural Facade Systems

13 Bromley Road, P.O. Box 820
Emu Plains NSW 2750 Australia

Ph: +61 2 4735 4122

Fax: +61 2 4735 6322

Email: mail@vitragroup.com

Web: www.vitragroup.com

Tunnel Lining Noise Walls



VITRAGROUP® has been pioneering market leading products to suit a wide variety of projects throughout Australasia.

We are inspired by a corporate vision to continually raise the benchmark through regular liaison with architects, designers and contractors, ongoing product development and technology breakthroughs like **VITRAFLON 700™**.

Our products are designed to match the specific requirements of Secondary Tunnel Lining, External Noise Walls and Bridge Claddings.

VITRAPANEL® is produced using high density Australian made fibre cement board by processing it and applying Vitragroup's proprietary coating system **VITRATHANE 644™** or **VITRAFLON 744™**. **VITRAPANEL®** is completely sealed and coated on one or both faces and all edges. Multiple thicknesses and sizes available to suit most applications.

Innovators in Tunnel Lining & Noise Walls



M5 East Motorway, Sydney



Crafters Tunnel, Adelaide

**Durable and
fire resistant**

**Cost-effective
and flexible**

Tunnels require fire and impact resistant linings, which offer long life and minimal maintenance.

VITRAPANEL® builds in those benefits and more:

- Chemical resistant
- Bacteria and mould resistant
- Non-corrodible.

VITRAPANEL® is a cost competitive, flexible and reliable tunnel lining. Vitragroup's production capacity is capable of meeting any project deadline.

- Fast to install and easily replaceable, reducing labour costs
- Variety of panel sizes and thicknesses for individual projects
- Flat or curved panels
- Short response time, no delays
- Easy to clean, low maintenance.

Noise Walls require extra long life and no maintenance.

VITRAPANEL PLATINUM™ provides up to 40 years of warranty and self cleaning due to the special low surface tension coating.

Cover upper: Crafters Tunnel, Adelaide

Cover lower: M7 Motorway, Sydney

M7 photos courtesy of ABIGROUP – LEIGHTON JV

M5 East & Cross City Tunnel photos courtesy of Baulderstone Hornibrook

Meets international product standards



M7 Motorway, Sydney



M7 Motorway, Sydney

Proven reliability

Quality, unique finish

Service and product excellence



Cross City Tunnel, Sydney

VITRAPANEL® and VITRAPANEL EC™ has been used successfully in tunnel and noise wall projects:

- **M5 East Freeway Tunnel, Sydney, NSW - 52,000 m²**
*Design & Construction: Baulderstone Hornibrook
Bilfinger + Berger M5 East Joint Venture*
- **Crafters Tunnel, Adelaide, SA - 10,000 m²**
Builder: McMahon Concrete Constructions Joint Venture
- **Brisbane City Bypass Tunnel, Brisbane, QLD - 5,000 m²**
Builder: Leighton Contractors
- **Cross City Tunnel, Sydney, NSW – 37,000 m²**
*Design & Construction: Baulderstone Hornibrook
Bilfinger + Berger Cross City Joint Venture*
- **Aberdeen Tunnel, Hong Kong, 30,000 m²**
- **Cross City Tunnel, Hangzhou, China, 12,000 m²**
- **Westlink M7 Noise Walls, Sydney, NSW – 45,000 m²**
Builder: ABIGROUP LEIGHTON Joint Venture.

Compressed Fibre Cement used is high density, high quality board which complies with:

- AS – Australian Standard
- BSI – British Standard Institution
- ISO – International Organisation for Standardisation.

While maximising strength, durability and design flexibility, VITRAPANEL® still maintains aesthetics.

- Low glare, driver friendly design
- Non-staining and abrasion resistant
- Maintains light reflectivity
- Graffiti resistant

VITRAGROUP® has the proven capability to work with their customers throughout the design and tender process, maximising the prospect of a successful outcome.

We guarantee first class service, strict control of quality and product excellence.

VITR PANEL®

World class tunnel lining & noise walls

Inspired with vision



DESCRIPTION

The Mixvent Series is a high performance, low profile and compact in-line mixed-flow fans.

With 7 models in the Series they match standard duct sizes from 100 to 315mm diameter. Suitable for mounting in any position.

Typical Applications

Designed for the ventilation of toilets, bathrooms, ensuites, laundries and kitchens in homes, hotels, apartments and commercial buildings. Suitable for both supply and exhaust air applications and the transfer of warm and cool air from one room to another.

Features

- High performance mixed-flow impeller.
- Fans can be easily removed for maintenance or repair without disturbing the duct system via specially designed support brackets.
- All models are designed for direct connection to standard diameter circular ducting.
- A mounting foot is incorporated into the fan housing design which assists with installation.
- Includes plug and lead for easy installation.
- Wired in high speed.

Construction

The housings of models 250/100 to 800/200 are of reinforced, moulded polypropylene plastic. Models 1300/250 and 2000/315 are of epoxy coated steel.

The mixed-flow impellers are of injection moulded plastic.

Motors

Type - 2-speed squirrel cage, capacitor run.

Electricity supply - 230V, single-phase, 50/60Hz.

Bearings - sealed for life, ball.

Speed-controllable using VA type speed controllers in high speed only.

Class B insulation, IP44.

See pages O-3/4 for details on the motors.

Internal Thermal Protection

By fuse to size 350/125 and for all other models manual-reset thermal overload protection device in accordance with mandatory requirement for in-duct fans AS/NZS60335-2-80:2004.

Testing

Air flow to ISO5801: Part 1, 1997 and AMCA 210-99.

Noise to BS848:Part 2, 1985

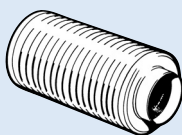
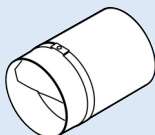
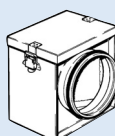
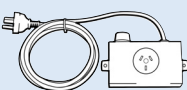
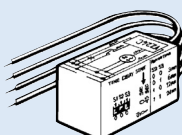
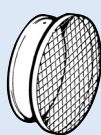
Special Note

Avoid the use of spring-loaded backdraft dampers, extensive lengths of duct and air valves with the TD-250/100 and TD-350/125 models.

Multi-stage fans

In addition to being used as single-stage fans, the Mixvent range can be arranged in parallel, in series or in both parallel and series. Such flexibility enables higher air flow and pressure demands to be met. Details for 2-stage parallel are shown over-page; refer to the Fans by Fantech Product Selection Program for details of other combinations.

ANCILLARY EQUIPMENT

 RED - Reducer* Ref. B-17	 TSS1 - 2-Speed switch Ref. B-17	 CC - Attenuators Ref. H-16
 SJK - Backdraft Damper Ref. J-3	 RSK - Backdraft Dampers Ref. J-3	 FC - Fast clamp Ref. J-5
 FGR - Filter Unit Ref. J-10	 VA - Speed controller Ref. M-5	 Plug-In Run-on Timer and Speed Controller Ref. Section M-16
 VZ - Run-on timer Ref. M-14	 MRJ - Inlet grille Ref. J-9	

* If it is necessary to connect the TD-2000/315 unit to 300mm diameter ducting it is recommended 2-RED031-030 reducers be used. In this situation the performance will be reduced by approximately 7%.

SUGGESTED SPECIFICATION

The In-line fans shall be of the Mixvent Series as supplied by Fantech Pty. Ltd and be of the model numbers shown on the schedule/drawing.

Impellers shall be of mixed-flow design and driven by 2-speed single-phase motors. Internal thermal protection shall be by fuse on sizes up to 350/125 and by manual reset on all other models.

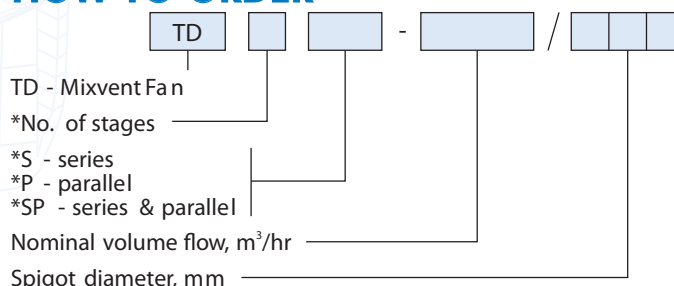
All fans shall be tested in accordance with ISO5801:Part 1 1997 or AMCA 210-99 for air flow and BS848:Part 2, 1985 for noise.

TECHNICAL DATA

Model Number	Fan Speed rev/sec	Avg. dB(A) @ 3m	TD.. 1 ph. Watts	Amps	Max. amb °C	App. wt. kg
250/100	37 / 31	36 / 32	24 / 18	0.11 / 0.10	40	2.0
350/125	38 / 32	37 / 39	30 / 22	0.13 / 0.10	40	2.0
500/150	42 / 33	45 / 38	50 / 44	0.22 / 0.19	60	2.7
800/200N	46 / 41	50 / 39	95 / 90	0.45 / 0.43	60	4.9
800/200	42 / 33	51 / 44	120 / 100	0.50 / 0.45	60	4.9
1300/250	42 / 33	57 / 49	180 / 140	0.80 / 0.60	60	9.4
2000/315	45 / 33	59 / 55	255 / 160	1.20 / 0.80	60	14.0

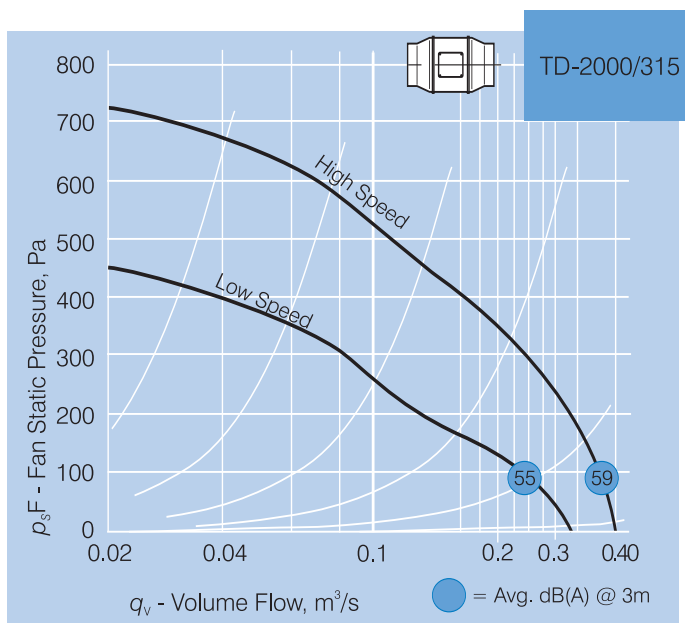
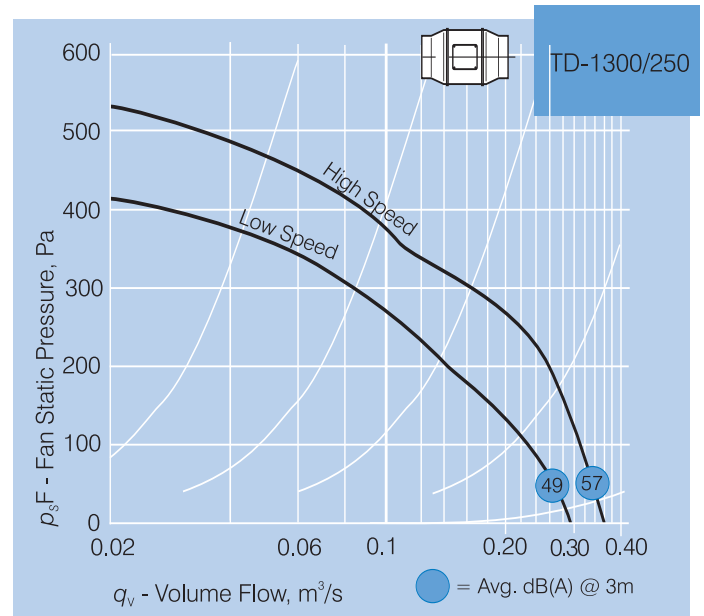
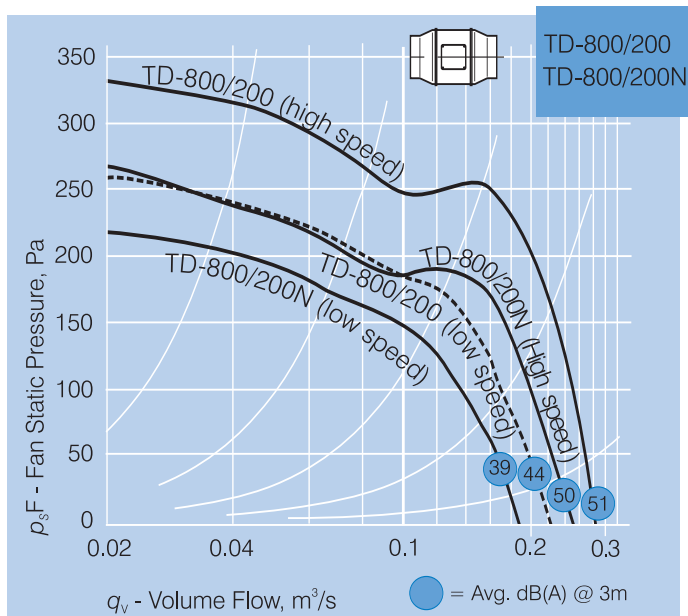
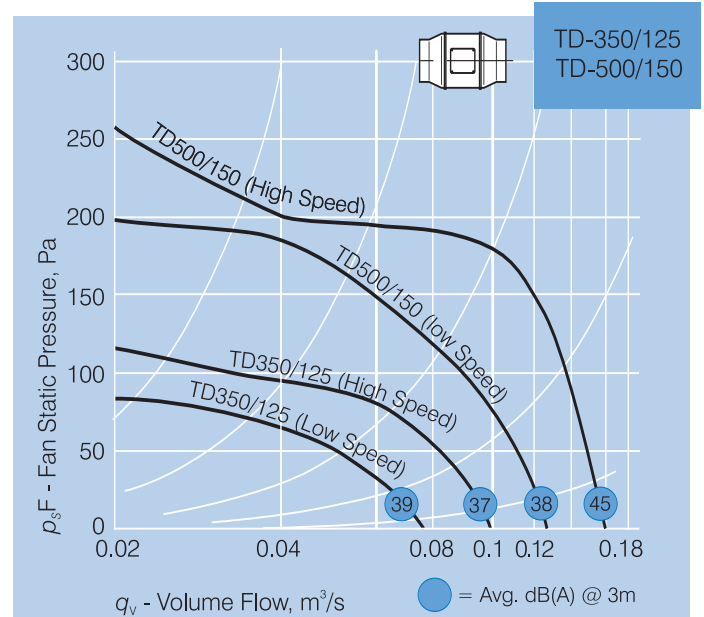
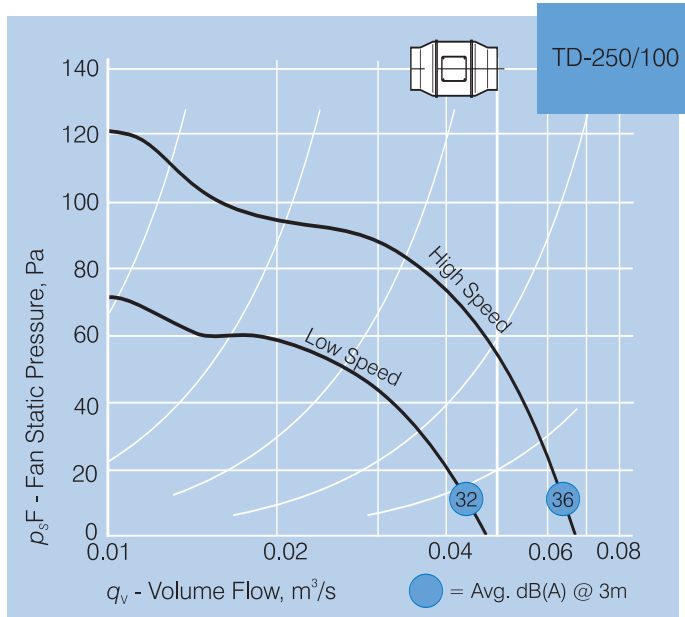
Values shown are High Speed / Low Speed

HOW TO ORDER



* Only required if other than standard single-stage unit.

SINGLE-STAGE

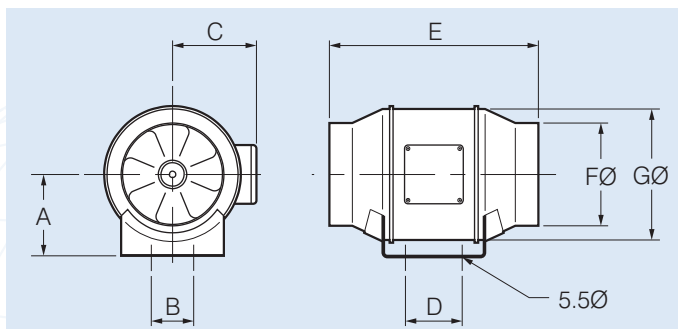


NOISE DATA

Model Number TD-...		Avg. dB(A) @ 3m	In-duct Sound Power Levels L_w dB re 1pW							
			63	125	250	500	1k	2k	4k	8k
250/100	Inlet	36	54	63	55	56	52	48	40	32
	Breakout	30	53	62	54	47	43	44	33	24
350/125	Inlet	37	61	63	55	56	54	51	42	32
	Breakout	32	59	62	55	50	47	46	34	23
500/150	Inlet	45	58	51	64	60	59	63	57	47
	Breakout	33	51	48	52	42	44	54	43	28
800/200N	Inlet	50	63	58	71	67	66	65	61	51
	Breakout	36	52	48	57	50	52	54	45	30
800/200	Inlet	51	63	63	70	66	68	68	65	53
	Breakout	39	55	52	56	49	54	58	49	32
1300/250	Inlet	57	63	68	73	70	75	74	67	60
	Breakout	42	48	52	48	50	60	60	53	46
2000/315	Inlet	59	67	73	75	74	77	75	68	61
	Breakout	47	55	57	61	58	64	64	58	52

Sound Power Levels shown are based on the high speed for each fan.

DIMENSIONS

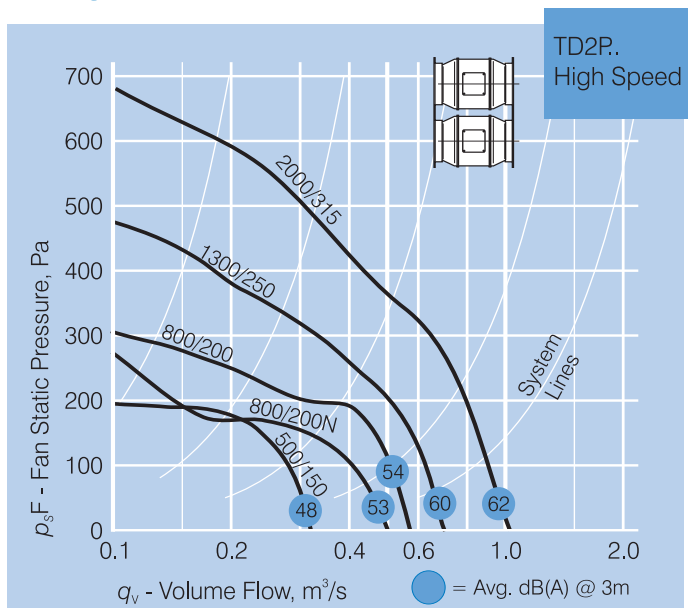


Model No. TD-..	Dimensions, mm						
	A	B	C	D	E	FØ	GØ
250/100	100	60	115	80	303	97	176
350/125	100	60	115	80	258	123	176
500/150	112	60	127	80	295	147	200
800/200&N	124	94	141	100	302	198	217
1300/250	155	140	192	145	386	248	272
2000/315	188	178	224	182	450	312	336

Scan the QR Code
to view more
information online.



FANS IN PARALLEL

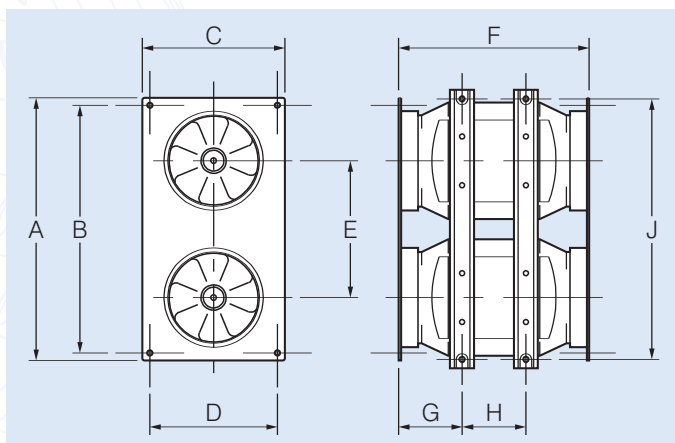


Noise Data

Model Number TD2P..	Avg. dB(A) @ 3m	In-duct Sound Power Levels L_w dB re 1pW							
		63	125	250	500	1k	2k	4k	8k
500/150	48	61	54	67	63	62	66	60	50
800/200N	53	66	61	74	70	69	68	64	54
800/200	54	66	66	73	69	71	71	68	56
1300/250	60	66	71	76	73	78	77	70	63
2000/315	62	70	76	78	77	80	78	71	64

The above curves relate to the performance of 2-fans in parallel.
Should higher volumes be required or selections of fans in series, refer to the Fantech CD program or a sales representative.

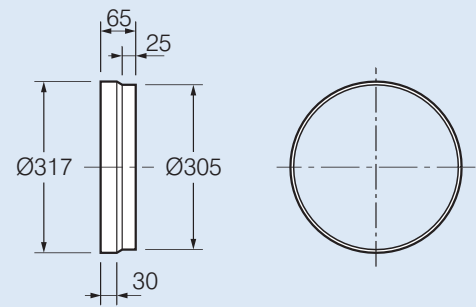
Dimensions



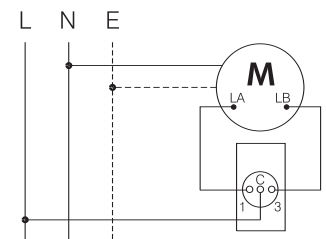
Model Number TD2P..	Dimensions, mm								
	A	B	C	D	E	F	G	H	J
500/150	395	375	220	200	206	310	110	80	417
800/200&N	440	420	240	220	225	317	103	100	456
1300/250	540	520	290	270	282	401	123	145	566
2000/315	690	650	355	335	347	451	136	182	699

We recommend fitting 2 off MCA shutters in parallel assemblies to eliminate short circuiting; these are not included in the dimensions shown.

RED031-030 - REDUCER



TSS1-15 - 2-SPEED SWITCH



TSS1-15

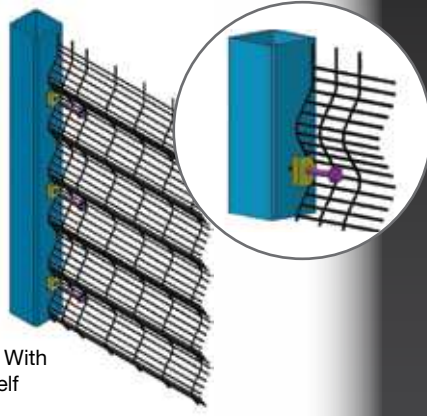
The TSS1-15 2-speed surface mounted switch has been specifically designed to suit the Mixvent range of fans.

Dimensions:- 70W x 114H
A recess depth of 25 mm is required

FANTECH
Intelligent Ventilation

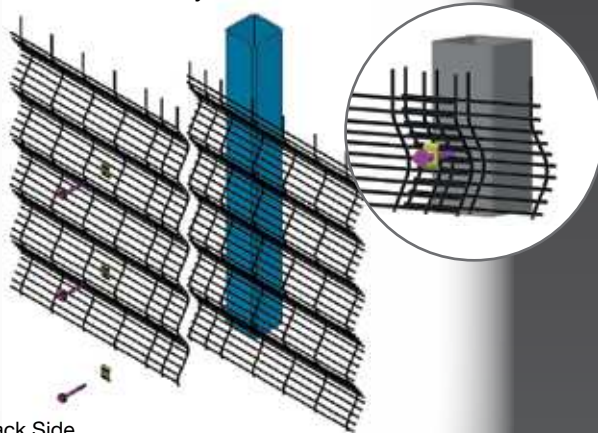
CORROMESH® 358

Typical Corromesh® Side Fixing Detail Corromesh® Anti Climb Spikes



Security U Clip With
Tamperproof Self
Drilling Screws

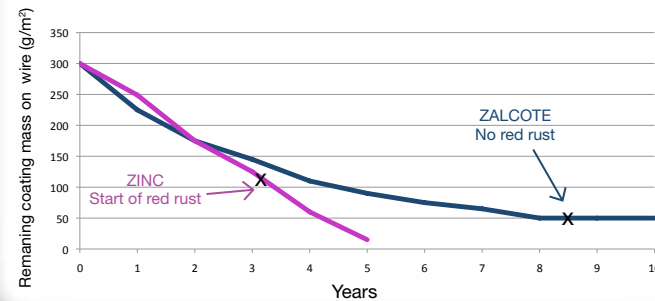
Typical Corromesh® Overlap Fixing Detail Security Washer



Attack Side
Corromesh® Anti
Climb Spikes

Security tamperproof self
drilling screws 50ml.

Corrosion Performance of Zinc and Zinc Alloy Coated 2.50mm Wires tested at a severe marine environment (Belmont Beach).



CORROMESH® PATTERN

75mm x 13mm resistance welded at each intersection.
Horizontal Wires 3.15mm dia. at 13mm centres.
Vertical Wires 4.0mm dia. at 75mm centres.
Extended at top to provide a spike topping.
2 x Additional Vertical Edge wires at 37mm per panel.
Mesh corrugations approximately 95mm pitch x 28mm deep overall.
Std sheet size
2404mm width x 1800,2100,2400mm height
Tolerance: Width ± 2.00 mm Length ± 2.00 mm
Formed top 50mm x 90 degree to support
Razar Tape®. (if required)

CORROMESH® MATERIAL

Horizontal wires 3.15mm drawn wire.
Vertical wires 4.0mm drawn wire.
Tolerance ± 0.08 mm
Yield strength 375-470MPa
Tensile strength 500-625MPa
Welded to minimum 60% of wire tensile strength
Australian Standard for coating AS 4534-2006 W05
Coating: Zinc Alloy 160-260 gsm sqm
Australian Standard for coating AS 4534-2006 W05

FENCE POSTS

- 65 x 65 x 2.5mm RHS Post (1.8 Panel)
2500mm Long, Footing Depth 650mm
- 65 x 65 x 2.5mm RHS Post (2.1 Panel)
2900mm Long, Footing Depth 750mm
- 75 x 75 x 3.0mm RHS Post (2.4 Panel)
3300mm Long, Footing depth 850mm

FASTENERS

35mm Self drilling screws
50mm Tamper proof self drill security screws
Pre-Galvanised Corromesh U clips

PANEL SIZES

2404mm x 1800mm high
2404mm x 2100mm high
2404mm x 2400mm high



Australian Family
Owned & Operated



Australian Security Fencing P/L

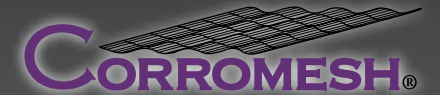
138 Faurey Road, South Windsor NSW 2756

www.asf4u.com.au sales@asf4u.com.au

Phone 02 4577 9633 ABN 39 003 934 094

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CORROMESH® 358 FENCING



**A PREMIUM AUSTRALIAN PRODUCT
MADE FOR AUSTRALIAN CONDITIONS**

STYLISH, CONTEMPORARY,
HIGH SECURITY FENCING



CORROMESH® 358

STYLISH, CONTEMPORARY, HIGH SECURITY FENCING ALTERNATIVE



LOW INVESTMENT, HIGH SECURITY

Corromesh® provides a smooth traditional corrugated appearance belying the strong security characteristics of the mesh. The horizontal corrugations give the fence line a contemporary, stylish and distinctive appearance which suits the landscape and allows high levels of transparency. The rib design of Corromesh® provides maximum strength, making it ideal where a very strong but simple appearance is required.

Corrugations allow Corromesh® fencing to be stepped evenly over uneven landscapes to provide a continuous uninterrupted fence line.

Corromesh® can be fixed to any style of post or structure. The corrugations in Corromesh® provide security protection for the post fixings.

Corromesh® sheets are able to be overlapped in any direction to form a continuous layer.

Corromesh® stacks and packs neatly for easy handling and delivery.



UNIQUE FEATURES OF CORROMESH® 358

PROFILE

Corromesh® 358 security fencing is formed by inserting a continuous wave evenly over the width and length of the weld mesh panel. This wave profile allows for the Corromesh® panels to be made continuous in either length or height.

Corromesh® panels can be fitted to almost any structure from either the rear or front.

The Corromesh® panel fixings become obscure by being placed in the valley of the weld mesh panel. The type and number of fixings used can be varied to suit the applications security level.

APPEARANCE

Corromesh® fencing is available in Zalcote or any range of powder coat finishes. The narrow mesh aperture provides excellent visibility for cameras or surveillance and allows the mesh to blend unobtrusively into the background landscape. Corromesh® gives a smooth aesthetic appearance belying its high security benefits.

APPLICATIONS

Corromesh® is suitable for any situation that requires a high security barrier with anti climb, anti cut qualities combined with an unobtrusive appearance.

- Parks and waterways fencing
- Council Depots
- Government Utilities: Water, Electricity, Gas, Rail, Bridges etc.
- Industrial developments
- Schools

BENEFITS

- Highly anti corrosive zinc alloy finish.
- Anti climb, finger proof apertures with spike top.
- Light weight, extremely rigid weld mesh sheet.
- Quick and easy to install.
- Can be retrofitted to existing posts. (RHS, SHS, etc.)

GATES

- Standard or Made to Measure



ENCLOSURES

- Bike and Garage cages
- Storage enclosures



SCREENS

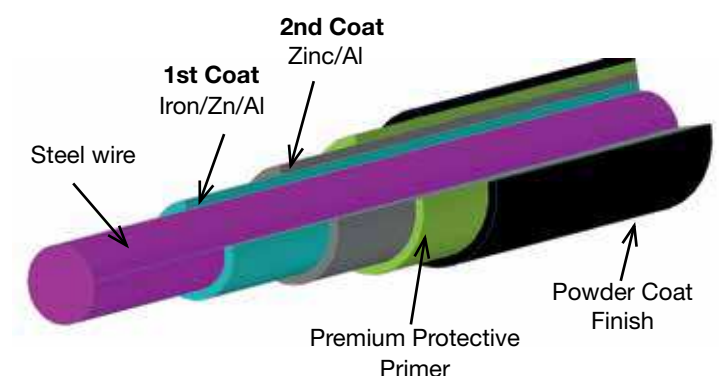
- Security screens and enclosures
- Safety screens
- Architectural uses

SUPERIOR CORROSION RESISTANCE

Made to the highest quality standards, using only premium quality Australian wire, incorporating Zalcote coatings (Zinc Alloy.)

Zalcote coated wire has superior coating uniformity and alloy layer integrity producing longer life with smoother coating surface.

- 95% Zn 5% Al coated wire has superior corrosion resistance compared to galvanised wire, especially in marine environments.
- From salt spray test results, 5% Al coated wire lasts 3-4 times longer than galvanised wire.
- In severe marine environments, 5% Al coated wire has lasted more than 3 times longer than galvanised wire.



POWDER COATED CORROMESH® 358

Now available with optional premium Zinc Chromate undercoat.

Ensures powder coated Corromesh® will stand up to the harshest conditions and still look good for years to come

**LASTS UP TO
4 TIMES THE
LIFE OF ZINC
GALVANISED
COATINGS***

marmoleum®

Technical Specification

Marmoleum meets the requirements of EN-ISO 24011
Marmoleum Acoustic meets the requirements of EN 687.
Marmoleum Decibel meets the requirements of EN 686.



**COMMITTED
TO THE HEALTH
OF ONE**
www.FORBO-FLOORING.COM.AU/CHO

		Marmoleum MCS	Marmoleum Marbled / Patterned/ Solid	Marmoleum Real/ Fresco (sport)	Marmoleum Real (sport)	Marmoleum Decibel	Marmoleum Acoustic	
	Total Thickness	EN - ISO 24346	2.0 mm	2.5 mm	3.2 mm	4.0 mm	3.5 mm	4.0 mm
	Domestic : heavy	EN - ISO 10874	Class 23	Class 23	Class 23	Class 23	Class 23	Class 23
	Commercial : general / heavy / very heavy	EN- ISO 10874	Class 32	Class 34	Class 34	Class 34	Class 33	Class 33
	Light industrial : moderate / general / heavy	EN - ISO 10874	Class 41	Class 43	Class 43	Class 43	Class 41	Class 41
	Roll width	EN - ISO 24341	2 m	2 m	2 m	2 m	2 m	2 m
	Roll Length	EN - ISO 24341	≤ 32 m	≤ 32 m	≤ 32 m	≤ 32 m	≤ 32 m	≤ 32 m
	Residual indentation	EN - ISO 24343-1	≤ 0.15 mm	≤ 0.15 mm	≤ 0.15 mm	≤ 0.20 mm	≤ 0.30 mm	≤ 0.40 mm
	Castor chair continuous use	EN 425	Suitable for office chairs with castors.					
	Light fastness	EN - ISO 105 B-02	Method 3: blue scale minimum 6					
	Flexibility	EN - ISO 24344	ø 30 mm	ø 40 mm	ø 50 mm	ø 60 mm	ø 40 mm	ø 60 mm
	Chemical resistance	EN - ISO 26987	Resistant to diluted acids, oils, fats and to conventional solvents. Not resistant to prolonged exposure to alkalis.					
	Cigarette resistance	EN 1399	Marks left on linoleum as a result off stubbed-out cigarettes can be removed.					
	Bacteriostatic properties	Marmoleum has natural bacteriostatic properties, which are confirmed by independent laboratories, even against the bacteria MRSA.						
	Acoustical impact sound reduction	EN - ISO 717-2	≤ 4 dB	≤ 5 dB	≤ 6 dB	≤ 7 dB	≤ 17 dB	≤ 14 dB
	Slip Resistance	AS 4586 : 2013 (oil-wet ramp)	R10	R10	R10	R10	R10	R10
		AS 4586 : 2013 (wet pendulum)	P2	P2	P2	P2	P2	P2
	Electrical resistance Marmoleum Ohmex	EN 1081	-	1-10 ⁶ < R1 < 1-10 ⁸ Ω static dissipative	-	-	-	-
	Life cycle assessment	LCA is the foundation for securing the lowest environmental impact.						

Marmoleum meets the requirement of EN 14014

	Reaction to fire	ISO 9239-1 CRF & Smoke Development	>8kW/m ² <750% min	9.2 kW/m ² 78% min	>8kW/m ² <750%min	>8kW/m ² <750%min	>8kW/m ² <750%min	>8kW/m ² <750%min
		AS/NZS 4586 BCA C1.10	Group 3					
	Body Voltage	EN 1815	< 2kV	< 2kV	< 2kV	< 2kV	< 2kV	< 2kV
	Thermal Conductivity	EN 12524	0.17 W/m.K	0.17 W/m.Kq	0.17 W/m.K	0.17 W/m.K	0.17 W/m.K	0.17 W/m.K
	Slip resistance	EN 13893	DS: ≥ 0.30	DS: ≥ 0.30	DS: ≥ 0.30	DS: ≥ 0.30	DS: ≥ 0.30	DS: ≥ 0.30

INSTANT DOWNLOADS

For other documents visit our downloads page:
www.forbo-flooring.com.au/marmoleum-downloads

[MARMOLEUM 2.5MM | FIRE REPORT | AS 9239-1](#)

[MARMOLEUM 2.5MM | FIRE REPORT | AS 3837 \(WALLS\)](#)

[MARMOLEUM | SLIP REPORT | AS 4586:2013](#)

[MARMOLEUM | CLEANING & MAINTENANCE GUIDE](#)

[MARMOLEUM | GREENTAG CERTIFICATE](#)

[MARMOLEUM | WARRANTY FORM](#)

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creating better environments

www.forbo-flooring.com.au/marmoleum

Forbo

FLOORING SYSTEMS

Technical specifications

Sphera element meets the requirements of EN-ISO 10581



sphera® element sphera® energetic

	Binder content	EN-ISO 10581	type 1; binder > 55%	type 1; binder > 55%
	Total thickness	EN-ISO 24346	2.0 mm	2.0 mm
	Surface finish		SMART top	SMART top
	Collection size		62	52
	Commercial use	EN-ISO 10874	34 very heavy	34 very heavy
	Industrial use	EN-ISO 10874	43 heavy	43 heavy
	Roll width	EN-ISO 24341	2 m	2 m
	Roll length	EN-ISO 24341	≤ 25 m	≤ 25 m
	Total weight	EN-ISO 23997	2.9 kg/m²	2.9 kg/m²
	Dimensional stability	EN-ISO 23999	≤ 0.2 %	≤ 0.2 %
	Residual indentation Typical value	EN-ISO 24343-1	≤ 0.10 mm ~ 0.03 mm	≤ 0.10 mm ~ 0.03 mm
	Abrasion resistance	EN 660-2	group T	group T
	Castor chair continuous use	ISO 4918 / EN 425	pass	pass
	Light fastness	ISO 105-B02	≥ 6	≥ 6
	Flexibility	EN-ISO 24344	Ø 10 mm	Ø 10 mm
	Resistance to chemicals	EN-ISO 26987	very good	very good
	Slip resistance	AS 4586:2013	R10 - P3	R10 - P3
	Wetroom application		yes	yes
	Application on underfloor heating		yes	yes
	TVOC after 28 days	ISO 16000-6	≤ 10 µg/m³	≤ 10 µg/m³
	Renewable electricity	Sphera is manufactured using 100% electricity made from renewable sources		
	Life cycle assesment	Life cycle assessment LCA is the foundation for securing the lowest environmental impact		
Sphera element meets the requirements of EN 14041				
EN 14041 0200301-0408-605				
	Reaction to fire	AS 9239-1	CRF >8kw/m² Smoke Dvlp <750% min	CRF >8kw/m² Smoke Dvlp <750% min
	Bacteria resistance	EN 846	Does not support growth	Does not support growth
	Body voltage	EN 1815	≤ 2 kV	≤ 2 kV
	Thermal conductivity	EN 12524	0.25 W/m-K	0.25 W/m-K

Our recommended adhesive for the Sphera collection is 540 Eurosafe Special or 640 Eurostar Special. Please contact customer services for more information.

All Forbo Flooring Systems' sales organisations and manufacturing sites worldwide have certified Quality Management Systems in accordance with ISO 9001.

All Forbo Flooring Systems' manufacturing plants have certified Environmental Management Systems in accordance with ISO 14001.

Sphera is manufactured in a facility certified to SA8000.

The Life Cycle Assessment (LCA) of Forbo Flooring Systems' products is documented in individual Environmental product declarations (EPD's) or local building rating schemes such as BREEAM.



INSTANT DOWNLOADS

For other documents visit our downloads page:

www.forbo-flooring.com.au/sphera-download

[SPHERA | SLIP REPORT | AS 4586](#)

[SPHERA | FIRE REPORT | AS 9239-1](#)

[SPHERA | CLEANING & MAINTENANCE](#)

[SPHERA | LRV & NCS](#)

[SPHERA | WARRANTY FORM](#)

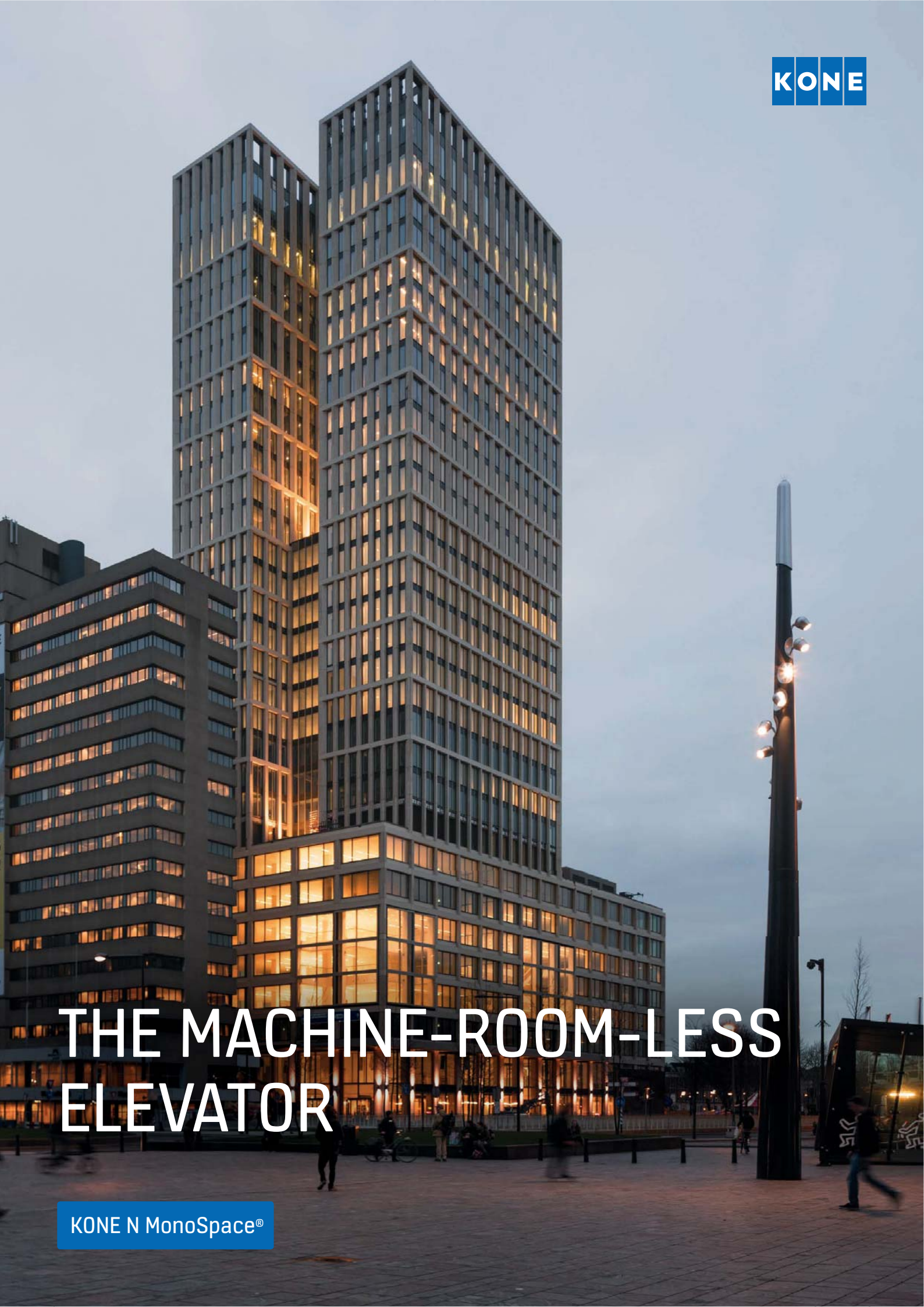
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FLOORING SYSTEMS

creating better environments

The background of the entire page is a photograph of a tall, modern building at dusk. The building has a distinctive design with a grid-like facade of vertical and horizontal elements. The interior lights are on, creating a warm glow that is visible through the building's structure. To the left of the main building is a shorter, more traditional-looking building. In the foreground, there is a paved plaza with some people walking. A tall, thin light pole with several lights is visible on the right side of the plaza. The sky is a pale, overcast blue.

THE MACHINE-ROOM-LESS ELEVATOR

KONE N MonoSpace®

YOUR TRUSTED ELEVATOR PARTNER

With over 100 years of experience in the elevator business and a strong track record in safety, KONE is your trusted partner dedicated to ensuring smooth People Flow® in your building. We revolutionised the industry in 1996 with the world's first machine room-less elevator – the KONE N MonoSpace® – and the energy-efficient KONE EcoDisc® hoisting machine. Our proven track record, including over 600,000 KONE EcoDisc installations worldwide, speaks for itself.

We have listened to our customers and carefully analysed each and every part of our industry-leading elevator solution, and renewed it from top to bottom. Everything we did best, we've made even better.



3 REASONS TO CHOOSE KONE N MONOSPACE

1 EXCELLENT ECO-EFFICIENCY THAT CUTS THE CARBON FOOTPRINT OF YOUR BUILDING

Up to 28 % more energy-efficient than before thanks to the upgraded KONE EcoDisc, centralised hoisting, and more advanced standby solutions



A STRONG TRACK RECORD

- More than 100 years of experience in the elevator industry
- Over 600,000 KONE EcoDisc elevator installations worldwide
- Over 950,000 elevators and escalators in service
- 40,000 dedicated experts worldwide

2 SMOOTH RIDE COMFORT FOR THE BEST POSSIBLE PASSENGER EXPERIENCE

Quality guaranteed through ride-comfort testing of all elevators before handover – a service unique to KONE

Quiet and smooth operation, and accurate leveling enabled by:

- The renewed KONE EcoDisc hoisting machine, brakes, and centralised hoisting
- An improved car structure and sound-isolated guide shoes

3 AWARD-WINNING DESIGN THAT HELPS YOUR BUILDING STAND OUT

Easy selection of car interiors from a collection of functional and visually appealing designs created by KONE's award-winning design professionals

The industry's most flexible and versatile offering, with over 100 materials and accessories, offering millions of possible combinations

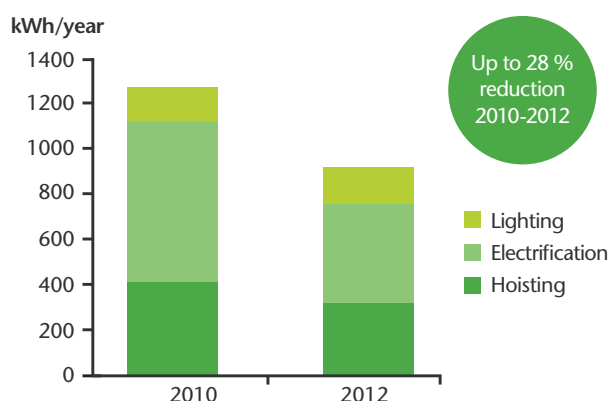
The most innovative materials and lighting solutions

EXCELLENT ECO-EFFICIENCY

THAT CUTS YOUR BUILDING'S CARBON FOOTPRINT

At KONE we have always been renowned for our revolutionary eco-efficient technology. Our renewed elevator solution improves upon our already industry leading energy consumption levels by up to 28%.

KONE elevator's energy consumption



The basis for the calculation is an elevator speed of 1 m/s, a load of 1000 kg, 150,000 starts/year, a travel height of 12 m and 5 floors

Installing an eco-efficient KONE elevator solution can also help in achieving green **building accreditations** such as **LEED** or **BREEAM** certification.

SAVE ENERGY, SAVE SPACE

As well offering excellent energy efficiency, because the new KONE N MonoSpace® also helps you save valuable space.

- The highly compact elevator equipment – including the KONE EcoDisc hoisting machine and other mechanical structures – now requires even less height and width in the shaft.
- This **freed up valuable floor space** or allows for a more spacious, higher-capacity car.
- When replacing an existing elevator, the new KONE N MonoSpace **eliminates the need for a machine room** and **maximises elevator capacity** within the existing shaft dimensions.

1 More efficient hoisting machinery

The completely renewed KONE EcoDisc® hoisting motor and highly efficient drive system delivers even better energy efficiency, helping to reduce both operating costs and your building's carbon footprint.

2 Eco-efficient regenerative drive

Our latest regenerative drive recycles energy for immediate reuse within the building and cuts consumption by up to 20%*.

3 Long-lasting LED lighting

As well as being up to 80%* more efficient than halogen lighting, LED lighting also lasts up to 10 times longer*.

4 More advanced standby solutions

Upgraded standby solutions power down the equipment when it is not in use, providing substantial energy savings.

* The calculation is based on an elevator speed of 1 m/s, a load of 1000 kg, 150,000 starts/year, a travel height of 12 m and 5 floors.



U.S. based business magazine Forbes has ranked KONE the 56th most innovative company in the world. KONE is the only elevator and escalator company featured on Forbes' list this year.

SMOOTH RIDE COMFORT

FOR THE BEST POSSIBLE PASSENGER EXPERIENCE

Every aspect of the upgraded KONE MonoSpace® is designed to add real value to your building and maximise comfort, safety, and convenience for passengers. The renewed KONE EcoDisc® hoisting machine is complemented by a wide range of other upgrades that are designed to deliver industry-leading ride comfort year after year.

1 Renewed machinery and brakes

- The new, highly reliable motor control system further improves ride comfort, with smooth acceleration and deceleration, and highly accurate car leveling.
- The renewed braking system ensures a comfortable, safe, quiet ride, while also minimising noise transfer to the surrounding areas.
- The new brake test functionality automatically checks brake condition daily. This helps to further improve safety and reliability.

2 Redesigned hoisting system for minimised vibration and noise

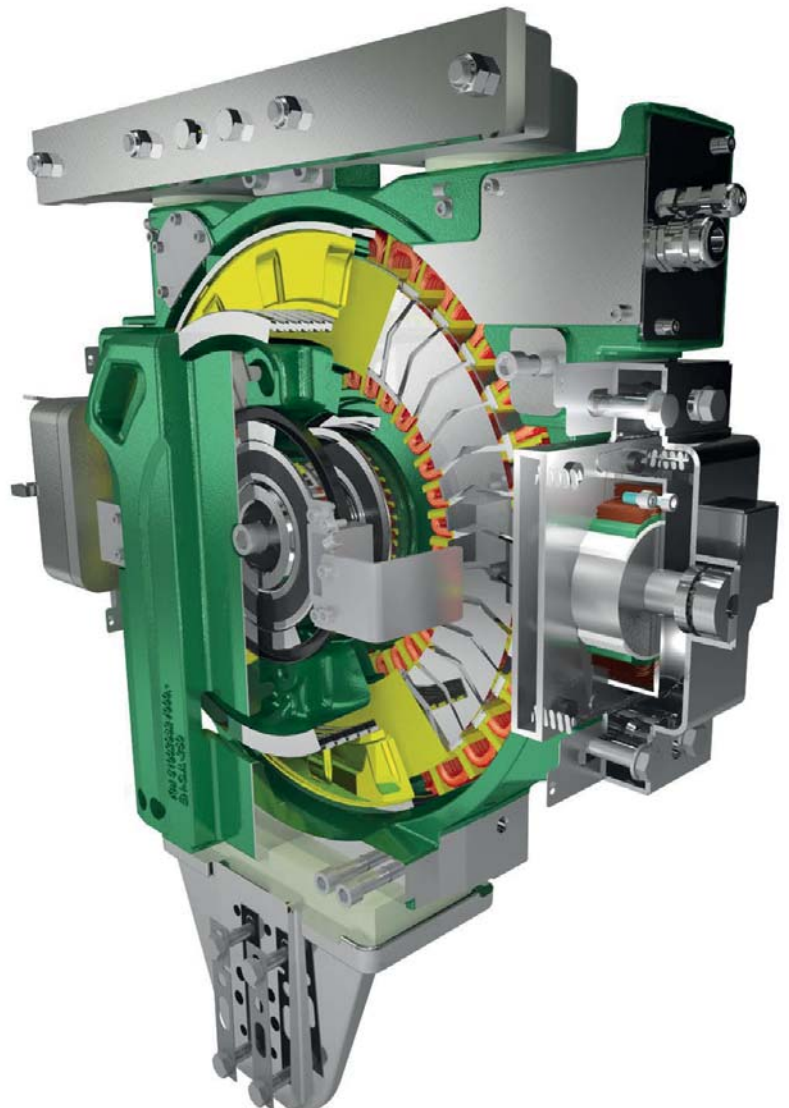
- Centralised, low-friction hoisting cuts noise and vibration, improving comfort for passengers and minimising disturbance to the surrounding areas.

3 Improved car structure with even better noise isolation

- The rigid structure and superb noise isolation of the renewed elevator car ensure a smooth, quiet ride.
- Isolated guide shoes, constructed using low-noise sliding material, further help to reduce noise.

ALL ELEVATORS TESTED FOR RIDE QUALITY – A SERVICE UNIQUE TO KONE

- KONE provides a comprehensive ride quality testing service as standard for all its elevator installations.
- Your elevator will not be handed over for use before it passes this test, which measures noise and vibration levels inside the car.
- This thorough quality and reliability testing prior to handover further reduces the need for unplanned maintenance callouts.



AWARD-WINNING DESIGN

THAT HELPS YOUR BUILDING
STAND OUT

WHAT SETS KONE DESIGN APART

1 Easy selection of car interiors

A collection of 52 functional and visually appealing designs created by KONE's award-winning design professionals.

2 The most flexible and versatile offering

100 different materials and accessories that can be combined freely and used in all elevator products, for both new buildings and modernisation projects.

3 The most innovative materials

The combination of unique textured, patterned, and 3D-effect wall materials with novel lighting solutions creates a stunning visual effect.

4 Award-winning design

KONE's elevator and signalisation design concepts have received both Red Dot and Good Design awards.





KONE DESIGN COLLECTION

Regardless of the type of building you are developing, the elevator you choose should complement your building's look and feel, create a lasting impression on passengers, and make your building attractive to potential tenants. Your elevator also needs to be functional – it should be accessible for all, well lit, user-friendly, easy to clean, and resistant to wear and tear.

The new KONE Design Collection – created by our award-winning design team – offers you a versatile set of contemporary, themed interiors to choose from.

You can also create your own unique look and feel by mixing and matching our wide range of materials and accessories.

For more design inspiration take a look at the complete KONE Design Collection and use the KONE Car Designer tool together with a KONE sales representative.



reddot design award
winner 2016

4 Good Design awards
4 Red Dot design awards

ACCESSORIES DESIGNED TO IMPROVE USER EXPERIENCE

Our wide range of accessories are designed to give passengers a great elevator experience with every trip.

As well as adding the finishing touches to your elevator's interior, they make using the elevator even easier and more convenient for passengers.

1. Car operating panel with memorable animal patterns to help children find their floor (KDS D).
2. Designed for senior housing, this car operating panel uses clear, highly visible numbers (KDS D).
3. KONE InfoScreen makes it easy to communicate important building information to tenants and visitors.



1



2



3

SUPPORTING YOU EVERY STEP OF THE WAY

Choose a partner with over a century of experience in delivering pioneering elevator solutions. Get expert advice from professionals and enjoy the peace of mind that comes with comprehensive support. KONE is with you every step of the way – from planning and design through installation and maintenance to modernisation – for the entire life cycle of your building.



1 Expert design and planning services

- Expert planning advice helps you specify the optimal elevator solution for your building requirements.
- Easy-to-use online design tools save you time and effort during the design process by allowing you to create CAD drawings, 3D BIM models, and custom car interiors.
- Energy consumption calculations for every individual elevator solution.



2 Safe and efficient installation

- Highly efficient scaffoldless installation methods result in considerable cost savings for our customers and minimise disruptions to other construction work.
- Strict quality criteria for each phase of installation – ensuring “first time right every time”.
- Continuous training, site audits, safety passports, and proven methods ensure maximum site safety.
- Eco-efficient installation processes maximise waste recycling and minimise the use of solvents.



3 Quality assurance at handover and professional maintenance

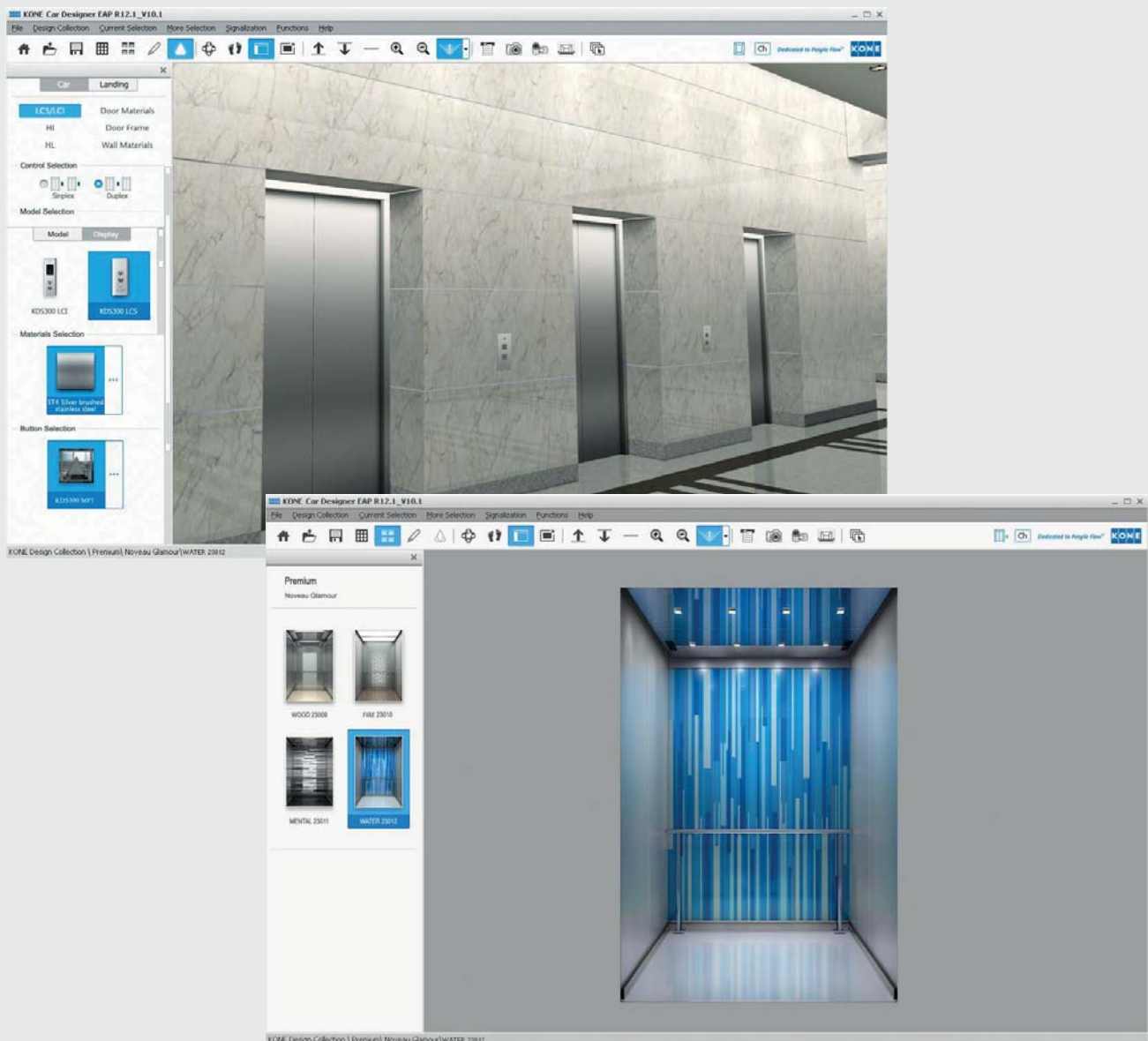
- We are the only company to provide in-depth ride quality testing of each elevator before hand over.
- Our elevators are known for their reliability, and have an average availability rate of 99%.
- Our global spares centre stocks over 150,000 parts and offers 24-hour delivery for the most commonly requested parts.
- Preventive KONE Care™ maintenance solutions – including a comprehensive new online service-reporting system – make it easier to monitor and budget for elevator maintenance.

WORLD-CLASS DESIGN TOOLS

Take advantage of our easy-to-use tools for planning your elevators and designing a car that will fit your building's look and feel perfectly.

KONE Elevator toolbox

- With the **KONE Elevator Toolbox** you can create a detailed elevator specification online and create CAD drawings.



KONE Car Designer – now including new designs, materials, and accessories

- Create your own elevator car design together with a KONE sales representative with the **KONE Car Designer**.
- **Choose a theme** from the KONE Design Collection, or **mix and match** your choice of materials, lighting, and accessories **to create a totally new look**.
- Once your design is ready, the KONE sales representative will send it to you as a PDF so you can share it with colleagues.

NO COMPROMISES ON SAFETY

When you choose KONE, you choose peace of mind. Safety is the starting point for every KONE solution, and all our solutions include the latest innovations in safety technology as standard.

Our completely renewed KONE MonoSpace elevator solution includes a wide range of features that are designed to both maximise safety for passengers and make it easy for you to inspect the condition of your equipment to ensure that it operates safely at all times.

- Daily **automatic brake testing**
- **Proven rope technology** that is easy to inspect
- A curtain of light to ensure **safe entry and exit**
- **Accurate landing** that eliminates risk of tripping
- **24/7 contact** with the **KONE service centre** in case of emergency

KONE also demonstrates its strong commitment to safety by working closely with the people who rely on our products to provide a safe, comfortable experience in their daily lives. Our annual safety events give people the opportunity to familiarise themselves with how elevators operate and how to use an elevator safely.

STANDARDS-COMPLIANT MANUFACTURING

Standards-compliant manufacturing

- All KONE manufacturing units are ISO 14001 certified and meet all relevant elevator industry standards and requirements





AWARDS AND CERTIFICATIONS

- 08/2016** KONE ranked as one of the world's most innovative companies, by the U.S. based business magazine Forbes. KONE still is the only elevator and escalator company featured on the list.
- 08/2015** KONE ranked as one of the world's most innovative companies, by the U.S. based business magazine Forbes. KONE's ranking is now 48th, and out of all European companies listed this year, KONE was ranked an impressive sixth. KONE is the only elevator and escalator company featured on Forbes' list this year.
- 08/2014** KONE ranked as one of the world's most innovative companies, by the U.S. based business magazine Forbes. KONE's ranking is 42nd.
- 08/2013** KONE ranked as one of the world's most innovative companies, by the U.S.-based business magazine Forbes. KONE's ranking is 37th and of the European companies listed, KONE ranked as 12th.
- 10/2011** KONE features for the first time in the Carbon Disclosure Project's (CDP) Nordic Carbon Disclosure Leadership Index.
- 08/2011** KONE is the only elevator and escalator company to make the top 50 of US-based business magazine Forbes global list of the 100 most innovative companies in the world.
- 07/2010** KONE becomes the first company in the elevator and escalator industry to achieve an A-class energy rating according to the VDI 4707 standard, for the KONE MonoSpace® elevator.
- 06/2009** KONE awarded a Prime Award for Eco-Business by Prime Magazine. Co-organised by Prime Magazine and the Business Environment Council, the award is given to companies who demonstrate outstanding achievements in environmental protection.
- 01/2008** KONE chosen as one of the 2007 Annual Top 10 International Brands for China Energy-Efficient Buildings by the China Ministry of Construction.
- 12/2007** KONE awarded 2007 Best Real Estate Supplier at the China International Real Estate & Architect Fair (CIHA F). KONE MonoSpace® recommended as one of the 2007 Recommended Components & Products for Energy-Saving Construction.
- 12/2005** KONE MonoSpace cited by Legambiente Lombardia (Environmental Coalition of Lombardy), the government of the Region of Lombardy, the Technical University of Milan, and Bocconi University for environmental friendliness at the fifth annual Friend of the Environment Awards for Innovation. These awards are given for Efficiency in Consumption and Eco-design: solutions for sustainable development.
- 06/2005** 100,000th KONE MonoSpace elevator installed in the National Grand Theater, Beijing, China.
- 07/2003** KONE wins Premio Quattrum Award for originality, Spain.
- 03/2000** KONE solutions chosen for Thermo-Staete, the most energy-efficient office building in the Netherlands.
- 04/1999** KONE wins Construmat 1999 Prize for Innovative Technology, Barcelona, Spain.
- 02/1999** KONE solutions chosen for "Eyecatcher", a Swissbau showcase green building, Switzerland.
- 03/1998** KONE wins Electrical Industry's (SE T) Annual Award, Finland.
- 10/1997** KONE wins Top Prize for Innovation at the SAIE '97 Fair, Bologna.
- 06/1997** KONE wins the Grand Prix '97 at the CONECO fair, Bratislava, Slovakia.
- 09/1996** KONE wins the Grand Prix at the Building Fair, Prague.

KONE N MONOSPACE® GUIDE

KONE N MONOSPACE BASIC DIMENSIONS															
Persons/rated load (kg)	Speed (m/s)	Car size BBxDD (mm)	Door type	Car type	LL (mm)	LR (mm)	NOM		NOM		Balustrade height				
							EN81-20		EN81-20						
							WW (mm)	WD (mm)	Pit (mm)	Headroom (mm)*					
8/630	1.0	1100 × 1400	SO	SEC	900	1050	1675	1790	1150	3580	700				
			CO	SEC	800	950	1775	1690							
			CO	SEC	900	1050	1975	1690	1150	3890	1100				
			SO	TTC	900	1050	1675	2010	1150	3580	700				
			CO		800	950	1775	1810							
			CO		900	1050	1975	1810	1150	3980	1100				
13/1000	1.0	1100 × 2100	SO	SEC	900	1050	1675	2490	1150	3580	700				
			SO	TTC	1000	1150	1825	2710	1150	3980	1100				
		1600 × 1500	CO	SEC	900	1050	2140	1830	1150	3580	700				
		1600 × 1400	CO	SEC	900	1050	2140	1780	1150	3580	700				
		1400 × 1600	CO	SEC	900	1050	1975	1890							
		1.75	1100 × 2100	SO	SEC	900	1050	1675	2490	1350	3790	700			
	SO			TTC	1000	1150	1825	2710	1350	4190	1100				
	1600 × 1500		CO	SEC	900	1050	2140	1830	1350	3790	700				
	1600 × 1400		CO	SEC	900	1050	2140	1780							
	1400 × 1600	CO	SEC	900	1050	1975	1890								
15/1150	1.0	1800 × 1450	CO	SEC	1000	1150	2340	1800	1150	3580	700				
			CO	SEC	1100	1250	2375	1800							
		1700 × 1500	CO	SEC	1000	1150	2240	1830				1150	3980	1100	
		1300 × 2100	CO	SEC	1000	1150	2175	2390							
		CO	TTC	1000	1150	2175	2510								
		1500 × 1800	CO	SEC	1000	1150	2175	2090	1150	3580	700				
	1.75	1800 × 1450	CO	SEC	1000	1150	2430	1800	1350	3790	700				
			CO	SEC	1100	1250	2430	1800							
		1700 × 1500	CO	SEC	1000	1150	2330	1830				1350	4190	1100	
		1300 × 2100	CO	SEC	1000	1150	2175	2380							
		CO	TTC	1000	1150	2175	2510								
		1500 × 1800	CO	SEC	1000	1150	2175	2080	1350	3790	700				
	2.0	1800 × 1450	CO	SEC	1000	1150	2445	1860	1500	4300	1100				
			CO	SEC	1100	1250	2445	1860							
		1700 × 1500	CO	SEC	1000	1150	2345	1885				1500	4300	1100	
		1300 × 2100	CO	SEC	1000	1150	2175	2415							
		CO	TTC	1000	1150	2175	2510								
		1500 × 1800	CO	SEC	1000	1150	2175	2115	1500	3900	700				
16/1200	1.0	1400 x 1970	CO	SEC	900	1050	1975	2260	1150	3580	700				
			CO	SEC	1000	1150	2175	2260	1150	3980	1100				
			CO	SEC	1100	1250	2375	2260							
		1400 x 1940	CO	TTC	900	1050	1975	2350	1150	3580	700				
			CO	TTC	1000	1150	2175	2350	1150	3980	1100				
			CO	TTC	1100	1250	2375	2350							
		1400 x 1970	SO	SEC	900	1050	1940	2360	1150	3580	700				
		1400 x 1940	SO	TTC	900	1050	1940	2550							
	1.75	1400 x 1970	CO	SEC	900	1050	2030	2260	1350	3790	700				
			CO	SEC	1000	1150	2175	2260	1350	4190	1100				
			CO	SEC	1100	1250	2375	2260							
		1400 x 1940	CO	TTC	900	1050	2030	2350							
			CO	TTC	1000	1150	2175	2350							
			CO	TTC	1100	1250	2375	2350							
1400 x 1970	SO	SEC	900	1050	2000	2360	1350	3790	700						
1400 x 1940	SO	TTC	900	1050	2000	2550	1350	4190	1100						
18/1350	1.0	1400 × 2100	CO	SEC	900	1050	2050	2400	1350	3900	1100				
			CO	SEC	1000	1150	2175	2400							
			CO	SEC	1100	1250	2375	2400							
			CO	SEC	900	1050	2150	2300							
		1500 × 2000	CO	SEC	1000	1150	2200	2300							
			CO	SEC	1100	1250	2375	2300							
			CO	SEC	900	1050	2250	2180							
			CO	SEC	1000	1150	2300	2180							
		1600 × 1800	CO	SEC	1100	1250	2400	2180							
			CO	SEC	900	1050	2650	2030							
			CO	SEC	1000	1150	2650	2030							
			CO	SEC	1100	1250	2650	2030							
		1.75	1400 × 2100	CO	SEC	900	1050	2050				2400	1450	4100	1100
				CO	SEC	1000	1150	2150				2400			
				CO	SEC	1100	1250	2350				2400			
				CO	SEC	900	1050	2150				2300			
	1500 × 2000		CO	SEC	1000	1150	2200	2300							
			CO	SEC	1100	1250	2350	2300							
			CO	SEC	900	1050	2250	2180							
			CO	SEC	1000	1150	2300	2180							
	1600 × 1800	CO	SEC	1100	1250	2400	2180								
		CO	SEC	900	1050	2650	2030								
		CO	SEC	1000	1150	2650	2030								
		CO	SEC	1100	1250	2650	2030								

KONE N MONOSPACE BASIC DIMENSIONS (CONTINUED)											
Persons/rated load (kg)	Speed (m/s)	Car size BB×DD (mm)	Door type	Car type	LL (mm)	LR (mm)	NOM		NOM		Balustrade height
							EN81-20		EN81-20		
							VW (mm)	WD (mm)	Pit (mm)*	Headroom (mm)**	
21/1600	1.0	2000 × 1700	CO	SEC	1000	1150	2765	2175	1380	3950	1100
			CO	SEC	1100	1250	2765	2175			
			CO	SEC	1200	1350	2785	2175			
		2100 × 1600	CO	SEC	1000	1150	2865	2125			
			CO	SEC	1100	1250	2865	2125			
			CO	SEC	1200	1350	2865	2125			
		1600 × 2100	CO	SEC	1000	1150	2365	2410			
			CO	SEC	1100	1250	2445	2410			
		1700 × 2000	CO	SEC	1000	1150	2465	2325			
			CO	SEC	1100	1250	2495	2325			
		1800 × 1800	CO	SEC	1000	1150	2565	2225			
			CO	SEC	1100	1250	2565	2225			
		1500 × 2200	SO	SEC	1200	1350	2265	2610			

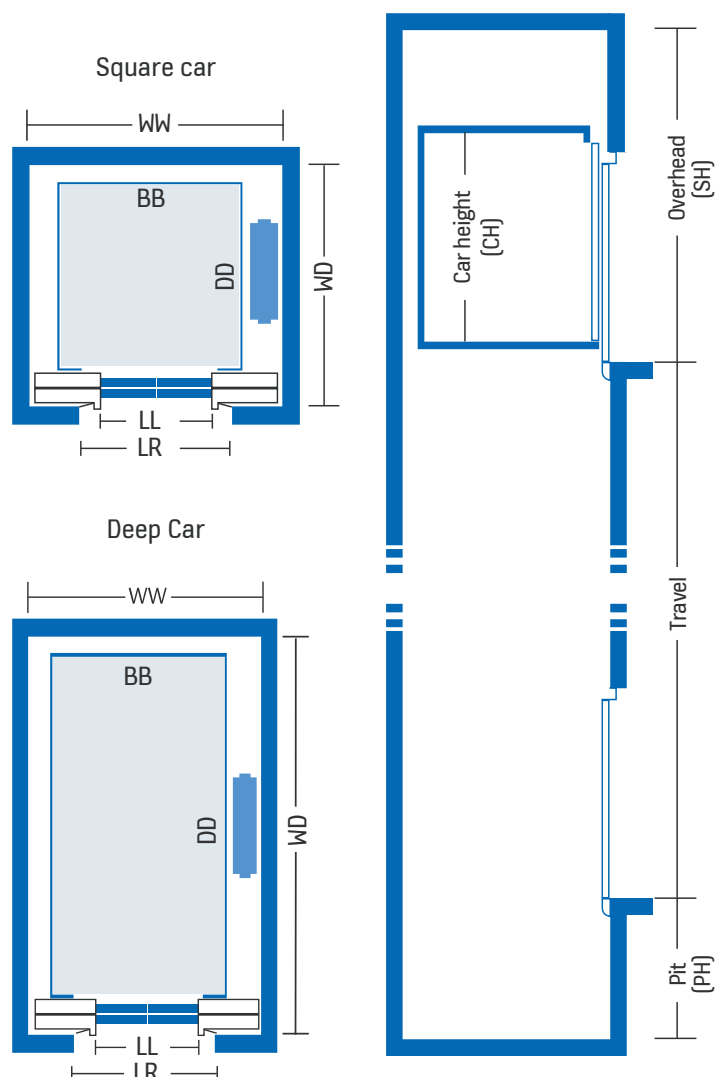
* Headroom NOM is based on both Car height & balustrade height. (Headroom NOM shown is based on minimum Car Height 2100mm. If Car Height increases, Headroom minimum increases accordingly).

Speed	1.0 m/s, 1.6 m/s, 1.75 m/s, 2.0 m/s, 2.5 m/s
Load	320, 400, 450, 1350 kg (Rated speed ≤ 1.75m/s) 630, 800, 900, 1000 kg (Rated speed ≤ 2.5m/s) 1150 kg (Rated speed ≤ 2.0m/s) 1350 kg (Rated speed ≤ 1.75m/s) 1600 kg (Rated speed ≤ 1.0m/s)
Max. stops	18 (1.0 m/s), 28 (1.6 m/s, 1.75m/s), 36 (2.0 m/s, 2.5 m/s)
Max. travel [m]	55 (1.0 m/s), 75 (1.6 m/s, 1.75m/s), 90 (2.0 m/s, 2.5 m/s)
Car height [CH]	2100, 2200, 2300, 2400, 2500, 2600, 2700 mm

KEY	
LL	Landing Door Width
LR	Landing rough opening
WW	Shaft Well Width
WD	Shaft Well Depth
BB	Car Breadth (width)
DD	Car Depth
SEC	Single entrance car
TTC	Through car (entrance front and rear)
CO	Centre opening
SO	Slide opening

Note:

- When the ceiling height exceeds 70 mm, SH value is to be added accordingly.
- Dimensions are based on compliance with EN81-20.
- All design details are based on a single elevator in a single shaft traveling 8 stops.
- Dimensions valid until 1st February 2018
- All lift cars which are 1400 mm x 1400 mm and larger provide compliance with NZS4121



For more information please refer to KONE technical documentation

REFERENCES



Beijing Olympic village, China



The River, Bangkok, Thailand



Blue Ridge, Pune, India



Sunrise Point, Kolkata, India



Royal Children's Hospital, Melbourne, Australia



Hongqiao International Airport and Transportation Junction, Shanghai, China



Somerset@313, Singapore



Celebrity Eclipse

KONE provides innovative and energy efficient solutions for elevators, escalators, automatic building doors and the systems that integrate them with today's intelligent buildings. We support our customers every step of the way; from design, manufacturing and installation to maintenance and modernisation.

KONE is a global leader in helping our customers manage the smooth flow of people and goods throughout their buildings. Our commitment to customers is present in all KONE solutions. This makes us a reliable partner throughout the life cycle of the building. We challenge the conventional wisdom of the industry.

We are fast, flexible, and we have a well-deserved reputation as a technology leader, with such innovations as KONE MonoSpace® and KONE UltraRope®.

KONE employs close to 50,000 dedicated experts to serve you globally and locally. We have a team of over 1400 staff around Australia and New Zealand.



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KONE N MONOSPACE® GUIDE

KONE N MONOSPACE BASIC DIMENSIONS											
Persons/rated load (kg)	Speed (m/s)	Car size BB×DD (mm)	Door type	Car type	LL (mm)	LR (mm)	NOM		NOM		Balustrade height
							EN81-20		EN81-20		
							WW (mm)	WD (mm)	Pit (mm)	Headroom (mm)*	
8/630	1.0	1100 × 140	CO	SEC	900	1050	1975	1810	1150	3890	1100
			SO		900	1050	1675	2010	1150	3580	700
			CO	TTC	800	950	1775	1810			
			CO		900	1050	1975	1810	1150	3980	1100
13/1000	1.0	1100 × 2100	SO	SEC	900	1050	1675	2490	1150	3580	700
			SO	TTC	1000	1150	1825	2710	1150	3980	1100
		CO	SEC	900	1050	2140	1830	1150	3580	700	
		CO	SEC	900	1050	2140	1780				
		CO	SEC	900	1050	1975	1890	1150	3580	700	
		CO	SEC	900	1050	1675	2490	1350	3790	700	
	1.75	1100 × 2100	SO	TTC	1000	1150	1825	2710	1350	4190	1100
			CO	SEC	900	1050	2140	1830			
		CO	SEC	900	1050	2140	1780				
		CO	SEC	900	1050	2140	1780	1350	3790	700	
		CO	SEC	900	1050	1975	1890				
		CO	SEC	900	1050	1675	2490				
15/1150	1.0	1800 × 1450	CO	SEC	1000	1150	2340	1800			
			CO	SEC	1100	1250	2375	1800	1150	3580	700
		CO	SEC	1000	1150	2175	2390				
		CO	SEC	1000	1150	2175	2510	1150	3980	1100	
		CO	TTC	1000	1150	2175	2510				
		CO	SEC	1000	1150	2175	2090	1150	3580	700	
		CO	SEC	1000	1150	2430	1800				
		CO	SEC	1100	1250	2430	1800	1350	3790	700	
	1.75	1800 × 1450	CO	SEC	1000	1150	2430	1800			
			CO	SEC	1100	1250	2430	1800	1350	3790	700
		CO	SEC	1000	1150	2330	1830				
		CO	SEC	1000	1150	2175	2380	1350	4190	1100	
		CO	TTC	1000	1150	2175	2510				
		CO	SEC	1000	1150	2175	2080	1350	3790	700	
	2.0	1800 × 1450	CO	SEC	1000	1150	2445	1860			
			CO	SEC	1100	1250	2445	1860			
		CO	SEC	1000	1150	2345	1885	1500	4300	1100	
		CO	SEC	1000	1150	2175	2415				
		CO	TTC	1000	1150	2175	2510				
		CO	SEC	1000	1150	2175	2115	1500	3900	700	
16/1200	1.0	1400 × 1970	CO	SEC	900	1050	1975	2260	1150	3580	700
			CO	SEC	1000	1150	2175	2260	1150	3980	1100
		CO	SEC	1100	1250	2375	2260				
		CO	TTC	900	1050	1975	2350	1150	3580	700	
		CO	TTC	1000	1150	2175	2350	1150	3980	1100	
		CO	TTC	1100	1250	2375	2350				
	1.75	1400 × 1970	SO	SEC	900	1050	1940	2360	1150	3580	700
			SO	TTC	900	1050	1940	2550			
		CO	SEC	900	1050	2030	2260	1350	3790	700	
		CO	SEC	1000	1150	2175	2260				
		CO	SEC	1100	1250	2375	2260	1350	4190	1100	
		CO	TTC	900	1050	2030	2350				
18/1350	1.0	1400 × 2100	CO	SEC	900	1050	2050	2400			
			CO	SEC	1000	1150	2175	2400			
		CO	SEC	1100	1250	2375	2400				
		CO	SEC	900	1050	2150	2300	1350	3900	1100	
		CO	SEC	1000	1150	2200	2300				
		CO	SEC	1100	1250	2375	2300				
		CO	SEC	900	1050	2250	2180				
		CO	SEC	1000	1150	2300	2180				
		CO	SEC	1100	1250	2400	2180				
		CO	SEC	900	1050	2650	2030				
		CO	SEC	1000	1150	2650	2030				
		CO	SEC	1100	1250	2650	2030				
	1.75	1400 × 2100	CO	SEC	900	1050	2050	2400			
			CO	SEC	1000	1150	2150	2400			
		CO	SEC	1100	1250	2350	2400				
		CO	SEC	900	1050	2150	2300	1450	4100	1100	
		CO	SEC	1000	1150	2200	2300				
		CO	SEC	1100	1250	2350	2300				
		CO	SEC	900	1050	2250	2180				
		CO	SEC	1000	1150	2300	2180				
2000 × 1500	CO	SEC	1100	1250	2400	2180					
	CO	SEC	900	1050	2650	2030					
	CO	SEC	1000	1150	2650	2030					
	CO	SEC	1100	1250	2650	2030					

KONE N MONOSPACE BASIC DIMENSIONS (CONTINUED)

Persons/rated load (kg)	Speed (m/s)	Car size BBxDD (mm)	Door type	Car type	LL (mm)	LR (mm)	NOM		NOM		Balustrade height		
							EN81-20		EN81-20				
							WW (mm)	WD (mm)	Pit (mm)*	Headroom (mm)**			
21/1600	1.0	2000 × 1700	CO	SEC	1000	1150	2765	2175	1380	3950	1100		
			CO	SEC	1100	1250	2765	2175					
			CO	SEC	1200	1350	2785	2175					
		2100 × 1600	CO	SEC	1000	1150	2865	2125					
			CO	SEC	1100	1250	2865	2125					
			CO	SEC	1200	1350	2865	2125					
		1600 × 2100	CO	SEC	1000	1150	2365	2410					
			CO	SEC	1100	1250	2445	2410					
		1700 × 2000	CO	SEC	1000	1150	2465	2325					
			CO	SEC	1100	1250	2495	2325					
		1800 × 1800	CO	SEC	1000	1150	2565	2225					
			CO	SEC	1100	1250	2565	2225					
		1500 × 2200	SO	SEC	1200	1350	2265	2610					

* Headroom NOM is based on both Car height & balustrade height. (Headroom NOM shown is based on minimum Car Height 2100mm. If Car Height increases, Headroom minimum increases accordingly).

Speed	1.0 m/s, 1.6 m/s, 1.75 m/s, 2.0 m/s, 2.5 m/s
Load	320, 400, 450, 1350 kg (Rated speed ≤ 1.75m/s) 630, 800, 900, 1000 kg (Rated speed ≤ 2.5m/s) 1150 kg (Rated speed ≤ 2.0m/s) 1350 kg (Rated speed ≤ 1.75m/s) 1600 kg (Rated speed ≤ 1.0m/s)
Max. stops	18 (1.0 m/s), 28 (1.6 m/s, 1.75m/s), 36 (2.0 m/s, 2.5 m/s)
Max. travel (m)	55 (1.0 m/s), 75 (1.6 m/s, 1.75m/s), 90 (2.0 m/s, 2.5 m/s)
Car height (CH)	2100, 2200, 2300, 2400, 2500, 2600, 2700 mm

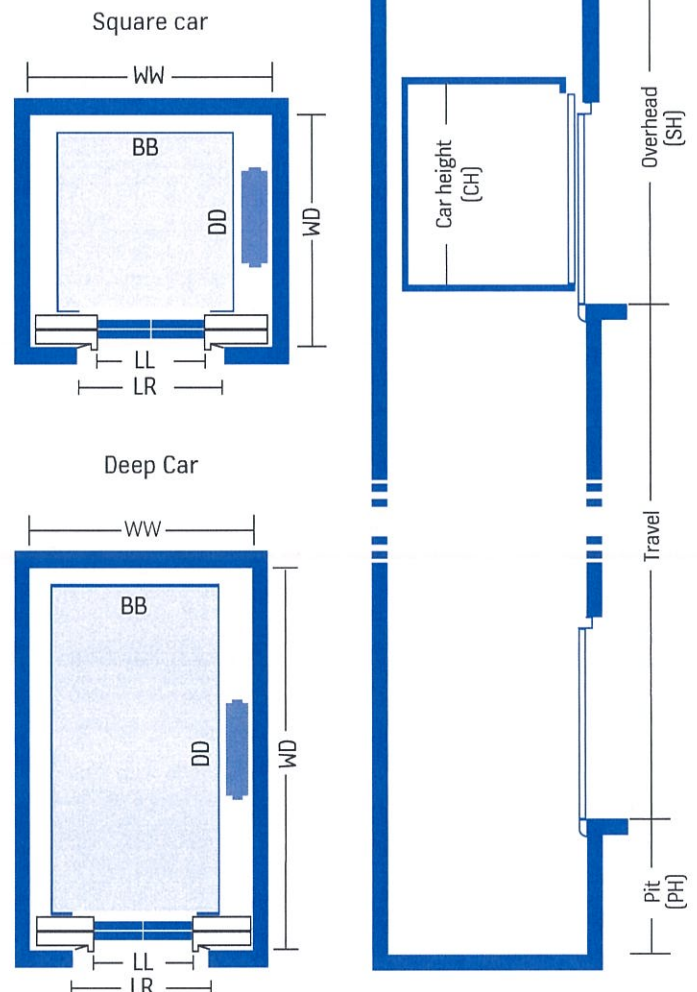
KEY

LL	Landing Door Width
LR	Landing rough opening
WW	Shaft Well Width
WD	Shaft Well Depth
BB	Car Breadth (width)
DD	Car Depth
SEC	Single entrance car
TTC	Through car (entrance front and rear)
CO	Centre opening
SO	Slide opening

Note:

- When the ceiling height exceeds 70 mm, SH value is to be added accordingly.
- Dimensions are based on compliance with EN81-20.
- All design details are based on a single elevator in a single shaft traveling 8 stops.
- Dimensions valid until 1st February 2018
- All lift cars which are 1400 mm x 1400 mm and larger provide compliance with NZS4121

For more information please refer to KONE technical documentation



Safetyline **jalousie**

A NEW DIMENSION IN
LOUVRE
WINDOWS



2RKS Architecture + Design

sydney ■ melbourne ■ brisbane ■ perth

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About Safetyline Jalousie



Safetyline Jalousie Available in Australia

SMR Designs Pty Ltd, a member of the Australian Window Association, has been authorised to manufacture and distribute Safetyline Jalousie louvre windows in Australia and the South Pacific.

The family owned and run business has had more than 25 years involvement in the Australian home improvement and commercial premises building market with its revolutionary Vergola Opening Roof System. It introduced Safetyline Jalousie louvres to the Australian windows and doors market in 2009.

The Safetyline Jalousie product is the perfect ventilation option overcoming the safety and security limitations of conventional louvre windows and is aligned with the company's commitment to quality, value and superior design.

Safetyline Jalousie Origin

Created in France, Safetyline Jalousie louvre windows have been developed exclusively by Technal, a division of the European giant Sapa. It is the world's leading group in the building systems sector, dedicated to the creation of innovative and sustainable aluminium façade systems that inspire contemporary architecture.



Along with Technal's extensive range of windows, doors, facades, balustrades and partitions, Safetyline Jalousie louvres have a long history of superior performance in commercial and residential buildings across the globe.

Customer Assistance

SMR Designs Pty Ltd, with its Safetyline Jalousie product, offers architects, window companies and building partners:

- Complete design and fabrication documentation;
- Complete CAD* drawings in DWG & DXF format; 3D files for Autodesk ® Revit ® Architecture and ArchiCAD 3D Architecture Software are also available.
- Technical assessments and quotations;
- Adaptation of custom designed profiles; and
- Installation and maintenance training;

* Each CAD drawing in this manual has a JX code which corresponds to the DWG or DXF file contained in the resource disc and online at www.safetylinejalousie.com.au

A Revolution in Louvre Windows

Safetyline Jalousie goes beyond all other louvre systems to provide:

- Extra wide spans, up to 1.4 metres;
- Inbuilt security;
- Air and water tight sealing and;
- Internal fly screens.

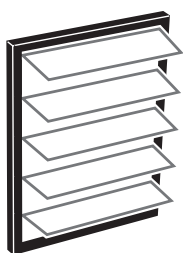
With aluminium frames and support structures, the louvres may be manufactured from aluminium or glass, which provides a natural and soft ambience.

Product Information

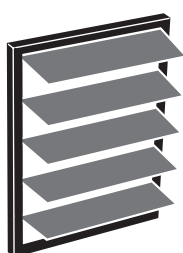
Safetyline Jalousie's unique louvre windows will bring added value to your projects and offer unrivalled flexibility in your design options through unmatched performance ratings, strength, reliability and versatility. Some of the performance advantages and benefits of Safetyline Jalousie louvre windows include:

- Span of 1400mm wide, larger windows reduce perimeter framing and install time, hugely cost effective;
- Seals are air and water tight, with a Water Penetration Resistance of 800pa. Ideal for air-conditioned environments and strong wind load requirements such as high rise buildings;
- Acoustic benefits are some of the highest ratings available. Tested and confirmed sound reduction of 33Rw achieved with 6.38mm laminate and 6mm toughened glass and sound reduction of 35Rw achieved with Viridian 6.5mm VLam Hush glass;
- Security is provided via the louvre bearer with a pull out force in excess of 550 kgs – Safetyline Jalousie louvres can be left open with complete peace of mind;
- Balustrade code compliant, perfect for floor-to-ceiling, multi-story, high-rise and balcony enclosures and winter gardens;
- Screening is provided internally and is easily removed for cleaning, eliminating the use of a permanent boxed out section, allowing greater cross flow ventilation, free flow air infiltration and natural light.

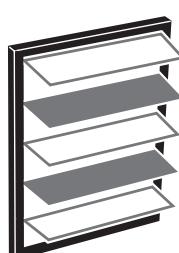
Safetyline Jalousie louvre windows are amongst the safest, strongest, widest and most functional and versatile louvre windows on the market. The lifestyle and energy saving benefits are considerable and in an era of sustainable design, the JX from Safetyline Jalousie is the clear winner.



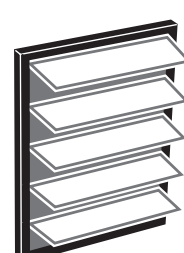
Frame with glass louvres



**Frame with
aluminium louvres**



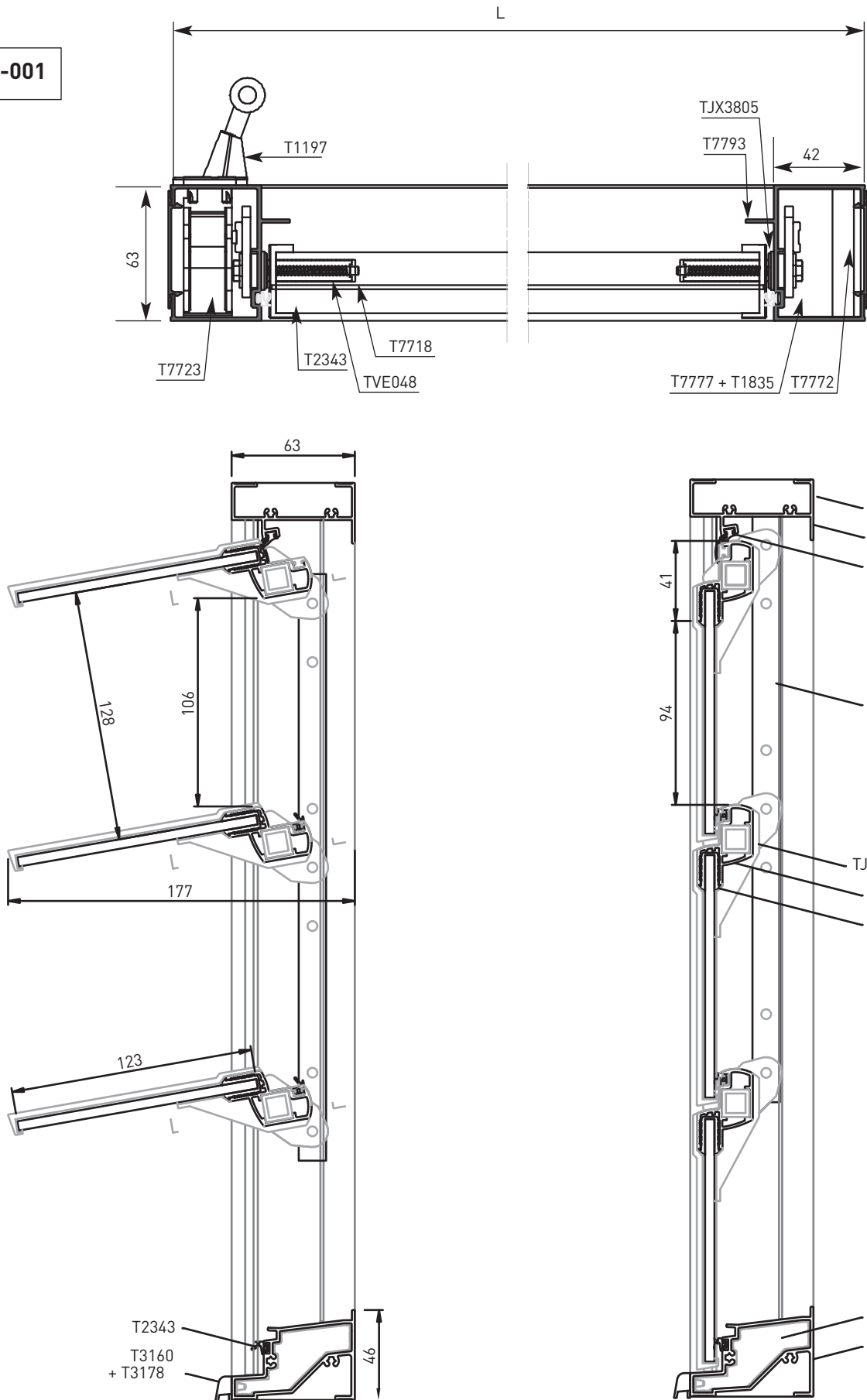
**Frame with
combination of louvres**



Frame with fly screen

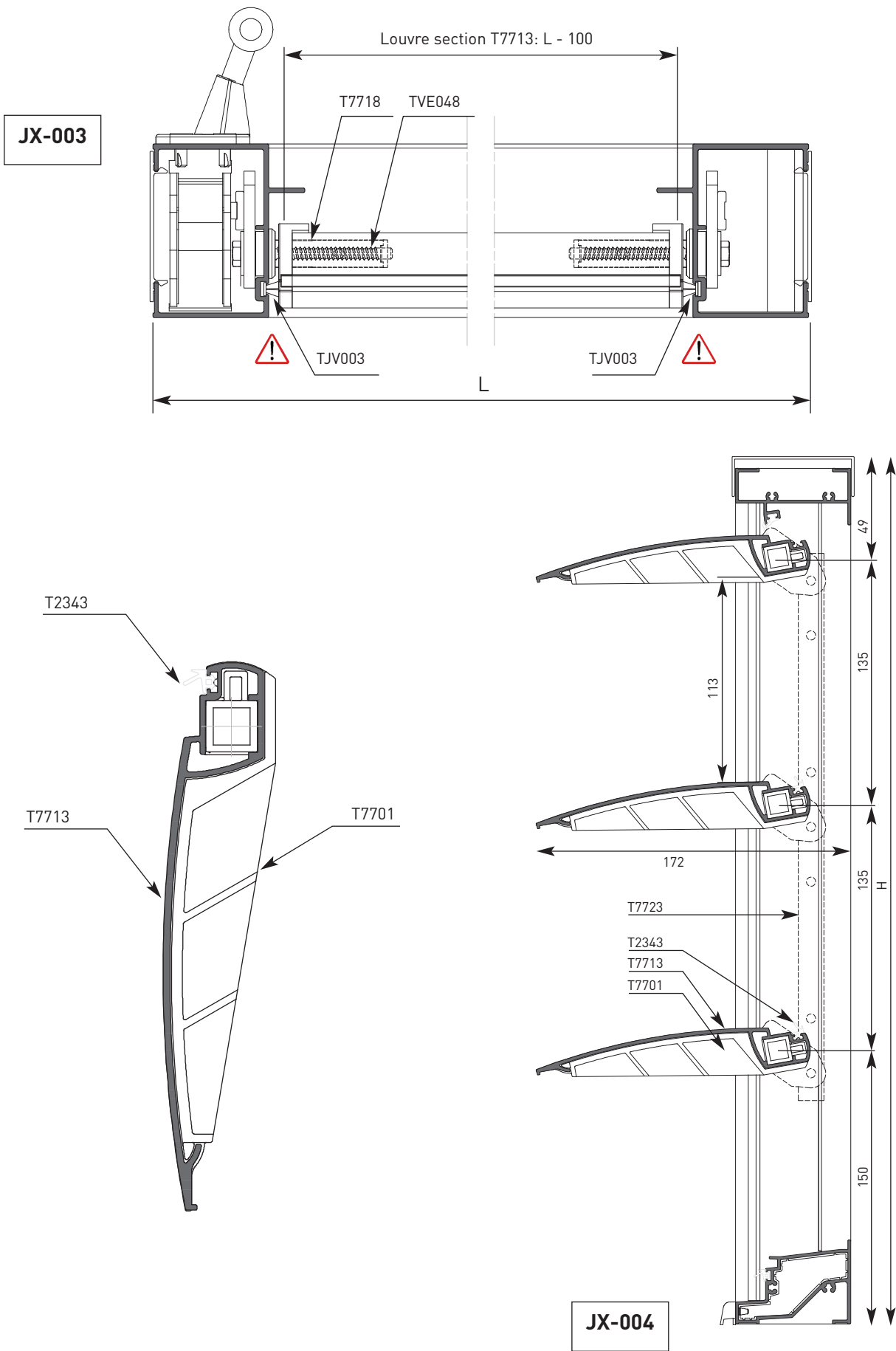
Frame with Glass Louvres

JX-001



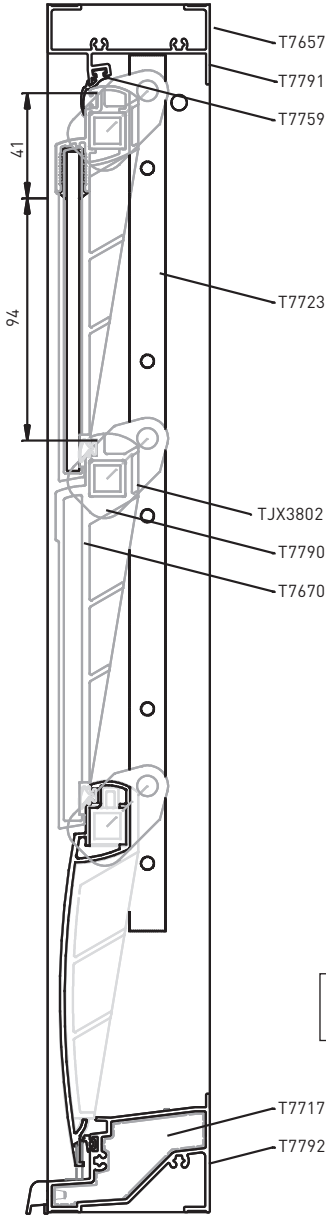
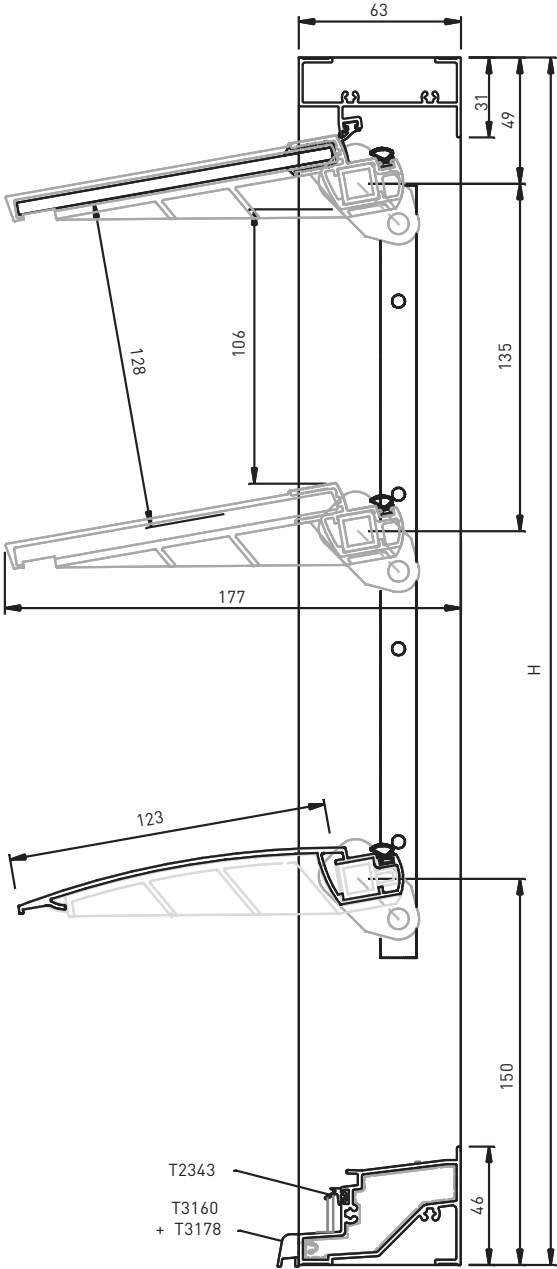
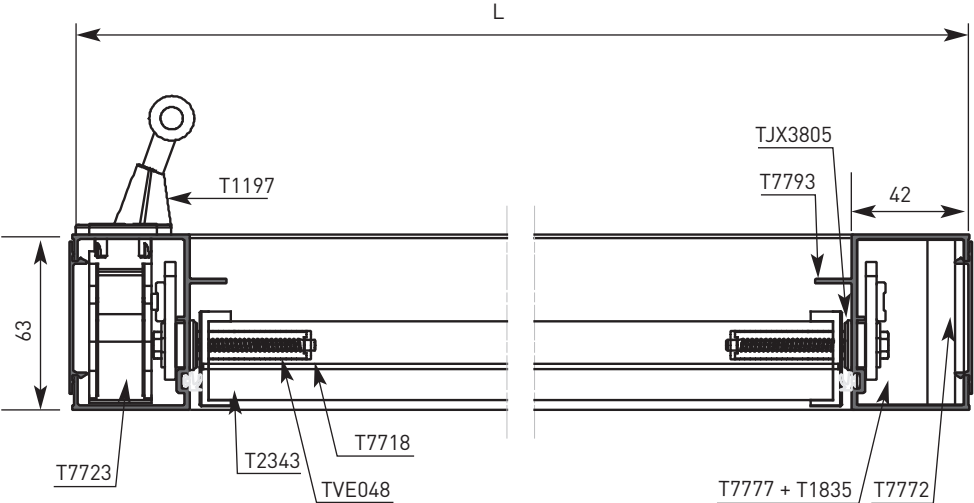
JX-002

Frame with Aluminium Louvres



Frame with Combination of Louvres (Glass and Aluminium Louvres)

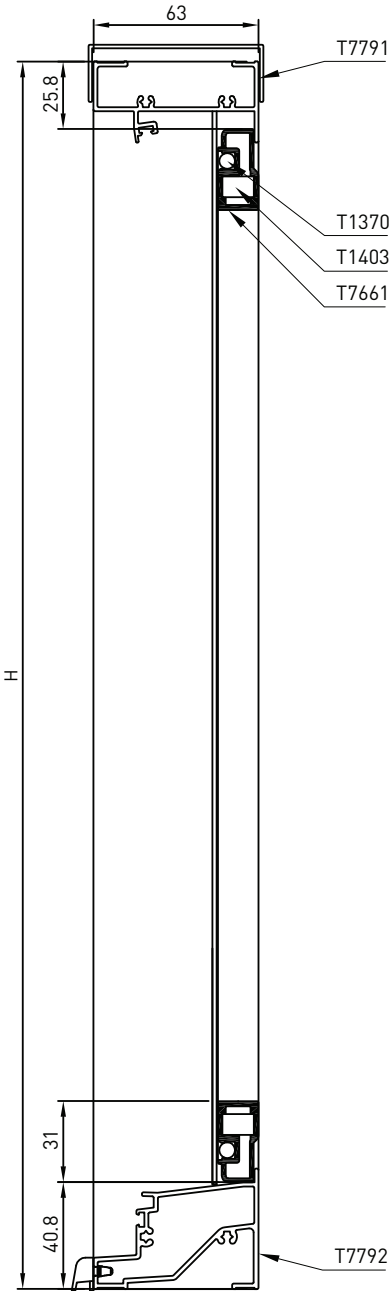
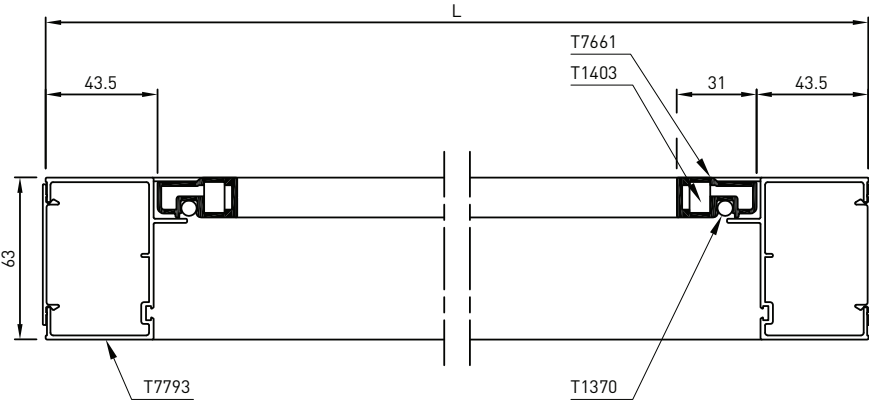
JX-001



JX-005

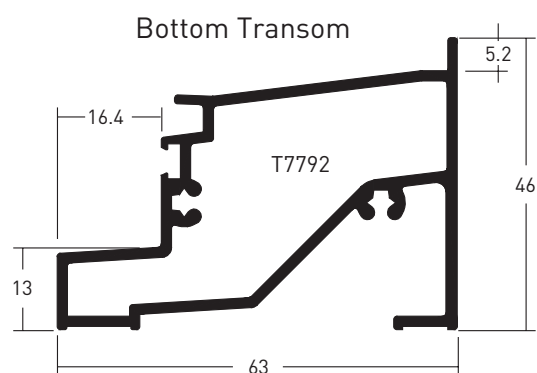
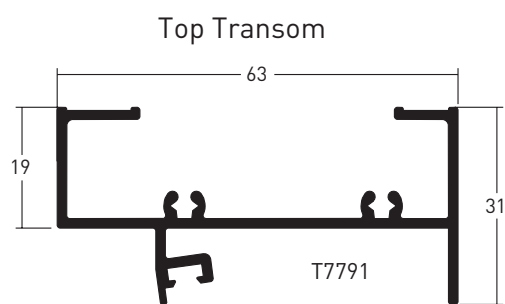
Frame with Fly Screen

JX-006



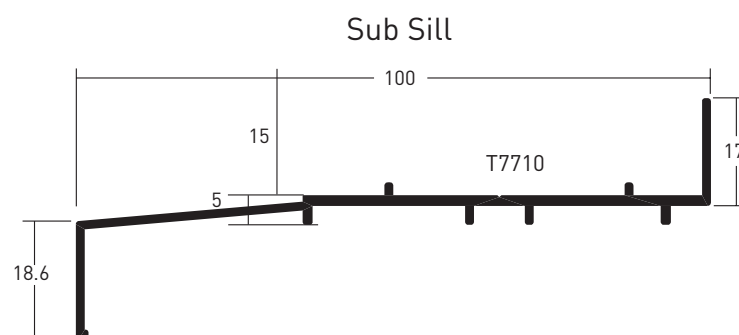
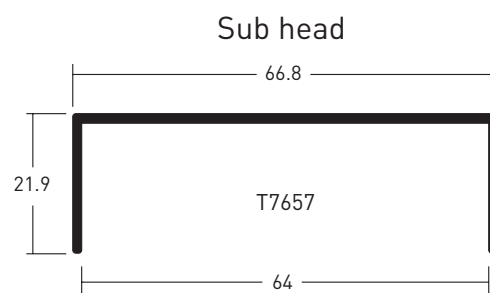
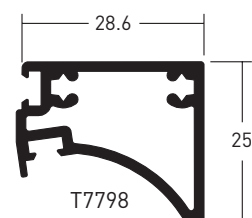
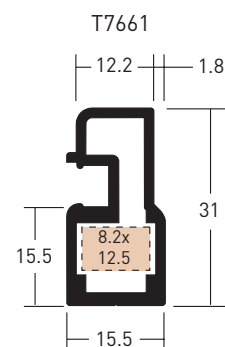
JX-007

List of Profiles

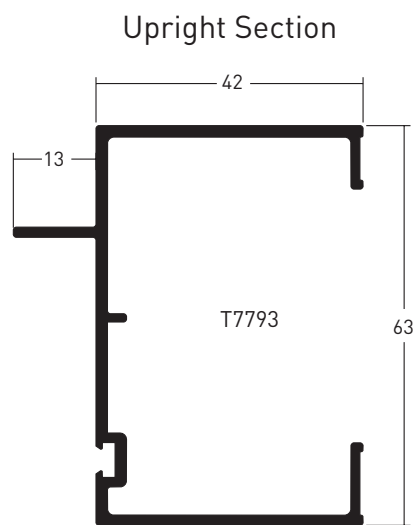


Intermediate Transom

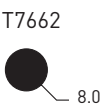
Fly Screen Section



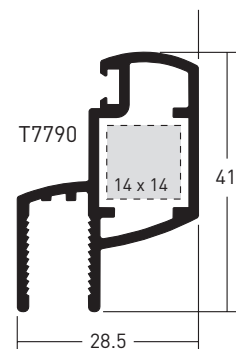
List of Profiles (cont.)



Stainless Steel
Security Rod



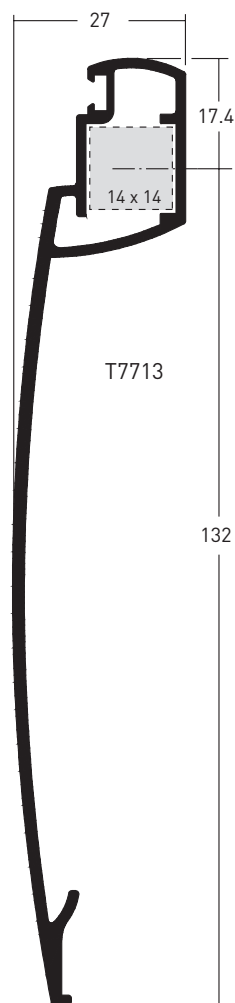
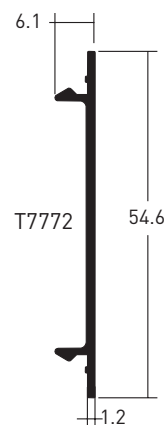
Glass Louvre Bearer



Joining Section

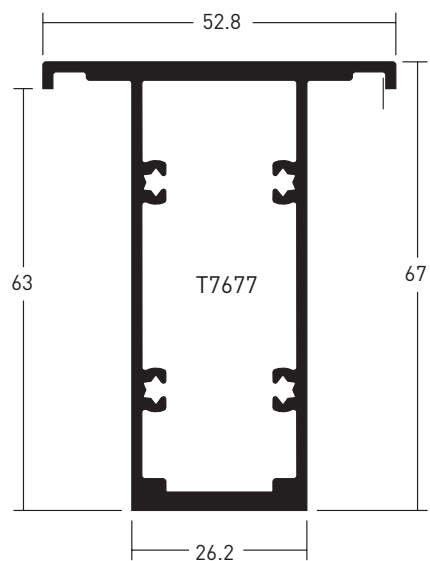


Capping Section



Aluminium
Louvre

Sub-Frame Mullion Section



Features

Spans

- Extra wide spans up to 1.4 metres as a single unit or frames can be joined with a connector piece.

Security

- Inbuilt & impenetrable;
- Robust aluminium louvre bearers are built into the frame - Even if the glass is broken the system remains secure;
- 8mm internal security bar option available – The rod is fitted inside the louvre bearer which does not affect the appearance of the system.

Seals

- Sealed on all 4 sides with Marine Grade EPDM seals on each horizontal transom and gaskets on the upright sections;
- Water drainage via bottom transom.

Screens

- Insect screens are fitted internally within a rebate section of the window frame, and are easily removed for cleaning;
- Available in fibreglass or aluminium mesh.

Frames

- Extremely durable, high quality 63mm module square cut aluminium frame assembled by stainless steel screws;
- The aluminium components are available in three surface finishes - powder coated, high performance powder coated or anodized;
- A wide range of colours are available to meet individual project requirements, enhancing existing buildings and offering architects and designers greater design freedom;
- Anodising thickness is 20 microns or 25 microns for seaside and inland locations where durability and longevity are of importance;
- Super durable DecoWood finish can be applied to the aluminium where the look of timber is desired.

Louvres

- Louvres are available in glass or curved aluminium profile with nylon end caps;
- Any type of commercially available glass can be used in 6mm, 6.38mm or 6.5mm thickness – including laminate, low e, tinted, frosted, acoustic and performance glass;
- Aluminium louvre blades are one piece and cannot be removed;
- Combination of glass and aluminium louvres are possible;
- Louvre blade centres are 135mm;
- Requires 200kg pull out to remove glass louvre blades;
- Louvres open to the outside of the window – no interference to curtains or blinds.

Features (cont.)

Installation

- No assembly required - The system is supplied fully manufactured and glazed;
- Easy and fast installation using screws through the pre-punched fixing holes in the upright sections.

Operation

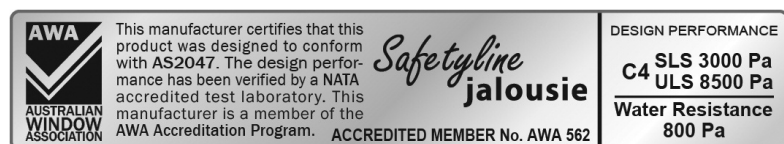
- Manual operator options include a cam driven lever mechanism or turn handles which open the louvres to 80° and can be fitted on the left or right hand side of the frame;
- High level louvres can be operated with a winding mechanism and detachable map rod;
- Louvres can be motor controlled using a 24V DC Actuator with wall switch and/or hand held remote;
- Motorised louvres can be integrated with climate control, fire and smoke systems;
- Motors are mounted externally on the frame for easy maintenance.

Performance

Australian Standards

Safetyline Jalousie Louvres meet the mandatory requirements of Australian Standards AS2047-2014 (Windows and Glazed Doors in Buildings), AS1288-2006 (Glass in Buildings – Selection and Installation) and AS4055-2012 (Wind Loads for Housing).

All windows are labelled with their identification, window rating and water penetration resistance.

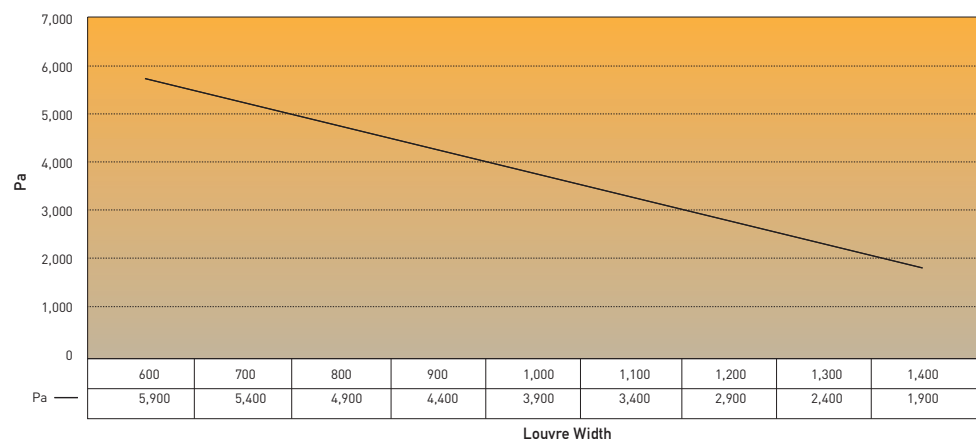


Key Performance Ratings

- Serviceability Limit State (SLS) – up to **4000pa**
- Ultimate Limit State (ULS) – up to **9525pa**
- Water Penetration Resistance – **800pa**
- Acoustic – **35RW**
- Windborne Debris – impact test passed **type B** (for cyclones)
- Kids Can't Fly – **compliant**
- Impact Load – tested to **550kg**
- Balustrade Code – **compliant**

Serviceability Wind Pressures (SLS)

The following graph has been developed using actual test data and calculations to confirm compliance.



The following tables list actual test results for the JX Safetyline Jalousie louvres conducted by a NATA accredited test laboratory.

Ultimate Wind Pressures (ULS)

Product Type	Test Report Number	Ultimate Wind Pressure Pa		Window Width Tested (mm)
		Positive	Negative	
Glass Louvres	AZT0117.16	9,525	8,200	1,400
Glass Louvres	AZT0119.16	9,000	8,500	1,000
Aluminium Louvres	AZT0010.12	9,100	7,900	1,400
Aluminium Louvres	AZT0013.12	8,900	7,600	1,000

Air Infiltration

Product Type	Test Report Number	Air Infiltration L/s m ²	Window Width Tested (mm)
		75 Pa	
Glass Louvres	AZT0011.12	0.33	1,400
Glass Louvres	AZT0038.12	0.25	1,000
Aluminium Louvres	AZT0010.12	0.16	1,400
Aluminium Louvres	AZT0013.12	0.28	1,000

Water Penetration Resistance

Product Type	Test Report Number	Water Penetration Resistance (pa)	Window Width Tested (mm)
Glass Louvres	AZT0189.16	800	1,400
Glass Louvres	AZT0118.16	800	800
Aluminium Louvres	AZT0010.12	600	1,400
Aluminium Louvres	AZT0016.12	700	600

Acoustic Performance

The following Rw ratings were achieved with the Safetyline Jalousie system in an accredited CSIRO test laboratory;



Safetyline Jalousie JX Louvre Windows have been designed with acoustic performance in mind and, with the right glass selection, sound reduction of up to Rw 35 is achievable.

Rw 33

6mm toughened monolithic glass.

Frequency	125	250	500	1000	2000	400
Single Octave Rw	25.1	28.6	31.1	34.7	32.1	29.0

Frequency (Hz)	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
1/3 Octave Rw	24.7	25.2	25.4	27.9	27.9	30.4	29.8	31.3	32.4	33.8	34.9	35.5	34.4	31.7	30.9	30.2	29.6	27.7

Rw 33

6.38 laminated glass

Frequency (Hz)	125	250	500	1000	2000	400
Single Octave Rw	24.7	28.3	31.0	34.7	32.9	30.0

Frequency (Hz)	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
1/3 Octave Rw	24.6	25.0	24.6	27.6	27.7	30.2	29.7	31.2	32.6	33.7	35.0	35.6	34.9	32.4	31.8	32.4	30.2	28.3

Rw 35

6.5mm Vlam Hush

Frequency (Hz)	125	250	500	1000	2000	400
Single Octave Rw	25.2	28.6	31.3	35.2	36.9	30.2

Frequency (Hz)	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
1/3 Octave Rw	24.3	25.8	25.6	27.6	28.1	30.7	30.1	31.4	32.9	34.0	35.3	36.4	37.2	36.9	36.5	33.6	30.2	28.2

Windborne Debris Impact Loading – Type B Compliant

Australian Standard AS/NZ1170.2 clause 2.5.7 specifies requirements for windborne debris impact loading criteria. Safetyline Jalousie glass blade louvres were tested for Debris Type B (8mm steel ball missile). Debris Type B in the Australian Standard calls for an 8mm steel ball. We fired 5 x 8mm steel balls to conform to the higher requirements of cyclone shelters in North Queensland (all test were done with 5 balls). We achieved the following results: Debris Type B Pass at 45 meters per second (highest Australian Standard) & exceeded standard & pass at 60 meters per second with 5 x 8mm steel balls.

Fall Prevention – Kids Can't Fly Compliant

The National Construction Code specifies various requirements for the prevention of falls from openable windows. The intent of these requirements is to limit the risk of a person (especially a young child) falling through an openable window, and are divided into two categories;

1. All windows where the fall is four metres or more
2. Windows in bedrooms of Class 1, 2, 3 and 4 buildings, and any room in Class 9b Early Child Care Centres where the potential fall is two metres or more.

Safetyline Jalousie glass & aluminium louvres at their maximum span of 1400mm have passed the 125mm Pressure Plate Tests A & B (250N of horizontal force is applied to the centre & corners/weakest points of the window). The System also passed the additional bullet shaped probe test (250N of perpendicular force applied to the centre of all openings). The sphere probe was unable to pass through the louver openings & there was no evidence of dislodgement.

Balustrade Compliant

In addition to the above, Safetyline Jalousie louvres have also been impact load tested to **550kg**.

Safetyline Jalousie louvres are suitable for floor to ceiling applications and with their 106mm openings, meet all of the necessary requirements for use as balustrade without the need for any additional options or bars to be fitted.

Window Energy Rating Scheme (WERS)

Safetyline Jalousie is a member of the Window Energy Rating Scheme. Test results are available on request or by visiting the WERS website.



Total performance U-Value and SHGC calculation to AFRC conditions (WERS).

An analysis has been undertaken to assess the overall thermal performance of the Safetyline Jalousie, JX louver system. The analysis was undertaken with THERM 6.3, the Australian fenestration rating council (AFRC) total U-value and total solar heat gain coefficient (SHGC) of the vision panels has been calculated based on actual sizes.

Product	Panel Size (W x H)	Glazing	U-Value	SHGC	Air In
JX	1400x1500	6.38mm clear laminated	6.8	0.59	0.25
JX	1400x2700	6.38mm clear laminated	6.7	0.60	0.25
JX	1200x2700	6.38mm clear laminated	6.7	0.60	0.25
JX	1000x2700	6.38mm clear laminated	6.8	0.59	0.25
JX	1400x1500	6.38mm comfort plus clear	5.7	0.49	0.25
JX	1400x2700	6.38mm comfort plus clear	5.6	0.51	0.25
JX	1200x2700	6.38mm comfort plus clear	5.7	0.50	0.25
JX	100x2700	6.38mm comfort plus clear	5.9	0.50	0.25

The Impact of Air Infiltration on Thermal Values

Inhabit were engaged by Safetyline Jalousie to undertake comparative modelling to quantify the impact of the reduced air infiltration of the Safetyline Jalousie window products compared to its competitors with higher air infiltration values.



The assessment will compare the difference in façade gains and losses due to air infiltration and thermal transfer of the Safetyline Jalousie Louvers system, to its competitors. The assessment will be undertaken against 2 competitors for both a residential (Class 2) and student housing (Class 3) scenario.

The focus of the study is to demonstrate a combined performance assessment.

Residential Energy Modelling

The residential modelling results do not achieve a preferential outcome of the Jalousie system. This can be attributed to:

- The lack of sensitivity in the analysis in regards to the inclusion of air infiltration of the window system;
- The inability of the Chennath engine to account for variations in panel size and whether a given system can be used in that application;
- The inability of the Chennath engine to account for variation in panel size and its impact on U-values.

The net result of the lack of sensitivity discussed above results in the Safetyline Jalousie system performing worse than their unframed counterparts in mandatory residential NCC compliance assessments. Despite the fact that using the Jalousie system will result in a preferential thermal comfort outcome, this is not a focus of residential compliance modelling.

Student Housing Energy Modelling

The results of the student housing assessment outlined in the table below found the Jalousie system to deliver the most preferential performance outcome.

Percentage Heat Gain and Loss for Windows compared to Jalousie Benchmark

Type 1					Type 2			
Northern Facing		Southern facing			Northern Facing		Southern Facing	
	Heat Loss	Heat Gain	Heat Loss	Heat Gain	Heat Loss	Heat Gain	Heat Loss	Heat Gain
Brisbane	-11%	-1%	0%	-6%	-9%	-1%	0%	-4%
Melbourne	-13%	-1%	1%	-7%	-11%	-1%	1%	-5%
Sydney	-11%	-1%	0%	-7%	-10%	-1%	0%	-5%

As such it can be concluded, that when modelled in detail, the performance benefits of the Jalousie product will be realised, however, it is acknowledged that there are a range of market barriers to the uptake of “accurate” modelling of the performance of the Jalousie systems.

The results of the student housing modelling found the Jalousie system to be preferential in all climate zones. This can be attributed to the higher resolution and flexibility of the modelling tools used for student housing analysis and generally for NCC building classes 3-9 (non-residential buildings including student housing, aged care and hotels).

It should be noted that there are two compliance pathways for non-residential building within the building code, deemed to satisfy (DTS) and JV3 performance solution.

Percentage Heat Gain and Loss for Windows compared to Jalousie Benchmark (cont.)

When a DTS approach is used compliance for glazing is determined via the glazing calculator with the input being system U-value and SHGC. In this approach the benefits of reduced air infiltration of the Jalousie system will not be seen. However, if the glazing calculator is assessed using “actual panel sizes” the Jalousie products will be seen as superior to competitor’s products, due to its capacity to achieve larger spans.

When the JV3 verification pathway is adopted, an energy model of the project is undertaken. As this modelling is typically undertaken during the detailed design process, the specific glazing systems to be used may not be resolved. As such consultants will use assumed values to undertake modelling, resulting in the preferential performance of the Jalousie system not being considered in the analysis.

As such it can be concluded, that when modelled in detail, the performance benefits of the Jalousie product will be realised.

Loosening of Glass Louvre Bearer

Pull force of more than 200 daN (200kg) on bearers without loosening of louvres. Test no. Q-0305-01.

Sunlight Ageing

On end caps and drivers, after 300 hours in compliance with standard NF T51-056, no noticeable change in characteristics. CSTB test no. 01-0020.

Comprehensive Specification

The following specification is provided for convenience and non-applicable items should be deleted. The louvre window shall incorporate the single glazed series JX Louvre Window by Safetyline Jalousie (1300 86 3350) and manufactured to achieve specific ratings as per below and as required by Australian Standard AS2047.

- The louvre window shall be the JX by Safetyline Jalousie with 63mm extruded aluminium frame.
- The louvre window shall be capable of a maximum width of 1.4 metres.
- Each louvre shall be framed on three sides and hinged at the rear edge.
- Glass louvres should require at least 550kg pull out to remove the blades.
- Weatherproofing shall be provided by EPDM and polyethylene brush gaskets.
- Water drainage is to be via the bottom transom.
- The louvre window should be fitted with nylon end caps and capable of opening to 80° at an interval of 135mm.
- Additional security shall be provided by an 8mm stainless steel rod inserted into the louvre bearer.
- Internal fly screens should snap into the frame and be easily removed for cleaning.
- The louvre window shall be capable of achieving a minimum of 33 Rw Acoustic rating.
- The louvre window shall be capable of reaching 800pa water penetration rating.
- The louvre window shall be capable of complying with the “Kids can’t fly” code and balustrade code requirements.
- Reinforcement of louvre articulations shall be included for use as balustrade.

Standard Heights – Glass Louvres

- Wherever possible, standard heights should be used.
- Should standard heights not be used a cut down blade is required. If this blade is less than 60mm the opening would need to be adjusted to standard heights.
- Each lever will only lift a number of louvres depending on the type and length. (Refer to page 24)
- Where one louvre meets the other, and a new lever is required, an intermediate transom is used. This is marginally wider than the normal blade holder and the louvre above that join is 20mm smaller.

Applies to Glass Louvre width up to 1400mm

No of Glass Louvres	Frame Height with 7792	Opening Height with sub-head (7657) & sub-sill (7710)
2	334	359
3	469	494
4	604	629
5	739	764
6	874	899
7	1009	1034
8	1144	1169
9	1279	1304
10	1414	1439
11	1549	1574
12	1684	1709
13	1819	1844
14	1954	1979
15	2089	2114

No of Glass Louvres	Frame Height with 7792	Opening Height with sub-head (7657) & sub-sill (7710)
16	2224	2249
17	2359	2384
18	2494	2519
19	2629	2654
20	2764	2789
21	2899	2924
22	3034	3059
23	3169	3194
24	3304	3329
25	3439	3464
26	3574	3599
27	3709	3734
28	3844	3869
29	3979	4004
30	4114	4139

Standard Heights – Aluminium Louvres

- Standard heights must be used with Aluminium louvres as it is not possible to produce a cut down louvre.
- Each lever will only lift a number of louvres depending on the type and length. (Refer to page 24)
- Where one louvre meets the other and a new lever is required an intermediate transom needs to be used. This will impact on the overall frame height.

Applies to Aluminium Louvre width up to 1000mm

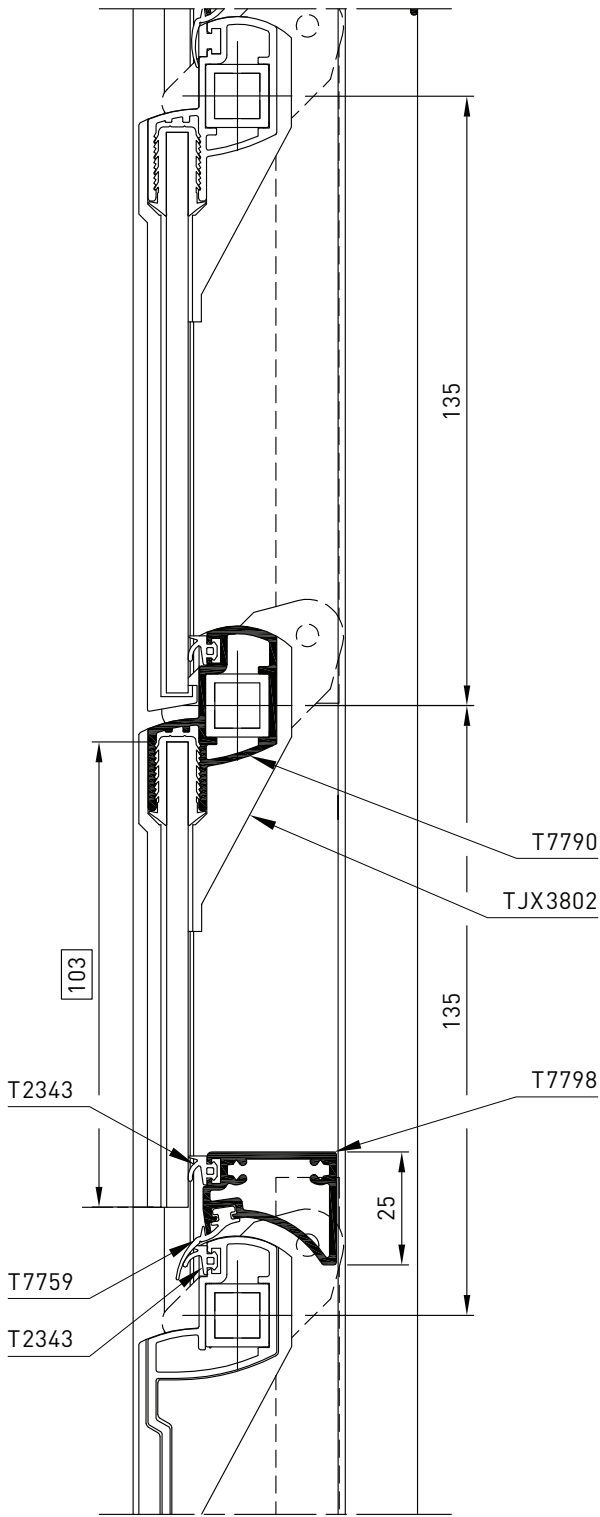
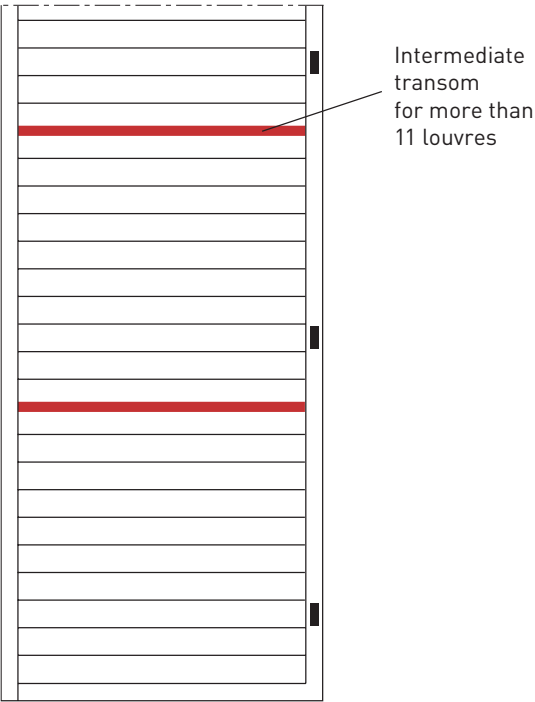
No of Aluminium Louvres	Frame Height with 7792 (mm)	Opening Height with sub-head (7657) & sub-sill (7710)	Intermediate Transom
2	334	359	0
3	469	494	0
4	604	629	0
5	739	764	0
6	874	899	0
7	1009	1034	0
8	1144	1169	0
9	1279	1304	0
10	1414	1439	0
11	1549	1574	0
12	1704	1729	1
13	1839	1864	1
14	1974	1999	1
15	2109	2134	1
16	2244	2269	1
17	2379	2404	1
18	2514	2539	1
19	2649	2674	1
20	2784	2809	1
21	2919	2944	1
22	3054	3079	1
23	3209	3234	2
24	3344	3369	2
25	3479	3504	2
26	3614	3639	2
27	3749	3774	2
28	3884	3909	2
29	4019	4044	2
30	4154	4179	2

Applies to Aluminium Louvre width greater than 1000mm

No of Aluminium Louvres	Frame Height with 7792 (mm)	Opening Height with sub-head (7657) & sub-sill (7710)	Intermediate Transom
2	334	359	0
3	469	494	0
4	604	629	0
5	739	764	0
6	874	899	0
7	1009	1034	0
8	1144	1169	0
9	1299	1324	1
10	1434	1459	1
11	1569	1594	1
12	1704	1729	1
13	1839	1864	1
14	1974	1999	1
15	2109	2134	1
16	2244	2269	1
17	2399	2424	2
18	2534	2559	2
19	2669	2694	2
20	2804	2829	2
21	2939	2964	2
22	3074	3099	2
23	3209	3234	2
24	3344	3369	2
25	3499	3524	3
26	3634	3659	3
27	3769	3794	3
28	3906	3929	3
29	4039	4064	3
30	4174	4199	3

Intermediate Transom 7798

(for glass & aluminium louvres)



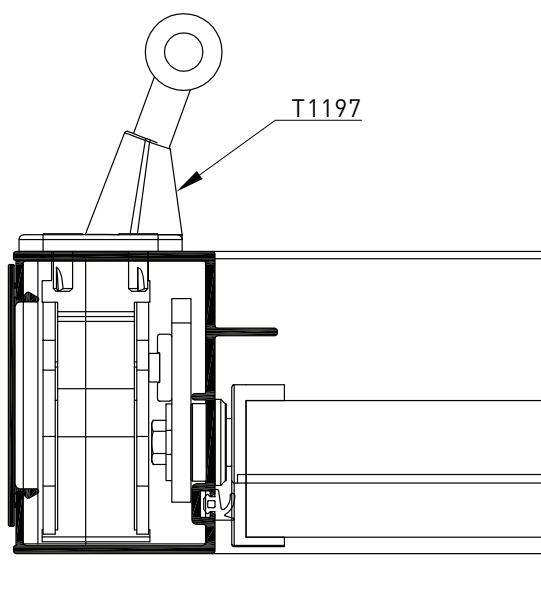
Standard Lever and Motor Operation

(for glass and aluminium louvres)

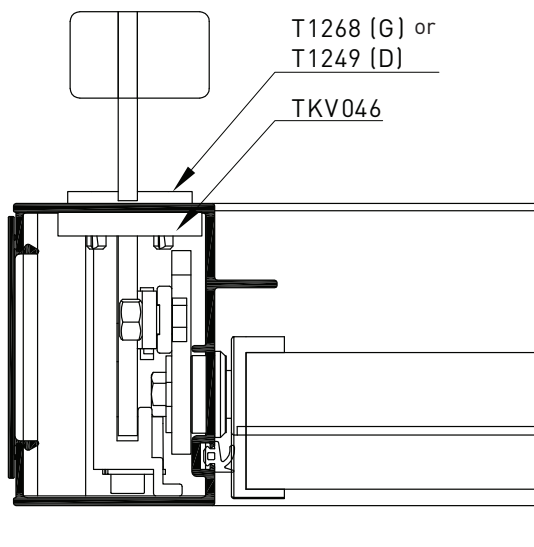
Louvre width (mm)	400	600	800	1000	1200	1400
No Louvres	Number of Levers/Motors Required					
3	1	1	1	1	1	1
4	1	1	1	1	1	1
5	1	1	1	1	1	1
6	1	1	1	1	1	1
7	1	1	1	1	1	1
8	1	1	1	1	1	1
9	1	1	1	1	2	2
10	1	1	1	1	2	2
11	1	1	1	1	2	2
12	2	2	2	2	2	2
13	2	2	2	2	2	2
14	2	2	2	2	2	2
15	2	2	2	2	2	2
16	2	2	2	2	2	2
17	2	2	2	2	3	3
18	2	2	2	2	3	3
19	2	2	2	2	3	3
20	2	2	2	2	3	3
21	2	2	2	2	3	3
22	2	2	2	2	3	3
23	3	3	3	3	3	3
24	3	3	3	3	3	3
25	3	3	3	3	3	3
26	3	3	3	3	3	3
27	3	3	3	3	3	3
28	3	3	3	3	3	3
29	3	3	3	3	3	3
30	3	3	3	3	3	3

Choice of Handles

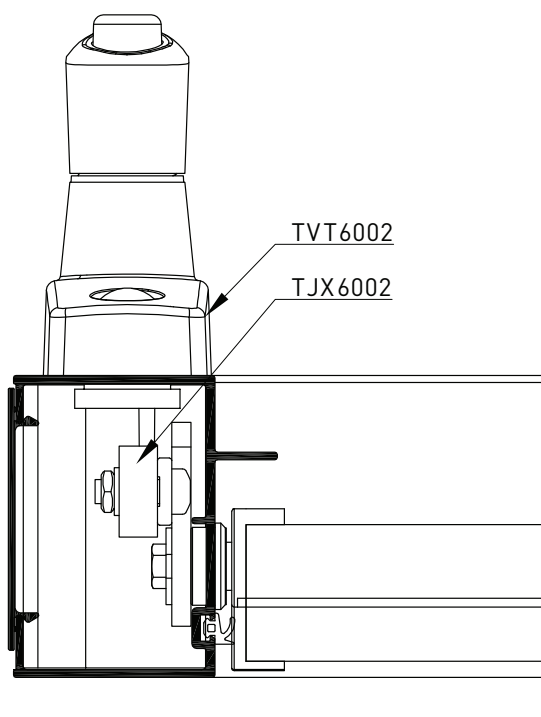
Reversible operator set T1197



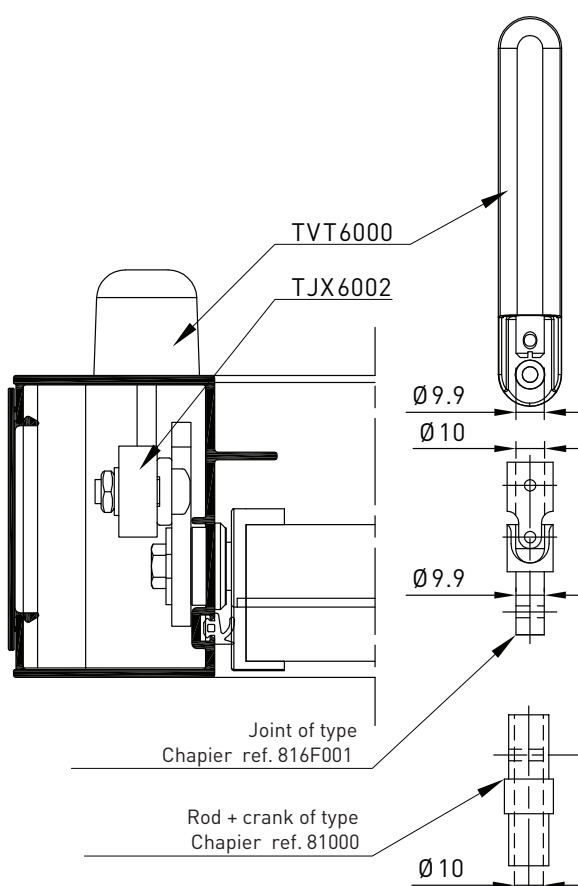
Lever mechanism T1268 (R) or T1249 (L) + nut set TKV04



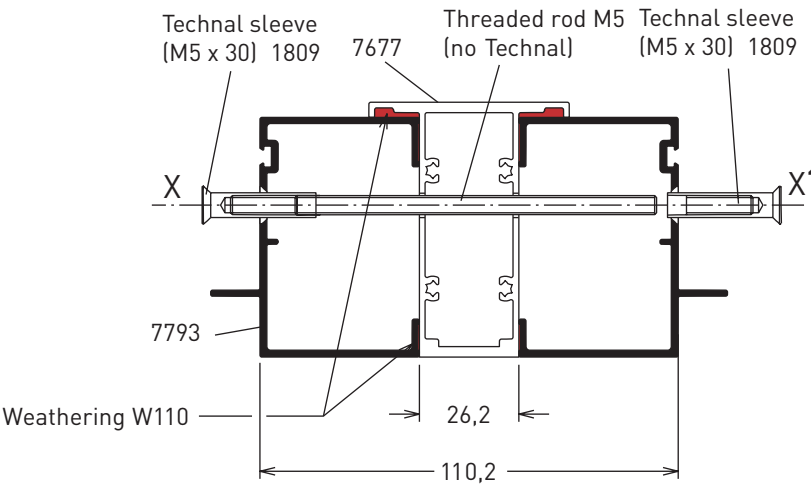
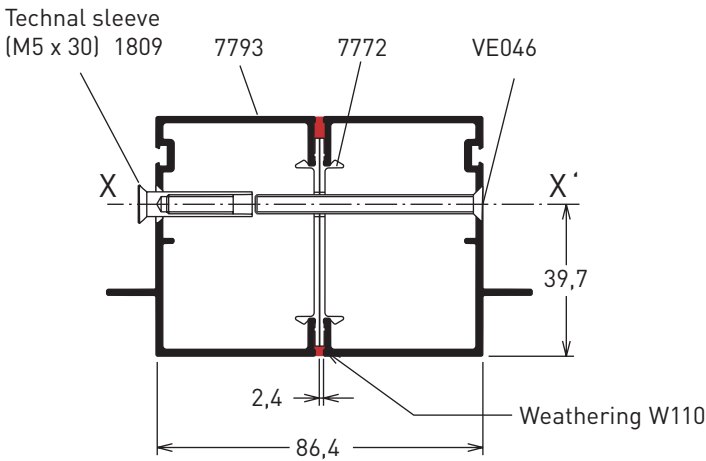
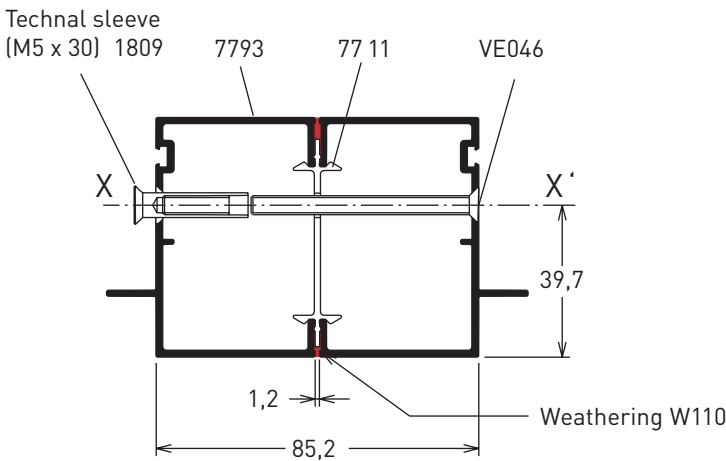
Handle TVT6002 + drive set TJX6002



Winch operator set TVT6000 + drive set TJX6002

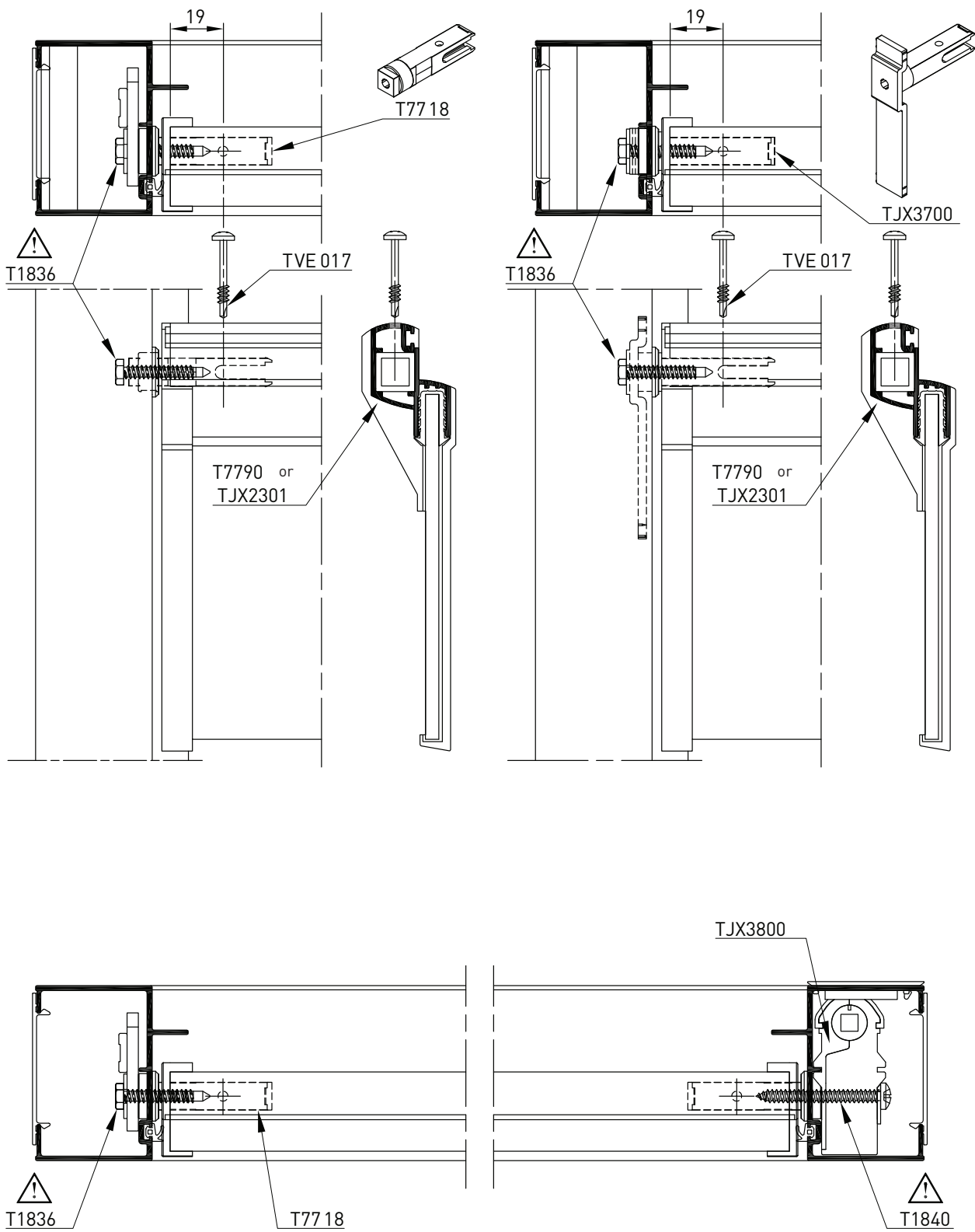


Frame Joint



Reinforcer for Use as Balustrade

Manual operator.
Screw TVE017 mandatory for use of frame as guardrail.



Guarantee

Safetyline Jalousie is a member of the Australian Window Association and as such conforms to an Industry Code of Conduct designed to protect consumers.

Safetyline Jalousie is inspected by independent third party NATA accredited auditors to validate that the window products examined have been manufactured to the relevant Australian Standards and the legislative requirements of the National Construction Code of Australia.

6 Year Guarantee

Guarantee additional to legal rights.

This Guarantee is provided in addition to any warranty or guarantee imposed by law and in particular the guarantees implied by the Competition and Consumer Act 2010 (Cth). In no way does this Guarantee seek to exclude or limit any right or remedy you have in law. However to the extent that is permitted by law any other warranties or guarantees are excluded. For the purpose of this warranty "the product" means a window product ordinarily manufactured and sold by the manufacturer.

Subject to the conditions and limitations below, Safetyline Jalousie guarantees that its products are of acceptable quality and free of any defect caused by the manufacturer.

Limitations

This warranty does not apply to:

- a) Moving parts – a three year warranty will apply on moving parts which wear out as part of normal use;
- b) Electrical Components – a one year warranty will apply on all electrical components;
- c) Parts supplied by other manufacturers as separate components and where such components are warranted or guaranteed by its manufacturer or supplier those guaranties or warranties whether express or implied are assigned to whom the goods are supplied;
- d) Cosmetic damage;
- e) Damage caused by accident, misuse, transport, installation or any external cause;
- f) Failure to install, use and operate the product in a way that is not in accordance with the manufacturer's instructions, good building practice, relevant building standards or a use for which the product has not been designed or recommended by the manufacturer.
- g) Service work that is carried out by other than the Safetyline Jalousie or authorised Safetyline Jalousie agents.

Warranty Claims

Should you wish to make a claim under this guarantee you are required to first notify the manufacturer. Other than as provided by law, the manufacturer will repair or replace the product to the extent that it is functionally equivalent to the product supplied but excludes any installation costs. Where a product has been repaired or replaced, this warranty shall apply to the repaired or replaced product for the balance of the period provided by this guarantee.

Maintenance

Safetyline Jalousie products are manufactured from the most suitable materials and finishes available to the specification provided and when properly maintained will give many years of quality service. Failure to maintain may void the warranty.

Builders / home owners please note:

When installing windows there are some precautions you should take to ensure that the products will retain their ex-factory condition until installation is complete and the job handed over.

Windows should be stored in a clean, dry area away from cement, lime, paint, acid etc. and must be protected from building materials and loose debris such as wet plaster, mortar, paint and welding splatter.

- Store in a dry location, under cover where possible, to protect against damage
- Carry windows in the vertical position
- Do not rack frames out of square
- Prevent exposure to moisture

Aluminium

External window frames should be washed with clean water. If the product is exposed to salt air or industrial pollutants it should be washed at least every three (3) months. In rural areas where normally there is very little contaminated moisture you may not need to clean your aluminium fittings more than every six (6) months.

Aluminium requires only minimal maintenance but, like your motor car, the finish may deteriorate if dirt collects on the surface and is allowed to remain unwashed over a period of time. This is because dirt absorbs moisture present in the atmosphere. To clean aluminium use the mildest treatment you can to produce satisfactory results. Start with warm water and soap or detergent or for anodized material try solvent cleaners (e.g. kerosene, turpentine, white spirit) or nonetching chemical cleaners or a wax based polish cleaner. Keep water free from dirt and grit and ensure that the weep slots in the window are clear to allow maximum drainage.

Glass

To clean, simply wipe over the surface with a few drops of methylated spirits on a damp cloth and then polish the surface dry with a lint free cloth. Proprietary glass cleaners are not recommended as some can cause damage to low E coating and the interlayer in laminated glass. Ensure that all cleaning cloths are free of any abrasive substances. Avoid causing extreme temperature changes as this may lead to thermal fracture of the glass (do not direct hot or cold water onto glass).

Name plates and identification plates

Please leave name plates, part numbers and rating labels on products for future reference. A permanent performance label is a requirement of the BCA in all states and territories of Australia.

Installation

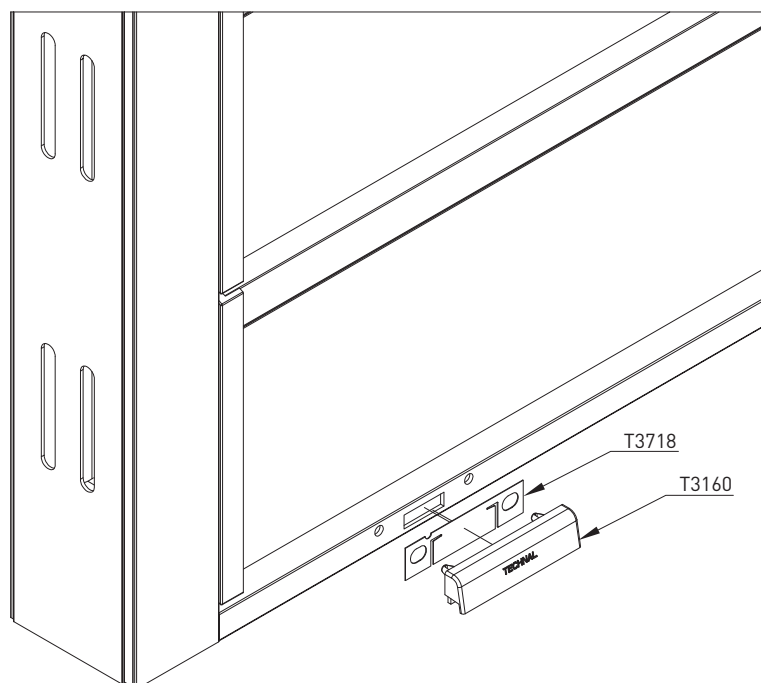
The installation methods for Safetyline Jalousie louvres will vary slightly depending on the type of construction however, there are 4 key steps to always follow:

1. **Square and plumb.** This will ensure the functionality of the system.
2. **Packing.** Packing between the window and building frame ensures that the frame remains square and plumb and adds strength to the screw fixing.
3. **Fixing.** The window needs to be fixed correctly to enable the system to withstand the wind loads applicable to the site.
4. **Flashing.** Windows should be flashed to stop water penetration around the outside of the system.

Safetyline Jalousie louvre windows provide easy and fast installation using counter sunk screws through the pre punched holes in the upright sections otherwise the windows can be supplied with a fin section for installation with timber reveals.

It is the installer's responsibility to provide the required window dimensions at the time of order and ensure that adequate clearance has been allowed.

Safetyline Jalousie louvres are sealed on all four sides and water is drained from the slots in the sills. Weathering deflectors are fitted over the drainage holes as shown below.



Automation

Whilst louvre windows provide the perfect natural ventilation solution there are times when an automation solution is required. This could be as a result of windows being located out of reach or more importantly where the louvres are to form part of a buildings natural ventilation strategy or smoke relief system.



The LDF100 actuator used on our louvres is installed, programmed and tested before the louvres leave our factory. With no visible moving parts, these actuators are microprocessor controlled allowing them to be tailored to the louvre for optimum performance and ensuring that they are equipped with the latest safety functions such as anti-pinch which detects any obstructions when the louvres are closing, an essential element for schools, aged care and many other public installations.

The louvres and controls form part of a complete solution and when the opportunity presents itself in combination with our automation partners at EBSA we can assist to design a solution to meet almost any outcome.

System Elements can include:

- User Interface via manual wall switch, touch screen or fully automated through a ventilation controller or as part of a home or building automation system.
- Weather logic control by integrating wind, rain, temperature or other external sensors
- Indoor Air Quality can be maintained with Air Quality Sensors (CO₂, Humidity, Temperature)
- Auto close on loss of power to prevent windows being stuck open during a storm
- Night purge to exhaust stale air at night
- Lockout function to disable operation of the windows out of hours, perfect for schools and office buildings

There is almost no limit to the complexity of any system that we can offer however successful implementation requires early planning as many features cannot be retrofitted.

Smoke Relief

In addition to the above functionality, the LDF100 actuator in combination with EBSA's Smoke Control Panels provide a comprehensive Smoke Relief System certified to EN12101-2 (ISO21927-2). These panels are equipped with all the necessary failsafe elements including a monitored 72 hour failsafe battery backup with fault reporting to the BMS/FIP and an option to monitor the integrity of the field cables to the actuators.

The Safetyline Jalousie Louvre Window Smoke Relief Solution comprise 4 major components: 1) louvres; 2) drives; 3) cabling; and 4) controls which interface with the fire indicator panel (FIP) and building management system (BMS). The automation hardware is certified to EN12101 (ISO21927).

The Smoke Relief Solution can be utilised for the following purposes:

1. **Natural Smoke Relief/Exhaust** – in the case of smoke/fire the louvre windows automatically open and smoke naturally leaves the building.
2. **Make-Up Air to a Mechanical Exhaust** – buildings are equipped with large exhaust fans that operate in tandem with the opening of the louvre windows.
3. **Stairwell Pressurisation** – louvres will open on the relevant floor to allow air to exit the stairwell. The ISO certified electronics inside the drives can be programmed to open and/or close the louvre windows based on a range of triggers.

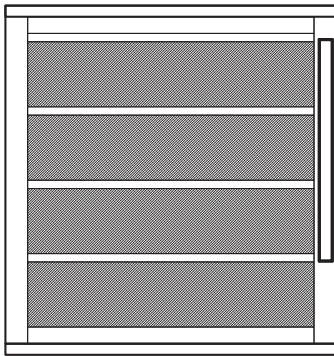
In partnership with window automation specialists EBSA, Safetyline Jalousie has the ability to deliver automation solutions to suit a range of projects.

LDF100 Louvre Drive Features

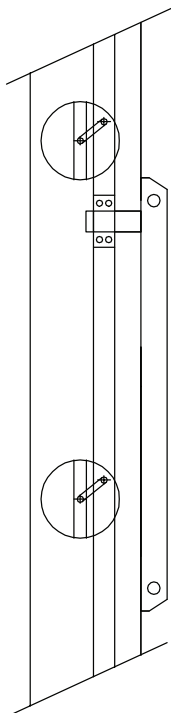
Louvre drive LDF 100 has been specially designed for infinitely variable electrical control of louvres.

- All drive functions, characteristics and stroke length are individually programmable via Software
- Integrated anti-pinch function
- Low electrical consumption
- Corrosion resistant operating components
- Equipped with additional passive and active anti pitch function
- Useable for smoke ventilation
- Fire resistance (30 minutes/300°C)
- Stainless steel housing
- Dimensions L 413mm x W 25mm x D 25mm
- Power Supply DC 24V +/- 20%, current consumption 0.8A
- Up to 800N opening force

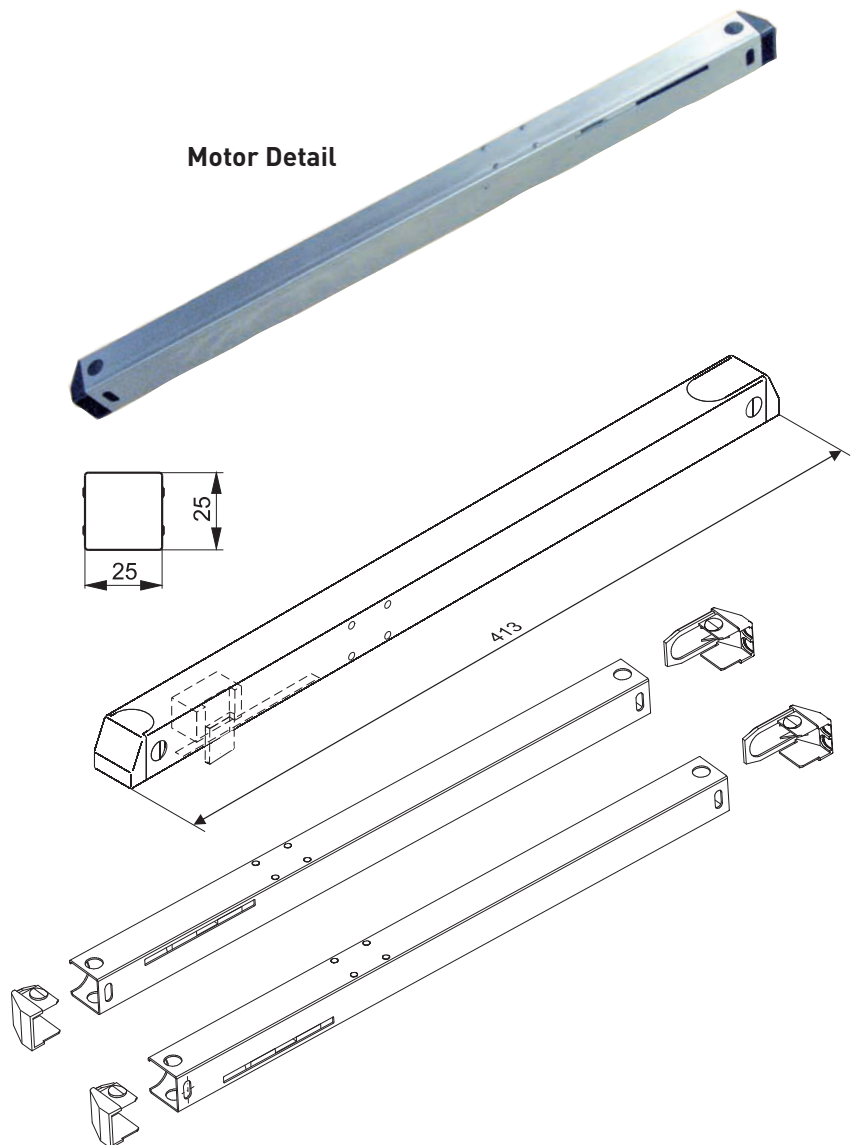
Motor Mounted On Frame



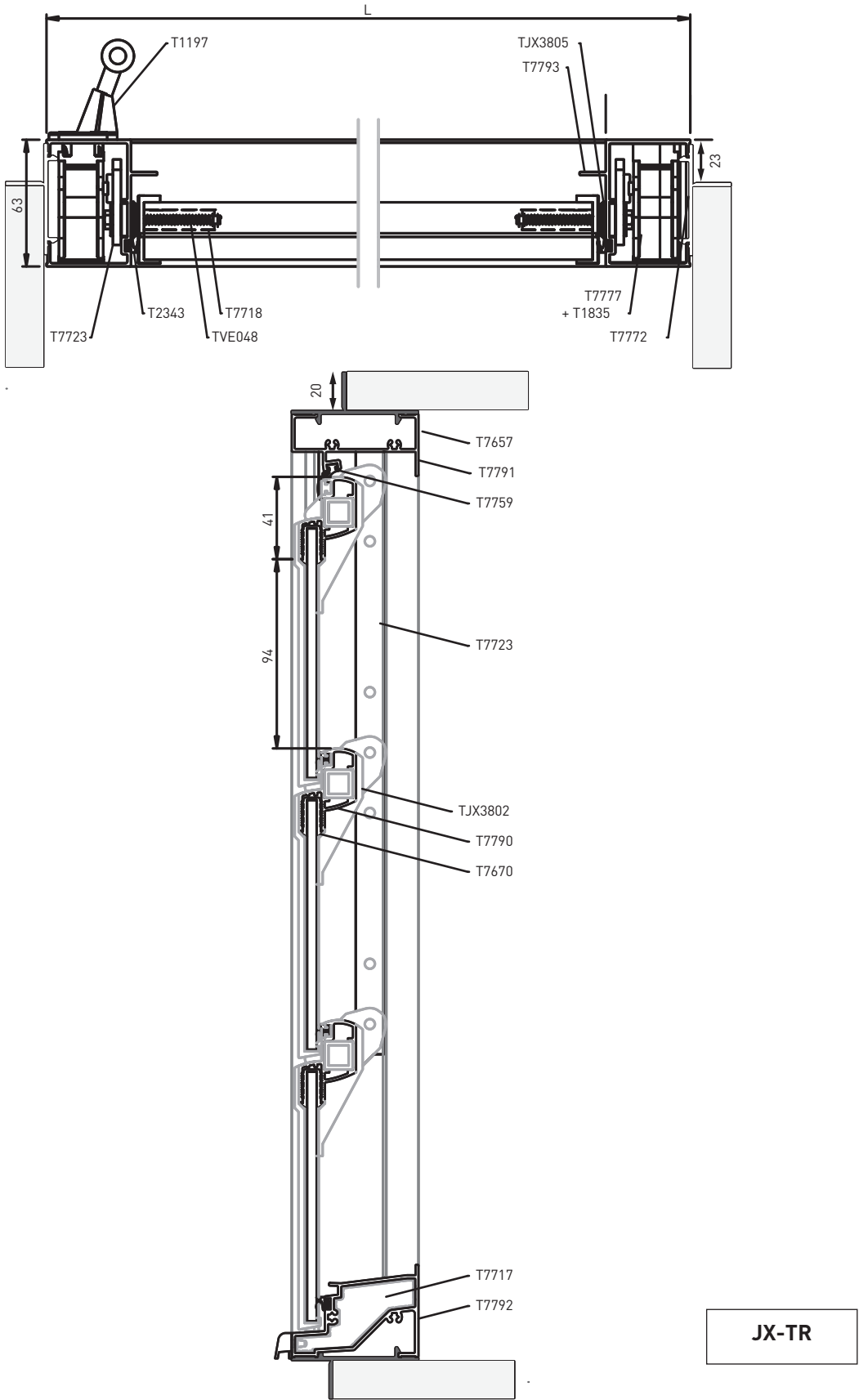
Louvre Closed Position



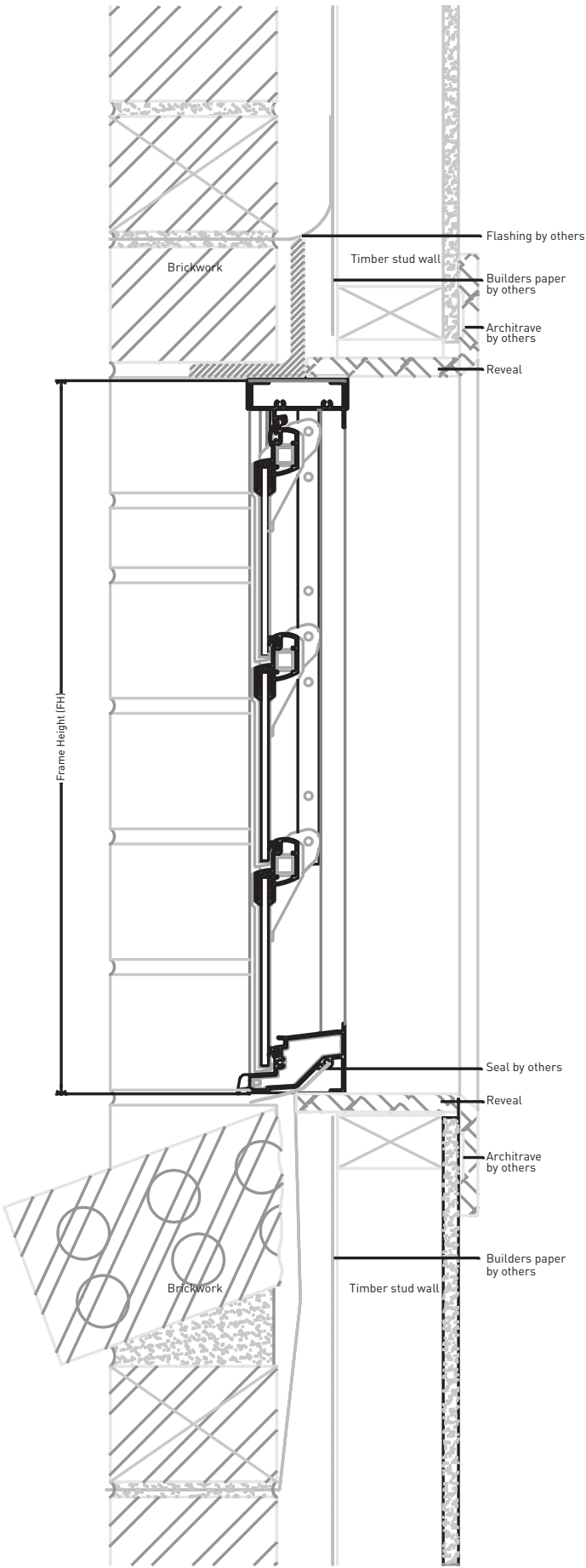
Motor Detail



Timber Reveal

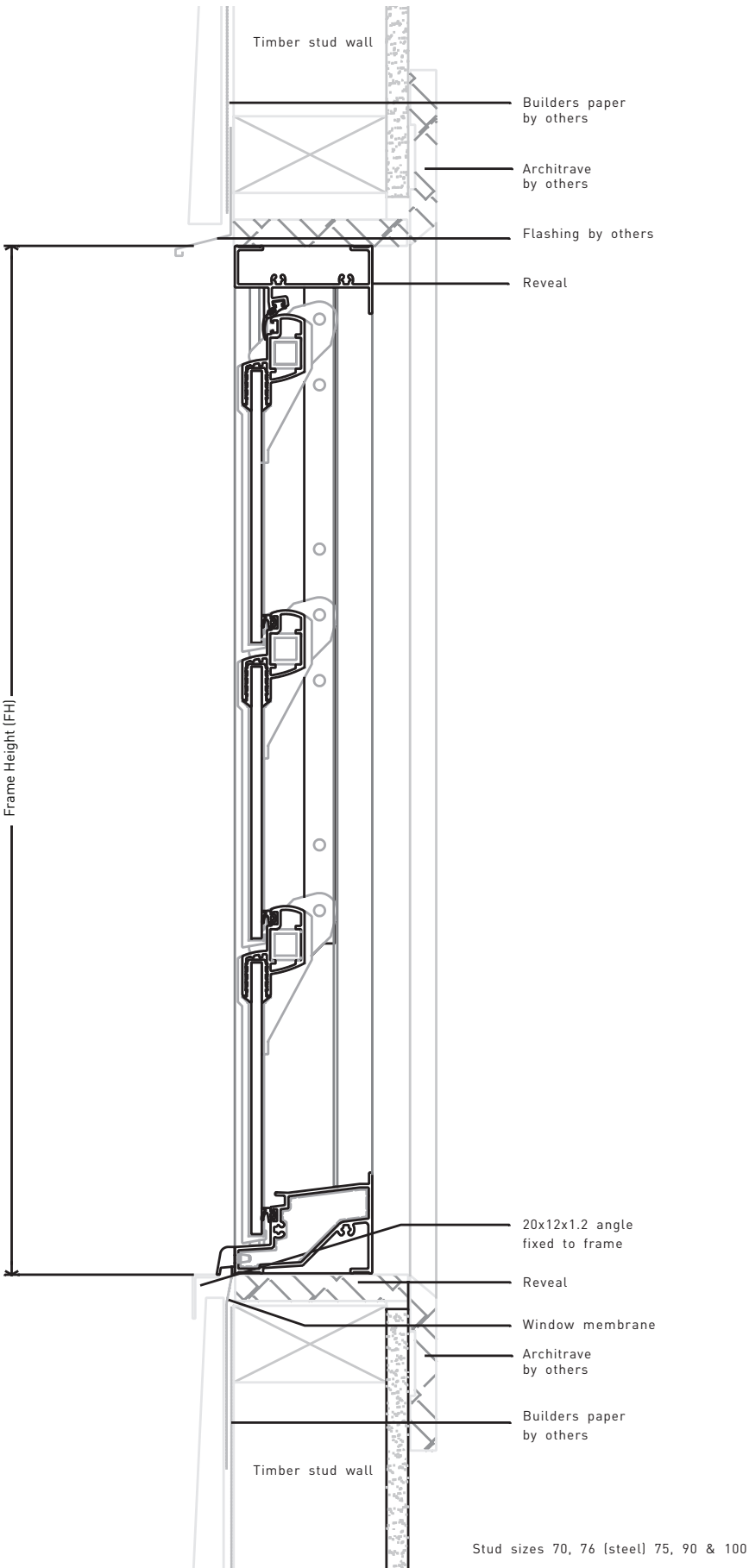


Brick Veneer



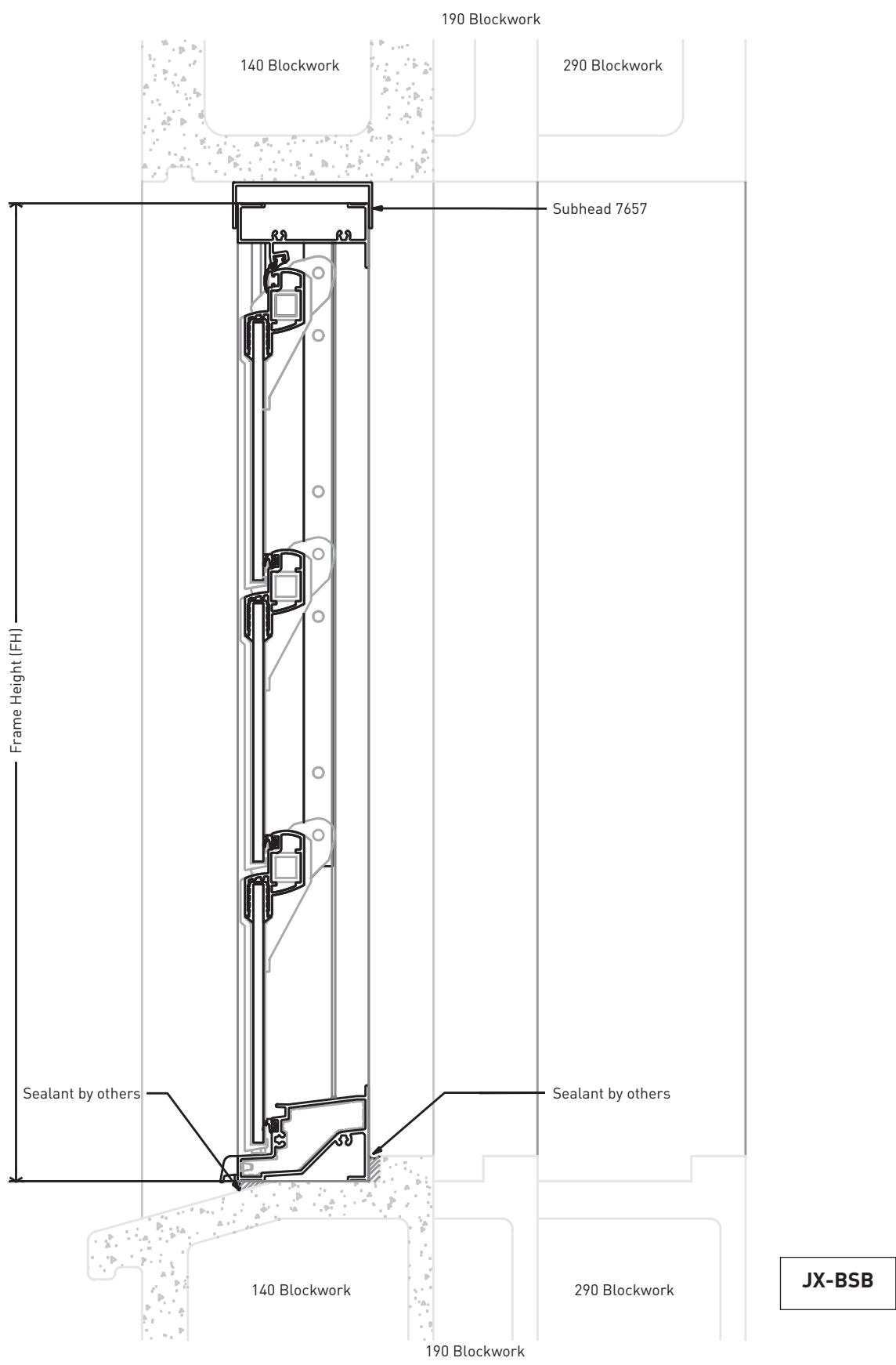
JX-BV

Stud Cladding



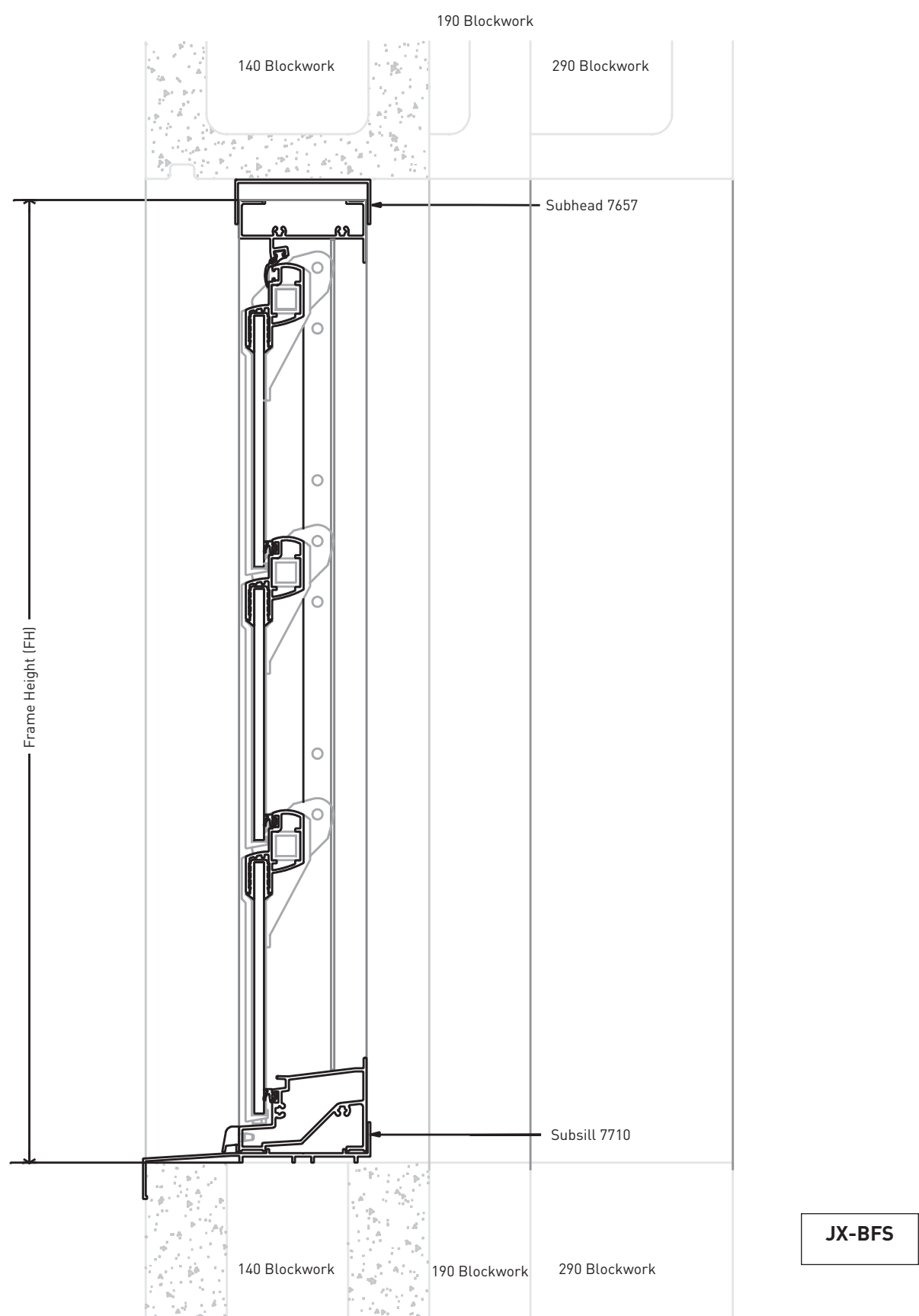
JX-SC

Blockwork - Sill Block

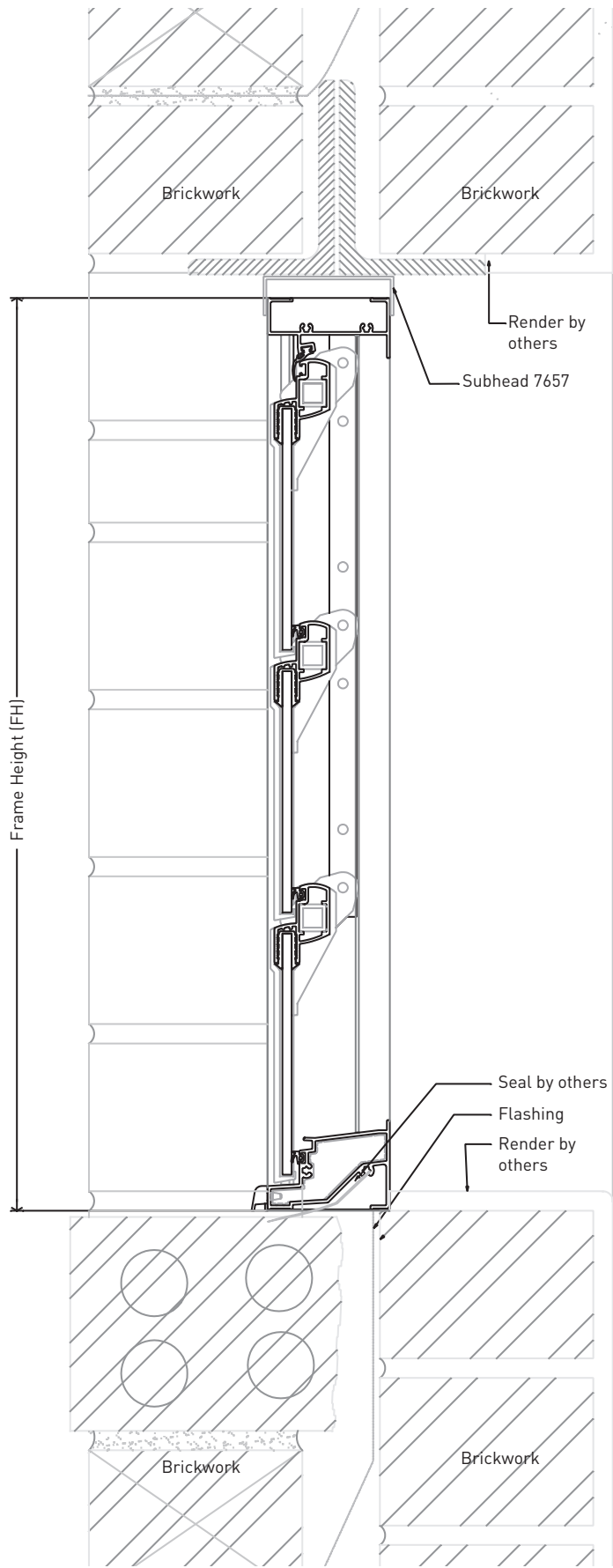


JX-BSB

Blockwork – Flat Sill

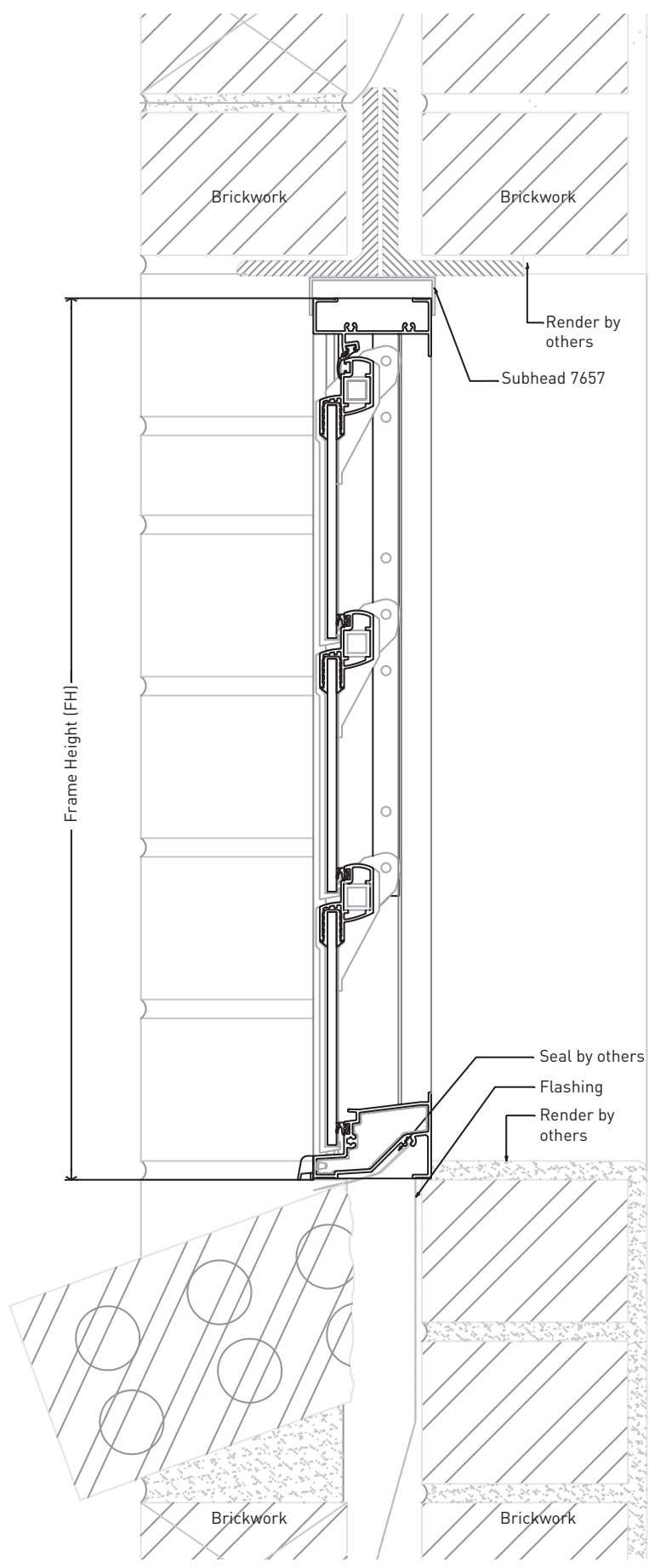


Brick Double – Flat



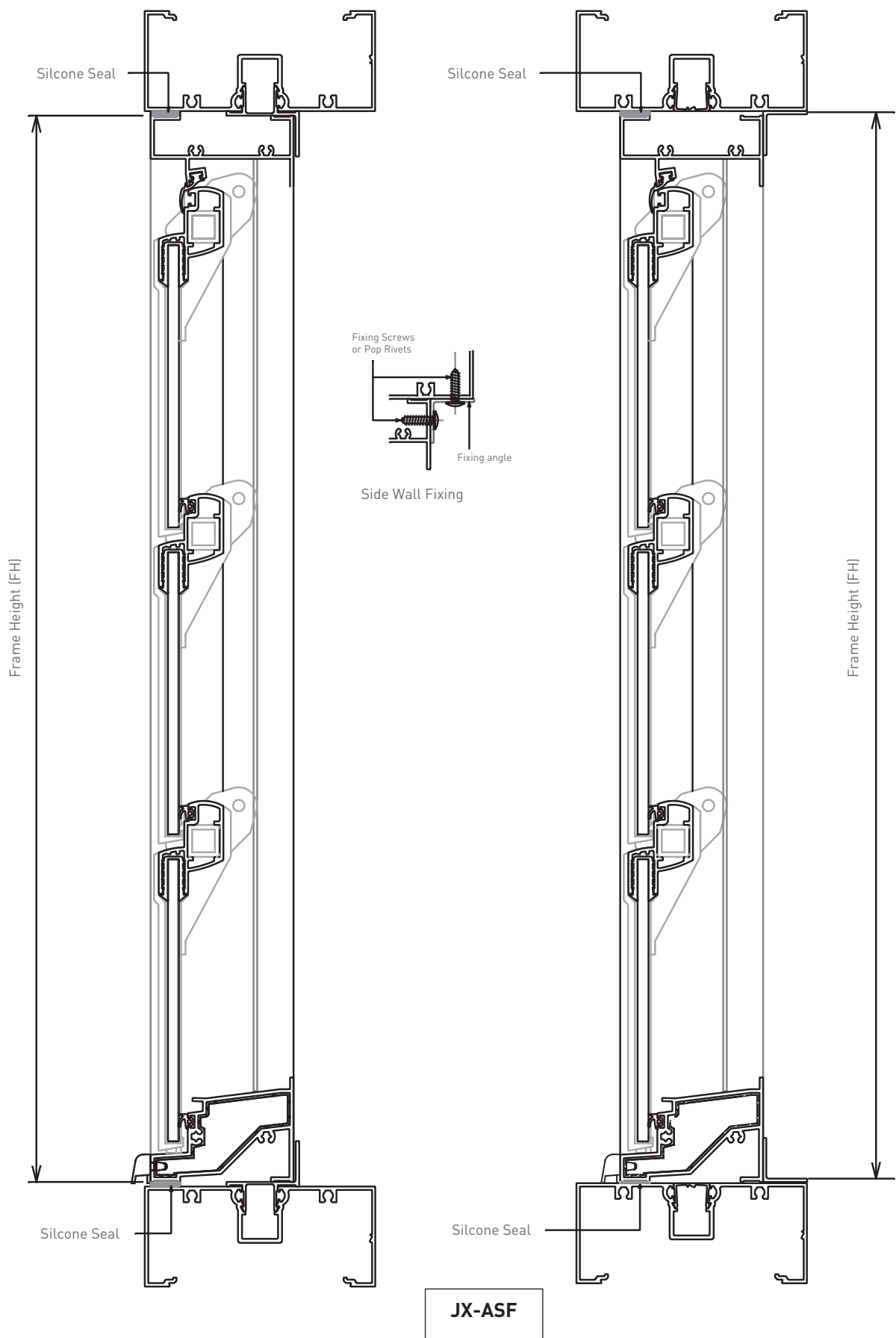
JX-BDF

Double Brick - Sill

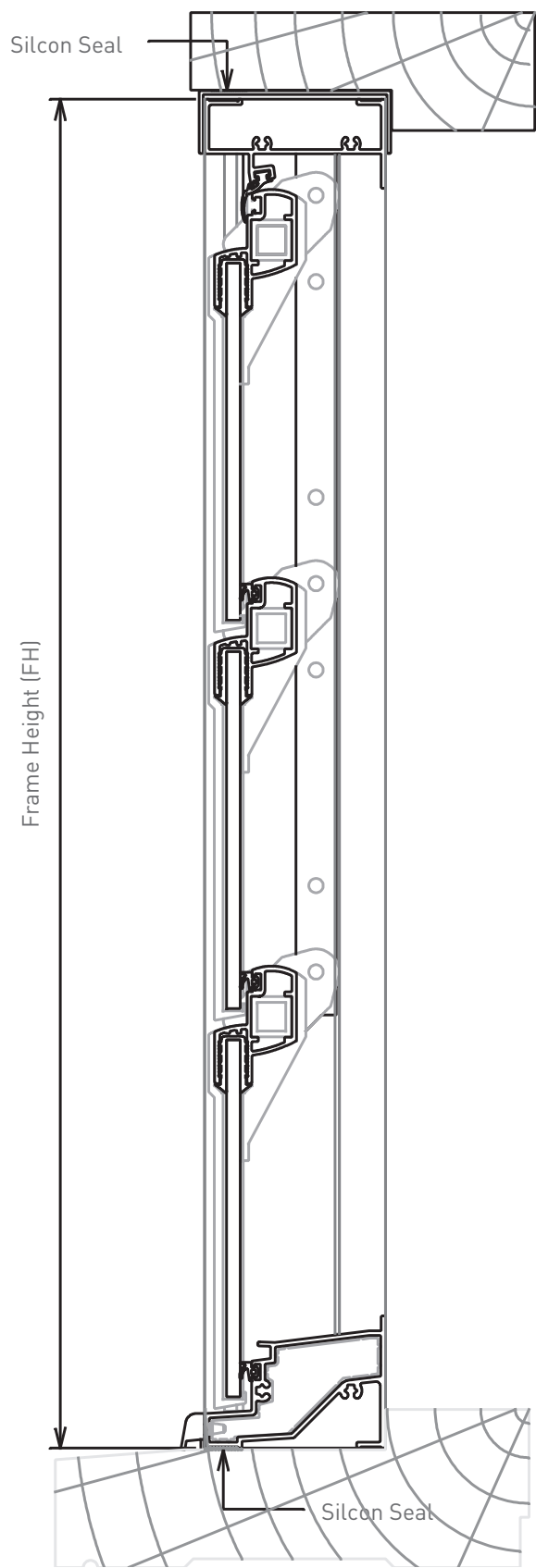


JX-BS

Integration with Aluminium Sub-Frame



Timber Frame

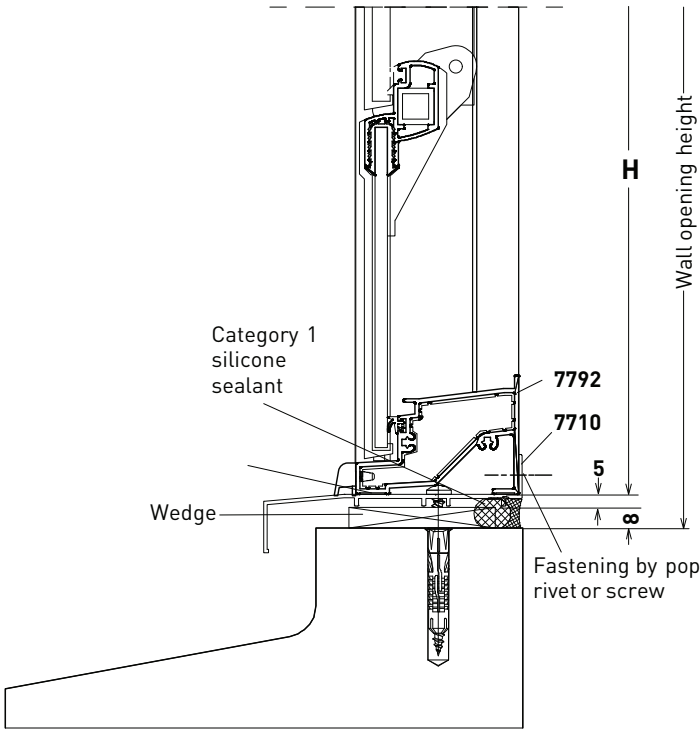
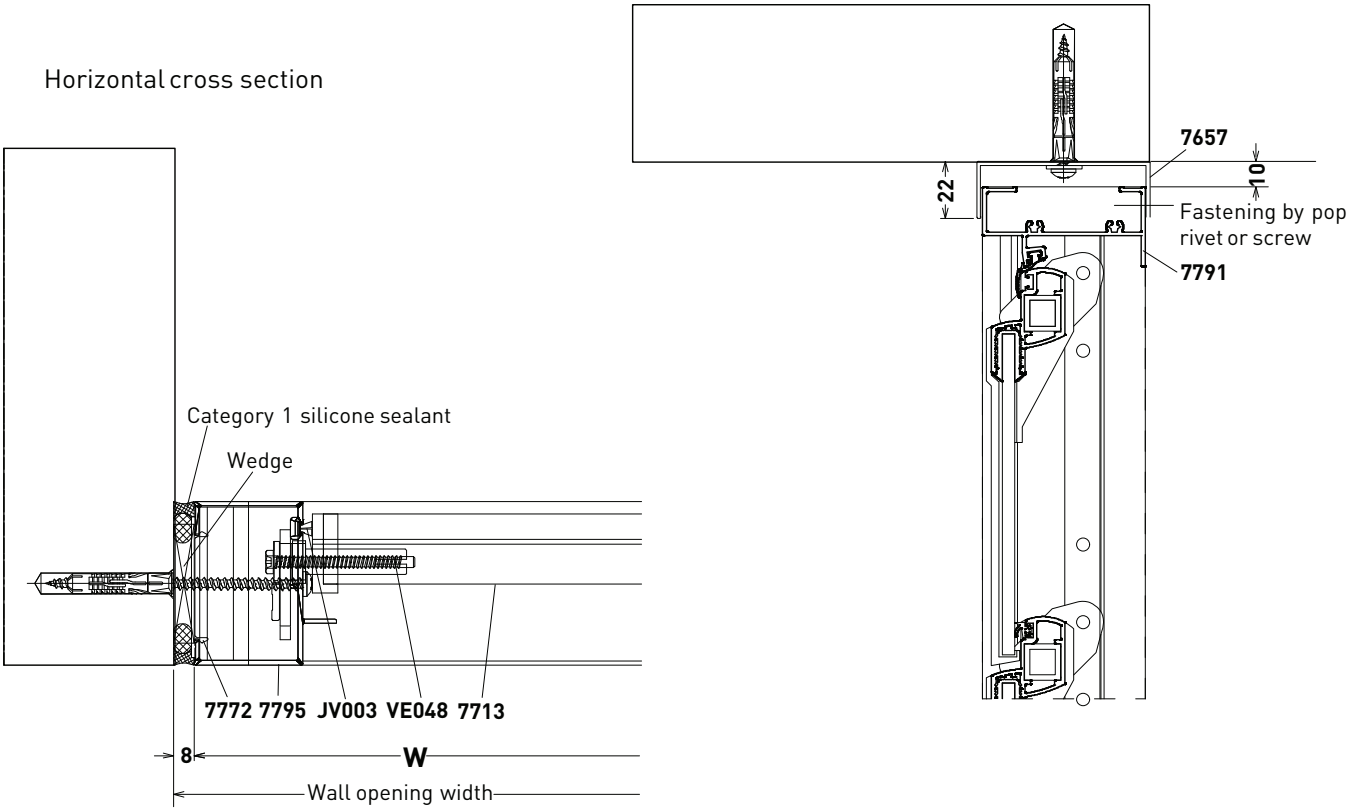


JX-TF

Sub-head & Sub-sill Installation

Vertical cross section, scale 1/3

Horizontal cross section



JX-SHSS

Contact Information

Head Office

P: 1300 86 3350 | +61 2 9450 3350

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ABN 23 123 507 853

Like us on Facebook - www.facebook.com/safetylinejalousie

Follow us on LinkedIn - www.linkedin.com/company/safetyline-jalousie-louvre-windows



Wickham Series[®]



Louvreclad's Wickham Series[®] is another ideal solution for architectural sun screening.

Distinctive Features + Diverse Applications + Multitude of Benefits:

- Supplied in modular panels or mounted individually on custom-built brackets
- High impact resistance
- Ideal for mitred corners

Attention to Detail:

- Maximum blade span: 3200mm
- 200mm ellipsoid
- 40mm depth



HIGH IMPACT RESISTANCE



Thinking outside for inside performance

DRAFT SPECIFICATION

Screens will be Louvreclad Wickham Series®. Blades will be _____
[Operable/Fixed] if fixed [state pitch] mm pitch at [state angle]° angle.

Base Material & Finish

Screens will be manufactured in [powder coated/anodised] aluminium finish in [state colour]

Operation Method (if applicable)

The operation method will be [Electric Motor/Manual winder/other - choose method]

Control System (if applicable)

Automated Control will be by [specify sensors and control system]

Accessories (if applicable)

Screens will be fitted with [nominate options/accessories from the selection].

Installation and Mounting

Installation and mounting details will be designed in accordance with proprietary systems and recommendations as designed and manufactured by Louvreclad Pty. Ltd. Phone: 1300 165 678 Email: sales@louvreclad.com

Base Material Options

- Extruded Aluminium

Finishes Available

Choose from the following range of finishes:

- complete powder coated range
- complete anodised range

Specialised coatings are also available on request.

Operating Options

If specifying operable screens please nominate the operating system from the following:

- remote winder control
- electric actuator

Accessories

Rain sensors: Screens can automatically close against rain.

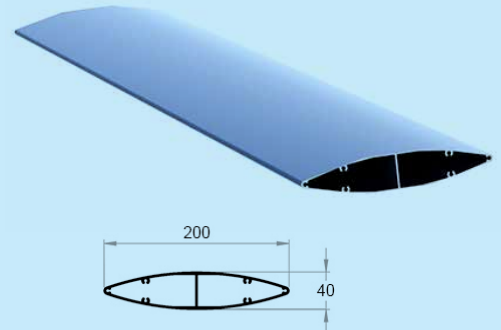
Light sensors: Optional sensor controls can be set to automatically tilt the Louvreclad screen blades to shield the building's interior from glare or direct sunlight.

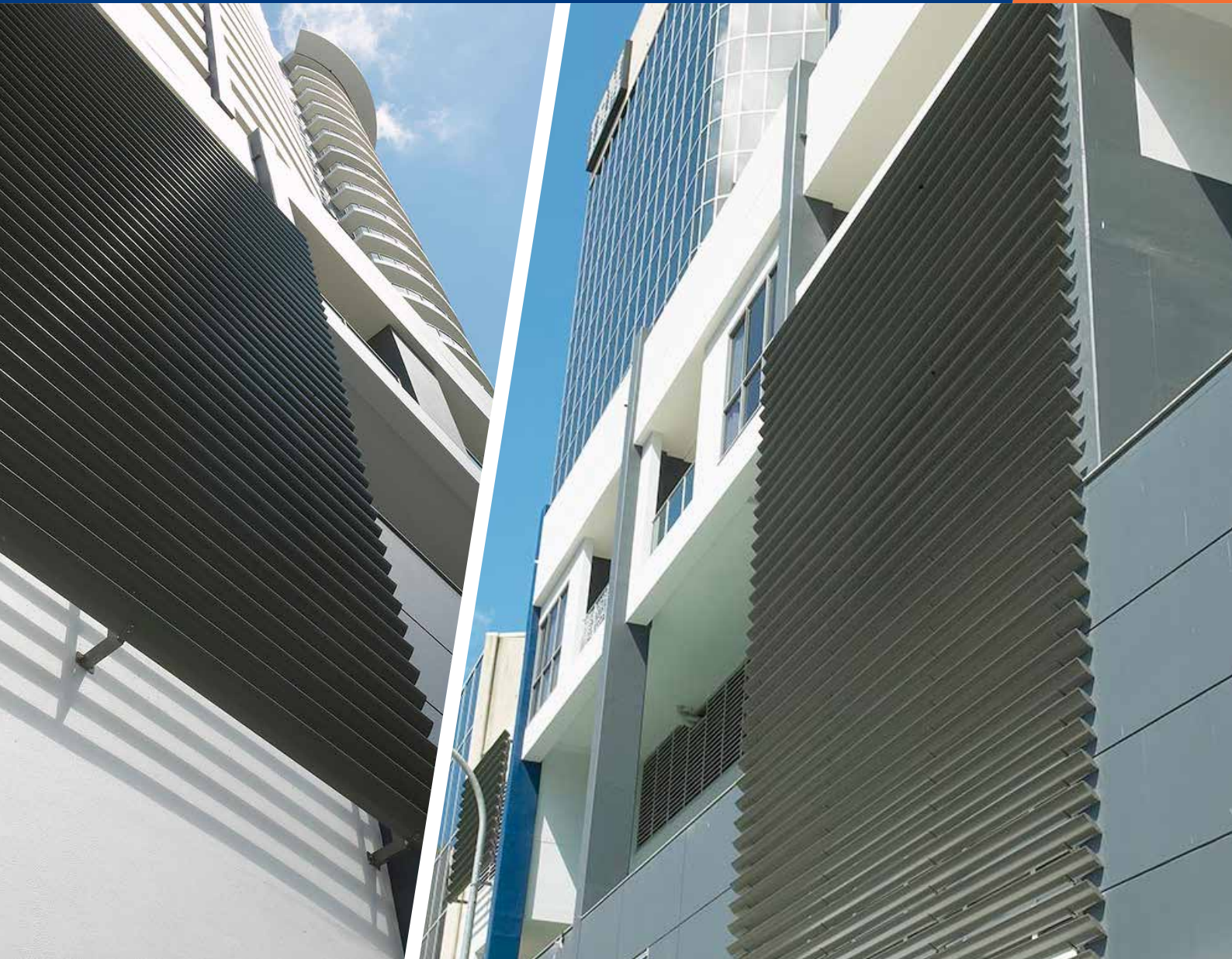
Wind sensors: Wind sensors will provide additional flexibility in response to shifting weather patterns and wind gusts.

Temperature sensors: Screen controls can be set to respond to ambient interior temperatures and adjust angle and tilt to shade the interior or admit more warming sunlight.

Timers: Pre-set opening, closing and tilting configurations.

PROFILES





WOULD YOU LIKE TO KNOW MORE?

If you have any questions about this product, or if you would like to speak to a member of our expert team about how we can tailor a solution for you, call: **1300 165 678** or visit: **louvreciad.com**



Windsor Series[®]



SCREENS

Louvreclad's Windsor Series[®] is a durable architectural sunscreen with excellent spanning characteristics that make it suitable for a wide range of applications.

Distinctive Features + Diverse Applications + Multitude of Benefits:

- Highly durable
- Excellent spanning characteristics
- Ideal for operable screens
- Creates an excellent facade screen
- Blades can be run continuously

Attention to Detail:

- Maximum blade span: 2400mm
- 91mm ellipsoid
- 21mm depth



**EXCELLENT SPANNING
CAPABILITIES**



Thinking outside for inside performance

DRAFT SPECIFICATION

Screens will be Louvreclad Windsor Series®. Blades will be _____
[Operable/Fixed] if fixed [state pitch] mm pitch at [state angle]° angle.

Base Material & Finish

Screens will be manufactured in [powder coated/anodised] aluminium finish in [state colour]

Operation Method (if applicable)

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Control System (if applicable)

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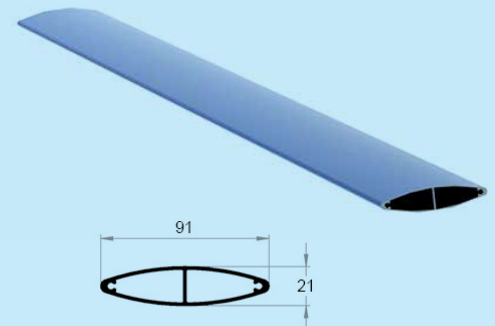
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greenstarled
eco_smart linear lighting

7 YEAR*
WARRANTY

AUS 115 GREENSTAR LED RECESSED ASYMMETRIC

- ✓ Industry leading
*7 Year Warranty
- ✓ optional IP55 version available
- ✓ long life
- ✓ specifically engineered
thermal management
- ✓ highly configurable

*7 Year Warranty Available with Zantium Boards and Drivers only

Page 1

AUSTUBE Head Office:
23 Foundry Rd Seven Hills NSW 2147 Australia
T +612 9674 9122 F: +612 9674 9133
E: sales@austube.com.au W: www.austube.com.au





FINISHES

- Standard - Natural Anodised, Pearl White, Matt Texture Black
- Non Standard - Custom Powder Coat, Other (*Please consult your Sales Representative*)
- Standard with 2mm screwed endplates

LED OPTIONS available colour temps 3,000k, 4,000k and 5,000k

(See below lamp output data)

- Generation 3 (Zhaga)
- Sunset Dim (Zhaga)
- High CRI 90 + (Zhaga)
- Tuneable White (Zhaga)
- Cyanosis (Zhaga)
- RGBW + RGBW-L

CONTROL OPTIONS

- Selectable current (Fixed Output)
- DSI
- Dali
- DMX compatible
- 1-10v
- optional ripple free drivers
- constant light output
- switch dim
- ambient light / motion sensors

OPTICS

- PlexiLED
- PolyLED

MOUNTING

- Standard wire suspensions, rod suspensions, gyprock brackets

OPTIONS

- Emergency backup

DIMENSIONS/WEIGHT

- Overall 87mm W x 84mm H x 111mm
- 4.3kg/m
- luminaire length - up to 6 metres without joins
- incremental length - 70mm boards

AUS 115 GREENSTAR LED RECESSED ASYMMETRIC



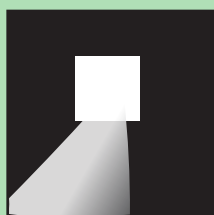
Note: The below output values are 'delivered' lumens. This takes into consideration the transmission losses in the diffuser along with thermal regulation. These values are more relevant than 'board' lumens as fitting efficiency is accounted for.

DELIVERED LUMENS PER METRE			POWER PER METRE	
mA	HE LUMENS	HO LUMENS	HE POWER	HO POWER
250 mA	1334	2424	20	34
275 mA	1453	2656	22	38
300 mA	1542	2818	23	40
350 mA	1750	3212	26	45

CRI	80 +
AMBIENT TEMPERATURE	25 C
RATED LIFE	L70 F10 70,000 Hours
RATED COLOUR TOLERANCE	3 Step McAdam Ellipse

STANDARD CONFIGURATIONS

other configurations may be possible



INDOOR



240v AC



EMERGENCY
PACKS



PHOTOMETRICS



BUILDING
INFORMATION
MODELING



REGULATORY
COMPLIANCE
MARK



ELECTRICAL
EQUIPMENT
SAFETY
SCHEME



KG / M



CONTINUOUS
LED



TOOL-LESS
COUPLING
SYSTEM



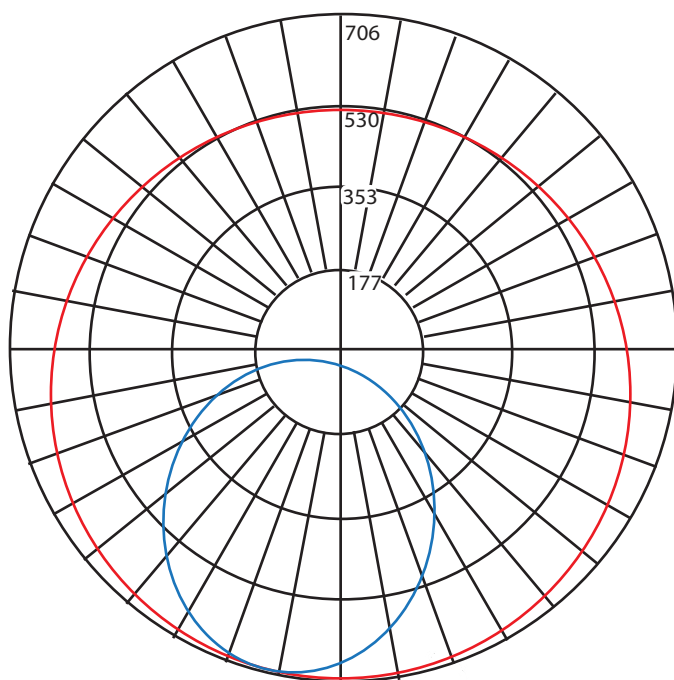
CERTIFICATIONS

- EESS
- RCM
- CofS
- TM21
- LM79
- Thermal report
- SSL LABEL

ASSEMBLY

Kwik Lock - tool free joiner system

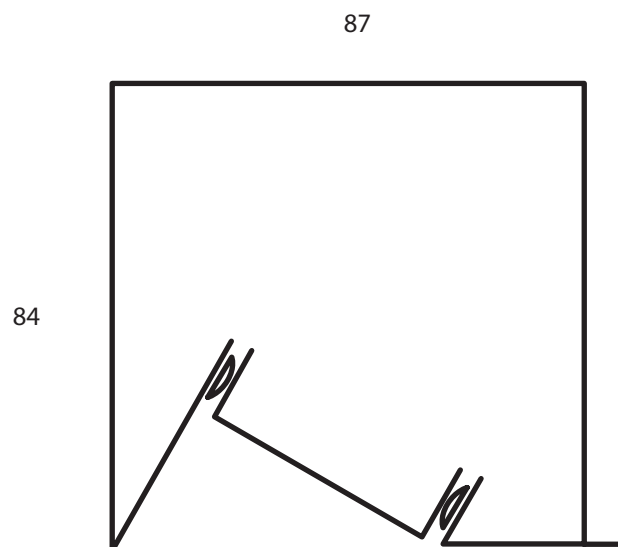
go to - <https://vimeo.com/user12271452/review/95068490/e72df58977>



AUS 80 greenstar LED 4 x 6W polar curve

cd/klm

— C0-C180
— C90-C270



AUS 115 GREENSTAR LED RECESSED ASYMMETRIC



greenstarled
eco_smart linear lighting



7 YEAR*
WARRANTY

AUS 80 GREENSTAR LED SQUARE

- ✓ industry leading
*7 Year Warranty
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thermal management
- ✓ highly configurable

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- Non Standard - Custom Powder Coat, Other *(Please consult your Sales Representative)*
- Standard with 4mm screwless endplates

LED OPTIONS *available colour temps 3,000k, 4,000k and 5,000k*

(See below lamp output data)

- Generation 3 (Zhaga)
- Sunset Dim (Zhaga)
- High CRI 90 + (Zhaga)
- Tuneable White (Zhaga)
- Cyanosis (Zhaga)
- RGBW + RGBW-L

CONTROL OPTIONS

- Selectable current (Fixed Output)
- DSI
- Dali
- DMX compatible
- 1-10v
- optional ripple free drivers
- constant light output
- switch dim
- ambient light / motion sensors

OPTICS

- PlexiLED
- PolyLED

MOUNTING

- Standard wire suspensions, rod suspensions,
- Custom wall brackets
- Custom joinery details

OPTIONS

- Bends lit and unlit (Corner 90°, cross 90°, Tee 90°)
- Emergency backup
- Emergency LED spitfires
- LED Downlights

DIMENSIONS/WEIGHT

- Overall 83mm W x 80mm H
- 3.9kg/m
- luminaire length - up to 6 metres without joins
- incremental length - 70mm boards



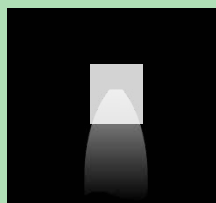
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300 mA	1667	2995	23	40
350 mA	1892	3413	26	45

CRI	80 +
AMBIENT TEMPERATURE	25 C
RATED LIFE	L70 F10 70,000 Hours
RATED COLOUR TOLERANCE	3 Step McAdam Ellipse

STANDARD CONFIGURATIONS

other configurations may be possible



INDOOR



240v AC



EMERGENCY PACKS



PHOTOMETRICS



BUILDING INFORMATION MODELING



REGULATORY COMPLIANCE MARK



ELECTRICAL EQUIPMENT SAFETY SCHEME



KG / M



CONTINUOUS LED



TOOL-LESS COUPLING SYSTEM



AUS 80 GREENSTAR LED SQUARE



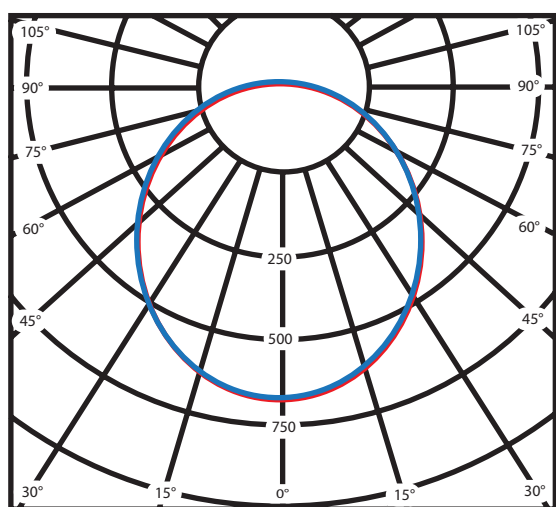
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- EESS
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Kwik Lock - tool free joiner system

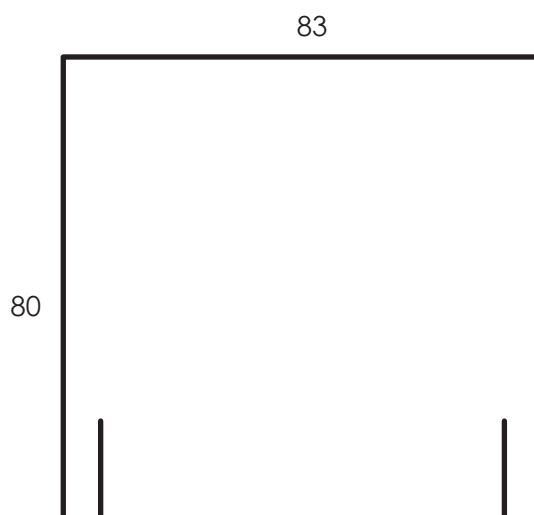
go to - www.austube.com.au/video-2/



AUS 80 Greenstar LED Square Polar Curve

cd/klm

— C0-C180
— C90-C270



AUS 80 GREENSTAR LED SQUARE



CLEVERTRONICS ECONOMY LITHIUM CLEVERFIT EXIT



PRODUCT INFORMATION

Catalogue Number	ECFLED-LI
Description	Economy Lithium Cleverfit Emergency Exit
Construction	ABS body and Diffuser with Polycarbonate Clear Tamper proof Cover
Mounting	Wall, Ceiling Single-Sided & Ceiling Double-Sided
Dimensions L x W x H	355mm x 80mm x 215mm
Weight	1.2kg
Operating Mode	Maintained
Testing System	N/A - Manual test switch
Battery	Lithium Iron Phosphate, 3.2V 600mAh
Charging Method	Intelligent Current Limited Constant Voltage
Diffuser	All directional inserts included in the box
Lamp(s)	4 x LED, Surface Mounted onto a replaceable lamp bar - 50,000hrs
Operating Voltage	240V AC; 50Hz
Power Consumption	1.1 Watts (Standby), 2.0 Watts (Max)
IP Rating	IP20
Operating Temperature	1°C to 40°C
AS2293 Classification	C ₀ =E2 C ₉₀ =E2
Viewing Distance	24m

REPLACEMENT PARTS

PART NUMBER	DESCRIPTION
1550195	BATT: LiFePO4 3.2V 600mAh 210mm lead, noBRKT
8002900	PCA:LED Strip ECFLED-LI CT10242-D1
8002880	PCA:Driver ECOLITH Cleverfit CT10240-L4





CLEVERTRONICS ECONOMY LITHIUM LIFELIGHT



PRODUCT INFORMATION

Catalogue Number	ELIFE-X-LI
Description	Economy Lithium Lifelight Recessed Emergency Light with Flex and Plug
Mounting	Recessed mount
Dimensions L x W x H	232mm x 50mm x 42mm (Control Pack) 95mm Head Diameter (145mm with adaptor plate)
Weight	0.5kg
Ceiling hole cut-out	80mm, 135mm (With adaptor plate)
Minimum ceiling depth	120mm, 70mm (With adaptor plate)
Operating Mode	Non-maintained
Testing System	N/A - Manual test switch
Battery	Lithium Iron Phosphate, 3.2V 3000mAh (located within control gear enclosure)
Charging Method	Intelligent Current Limited Constant Voltage
Lamp(s)	1 x OSRAM OSLON MINT, High flux LED (Lifetime warranty on the lamp head and loom assembly)
Operating Voltage	240V AC; 50Hz
Power Consumption	0.4 Watts (Standby), 1.3W (Max)
IP Rating	IP20
Operating Temperature	1°C to 40°C
AS2293 Classification	C ₀ =D40 C ₉₀ =D40

REPLACEMENT PARTS

PART NUMBER	DESCRIPTION
1560150	BATT:LiFePO4 3.2V 3.0Ah 70mm lead,noBRKT
1100875	ELIFE-X-LI Head Assbly, Inc Adaptor Ring
ELIFE-X-LI-CKIT	Lifelight: LED, NM, Control Only, 3.0Ah



Cree Edge™ Series

LED Interior Round Luminaire

Product Description

Slim, low profile design. Luminaire housing is rugged cast aluminum with integral, LED driver compartment, spun aluminum vented cover and high performance aluminum heat sinks. Luminaire mounts using hook and cord or minimum 6" (152mm) 3/8" IP (10mm) pendant (by others).

Applications: Retail and industrial high-bay or low-bay, airport hangars, and gymnasiums

Performance Summary

Patented NanoOptic® Product Technology

Made in the U.S.A. of U.S. and imported parts

CRI: Minimum 70 CRI

CCT: 4000K (+/- 300K), 5700K (+/- 500K) standard

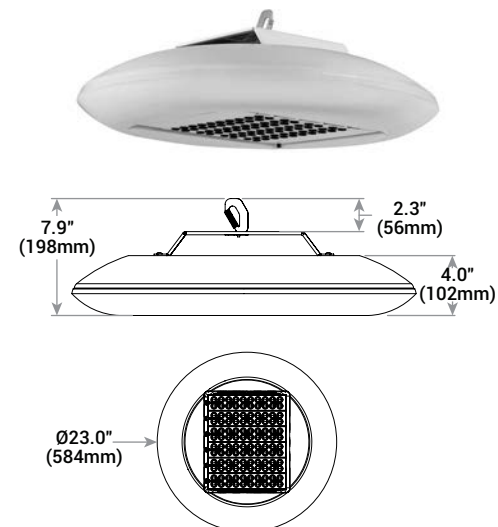
Limited Warranty*: 10 years on luminaire/10 years on Colorfast DeltaGuard® finish

* See www.cree.com/lighting/products/warranty for warranty terms

Accessories

Field-Installed		
Pendant Mount Accessories		
3/8" (10mm) IP Pendant – 18" (457mm)	3/8" (10mm) IP Pendant – 24" (610mm)	
KSKP018SW - Silver	One Circuit	
KSKP018BW - Black	KSKP024SW - Silver	
KSKP018ZW - Bronze	KSKP024BW - Black	
KSKP018WW - White	KSKP024ZW - Bronze	
	KSKP024WW - White	
	Two Circuit	
	KSKP024SD - Silver	
	KSKP024BD - Black	
	KSKP024ZD - Bronze	
	KSKP024WD - White	
NOTE: Alternative pendant lengths are available in 1" (25mm) increments; consult factory		

HC Mount



LED Count (x10)	Weight
04	31.0 lbs. (14.0kg)
06	32.0 lbs. (14.5kg)
08	34.0 lbs. (15.4kg)
10	37.5 lbs. (17.0kg)
12	39.5 lbs. (17.9kg)

Ordering Information

Example: INT EDR PS HC 04 E UL SV 350

INT EDR				E				
Product	Optic	Mounting	LED Count (x10)	Series	Voltage	Color Options	Drive Current	Options
INT EDR	PS Petroleum Symmetric 40 40° Flood	HC Hook & Cord PD Pendant	04 06 08 10 12	E	UL Universal 120-277V UH Universal 347-480V	BK Black BZ Bronze SV Silver (Standard) WH White	350 350mA 525 525mA 700 700mA - Available with 40-60 LEDs	40K 4000K Color Temperature - Minimum 70 CRI - Color temperature per luminaire DIM 0-10V Dimming - Control by others - Refer to Dimming spec sheet for details - Can't exceed specified drive current HL Hi/Low (Dual Circuit Input) - Refer to HL spec sheet for details - Sensor not included



US: www.cree.com/lighting

T (800) 236-6800 F (262) 504-5415

Rev. Date: V2 08/28/2015

Canada: www.cree.com/canada



T (800) 473-1234 F (800) 890-7507

Cree Edge™ LED Interior Round Luminaire

Product Specifications

CONSTRUCTION & MATERIALS

- Slim, low profile design
- Luminaire sides are rugged die cast aluminum with integral, LED driver compartment, spun aluminum cover and high performance heat sinks
- Hook and cord mount provided with spring lock hook for mounting
- Pendant mount is intended to be mounted by minimum 6" (152mm) 3/8" IP pendant (by others)
- Exclusive Colorfast DeltaGuard® finish features an E-Coat epoxy primer with an ultradurable powder topcoat, providing excellent resistance to corrosion, ultraviolet degradation and abrasion. Silver, bronze, black and white are available
- **Weight:** See weight chart on pages 1 and 2

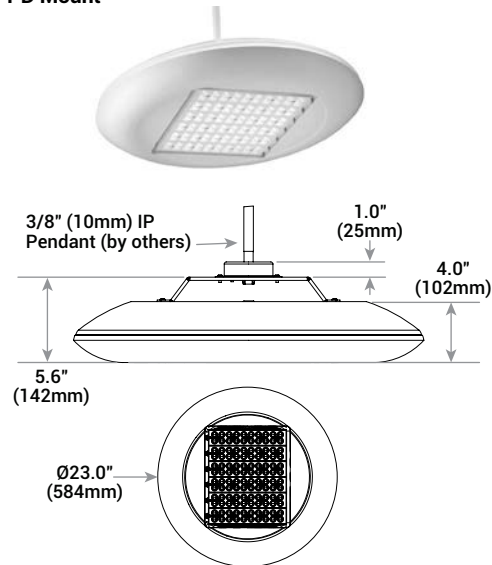
ELECTRICAL SYSTEM

- **Input Voltage:** 120-277V or 347-480V, 50/60Hz, Class 1 drivers
- **Power Factor:** > 0.9 at full load
- **Total Harmonic Distortion:** < 20% at full load
- Integral 10kV surge suppression protection standard
- To address inrush current, slow blow fuse or type C/D breaker should be used
- **Maximum Source Current:** 40-80 LED: 0.15mA; 100-120 LED: 0.30mA

REGULATORY & VOLUNTARY QUALIFICATIONS

- cULus Listed
- Suitable for wet locations
- 10kV surge suppression protection tested in accordance with IEEE/ANSI C62.41.2
- Meets FCC Part 15 standards for conducted and radiated emissions
- Luminaire and finish endurance tested to withstand 5,000 hours of elevated ambient salt fog conditions as defined in ASTM Standard B 117
- Meets Buy American requirements within ARRA

PD Mount



LED Count (x10)	Weight
04	33.0 lbs. (14.9kg)
06	44.0 lbs. (15.4kg)
08	45.5 lbs. (16.1kg)
10	42.5 lbs. (19.2kg)
12	43.5 lbs. (19.7kg)

Electrical Data*							
LED Count (x10)	System Watts 120-480V	Total Current					
		120V	208V	240V	277V	347V	480V
350mA							
04	46	0.36	0.23	0.21	0.20	0.15	0.12
06	66	0.52	0.31	0.28	0.26	0.20	0.15
08	90	0.75	0.44	0.38	0.34	0.26	0.20
10	110	0.92	0.53	0.47	0.41	0.32	0.24
12	130	1.10	0.63	0.55	0.48	0.38	0.28
525mA							
04	70	0.58	0.34	0.31	0.28	0.21	0.16
06	101	0.84	0.49	0.43	0.38	0.30	0.22
08	133	1.13	0.66	0.58	0.51	0.39	0.28
10	171	1.43	0.83	0.74	0.66	0.50	0.38
12	202	1.69	0.98	0.86	0.77	0.59	0.44
700mA							
04	93	0.78	0.46	0.40	0.36	0.27	0.20
06	134	1.14	0.65	0.57	0.50	0.39	0.29

* Electrical data at 25°C (77°F)

Recommended Cree Edge™ Series Lumen Maintenance Factors (LMF) ¹					
Ambient	Initial LMF	25K hr Projected ² LMF	50K hr Projected ² LMF	75K hr Calculated ³ LMF	100K hr Calculated ³ LMF
5°C (41°F)	1.04	0.99	0.97	0.95	0.93
10°C (50°F)	1.03	0.98	0.96	0.94	0.92
15°C (59°F)	1.02	0.97	0.95	0.93	0.91
20°C (68°F)	1.01	0.96	0.94	0.92	0.90
25°C (77°F)	1.00	0.95	0.93	0.91	0.89

¹ Lumen maintenance values at 25°C (77°F) are calculated per TM-21 based on LM-80 data and in-situ luminaire testing

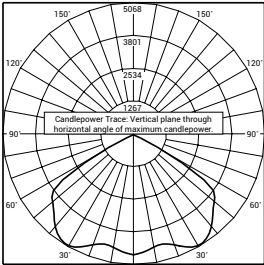
² In accordance with IESNA TM-21-11, Projected Values represent interpolated value based on time durations that are within six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip)

³ In accordance with IESNA TM-21-11, Calculated Values represent time durations that exceed six times (6X) the IESNA LM-80-08 total test duration (in hours) for the device under testing ((DUT) i.e. the packaged LED chip)

Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory. To obtain an IES file specific to your project consult: www.cree.com/Lighting/Tools-and-Support/Exterior-IES-Configuration-Tool

PS



RESTL Test Report #: PL03825-001
INT-EDR-PS-**-06-E-UL-700-40K
Initial Delivered Lumens: 12,642

Coefficients Of Utilization - Zonal Cavity Method				
RC %:	80			
RW %:	70	50	30	10
RCR: 0	119	119	119	119
1	111	108	104	101
2	103	96	91	86
3	95	86	79	73
4	87	77	69	63
5	81	69	61	55
6	74	62	54	48
7	69	56	48	43
8	64	51	43	38
9	60	47	39	34
10	56	43	36	31

Effective Floor Cavity Reflectance: 20%

Average Luminance Table (cd/m²)				
Vertical Angle	Horizontal Angle			
	0°	45°	90°	
	45°	145,125	200,073	148,703
	55°	131,169	214,519	126,947
	65°	6,265	23,259	6,024
	75°	2,314	1,674	2,216
	85°	731	622	877

Petroleum Symmetric Distribution		
LED Count (x10)	4000K	5700K
	Initial Delivered Lumens*	Initial Delivered Lumens*
350mA		
04	5,109	5,305
06	7,575	7,867
08	10,101	10,489
10	12,595	13,080
12	15,115	15,696
525mA		
04	7,152	7,427
06	10,606	11,013
08	14,141	14,685
10	17,634	18,312
12	21,160	21,974
700mA		
04	8,736	9,072
06	12,954	13,452

* Initial delivered lumens at 25°C (77°F)

Zonal Lumen Summary			
Zone	Lumens	% Lamp	Luminaire
0-30	3,951	N/A	31.2%
0-40	6,870	N/A	54.3%
0-60	12,262	N/A	97.0%
0-90	12,645	N/A	100%
0-180	12,645	N/A	100%

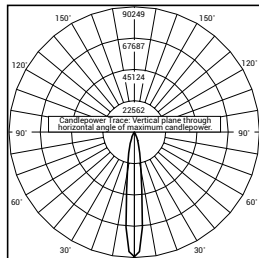


Cree Edge™ LED Interior Round Luminaire

Photometry

All published luminaire photometric testing performed to IESNA LM-79-08 standards by a NVLAP accredited laboratory. To obtain an IES file specific to your project consult: www.cree.com/Lighting/Tools-and-Support/Exterior-IES-Configuration-Tool

40°



RESTL Test Report #: PL02859-001
INT-EDR-40-**-06-E-UL-700-40K
Initial Delivered Lumens: 13,035

Coefficients Of Utilization - Zonal Cavity Method				
RC %:	80			
RW %:	70	50	30	10
RCR: 0	119	119	119	119
1	115	113	111	109
2	111	107	104	101
3	107	102	98	95
4	103	98	94	91
5	100	94	90	87
6	97	91	86	83
7	94	88	83	80
8	92	85	81	78
9	89	82	78	75
10	87	80	76	73

Effective Floor Cavity Reflectance: 20%

Average Luminance Table (cd/m²)				
Vertical Angle	Horizontal Angle			
	0°	45°	90°	
	45°	17,751	18,817	17,870
	55°	9,735	9,426	9,920
	65°	6,134	4,130	5,120
	75°	2,949	2,949	2,949
	85°	2,475	2,475	2,475

40° Flood Distribution		
LED Count (x10)	4000K	5700K
	Initial Delivered Lumens*	Initial Delivered Lumens*
350mA		
04	4,998	5,190
06	7,411	7,696
08	9,881	10,261
10	12,322	12,796
12	14,786	15,355
525mA		
04	6,997	7,266
06	10,375	10,774
08	13,833	14,365
10	17,250	17,914
12	20,700	21,496
700mA		
04	8,546	8,874
06	12,672	13,160

* Initial delivered lumens at 25°C (77°F)

Zonal Lumen Summary			
Zone	Lumens	% Lamp	Luminaire
0-30	1,1614	N/A	89.7%
0-40	12,388	N/A	95.6%
0-60	12,851	N/A	99.2%
0-90	12,954	N/A	100%
0-180	12,954	N/A	100%

DOT 9100 Performance Series

Dynamic and stylish, DOT 9100 Performance series, versatile high specification

Specification

- Latest in CREE technology offering very high performance with reduced watts consumed
- The system is available in 350mA, 15W 1124Lm system in 3000K, offering 74.6Lm/W
- The system is also available in 500mA, 21W, 1434Lm system in 3000K, offering 66.6Lm/W
- The dimensions of 9100 are 122mm (height), 92mm (cutout), and 105mm (diameter)
- Designed with a low glare specular polished silver reflector offering a wide beam distribution of 70°
- The system is designed with an integral heat sink system
- All versions compatible with the Axlock accessory range, conveniently wired with a flex & plug
- All formats have a remote electronic converter also available in DALI, DSI corridor function drivers see codes below
- The 15W has an average rated life of 40,000 hours @L90
- Both formats are available in 3000K and 4000K
- Compliant to AS/NZSCISPR15 and IEC/ENC61347.2.13, AS/NZS 60598

Product Codes

Code	Version	Dim (mm)	Mass (kg)
9136P4	15W 4K	105 x 122	0.5
9136P4D1	15W 4K DALI	105 x 122	0.5
9136P4D3	15W 4K Analogue DIM	105 x 122	0.5
9156P4	21W 4K	105 x 122	0.5
9156P4D1	21W 4K DALI	105 x 122	0.5
9156P4D3	21W 4K Analogue DIM	105 x 122	0.5

Accessories

DOT9100RAP/01 Round Adaption Plate 95mm to 125mm holes, White



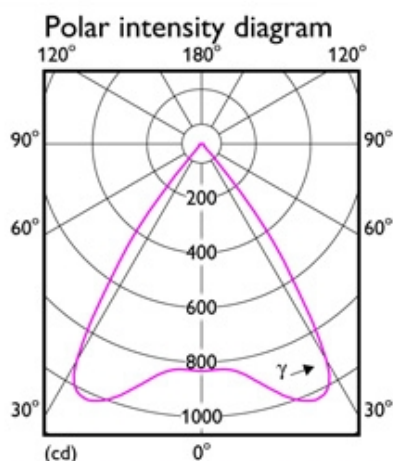
Quick Specification

Pierlite DOT recessed LED 105 x 122mm, CREE COB, performance series, CRI 80, 15W or 21W, integral heat sink, remote electronic driver and flex and plug, compatible with Axlock accessories

Design Application

Designed to suit commercial spaces, receptions areas, meeting rooms, foyers, health environments, hotel spaces and high end residential.

Performance



DOT9136P LED DOWNLIGHT 15W 1 x LED / 3900 1 x 1190 lm

Light output ratio	1.00
Service upward	0.00
Service downward	1.00

I_{max} 831 cd

BS ($\frac{1}{2}I_{max}$) 2 x 37°
BS ($\frac{1}{2}E_0$) 2 x 33°

IP20



Max Dim (mm)
105 x 122



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JOB _____ TYPE _____
NOTES _____ APPROVALS _____

FEATURES

- PicoEmitter® technology¹
- Full uplight cutoff
- Available in 580nm 3000K, 4000K and 5000K standard CCT
- Type 1, 2, 3, 4, 5, R, L standard distributions
- 0-10V dimming drivers standard
- IP66 certified

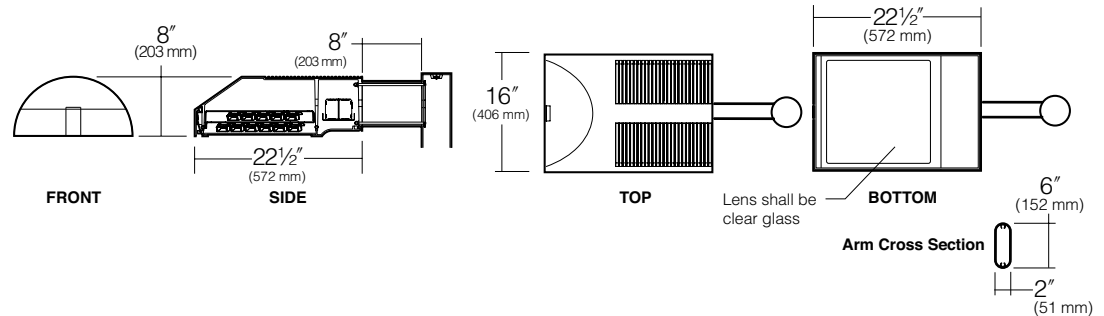
Certifications



SPECIFICATIONS



Approx. Weight = 50 lbs. EPA 1.20 for 1A.
See Configuration for Additional EPAs.



ORDERING CODE

Configuration		EPA	Fixture			Electrical Module				Fixture Finish		Photocell Options					
	1A	1 Arm Side Mt.	1.20	<u>Distribution</u>	<u>Drive Current</u>	<u>Source</u>	<u>Color Temperature</u> ²	<u>Voltagess</u>	BL	Black	A25-7	7-pin Photocell Receptacle					
	2B	2 Arm Side Mt.	2.40	AR1	Type I	E35	350mA PicoEmitter	120L	120 LEDs, 129W	2K	580nm ³	120	120V	DB	Dark Bronze	A30	120V Button Photocell
	2L	2 Arm Side Mt.	2.00	AR2	Type II			3K	3000K	208	208V	GT	Graphite	LG	Light Gray	A31	208V Button Photocell
	3T	3 Arm Side Mt.	3.20	AR3	Type III			4K	4000K	240	240V	PS	Platinum Silver			A32	240V Button Photocell
	3Y*	3 Arm Side Mt.	3.20	AR4	Type IV			5K	5000K	277	277V	TT	Titanium			A33	277V Button Photocell
	4C	4 Arm Side Mt.	3.90	AR5	Type V					347	347V ⁴	WH	White			A34	480V Button Photocell
	1W	Single Wall Mt.	n/a	ARR	Type R, Right					480	480V ⁴			CC	Custom Color*	A35	347V Button Photocell
	HSF	Horz. Slipfitter	n/a	ARL	Type L, Left												
*Consult Representative																	

*Available round poles only. EPA is for Fixture only

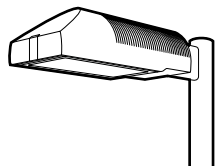
Fuse Options	Lens Options	NFO Option	Other Options	Controls
SF 120, 277, 347 Line Volts	LS Polycarbonate Lens⁵	NFO Neighbor Friendly Optic*	TL Tamper Resistant Latch	Wireless WIR-RMI-IO 120-347V, 1000' range, WiScape RF mesh control system with off/on/dim, motion, photo, GPS location, alert, monitoring and metering capabilities.
DF 208, 240, 480 Line Volts				Motion SCL-R Round Pole Mounted Occupancy Sensor up to 16' SCL-S Square Pole Mounted Occupancy Sensor up to 16' SCH-R Round Pole Mounted Occupancy Sensor 16' to 30' SCH-S Square Pole Mounted Occupancy Sensor 16' to 30'

Mounting Options	
VSF Vertical Slipfitter Mount for 2" pipe tenon, (2-3/8" O.D.)	Side Arm Mount
SVSF Vertical Slipfitter Mount square for 2" pipe tenon, (2-3/8" O.D.)	3 3" O.D. Pole
	3.5 3.5" O.D. Pole
	4 4" O.D. Pole
	5 5" O.D. Pole
	6 6" O.D. Pole
	SQ Square Pole

For Pole Spec Select: http://www.kimlighting.com/products/arms_and_poles/
For Control Spec Select: <http://trpssl.com/index.html>

- ¹ US Patent No. D674,965 S. Other patents pending.
- ² For custom optics and color temperature configurations, contact factory.
- ³ Turtle friendly. Maximum 500mA drive current for 2K Amber option.
- ⁴ 347V & 480V currents may be supplied with step-down transformer.
- ⁵ 350mA only.
- ⁶ Use only when vandalism is anticipated to be high. Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.

Kim Lighting reserves the right to change specifications without notice.



Lumen Data

Spectroradiometric			
	3000K Average	4000K Average	5000K Average
Color Rendering Index (CRI)	≥80	≥80	≥70
Power Factor	>.90	>.90	>.90

Projected Lumen Maintenance		
mA	100,000 hrs	(Calculated L70)
350	93.17%	579,000 hrs

Electrical Drive Current		
Volts - AC	Amps - AC	System Watts
120	1.08	129
208	0.62	129
240	0.54	129
277	0.47	129
347	0.37	129
480	0.27	129

B.U.G. Rating (TM15) in Lumens wher B = Backlight, U = Uplight, G = Glare								
Temperature	TYPE 1	TYPE 2	TYPE 3	TYPE 3 NFO	TYPE 4	TYPE 4 NFO	TYPE 5	TYPE L/R
3000K	TBD	B2 U0 G2	B2 U0 G2	B1 U0 G2	B1 U0 G2	B1 U0 G2	B3 U0 G1	TBD
4000K	TBD	B2 U0 G2	B2 U0 G2	B2 U0 G2	B1 U0 G2	B1 U0 G2	B3 U0 G2	TBD
5000K	TBD	B3 U0 G3	B2 U0 G2	B2 U0 G2	B1 U0 G2	B1 U0 G2	B3 U0 G2	TBD

Absolute Lumens								
Temperature	TYPE 1	TYPE 2	TYPE 3	TYPE 3 NFO	TYPE 4	TYPE 4 NFO	TYPE 5	TYPE L/R
3000K	TBD	7555	7496	6391	7945	6636	8428	TBD
4000K	TBD	9773	9697	8267	10277	8584	10902	TBD
5000K	TBD	10478	10397	8864	11019	9204	11689	TBD

LED performance and lumen output continues to improve at a rapid pace. Log onto www.kimlighting.com to download the most current photometric files from Kim Lighting's IES File Library. For custom optics and color temperature configurations, contact factory.

Kim Lighting reserves the right to change specifications without notice.

SPECIFICATIONS

Housing:

- One-piece die-cast, low copper (<0.6% Cu) aluminum alloy with integral cooling ribs over the optical chamber and electrical compartment.
- Solid barrier wall separates optical and electrical compartments.
- Double-thick wall with gussets on the support-arm mounting end.
- Housing forms a half cylinder with 55° front face plane providing a recess to allow a flush single-latch detail.
- All hardware is stainless steel or electro-zinc plated steel.

Lens Frame:

- One-piece die-cast, low copper (<0.6% Cu) aluminum alloy lens frame with 1" minimum depth around the gasket flange.
- Integral hinges with stainless steel pins provide no-tool mounting and removal from housing.
- Single die-cast aluminum cam-latch provides positive locking and sealing of the optical chamber by a one-piece extruded and vulcanized silicone gasket to provide an IP66 rating for the optical module.
- Clear 3/8" thick tempered glass lens retained by eight steel clips with full silicone gasketing around the perimeter.

Optical Module:

- Precision, replaceable PicoEmitters are positioned to achieve directional control toward desired task.
- The entire EmitterDeck fastens to the housing as a one-piece module.
- Type I, II, III, IV, V, L (left), and R (right) standard distributions. Custom available.
- 3000K, 4000K, 5000K standard CCT. Amber and custom available.
- IP66 certified
- Die-cast, low copper aluminum heat sink modules provide thermal transfer at PCB level.
- Anodized aluminum carrier plate and heat sink modules.

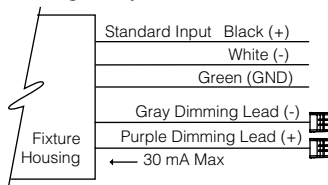
Electrical Characteristics:

- 120V through 480V @ 50/60Hz.
- Class 1, 350mA.
- Power Factor = >.90

- National Electrical Code, ANSI/NFPA 70.
- 10kV surge suppression.
- Thermalshield thermal control.
- -40c starting driver.
- 0-10V dimming interface.
- All electronic components are IP66 rated.
- Electronic components are UL and/or CSA recognized.

Dimming:

- 10% to 100% dimming by the use of standard 0-10V interface driver.
- To activate the dimming system, a wiring harness is supplied and attached to the DIM Port (DIM IN) on the thermal shield protection system. This port allows the 0-10V Interface to bypass the thermal shield and control the driver.
- The thermal shield works in conjunction with the control system to assure that overheating will not harm the LEDs.
- The wiring harness is connected with the use of the Purple lead as the positive (+) and the Grey lead as the negative (-) to an available control signal (by others).



Support Arm:

- One-piece extruded aluminum with internal bolt guides and fully radiussed top and bottom.
- Luminaire-to-pole attachment is by internal draw bolts, and includes a pole reinforcing plate with wire strain relief.
- Arm is circular cut for specified round pole.
- Optional cast, low copper aluminum horizontal slip-fitter with adaptor plate to secure the luminaire to 2" IPS pipe size arms.
- Optional cast aluminum wall mount plate assembly. Attaches to the wall over the junction box. Luminaire attaches to the wall plate.

Finish:

- Fade and abrasion resistant, electrostatically applied, thermally cured, triglycidal isocyanurate (TGIC) polyester powdercoat.

- Standard colors include (BL) Black, (DB) Dark Bronze, (GT) Graphite, (WH) White, (PS) Platinum Silver, (LG) Light Gray, (TT) Titanium, and (CC) Custom Color (Include RAL#).

Fusing:

SF for 120, 277 and 347 Line Volts

DF for 208, 240 and 480 Line Volts.

- High temperature fuse holders factory installed inside the fixture housing. Fuse is included.

Certifications and Listings:

- UL 1598 Standard for wet locations for Luminaires.
- UL 8750 Standard for Safety for Light Emitting Diode (LED) Equipment for use in Lighting Products.
- IP66 certified.
- CSA C22.2#250.0 Luminaires.
- ANSI C136.31-2010 3G Vibration tested and compliant.
- IDA compliant.
- RoHS compliant.
- Meets Buy American provisions within ARRA.
- IDA approved, 3000K and warmer CCTs only.

CAUTION:

- Fixtures must be grounded in accordance with national, state and/or local electrical codes. Failure to do so may result in serious personal injury.

WARRANTY:

- For full warranty see <http://www.hubbelllighting.com/resources/warranty>

CONTROLS

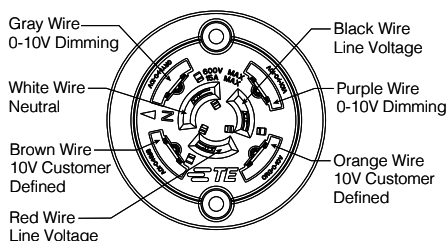
Photocell Receptacle

A25-7

Fully gasketed and wired 7-pin receptacle option. Easy access location above the electrical compartment. 7-pin construction allows for a user-defined interface and provides a controlled definition of operational performance. ANSI twist-lock control module by-others.

Standard customer operation modes:

1. Traditional on/off photoelectric control.
2. 5-pin wireless photoelectric control for added dimming feature.
3. 7-pin wireless photoelectric control for dimming and additional I/O connections for customer use.



Button Photocell

A30 for 120V, **A31** for 208V, **A32** for 240V, **A33** for 277V, **A35** for 347V, **A34** for 480V,

Photocell is factory installed inside the housing with a fully gasketed sensor on the side wall. For multiple fixture mountings, one fixture is supplied with a photocell to operate the others.

wiSCAPE™

Hubbell Building Automation's wiSCAPE In-Fixture Module is a bi-directional wireless RF device that allows an individual fixture to be managed, monitored and metered. The wiSCAPE In-Fixture Module communicates wirelessly over a robust 2.4GHz ISM (Industrial, Scientific and Medical) certified meshed radio signal. The wiSCAPE Fixture Module drastically simplifies control and automation of projects, especially in retrofit environments, and challenges the legacy world of wired-systems. wiSCAPE wireless control technology easily adapts to complex automation situations for quick, simple and economical commissioning. The On-Fixture Module is compatible with A-25-7H option.

WIR-RMI-IO

120 - 347V 1000 Foot Range WiScape RF mesh control system with off/on/dim, motion, photo, GPS location, alert, monitoring and metering capabilities.

Pole Mounted

Round Pole-Mounted Occupancy Sensor up to 16'

SCL-R

Round Pole-Mounted Occupancy Sensor up to 16' - an outdoor occupancy sensor with 0-10V interface dimming control that mounts directly to the pole. Wide 360° pattern. Module colors are available in Black, Gray, and White. Module is cut for round pole mounting. Pole diameter is needed upon order. Poles to be drilled in the field will be provided with installation instructions.

Ordering Example: SCL-R4/277²/BL³

Square Pole-Mounted Occupancy Sensor up to 16'

SCL-S

Square Pole-Mounted Occupancy Sensor up to 16' - an outdoor occupancy sensor with 0-10V interface dimming control that mounts directly to the pole. Wide 360° pattern. Module colors are available in Black, Gray, and White. Module is cut for square pole mounting. Pole diameter is needed upon order. Poles to be drilled in the field will be provided with installation instructions.

Ordering Example: SCL-L/277²/BL³

Round Pole-Mounted Occupancy Sensor 16' to 30'

SCH-R

Round Pole-Mounted Occupancy Sensor: 16' to 30' - an outdoor occupancy sensor with 0-10V interface dimming control that mounts directly to the pole. Wide 360° pattern. Module colors are available in Black, Gray, and White. Module is cut for round pole mounting. Pole diameter is needed upon order. Poles to be drilled in the field will be provided with installation instructions.

Ordering Example: SCH-R4/277²/BL³

Square Pole-Mounted Occupancy Sensor 16' to 30'

SCH-S

Square Pole-Mounted Occupancy Sensor: 16 to 30' - an outdoor occupancy sensor with 0-10V interface dimming control that mounts directly to the pole. Wide 360° pattern. Module colors are available in Black, Gray, and White. Module is cut for round pole mounting. Pole diameter is needed upon order. Poles to be drilled in the field will be provided with installation instructions.

Ordering Example: SCH-S/277²/BL³

SCP

The SCP is a photo-control with motion sensing accessory that mounts to the side of any new or existing 3"-5" round or square straight pole. The SCP enables any pole mounted luminaire in excess of 75 watts, to meet California Title 24 requirements with integral 20KV/10KA surge protection for added reliability and serviceability.

For more detail:

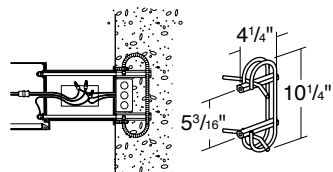
http://www.aal.net/products/sensor_control_programmable

¹Pole Diameter, ²Voltage, ³Color

OPTIONS

Wall Mounting:

- Fixture mounted to poured concrete walls only. A modified support arm is provided with side access to allow field splices within the arm. A wall embedment bracket (WEB) is provided to accept draw bolts, and a trim plate covers the wall-embedded junction box. All wall mount components are finished to match the fixture.

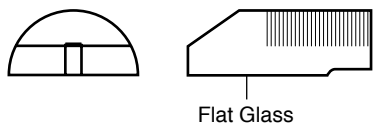


Wall mount using wall embedment bracket - J-box in wall (by others)

Polycarbonate Lens:

- Fixture supplied with a one-piece flat, clear, UV stabilized polycarbonate, fully gasketed, replacing the standard tempered glass lens.

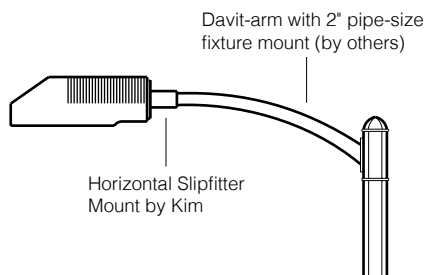
CAUTION: Use only when vandalism is anticipated to be high.



Flat Glass

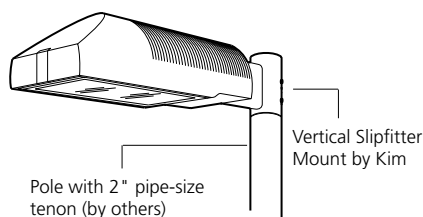
Horizontal Slipfitter Mount:

- Replaces standard mounting arm with a slipfitter which allows fixture to be mounted to a horizontal pole davit-arm with 2" pipe-size mounting end (2 3/8" O.D.). Cast aluminum slipfitter with set screw for an up or down 5° adjustment lock. Bolts to housing from inside the electrical compartment using mounting holes for the standard support arm. Davit-arm must be field drilled at a set screw location to insure against fixture rotation. Finished to match fixture.

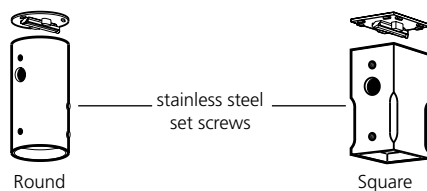


Vertical Slipfitter Mount:

- Allows fixture with standard support arm to be mounted to poles having a 2" pipe-size tenon (2 3/8" O.D. x 4 1/2" min. length). All mounting configurations can be used (1A, 2B, 2L, 3T, 3Y, 4C). 4" square or round die-cast aluminum with flush cap, secured by four 3/8" stainless steel set point allen screws, finished to match fixture and arm.



NOTE: 3Y only available on round slipfitter.



Cat. No.	Mounting Configuration	Cat. No.
VSF-1A	1A - single arm mount	SVSF-1A
VSF-2B	2B - 2 at 180°	SVSF-2B
VSF-2L	2L - 2 at 90°	SVSF-2L
VSF-3T	3T - 2 at 90°	SVSF-3T
VSF-3Y	3Y - 2 at 120°	SVSF-4C
VSF-4C	4C - 2 at 90°	

Neighbor Friendly Optic

- Integrated Neighbor Friendly Optic on each PicoPrism™ module to completely control unwanted backlight. Most effective with Type III and IV distributions.

Tamper-Resistant Latch

- Standard die-cast latch is provided with a captive 10-32 stainless steel flat socket-head screw to prevent unauthorized opening.

NOTE: Required only for vandal protection in locations where fixtures can be reached by unauthorized persons.

Kim Lighting reserves the right to change specifications without notice.

PierLUX LED Downlight

Stylish satin frosted lens offering a comfort controlled LED downlight

Specification

- Stylish recessed downlight offering 910Lm (4000K) 810Lm (3000K) performance
- The system is complete with flex & plug, allowing a quick installation by way of plug & play
- The downlight comes in both fixed (IP44) and gimble (IP20) formats, matt white and satin chrome finishes
- The integral acrylic lens on both formats offers a low glare frosted appearance
- The downlight has 2 cut out sizes 90mm (fixed) 100mm (tilt), the overall dimensions are 110mm x 68mm
- Lamp power consumption 10 watts, (total system 13 watts)
- System is supplied with dimmable remote 350mA constant current driver; approved dimmers are HPM or Clipsal TE models
- 3 year warranty

Product Codes

Code	Version	Dim (mm)	Mass (kg)
PIERLED/1	10W 4K WH Trim Fixed	110 x 60	0.4
PIERLED/2	10W 4K WH Gimble	115 x 60	0.4
PIERLED/4	10W 4K S/Chrome Gimble	115 x 60	0.4
PIERLED/5	10W 3K WH Fixed	110 x 60	0.4
PIERLED/8	10W 3K S/Chrome Gimble	115 x 60	0.4



Quick Specification

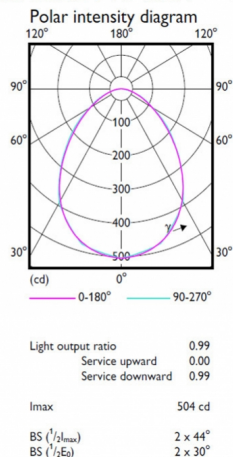
Pierlite LED, frosted acrylic lens, 13W, 90° beam distribution, 3000K, or 4000K, 350mA remote constant current driver c/w flex & plug, CRI >80 fixed or gimble formats

Design Application

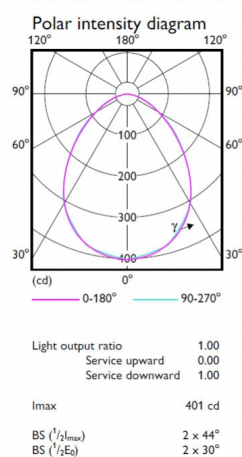
Ideal for any residential spaces such as bedrooms, hallways and the kids play room

Performance

PIERLUX LED 10W Tilt 1 x 9016 LED



PIERLUX LED 10W Fixed 1 x 9015 LED



IP20



Max Dim (mm)
115 x 60



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PIERLITE
professional lighting solutions

SlenderLED Edgeless

The Pierlite SlenderLED Edgeless range offers energy efficient - low profile solution for LED panel needs.

Specification

- Various size options: 300x300, 300x600, 600x600 and 1200x300
- Smooth opal acrylic diffuser offering an evenly distributed appearance
- Slimline panel
- Instant light
- Complete with driver, flex and plug
- Leading Edge Design
- Accessories available: plaster frames and wire suspension kit
- Framed versions available
- 5 year warranty
- Electronic (non-dimmable) and Dali dimmable versions
- 50,000 hours average life (L70)
- 15mm profile
- High translucent acrylic opal diffuser
- CRI > 80
- Beam distribution 120°
- IP40, Ta45, AS/NZS60598.2.2

Product Codes

Code	Version	Dim (mm)
SLEDGE/12-3/4K	Edgeless 3700K 42w 3800Lm Non Dimmable Electronic Driver	1195 x 295
SLEDGE/12-3/4KD	Edgeless 4000K 42w 3700Lm Dimmable DALI Driver	1195 x 295
SLEDGE/6-6/4KD	Edgeless 4000K 42w 3850Lm Dimmable DALI Driver	595 x 595
SLEDGE/6-3/4KD	Edgeless 4000K 35w 3000Lm Dimmable DALI Driver	595 x 295
Accessories		
FRM/PM18W	Plaster frame for mounting SlenderLED products into plaster Ceiling – White	600 x 300
FRM/PM18WIDE	Plaster frame for mounting SlenderLED products into plaster Ceiling – White	600 x 600
FRM/PM36W	Plaster frame for mounting SlenderLED products into plaster Ceiling – White	1200 x 300
SLPWIREUSUP	Wire suspension kit for SlenderLED Framed & SlenderLED Edgeless (One SLPWIREUSUP required per luminaire), 1000mm	



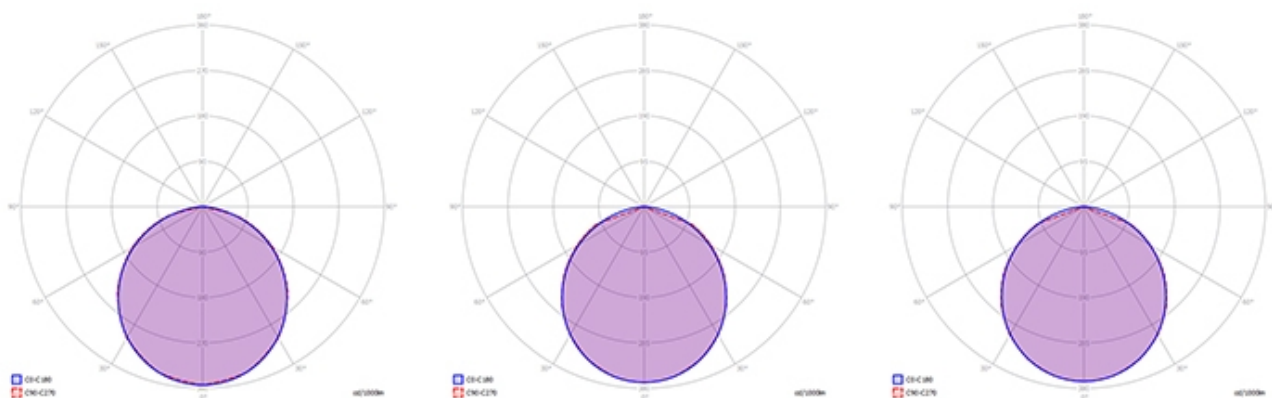
Quick Specification

The Pierlite SlenderLED Edgeless range offers energy efficient - low profile solution for LED panel needs. Various size options: 300x300, 300x600, 600x600 and 1200x300.

Design Application

Commercial, office spaces, public areas, corridors and retail.

Performance



IP40



PDF Prepared: 18.09.2017 10:09am, Last page update: Aug 2017



Vandalux Vandaguard LED PRO

Vandal resistant LED luminaire IP66 IK10

Specification

- Two formats 52W, 1200mm long and 32W 600mm long
- LER = 96lm/w CCT = 4000K CRI>80
- Energy efficient LED boards integrated electronics and diffuse lens
- 50,000 hours average lamp life L70
- Pressure die-cast marine grade aluminium body with a powder coated paint finish
- Complete with security screws, removable gear tray and single one piece gasket
- Low profile IP66 protection, IK10
- Robust frosted polycarbonate lens resist impact & abuse
- Optional body profiles and mounting accessories
- Dual conduit access - Vandalux only
- Vandaguard has cable entry via centre of the base
- Ambient temperature, -25°C to 40°C
- Emergency versions available

Product Codes

Code	Version	Dim (mm)	Mass (kg)
VOFLED322E4	32W 4000K V/Guard LED PRO	670 x 140 x 85	4.0
VOFLED524E4	52W 4000K V/Guard LED PRO	1310 x 140 x 85	8.0
VOLED322E4	32W 4000K V/Lux LED PRO	670 x 140 x 115	4.0
VOLED524E4	52W 4000K V/Lux LED PRO	1310 x 140 x 115	8.0

Accessories

C36VANDALUX	Ceiling Mount Bracket
C34VANDALUX	Corner Wall bkt 5" upcast dia 34mm spigot
C33VANDALUX	Flat Wall Bkt 5" upcast dia 34mm spigot
C28VANDALUX	Horizontal Wall Bracket 18W
C29VANDALUX	Horizontal Wall Bracket 36W
C32VANDALUX	Spigot Mt Kit T/S dia 34mm pipe
C35VANDALUX	Universal Bracket
PMB32/VAN	Single pipe Mt bkt T/S Dia. 42-46mm pipe
PMB40/VAN	Single pipe Mt bkt T/S Dia 48-51mm pipe

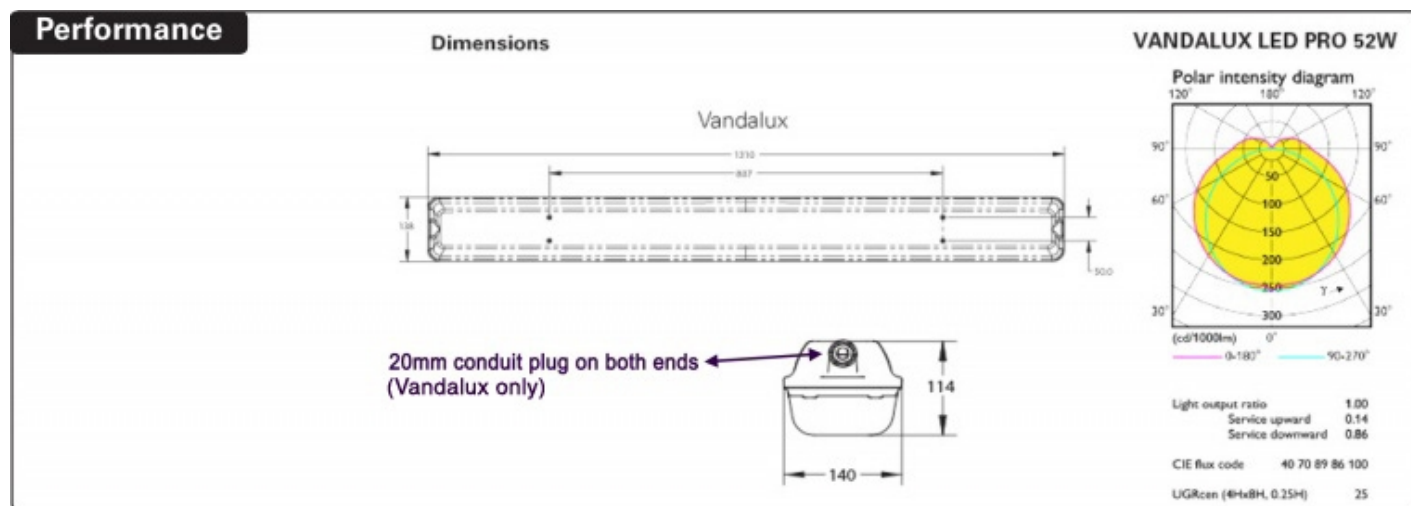


Quick Specification

Pierlite Vandalux or Vandaguard LED with die-cast LM6 aluminium body with frosted polycarbonate lens, modular gear tray IP66, IK10.

Design Application

Prisons, subways, railway stations and underground car parks



IP66



Max Dim (mm)
1310 x 140 x 115



PDF Prepared: 18.09.2017 10:09am, Last page update: Jul 2017



Product Specification

Designed to comply with AS4685.1-6 2014

Softfall Requirement

Area - 44.0sqm

Perimeter - 25.0m

Free Height of Fall - 2.5m

Equipment Dimensions

L 1470mm x W 5240mm x H 2500mm

Age Group

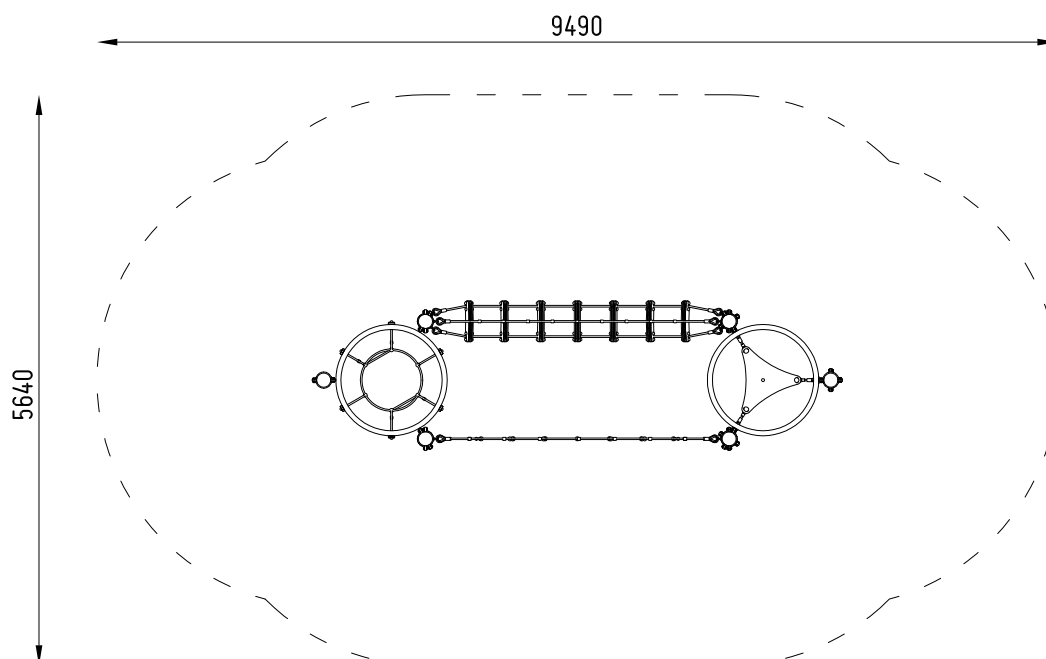
3 - 13 Years

Materials

- UV Stable Post Consumer Recycled HDPE
- Hot Dip Galvanised & Powdercoated Steel
- Stainless Steel Fasteners
- Nylon & Aluminum Rope Fittings
- 16mm Woven Nylon Rope



Softfall Plan



Further Information:

Website: www.willplay.com.au | Email: info@willplay.com.au | Phone: 1300 132 047





DESCRIPTION

The Alpha & Beta Industrial Series of axial roof units are designed for a wide range of free intake and ducted exhaust systems. These durable and robust units feature adjustable pitch impellers which allows for optimum air flow and power efficiency.

There are 6 sizes in each range extending from 500 to 1000mm diameter.

Typical Applications

Exhausting clean air and a range of toxic, noxious and corrosive gases from a wide range of commercial and industrial applications.

Features

- Wide choice of speeds available.
- Adjustable pitch impellers provide a wide range of performances.
- Impeller blades can be GRP, aluminium, nylon or anti-static to suit the application. GRP blades are standard.
- Shutters are standard on the RVLE range and an optional extra on the RDLE units. (See **Special Note**).
- Can be used for free intake or ducted systems.
- Can be mounted at angles up to 30°.
- All standard motors are speed-controllable using variable speed drives.
- Multi-speed motors as well as motors to meet Ex d, Ex e, Ex nA or Ex tD Standards can be supplied.
- For applications prone to high prevailing winds refer to **Special Note**.

Construction

Pressed galvanised steel base; cowls and windbands are of plastic, fibreglass or galvanised steel.

Shutters are fitted as standard to the Beta series and are an optional extra on the Alpha series.

Impeller blades are GRP as standard with an option of aluminium, nylon or anti-static materials where required.

Metal components have a corrosion resistant finish.

Motors

Type - squirrel cage induction motors.

Electricity supply - motors to suit a wide range of voltages and frequencies can be supplied.

Bearing - sealed-for life, ball.

Speed-controllable using variable speed drives.

See pages O-3/4 for details on these motors.

Motors with 2-speed windings or to meet Ex d, Ex e, Ex nA or Ex tD Standards can be supplied.

Internal Thermal Protection

Thermistors can be provided on all motors except where Standards prohibit their use.

Testing

Air flow tests to BS848:Part 1, 1980

Noise tests to BS848:Part 2, 1985

Wiring Diagram

See pages N-6/7 diagrams DD 1, 2, 3, 9.

SMOKE-SPILL APPLICATIONS

The Beta Industrial RSSL Series of smoke-spill fans has been fully tested to meet the air performance and high temperature test requirements of Standards AS/NZS1668.1:1998 and AS4429:1999.

Discharge damper fail-open latching

An additional requirement of AS/NZS1668.1:1998 with respect to un-sprinklered buildings (300°C for 30mins) requires dampers to fail-open during smoke spill operation.

The fail-open discharge damper latches come in two forms; the first being a manual release type requiring manual closing after the fan has been run. The second design, an electro-mechanical type permits the shutter latch to release and close automatically after the fan stops.

For advice on smoke-spill wiring requirements refer to AS/NZS1668.1:1998.

See page C-8 for details of the smoke-spill range.

Special Notes

Quick select envelope curves are shown on pages D-8/9. Accurate selections, including comprehensive noise data, can be obtained from your local Fantech office or by using the Fans by Fantech Product Selection Program. Refer to Fantech for performances at speeds other than shown.

When shutters are fitted ensure the roof unit is mounted with the shutter spindle pointing down the roof. When shutters are fitted to the Alpha series derate the performance by 15-20%.

Where prevailing winds are high we recommend the fitting of Magloks®, see page J-8 for details. For capacities greater than shown for the Alpha & Beta Industrial series, refer to the HC and SS series on pages D-60/62.

TECHNICAL DATA

Model	Fan Speed rev/sec	Max. Motor kW	App. vol. RD.. m³	App. vol. RV.. m³
RDLE..				
RVLE..				
RSSL..				
0504	24	1.5	0.83	0.72
0506	16	0.37		
0564	24	2.2	0.83	0.72
0566	16	0.75		
0634	24	4	1.60	1.30
0636	16	1.1		
0638	12	0.55		
0714	24	5.5	1.60	1.40
0716	16	2.2		
0718	12	0.75		
0804	24	7.5	3.10	1.80
0806	16	4		
0808	12	1.5		
1004#	24	7.5	3.80	2.60
1006	16	5.5		
1008	12	3		

Vertical discharge RVLE only.

Amperages for motors can be obtained at time of order.

HOW TO ORDER

RDLE - downflow exhaust
RVLE - vertical exhaust
RSSL - Smoke-spill

Fan diameter in cm _____

Fan speed, no. of poles _____

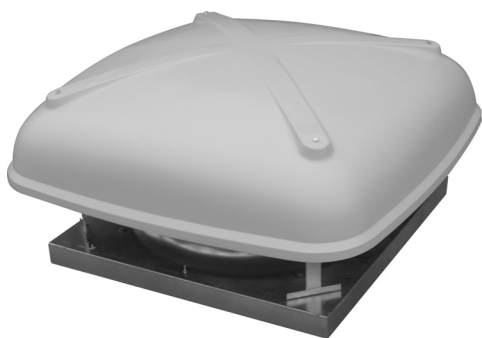
Hub diameter code
A = 150 C = 350
B = 250 G = 255

GRP, Aluminium blades, Nylon, _____

No. of blades _____

Blade pitch angle, deg. _____

ALPHA INDUSTRIAL SERIES



SUGGESTED SPECIFICATION

The axial roof ventilators shall be of the Alpha Industrial Series as designed and manufactured by Fantech Pty. Ltd.

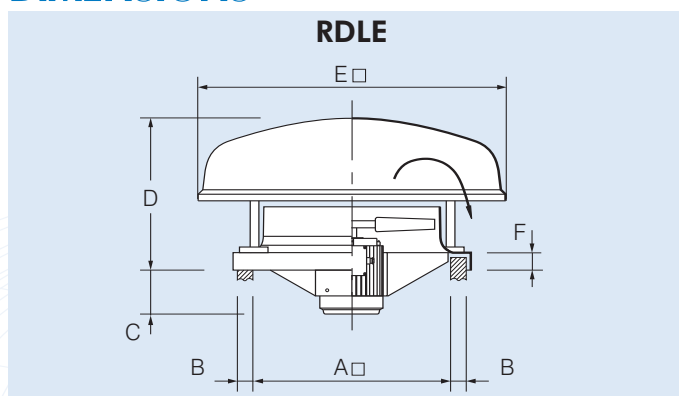
The axial impellers shall be adjustable pitch manufactured and supplied with blades of GRP, nylon, aluminium or anti-static material. (GRP is standard).

The unit base shall be of pressed galvanised steel and shall incorporate an entry cone to minimise entry losses to the fan. Cowls shall be of plastic or fibreglass.

The base may be powder-coated if required (optional extra).

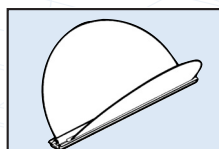
All models shall incorporate fans fully tested to BS848:Part 1, 1980 for air flow and BS848:Part 2, 1985 for noise.

DIMENSIONS



Model RDLE...	Dimensions, mm					
	A	B	C max	D	E	F
0504/6	670	50	182	540	890	80
0564/6	670	50	182	540	890	80
0634/6/8	780	100	285	600	1180	80
0714/6/8	780	100	267	600	1180	80
0804/6/8	860	100	338	700	1395	80
1006/8	1080	100	338	776	1640	80

ANCILLARY EQUIPMENT



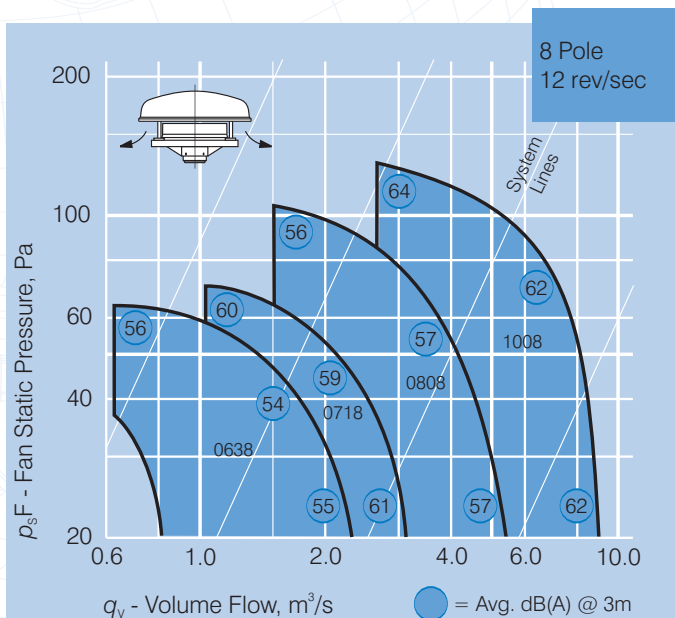
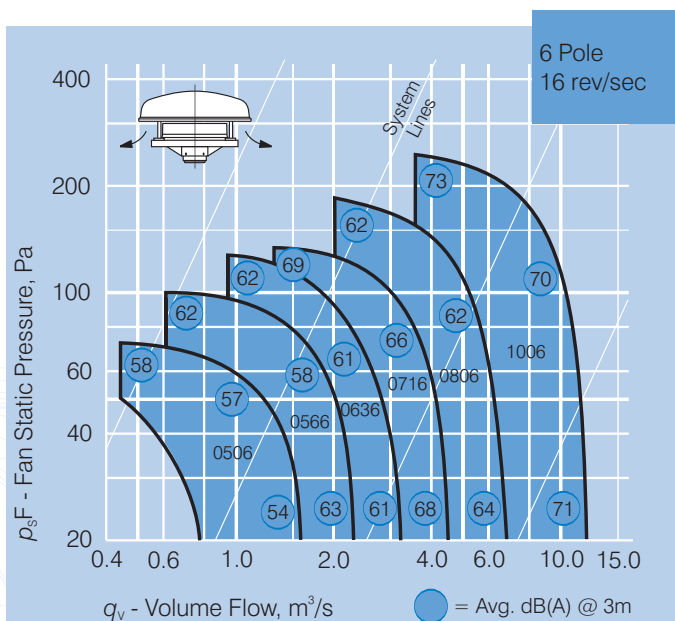
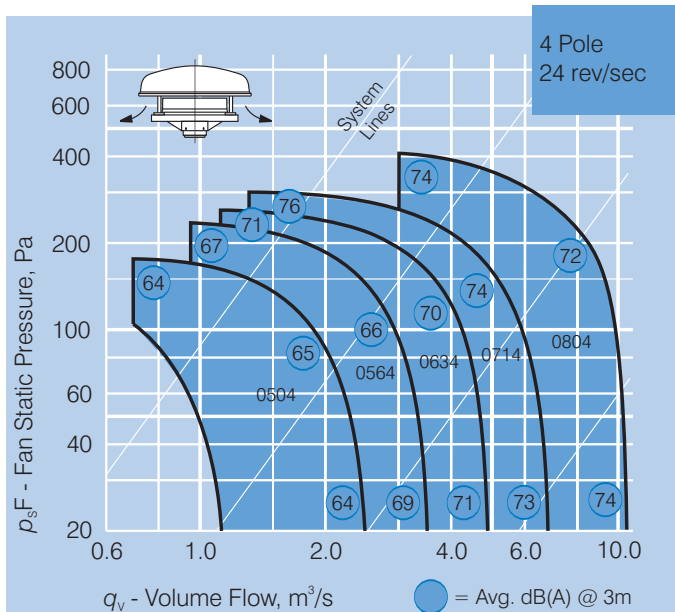
ABD - Butterfly shutters
Ref. J-2



Variable speed drives
Ref. M-8/13



Scan the QR
code to view
more
information
online.





SUGGESTED SPECIFICATION

The axial roof ventilators shall be of the Beta Industrial Series as designed and manufactured by Fantech Pty. Ltd.

The axial impellers shall be adjustable pitch manufactured with blades of GRP, nylon, aluminium or anti-static material. (GRP is standard).

The unit base shall be of pressed galvanised steel and shall incorporate an entry cone to minimise entry losses to the fan. Windbands shall be of fibreglass or galvanised steel.

The base may be powder-coated if required (optional extra).

All models shall incorporate fans fully tested to BS848:Part 1, 1980 for air flow and BS848:Part 2, 1985 for noise.

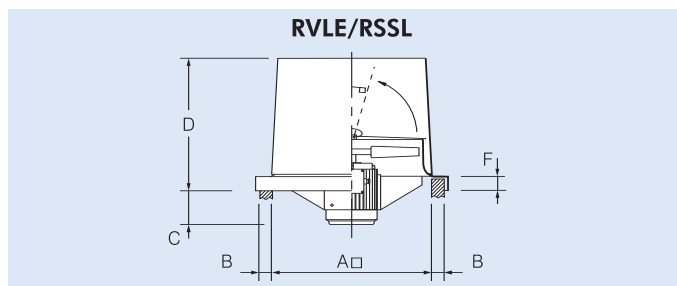
Smoke-Spill Applications

The axial roof ventilators shall be of the RSSL vertical discharge Beta Industrial Series as designed and manufactured by Fantech Pty. Ltd.

The windbands shall be constructed from galvanised steel. Impellers shall be adjustable pitch manufactured from aluminium and constructed to suit the elevated temperatures, with blades pinned as required by the manufacturer.

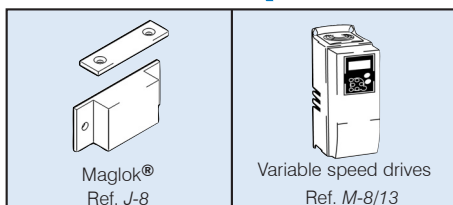
All fans shall be tested to meet the air flow, temperature and structural requirements of AS/NZS1668.1:1998 and AS/NZS 4429:1999.

DIMENSIONS

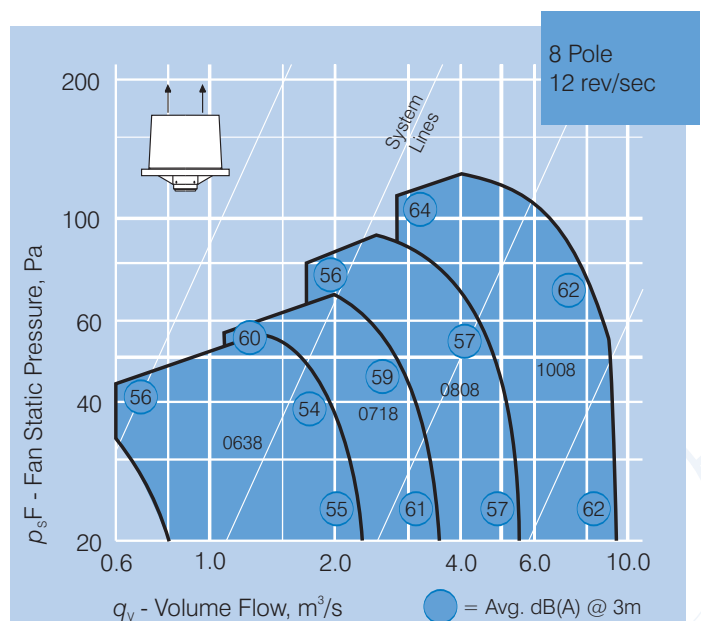
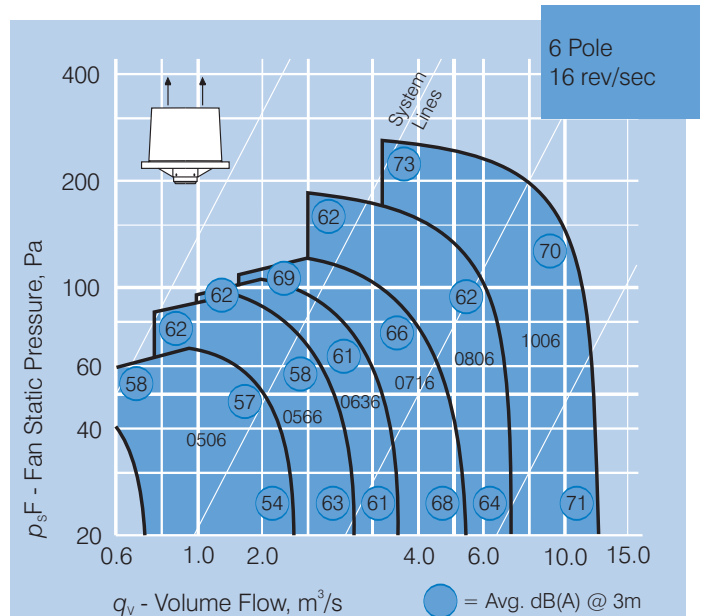
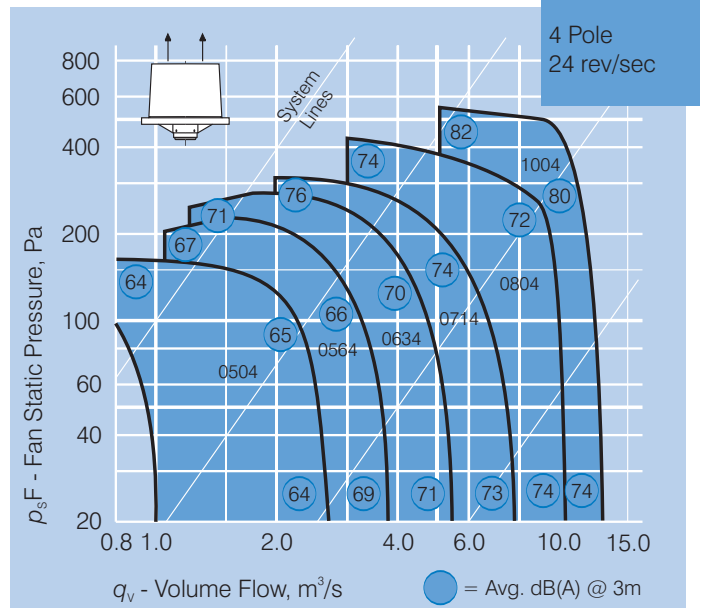


Model	Dimensions, mm				
RVLE...	A	B	C max	D	F
RSSL...	A	B	C max	D	F
0504/6	670	50	182	550	80
0564/6	670	50	182	550	80
0634/6/8	780	100	285	690	80
0714/6/8	780	100	267	690	80
0804/6/8	860	100	338	765	80
1004/6/8	1080	100	338	855	80

ANCILLARY EQUIPMENT



Scan the QR code to view more information online.



Hurricane[®] Natural Ventilation



Established in 1934, Edmonds® is a pioneer in home, commercial and industrial ventilation solutions in Australia as well as across the globe.

Edmonds is passionate about delivering superior comfort and performance whilst reducing the overall impact on the environment. It is this vision of a 'sustainable future' which has resulted in the design and development of many energy efficient innovations. These include natural, wind-driven; hybrid and turbine ventilation technology.

Regarded as a leading industry innovator, Edmonds Ventilation products are engineered and manufactured at its ISO9001 accredited facility in Seven Hills, Australia. Edmonds was awarded the AIRAH Excellence in Sustainability Award in 2013 and Achiever Award in 2008. It was also recognised with a Good Design Award at the 2013 Australian International Design Awards and Master Builders Australia 2012 National Export Award.

With strong synergies between insulation and ventilation in the building industry, Edmonds was acquired by CSR Building Products Limited in 2005. Its mission remains to create Technologies for a Sustainable Future.



National Export Award for Edmonds Business



HVAC Achiever award for EcoPower®



Excellence in Sustainability award for Odyssey®



Global-Mark.com.au®
Quality Management standard for Edmonds Seven Hills facility



Hurricane® was installed in Indoor Swimming Centres to reduce condensation and humidity.



Hurricane (93 x H900) was installed at the Qantas Engineering Workshops, Mascot, Sydney to improve ventilation for employees.

Hurricane®

For over 25 years, the Hurricane® range of Australian-engineered natural ventilation technology has been built to endure the toughest of climatic conditions and operating environments.

From Melbourne to the Middle East and to the Midwest of USA, you can be confident that Hurricane will provide years of superior operation.

NATURAL VENTILATION TECHNOLOGY

Hurricane®

EFFECTIVE NO COST OPERATION

- Natural, wind-driven ventilation to maximise energy savings through free-air cooling.
- Improved indoor air quality by removing pollutants.
- Improved humidity control by removing moisture build-up.
- Improved occupant comfort by removing heat build-up.

HIGH PERFORMANCE EDMONDS VERTICAL VANE™ TECHNOLOGY

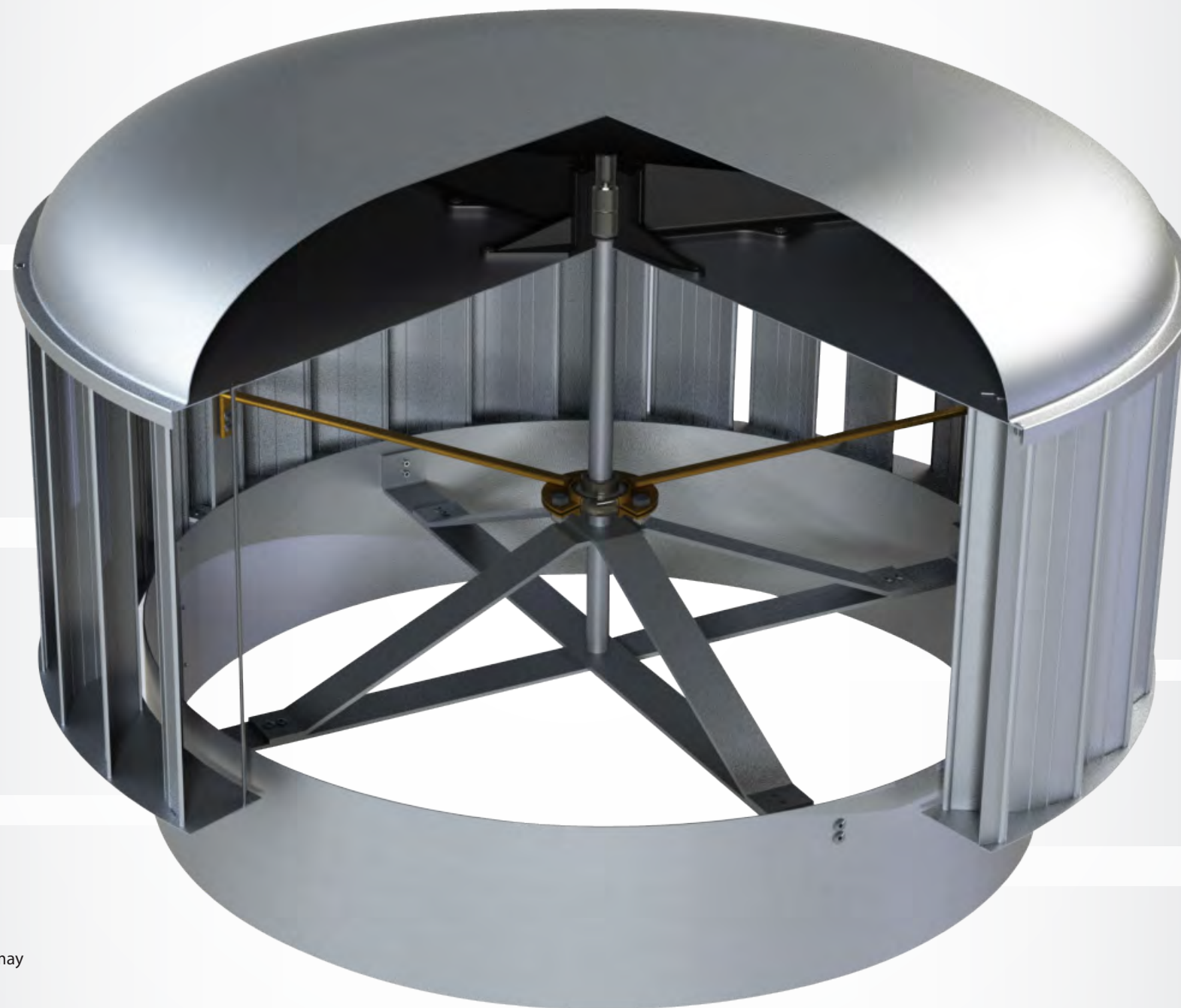
- Unique design allows wind turbine to act as a centrifugal impeller.
- Improved co-efficient of flow (Cf) compared to similar sized traditional spherical vents.

MATERIALS

- Marine grade equivalent aluminium as standard.
- Options for highly corrosive environments also available.
- Mill finish or powder coated options to match most COLORBOND® colours. Refer to Edmonds colour chart for available colours.
- Bearing system designed to prevent ingress of fine dust particulates in harsh environments.

INSTALLATION BENEFITS

- Significant weight advantage (<40kg). Two-person lift may be achieved versus crane-lift for heavier competitor options.
- Lightweight design means additional structural strengthening of roof may not be required.
- Variable pitch base design can adapt to most roof angles. Special Bases can be custom made for known roof pitch.



SPECIAL VARIATIONS



FR900 Fire-Rated option meets the fire-resistant test to AS 1668.1-1998. The use of ventilation and air conditioning in buildings, Part 1: Fire and smoke control in multi-compartment buildings Section 4.8. Smoke-Spill fan.



BFR Bush Fire Rated option for buildings in Bushfire Prone Vegetation Category 1 areas. It is designed to comply with the Deemed to Satisfy provisions of AS3959.



S2 Corrosion Resistant option for water reservoirs or environments that are oxidative or slightly acidic (non-caustic).



HI Heavy Industrial option with polyolefin coating for highly corrosive environments.

ACCESSORIES

- Manual or electric dampers
- Special Bases
- EC damper grilles

WARRANTY

15 year warranty on Hurricanes other than Special Variations and Accessories.

Please refer to edmonds.com.au for full warranty conditions.



Note: Image for illustrative purposes only.

APPLICATIONS

ENGINEERED FOR HARSH CLIMATES

The Hurricane ventilator has been engineered to withstand harsh climatic conditions around the globe.

In 2004, the Toyota Spare Parts Distribution facility, a Saud Bahwan owned property in Muscat, Oman installed 425 Hurricane H900 units. The climatic conditions include high average monthly maximum ambient temperatures of over 40°C.

Hurricane was selected by the Toyota Spare Parts facility in Muscat Oman, for its ability to perform in high ambient conditions >40°C.

WATER RESERVOIRS, HEAVY INDUSTRIAL AND CORROSIVE ENVIRONMENTS.

The HI ventilator is built for highly corrosive environments with fumes between pH 4-7. Applications include ceramic plants, power coating facilities and gritty environments.

The S2 is ideal for water reservoirs and other highly oxidative environments that require reliable ventilation to minimise condensation under metal roofs to prolong life of metal structure. Applications include pool complexes, water storage/tanks, caustic soda and sulphuric acid handling plants.

FIRE AND SMOKE RELEASE BUSHFIRE PRONE AREAS.

The FR ventilator provides both continuous ventilation and smoke release capability in the event of a fire (AS1668.1-1998 Section 4.8.1). Advantages versus traditional pneumatically released ventilators include both constant ventilation and responsive smoke release capacity which will be boosted by the buoyancy effect of rising hot air. Hurricane FR does not interfere with Early Suppression Fast Response sprinkler systems.

The BFR ventilator for Bushfire Prone Areas is designed to comply with the Deemed to Satisfy provisions of AS3959 Construction of Buildings in Bush Fire Prone areas.

RETAIL AND LIGHT COMMERCIAL

With heating and cooling system contributing up to 70% of a commercial building's electricity consumption¹, the Hurricane ventilator can provide significant savings by reducing the building's thermal load on the air conditioning system.

Applications include large retail spaces and warehouse stores.

CONDENSATION CONTROL

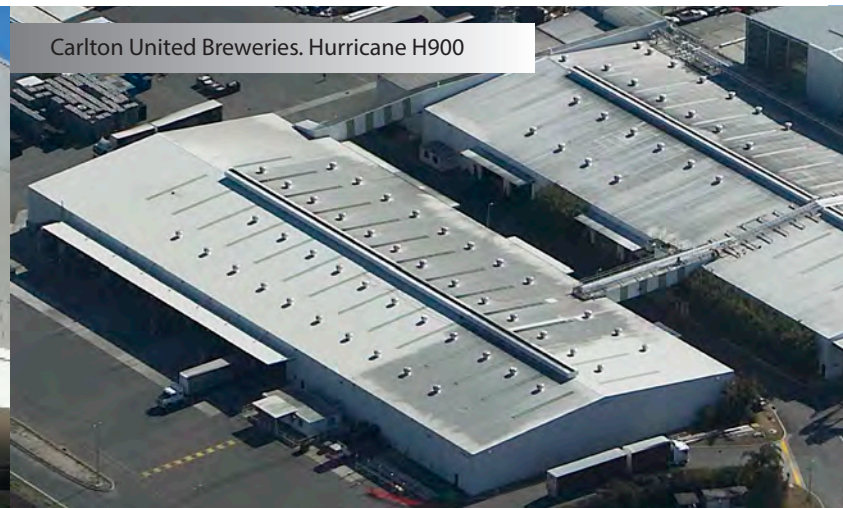
Poorly addressed condensation may result in equipment damage, plus additional repair and maintenance costs from wet ceilings, spoilt goods or disruption to production processes. One way to minimise condensation is to ventilate the building with ambient air. Applications include refrigerated warehouses, dry goods storage, meat and dairy processing plants and livestock sheds.

List of Hurricane case studies available at edmonds.com.au

Harvey Norman. Hurricane H900



Carlton United Breweries. Hurricane H900



Water Reservoir Installation. Hurricane S2



Sydney Markets Banana Store. Hurricane FR



¹ Council of Australian Governments (2012) Guide to Best Practice Maintenance and Operation of HVAC Systems for Energy Efficiency, Department of Climate Change and Energy Efficiency

Model	H100	H150	H300	H400	H450	H500	H600	H700	H800	H900
Power Source					Wind & Stack Effect					
Dimensions on varipitch*										
Height Overall (mm)	313	363	480	564	634	700	724	796	848	936
Diameter Turbine (mm)	290	332	477	561	648	702	766	876	1003	1096
Flashing Length (mm)	430	430	600	750	750	750	1000	1000	1200	1200
Flashing Width (mm)	430	430	500	700	700	700	1000	1000	1200	1200
Throat area (m ²)	0.006	0.017	0.062	0.112	0.142	0.175	0.258	0.358	0.466	0.594
Mass* (kg)	1.80	2.40	4.90	6.30	8.1	9.2	11.8	15.8	20.6	24.1
Roof slope range - varipitch	0-45°	0-45°	0-45°	0-45°	0-45°	0-45°	0-45°	0-22.5°	0-22.5°	0-22.5°
Flow rate capacity #										
m ³ /hr	29	93	365	631	874	1,021	1,099	1,503	2,340	2,944
m ³ /s	0.01	0.03	0.10	0.18	0.24	0.28	0.31	0.42	0.65	0.82
l/hr	28,800	93,600	363,600	630,000	874,800	1,018,800	1,098,000	1,501,200	2,340,000	2,944,800
l/s	8	26	101	175	243	283	305	417	650	818
Material										
Turbine Top	Aluminium 5005									
Varipitch	Aluminium 5005									
Flashing	Aluminium 5005									
Finish	Mill / Powdercoat									
Accessories (optional)										
Electric Dampers	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Manual dampers	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Special bases - spigot slope	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Special bases - spigot ridge	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Special bases - square to round slope	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Special bases - square to round ridge	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Special bases - spigot curb mount	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Special bases - square to round pyramid	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Special bases - spigot pyramid	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Special bases - EX base	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Sparkguard	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Special Variations										
FR : Fire-rated to meet AS 1668.1-1998 Section 4.8.1	No	No	No	No	No	No	No	No	No	Yes
BFR : Bush Fire Rated to meet AS3959	No	No	Yes	Yes	No	No	No	No	No	No
S2 : Corrosion Resistant	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	No	No
HI : Heavy Industrial	No	No	No	No	No	No	No	No	No	Yes
Australian designed and built	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Manufactured in ISO 9001 facility	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Designed and tested to AS4740	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

* Tolerance: Dimension +/- 5mm. Weight +/- 0.5kg

Flow rate figures are based on testing conducted by CSR Edmonds and in accordance to AS4740. Published flow rate results are optimal figures based on precision testing input and the other formulas are derived from fluid mechanics. Application results may vary due to external environmental factors, internal heat load, supply air capacity, construction materials and installation factors etc.

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CSR Edmonds.

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KLIP-LOK 700 HI-STRENGTH®

DESIGN AND INSTALLATION GUIDE

LYSAGHT



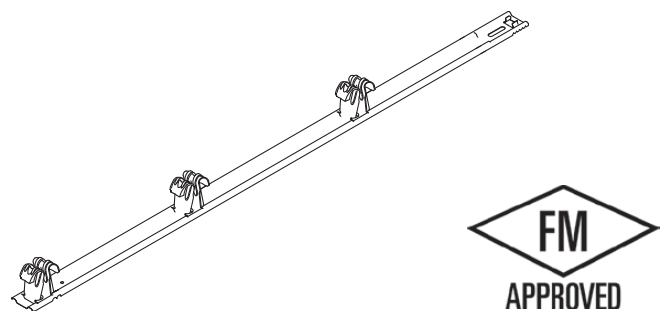
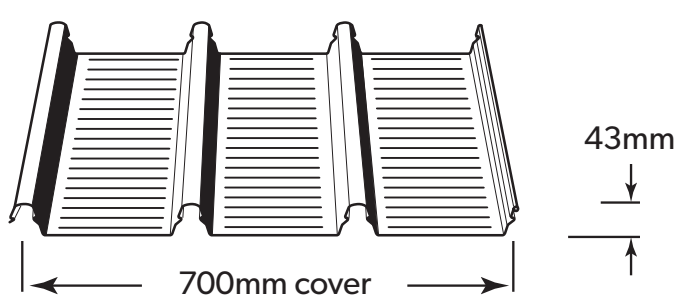
LYSAGHT KLIP-LOK 700 HI-STRENGTH®

Visually, a bold rib makes a strong statement rising from the flat pans. Thermal expansion of long, straight runs are achievable, and with no exposed fasteners, the long, straight lines of KLIP-LOK 700 HI-STRENGTH® (KL-700HS) remain clean and smooth.

At the heart of our system is our fixing clip, which can be laid in place and fixed simpler and faster than ever before. This is because the KLIP-LOK 700 HI-STRENGTH® clip is fixed with hex. head screws, which are easier to drive. The clip also gives roofers the ability to accommodate up to 100mm of insulation.

KLIP-LOK 700 HI-STRENGTH® is available in rolled-on-site lengths. Our mobile on-site rollformer means extra long lengths of KLIP-LOK 700 HI-STRENGTH® can be made on-site and looks fantastic and also eliminates expansion joints. Longitudinal fluting manufactured from the mobile rollformer. Its availability is subject to enquiry.

KLIP-LOK 700 HI-STRENGTH® is truly a superior product which has earned FM Global approval.



MATERIAL SPECIFICATIONS

Next generation ZINCALUME® aluminium/zinc/magnesium alloy coated steel complies with AS 1397:2011 G550, AM125 (550 MPa minimum yield stress, 125g/m² minimum coating mass).

COLORBOND® is pre-painted steel for exterior roofing and walling. It is the most widely used. The painting complies with AS/NZS 2728:2013 and the steel base is an aluminium/zinc alloy-coated steel complying with AS 1397:2011. Minimum yield strengths is G550 (550 MPa). Minimum coating mass is AM100 (100g/m²).

COLORBOND® Metallic is pre-painted steel for superior aesthetic qualities displaying a metallic sheen.

COLORBOND® Ultra is pre-painted steel for severe coastal or industrial environments (generally within about 100-200 metres of the source). The painting complies with AS/NZS 2728:2013 and the steel base is an aluminium/zinc alloy-coated steel complying with AS 1397:2011. Minimum coating mass is AM150 (150g/m²).

COLORBOND® Stainless is a pre-painted steel and is used for severe and coastal environments. The painting complies with AS/NZS 2728:2013 and the steel base is a stainless steel complying with AISI/ASTM Type 430; UNS No. S43000.

MATERIAL AND COLOUR AVAILABILITY

For local availability of KLIP-LOK 700 HI-STRENGTH® in the base metal thicknesses or the large range of available finishes (from plain ZINCALUME® steel to COLORBOND® pre-painted steel), contact your nearest Lysaght service centre.

For the local availability of colours for KLIP-LOK 700 HI-STRENGTH® please enquire at your nearest Lysaght service centre.

COLORBOND® STEEL WITH THERMATECH® TECHNOLOGY

THERMATECH® solar reflectance technology is now included in the standard COLORBOND® steel palette. COLORBOND® steel with THERMATECH® technology reflects more of the sun's heat, allowing both roofs and buildings stay cooler in summer. In moderate to hot climates, compared to roofing materials of similar colour with low solar reflectance, COLORBOND® steel with THERMATECH® can reduce annual cooling and energy consumption by up to 20%.

LENGTHS

Mobile rollformed sheets are custom cut on-site. Factory sheets cut to order.

MASSES

	BMT (mm)	kg/m	kg/m ²	m ² /t
ZINCALUME® steel	0.42	3.23	4.61	217
COLORBOND® steel	0.42	3.26	4.65	215
ZINCALUME® steel	0.48	3.67	5.24	191
COLORBOND® steel	0.48	3.70	5.28	189
ZINCALUME® steel	0.60*	4.55	6.51	154
COLORBOND® steel	0.60*	4.58	6.55	153

*Availability is subject to enquiry.

TOLERANCES

Length: + 0mm, - 15mm; Width: + 4mm, - 4mm

Make allowance for thermal expansion or contraction for long length roofs at sheeting ends.

The equation $\Delta L = \alpha \times \Delta T \times L$ gives an indication of the sheeting extent or contraction (ΔL).

$\alpha = 12 \times 10^{-6}$ (coefficient of linear expansion for steel)

ΔT = temperature change in °C

L = sheet length in mm

MAXIMUM SUPPORT SPACINGS

The maximum recommended support spacings are based on testing in accordance with AS 1562.1-1992, AS 4040.0-1992 and AS 4040.1-1992.

Roof spans consider both resistance to wind pressure and light roof traffic (traffic arising from incidental maintenance).

Wall spans consider resistance to wind pressure only.

The pressure considered is based on buildings up to 10m high in Region B, Terrain Category 3, $M_s=0.85$, $M_t=1.0$, $M_l=1.0$ with the following assumptions made:

ROOFS:

$C_{pi}=+0.20$, $C_{pe}=-0.90$, $K_f=2.0$ for single and end spans, $K_f=1.5$ for internal spans.

WALLS:

$C_{pi}=0.20$, $C_{pe}=-0.65$, $K_f=2.0$ for single and end spans, $K_f=1.5$ for internal spans.

These spacings may vary by serviceability and strength limit states for particular projects.

MAXIMUM SUPPORT SPACINGS (MM)

Type of Span	BMT		
	0.42mm	0.48mm	0.60mm†
Roofs			
Single span	1650	2050	2350
End span	1750	2350	3000
Internal span	2200	2800	3000#
Unstiffened eaves overhang	150	200	250
Stiffened eaves overhang	450	500	550
Walls			
Single span	2600	3000	3000#
End span	3000#	3000#	3000#
Internal span	3000#	3000#	3000#
Overhang	150	200	250

For roofs: the data are based on foot-traffic loading.

For walls: the data are based on pressures for transverse fluted material.

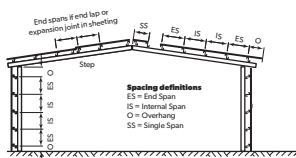
Table data are based on supports of 1mm BMT.

† 0.60mm BMT has limited availability.

Spans in excess of 3000mm may be available subject to enquiry. Wall applications or long spans require particular attention to installation practice.

SPAN TYPES

Roofing & Walling Profiles



MAXIMUM ROOF LENGTHS FOR DRAINAGE MEASURED FROM RIDGE TO GUTTER

Penetrations will alter the flow of water on a roof. For assistance in design of roofs with penetrations, please seek advice from our information line.

LIMIT STATES WIND PRESSURES

KLIP-LOK 700 HI-STRENGTH® offers the full benefits of the latest methods for modelling wind pressures. The wind pressure capacity table is determined by full scale tests conducted at Lysaght's NATA-registered testing laboratory, using the direct-pressure testing rig.

Testing was conducted in accordance with AS 1562.1:1992 Design and Installation of Sheet Roof and Wall Cladding—Metal, and AS 4040.2:1992 Resistance to Wind Pressure for Non-cyclonic Regions.

The pressure capacities for serviceability are based on a deflection limit of (span/120) + (maximum fastener pitch/30).

The pressure capacities for strength have been determined by testing the cladding to failure (ultimate capacity). These pressures are applicable when the cladding is fixed to a minimum of 1.0mm, G550 steel. For material less than 1.0 mm thick, seek advice from our information line.

ADVERSE CONDITIONS

If this product is to be used in marine, severe industrial, or unusually corrosive environments, ask for advice from our information line.

MAXIMUM ROOF LENGTHS FOR DRAINABLE MEASURED FROM RIDGE TO GUTTER (M)

Peak Rainfall Intensity (mm/hr)	Roof Slopes (degrees)					
	1	2	3	5	7.5	10
100	344	428	502	624	745	856
150	229	285	334	416	496	571
200	172	214	251	312	372	428
250	137	171	201	250	298	342
300	115	143	167	208	248	285
400	86	107	125	156	186	214
500	69	86	100	125	149	171

MINIMUM ROOF PITCH

Our unique anti-capillary side-lap allows you to use KLIP-LOK 700 HI-STRENGTH® on roof pitches from as low as 1° (1 in 50) for 0.48 and 0.60 BMT, and 2° for 0.42 BMT.

NON-CYCLONIC AREAS

The information in this brochure is suitable for use only in areas where a tropical cyclone is unlikely to occur as defined in AS 1170.2:2002.

For information on the use of LYSAGHT® products in cyclonic conditions, refer to the Cyclonic Area Design Manual which is available on our website: www.lysaght.com.



KLIP-LOK 700 HI-STRENGTH® (TRANSVERSE FLUTES) LIMIT STATE WIND PRESSURE CAPACITIES (KPA) 0.42 BMT

Span Type	Limit State	Span (mm)							
		900	1200	1500	1800	2100	2400	2700	3000
Single	Serviceability	3.08	2.53	2.00	1.53	1.15	0.86	0.65	0.49
	Strength*	4.95	4.15	3.50	2.85	2.30	1.85	1.55	1.30
End	Serviceability	3.05	2.73	2.40	2.02	1.64	1.32	1.07	0.91
	Strength*	5.55	4.30	3.35	2.75	2.55	2.40	2.20	1.85
Internal	Serviceability	2.90	2.64	2.39	2.16	1.94	1.74	1.55	1.38
	Strength*	5.40	4.60	3.90	3.25	2.75	2.40	2.20	2.00

KLIP-LOK 700 HI-STRENGTH® (TRANSVERSE FLUTES) LIMIT STATE WIND PRESSURE CAPACITIES (KPA) 0.48 BMT

Span Type	Limit State	Span (mm)							
		900	1200	1500	1800	2100	2400	2700	3000
Single	Serviceability	4.22	3.35	2.54	1.83	1.28	0.90	0.69	0.57
	Strength*	6.30	5.20	4.25	3.35	2.70	2.15	1.80	1.60
End	Serviceability	3.81	3.34	2.88	2.43	2.02	1.67	1.38	1.15
	Strength*	6.30	5.10	4.15	3.55	3.15	2.85	2.50	2.20
Internal	Serviceability	3.76	3.32	2.91	2.54	2.24	2.01	1.84	1.68
	Strength*	6.35	5.55	4.80	4.10	3.60	3.20	2.85	2.60

KLIP-LOK 700 HI-STRENGTH® (TRANSVERSE FLUTES) LIMIT STATE WIND PRESSURE CAPACITIES (KPA) 0.60 BMT

Span Type	Limit State	Span (mm)							
		900	1200	1500	1800	2100	2400	2700	3000
Single	Serviceability	6.65	5.41	4.23	3.18	2.33	1.70	1.27	0.97
	Strength*	8.30	7.10	5.95	4.95	4.05	3.35	2.85	2.40
End	Serviceability	6.38	5.33	4.36	3.51	2.82	2.28	1.88	1.59
	Strength*	8.20	6.70	5.45	4.60	4.00	3.60	3.20	2.75
Internal	Serviceability	5.65	5.17	4.70	4.24	3.78	3.32	2.88	2.44
	Strength*	7.25	6.45	5.75	5.10	4.55	4.10	3.75	3.45

KLIP-LOK 700 HI-STRENGTH® (LONGITUDINAL FLUTES) LIMIT STATE WIND PRESSURE CAPACITIES (KPA) 0.42 BMT

Span Type	Limit State	Span (mm)							
		900	1200	1500	1800	2100	2400	2700	3000
Single	Serviceability	2.52	2.05	1.60	1.22	0.91	0.69	0.56	0.48
	Strength*	4.85	4.10	3.40	2.75	2.20	1.80	1.45	1.20
End	Serviceability	2.65	2.48	2.26	1.92	1.53	1.19	0.94	0.79
	Strength*	3.40	2.95	2.60	2.30	2.15	2.00	1.80	1.55
Internal	Serviceability	2.63	2.40	2.17	1.96	1.76	1.57	1.41	1.25
	Strength*	3.85	3.40	3.00	2.65	2.35	2.15	2.00	1.95

KLIP-LOK 700 HI-STRENGTH® (LONGITUDINAL FLUTES) LIMIT STATE WIND PRESSURE CAPACITIES (KPA) 0.48 BMT

Span Type	Limit State	Span (mm)							
		900	1200	1500	1800	2100	2400	2700	3000
Single	Serviceability	2.80	2.27	1.77	1.33	0.98	0.74	0.59	0.50
	Strength*	5.80	4.75	3.80	2.95	2.30	1.80	1.50	1.30
End	Serviceability	3.11	2.51	2.01	1.64	1.40	1.23	1.07	0.93
	Strength*	5.10	4.05	3.20	2.65	2.30	2.10	1.85	1.60
Internal	Serviceability	2.68	2.47	2.27	2.09	1.94	1.81	1.70	1.60
	Strength*	5.00	4.30	3.65	3.10	2.70	2.45	2.35	2.30

KLIP-LOK 700 HI-STRENGTH® (LONGITUDINAL FLUTES) LIMIT STATE WIND PRESSURE CAPACITIES (KPA) 0.60 BMT

Span Type	Limit State	Span (mm)							
		900	1200	1500	1800	2100	2400	2700	3000
Single	Serviceability	5.12	4.24	3.41	2.66	2.04	1.56	1.20	0.92
	Strength*	7.20	6.30	5.45	4.60	3.90	3.30	2.80	2.35
End	Serviceability	5.40	4.31	3.40	2.76	2.34	2.05	1.79	1.54
	Strength*	7.10	6.05	5.05	4.25	3.60	3.05	2.65	2.40
Internal	Serviceability	5.16	4.73	4.30	3.87	3.44	3.00	2.55	2.11
	Strength*	6.50	5.85	5.25	4.70	4.20	3.80	3.45	3.15

* Above table is based on support of 1mm BMT.

INSTALLATION

PREPARATION

Before starting work ensure that:

- check flatness, slope and overhang;
- orient the sheets before lifting. Note the overlapping rib is towards the end of the building where you start;
- check that the overhang of the sheets from the clips, at both eaves and ridge, is not less than the minimum permitted.
- the first and the last supports and clips should be at least 75mm from each end of the sheet to keep maximum holding power.

Make any necessary adjustments before you start laying sheets, because they will be difficult to rectify later.

ORIENT SHEETS BEFORE LIFTING

Consider which end of the building is best to start from. For maximum weather-tightness, start laying sheets from the end of the building that will be downwind of the worst-anticipated or prevailing weather (Figure 1).

It is much easier and safer to turn sheets on the ground than up on the roof. Before lifting sheets on to the roof, check that they are the correct way up and the overlapping side is towards the edge of the roof from which installation will start.

Place bundles of sheets over or near firm supports, not at mid span of roof members.

Starting method 1. Cut the 1st clip 25mm from the centre of the second tower (as shown). The first tower on the cut clip locates in the 1st rib of the first sheet (Figure 2) but you must fix two clips at the start.

Starting method 2. The first tower on the first clip locates in the first rib of the first sheet (Figure 2). The clip fixes the edge of the first sheet.

KLIP-LOK 700 HI-STRENGTH® INSTALLATION

1. Lay and fix wire mesh to the supports and glass wool insulation in accordance with the appropriate building requirements.
2. Position the first clips on each support by placing onto the support nearest the roof edge (Figure 3).
3. Fix the first clip on the support so they point in the direction of laying. Ensure the clip is 90 degrees to the edge of the sheet.
4. Align the clips using a string line (or the first sheet as a straight edge) to align the clips as you fix a clip to each support working towards the high end of the roof.
5. Drive hex-head screws through the top of the clip, into the support.
6. Work along the edge of the roof ensuring it aligns correctly at its ends in relation to the gutter and ridge (or parapet or transverse wall).
7. Position the first sheet so that it overhangs the desired amount (usually 50mm) to the gutter. It is important to ensure this first sheet is placed square to adjacent edges (Figure 4).
8. Engage the sheet with clips using vertical foot pressure on all the ribs over each clip.
9. Fix the next row of clips, one to each support with the slots and tabs engaged. Be sure the clip is 90 degrees to the edge of the sheet. It is good practice to bend down the tabs once engaged. This can be done with the bit of a screw gun.

Figure 1

Lay sheets towards prevailing weather.

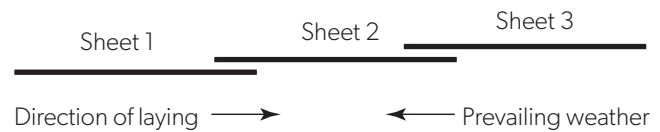
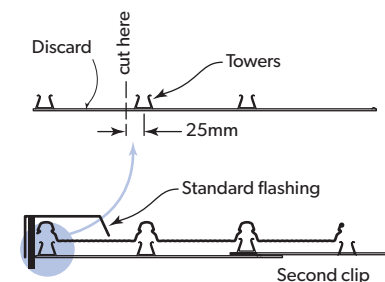


Figure 2

Alternative methods for first clips.

KLIP-LOK 700HS: Starting method 1



KLIP-LOK 700HS: Starting method 2

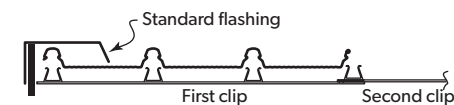


Figure 3

Fix the first row of clips. Fix the next (and subsequent) clips and sheets.

KLIP-LOK 700 HI-STRENGTH®

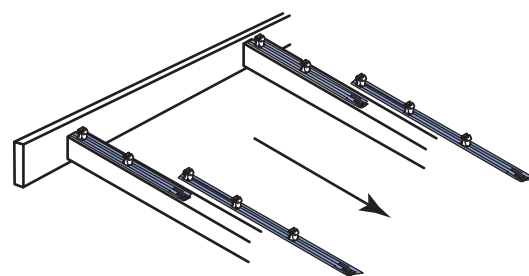
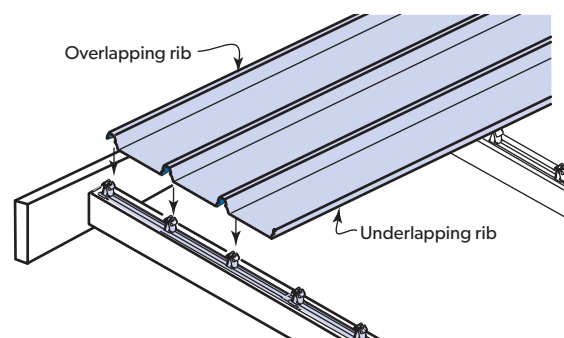


Figure 4

Placing the first sheet.



10. As before, place the next sheet over its clips ensuring you also engage the edge of the preceding sheet.
11. Accurately position the sheet so that it overhangs the desired amount into the gutter. It is important that you keep the gutter-end of all sheets in a straight line.
12. Fully engage the two sheets along the overlapping rib. You can do this by walking along the full length of the sheet with one foot in the centre pan of the previous sheet and the other foot applying vertical pressure to the top of the interlocking ribs at regular intervals. It is important that you don't walk in the unsupported pan beside the overlap (Figure 5).
13. With long spans, additional care may be required to ensure the overlapping rib adequately engages onto the underlapping leg. Care should be exercised due to the potential instability of the side-lap when it is not adequately engaged (interlocked).
14. Similarly, engage all the clips by applying vertical foot pressure to the top of the other two ribs over each clip.

It is essential that the sheets interlock completely. It is important that your weight is fully on the sheet you are installing.

CHECK ALIGNMENT OCCASIONALLY

Occasionally check that the sheets are still parallel with the first sheet, by taking two measurements across the width of the fixed sheeting.

At about half way through the job, perform a similar check but take the measurements from the finishing line to aim for the final sheet to be parallel with the end of the roof. If the measurements are not close enough, lay subsequent sheets very slightly out of parallel to gradually correct the error (Figure 6). Therefore, to allow this to happen, flatten the tabs on the base of subsequent clips—the slot in the clip will allow the clips to be fixed out of standard pitch.

FIX THE LAST SHEET

If the final space is less than the full width of a sheet, you can cut a sheet along its length and shorten the clips as appropriate.

INSTALLING KLIP-LOK 700 HI-STRENGTH® WALLS

In walling applications, horizontal pressure will need to be applied locally to the sheets to engage the ribs. Use body pressure (torso, hand or foot) or use a rubber mallet if required. Care should be exercised due to the potential instability of the temporary worker access equipment.

To prevent KLIP-LOK 700 HI-STRENGTH® from sliding downward in the fixing clips, you should pierce-fix through each sheet under the flashing or capping, along the top of the sheets.

LOK-KLIP® AND KLIP-LOK 700 HI-STRENGTH®

The new LOK-KLIP® system provides installers with quick and easy end joint/expansion joint solution. For more details refer to the LOK-KLIP® brochure available on our website (Figure 7).

INSTALLING TRANSLUCENT SHEETS WITH KLIP-LOK 700 HI-STRENGTH®

Because of its greater thermal expansion, translucent cladding should be fixed using oversized holes and sealing washers recommended by the cladding manufacturer. When used with concealed fixed claddings, ensure the fasteners do not penetrate the steel cladding. There are translucent products available that easily accommodate this.

Note: Don't exceed the maximum support spacing specified by the translucent cladding manufacturer. Use of translucent sheeting may result in lower limit state capacities.

For installation of translucent sheets with LOK-KLIP®, refer to the Ampelite Clearslide® installation guidelines on LOK-KLIP®.

Figure 5

Engaging the lapping ribs.

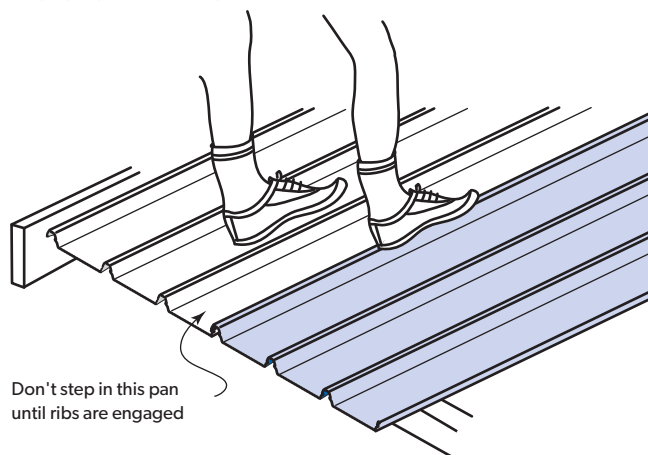


Figure 6

Check alignment occasionally.

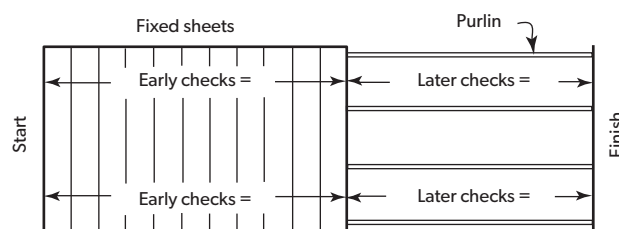
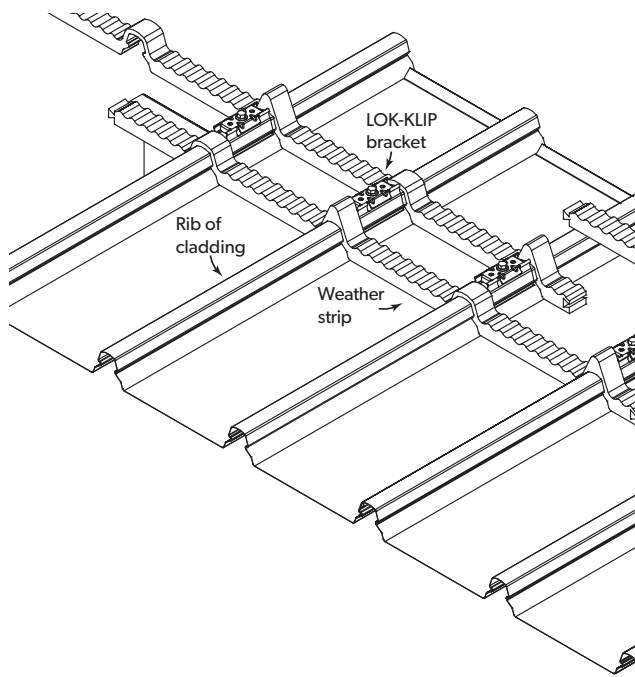


Figure 7

LOK-KLIP® and KLIP-LOK 700 HI-STRENGTH®



FASTENERS WITHOUT INSULATION

	Fix to Steel Single & lapped steel thickness ≥0.55 up to 1.0mm BMT	Fix to Steel Single steel thickness ≥1.0mm BMT up to 3.0mm BMT	Fix to Steel Total lapped thickness ≥1.00 BMT up to 3.8mm BMT	Fix to Timber Hardwood J1-J3	Fix to Timber Softwood J4
Clip Fixed	RoofZips M6-11x25	12-14x20*, Metal Tek's, HH	12-14x20*, Metal Tek's, HH	12-11x25, Type 17, HH	12-11x45, Type 17, HH or RoofZips M6-11x25

Notes:

1. For other steel thicknesses not specified please seek advice from screw manufacturer.
2. HH = Hex. Head.
3. Use 3 screws per clip.
4. As above or equivalent fastener.

* Longer screws may be easier to install (e.g. 12-14x30).

WALKING ON ROOFS

Keep your weight evenly distributed over the soles of both feet to avoid concentrating your weight on either heels or toes. Always wear smooth soft-soled shoes; avoid ribbed soles that pick up and hold small stones, swarf and other objects.

Be careful when moving between supports. Do not walk in the pan immediately adjacent to flashings or translucent sheeting. Walk at least one pan away.

MAINTENANCE

Optimum product life will be achieved if all external walls are washed regularly. Areas not cleaned by natural rainfall (such as the tops of walls sheltered by eaves) should be washed down every six months.

STORAGE AND HANDLING

Keep the product dry and clear of the ground. If stacked or bundled product becomes wet, separate it, wipe it with a clean cloth to dry thoroughly.

Handle materials carefully to avoid damage: don't drag materials over rough surfaces or each other; don't drag tools over material; protect from swarf.

METAL & TIMBER COMPATIBILITY

Lead, copper, free carbon, bare steel and green or some other chemically-treated timbers are not compatible with this product. Don't allow any contact of the product with those materials, nor discharge of rainwater from them onto the product. Supporting members should be coated to avoid problems with underside condensation. If there are doubts about the compatibility of other products being used, ask for advice from our information line.

CUTTING

For cutting thin metal on site, we recommend a circular saw with a metal-cutting blade because it produces fewer damaging hot metal particles and leaves less resultant burr than does a carborundum disc.

Cut materials over the ground and not over other materials.

TURN UP-DOWN TOOLS

On all roofs of pitches less than 15 degrees, the high end of all sheets must be turned up to stop water from being driven under the flashing and into the building.

Similarly, the pans at the gutter end must be turned down to stop water running back along the underside of the sheets.

Tools are available for both applications.

END LAPS/EXPANSION JOINTS

KLIP-LOK 700 HI-STRENGTH® cannot be end lapped however LOK-KLIP® provides an acceptable solution as an 'end joint'. (Or use long length sheets from a mobile rollformer.)

FASTENERS

Where insulation is to be installed, you may need to increase the length of the screws given, depending on the density and thickness of the insulation. When the screw is properly tightened:

- **into metal:** there should be at least three threads protruding past the support you are fixing to, but the Shankguard® must not reach that support;
- **into timber:** the screw must penetrate the timber by the same amount that the recommended screw would do if there were no insulation.

SEALED JOINTS

For sealed joints use screws or rivets and neutral-cure silicone sealant branded as suitable for use with galvanised or zincalume® steel.

SWARF

Sweep all metallic swarf and other debris from roof areas and gutters at the end of each day and at the completion of the installation. Failure to do so can lead to surface staining when the metal particles rust.

EXTRA VERSATILITY OF MOBILE ROLLFORMING

The mobile rollformer delivers on-site rolling for extra long lengths. In some cases the mobile rollformer has the unique ability to 'roll-to-roof' saving you time and money for transport and craneage.

PRODUCT DESCRIPTIONS

- All descriptions, specifications, illustrations, drawings, data, dimensions and weights contained in this catalogue, all technical literature and websites containing information from Lysaght are approximations only. They are intended by Lysaght to be a general description for information and identification purposes and do not create a sale by description. Lysaght reserves the right at any time to:

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(b) alter specifications shown in its promotional literature to reflect changes made after the date of such publication.

DISCLAIMER, WARRANTIES AND LIMITATION OF LIABILITY

- This publication is intended to be an aid for all trades and professionals involved with specifying and installing Lysaght products and not to be a substitute for professional judgement.
- Terms and conditions of sale available at local Lysaght sales offices.
- Except to the extent to which liability may not lawfully be excluded or limited, BlueScope Steel Limited will not be under or incur any liability to you for any direct or indirect loss or damage (including, without limitation, consequential loss or damage such as loss of profit or anticipated profit, loss of use, damage to goodwill and loss due to delay) however caused (including, without limitation, breach of contract, negligence and/or breach of statute), which you may suffer or incur in connection with this publication.

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WWW.LYSAGHT.COM

Technical enquiries:

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SAMPLE SPECIFICATION

SUMMARY

Acoustic Sliders shall be series SL65C/34/CB2.
Supplied by Lotus Folding Walls & Doors Pty Ltd, Tel: [03] 9771 8200
Fax: [03] 9771 8260, it shall consist of a top supported, manually
operated sliding panel that forms a sound retardant closure.

1. PANELS

Panels shall be SL65C series with a concealed intermediate
stile between modules. Panels shall be constructed of a sandwich
of board separated by acoustic insulation to achieve the specified
sound rating. Panel faces shall be contained within a perimeter
frame. Panel faces shall be replaceable in the field.

2. ACOUSTICS

The manufacturer shall guarantee that the whole acoustic sliding
system [not just the panels] is like construction to that tested to
AS/NZS ISO 717.1-2004 by a NATA approved independent Australian
acoustic laboratory to achieve **R_w 34**.

3. FIXING & LAYOUTS

The Acoustic Slider shall be **cavity fixed**.
When the Acoustic Slider is opened, the sliding panel shall be parked
in a **bi-parting** configuration. Suspension will be two point per
module.

4. SEALS

Acoustic Slider will have **Type 2** seals.

5. SURFACE FINISHES

- 5.1 Panel surfaces shall be finished in Lotus Vinyl.
- 5.2 Panel frames shall be matt natural anodised.
- 5.3 Head track shall be powdercoated,
Special White Gloss 81880.

6. ACCESSORIES

- The Acoustic Slider System shall incorporate the following
accessory features:
- 6.1 Inset white-boards shall be set from 900mm to 2100mm
above floor level.
 - 6.2 Fit pen pockets to the room side only in the following panels,
counting from stacking end: 1&2
 - 6.3 The Slider shall incorporate the Lotus Slider Auto Braking
System [SABS] to control the speed of the panel as it
approaches either end of its motion.
 - 6.4 The Slider shall incorporate a footbolt in the leading stile of
the panel to allow for it to be locked in the open position.

7. CUSTOMER CARE

- 7.1 The supplier is required to provide a handover
to the end user.
- 7.2 The supplier will provide a 1 year warranty against
manufacturing and installation defects.



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SOUTH AUSTRALIA / NT

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TASMANIA

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ACOUSTIC SLIDERS
SOLID AND GLAZED ACOUSTIC SLIDING DOOR SYSTEMS



Architecture and design by Gray Puksand Architects and Hayball Architects
acting in association in the PVIS Partnerships Victoria in Schools Project

ACOUSTIC SLIDERS

SOLID AND GLAZED ACOUSTIC SLIDING DOOR SYSTEMS

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INTRODUCTION

This brochure is designed so you can make the most of our quality acoustic glass operable wall systems to deliver maximum value to your clients.

Whether you are deciding on acoustics, stacking layouts, or finishes, each section of this brochure details your options with the ‘real world’ benefits explained.

Lotus Acoustic Sliders have been developed with key education architects to offer a fully resolved, proprietary acoustic sliding panel system that meets the needs of current open learning classroom design. Acoustic Sliders are ideal where an R_w rating of up to 43 is required as well as simplicity of use, and of course, flexible space. The images and layouts in this brochure depict the connection that can be made between classrooms and their adjacent learning corridors when Lotus Acoustic Sliders are used.

We are proud of the quality of service we provide, from design consultation to final site installation and handover. We invite you to use this brochure as a specification guide, using the back cover flap as a guide, just follow the brochure from front to back. Please contact your design representative if you require further assistance.

We’d love to help you.

Nick Diggins
Managing Director

CUSTOMER CARE

WARRANTY

Our QA system submits every module to an Inspection and Test Plan. Track and trolley systems give lifetime performance. Lotus offer a standard 1 year warranty on all Acoustic Slider Systems installed by Lotus (or authorised representatives).

MADE TO LAST

Lotus Acoustic Slider modules are made from MDF or glass and are contained within a fully enclosed aluminium perimeter frame that is constructed tightly to the boards to ensure maximum durability in demanding education environments.

MOVING EASILY

Each module has two trolleys (there are up to three modules per Slider), an option for automatic bottom seals and low friction top seals to aid with ease of use. Sliders simply require pulling or pushing down a straight track, and no tools are required to operate the system. This simplicity of operation is ideal for an environment where there are multiple users or the need for quick, simple operation.

SAFETY

The safety of the user and those nearby has been considered with our ‘wide mouth’ receiving jambs and SABs, a Lotus proprietary technology that slows the panel at the start and end of its motion.

CUSTOMER HANDOVER

Experience indicates most end users are unaware of how best to use their Acoustic Slider. Once the project is completed and the building is occupied, Lotus’ policy is to arrange a site visit, demonstrate the use of the Acoustic Slider and leave printed instructions. A quality post-check is done and the architect/builder receives a copy of the handover post-check sheet.

LEAD TIMES

We are well known for our short lead times and reliability on deadlines. Normal lead times are about four weeks from receipt of all dimensions and finish details (and shipping beyond Victoria). Special finishes can take longer.

SERVICING AND MAINTENANCE

Attending to a service call-out matters to us as much as installing a new product. We have an excellent reputation for a quick response in such situations. An ongoing maintenance service agreement is also available for larger, complex installations.

RESEARCH AND DEVELOPMENT

Lotus is committed to providing new and improved products to our customers and we strongly believe in investment in design. The addition of the new Single Glazed Acoustic Slider to the range is a great example of our R&D success.



Acoustic Sliders allow classrooms to connect with learning corridors



PANELS - SOLID OR GLASS

The Lotus Acoustic Slider System modules are 65mm or 80mm thick and designed to deliver the maximum acoustic performance with the minimum wall 'stand off'.

Each module is contained within a full aluminium perimeter frame for strength and durability in demanding environments such as schools, and features two trolleys for ease of movement and safety. Modules are up to 1200mm wide and up to three can be joined together for a maximum panel width of 3600mm.

The vertical joins between solid modules can be 'concealed', giving the look of one single continuous panel. Some pinnable finishes require this junction to be 'exposed', with a visible aluminium lip. Modules are joined via an intermediate stile or at the rails to form the overall panel, with some assembly carried out on site for ease of access and installation.

PANEL SPECIFICATION CODES

PANEL	INTERMEDIATE STILE TYPE
SL65C (solid)	Concealed
SL65E (solid)	Exposed
SL80G (glass)	Butt jointed



ACOUSTICS

Lotus is renowned for our expertise in the field of acoustics when applied to flexible space solutions and offer a ‘world best’ R_w55 on our Operable Wall systems. This knowledge has been fully utilised in delivering the best result for the Acoustic Slider Systems.

Not only are the panels inherently acoustic, but more importantly the acoustic ‘mouse holes’ that are found in sliding door systems have been cleverly resolved, ensuring the entire system performs to the correct standard and gives the right result on site.

Our full systems (not just our panels) have been tested against AS/ NZS ISO 717.1-2004 in Australian NATA certified laboratories. Test certificates are available on request.

Please see Lotus’ ‘Operable Walls’ brochure or visit our website, lotusdoors.com.au, for our full acoustic credentials.

FACE FIXED

	GLAZED	SOLID	SOLID
LAB R_w SEAL	TYPE 1	TYPE 2	TYPE 4
29		✓	
30*	✓		
34		✓	
36		✓	
38			✓

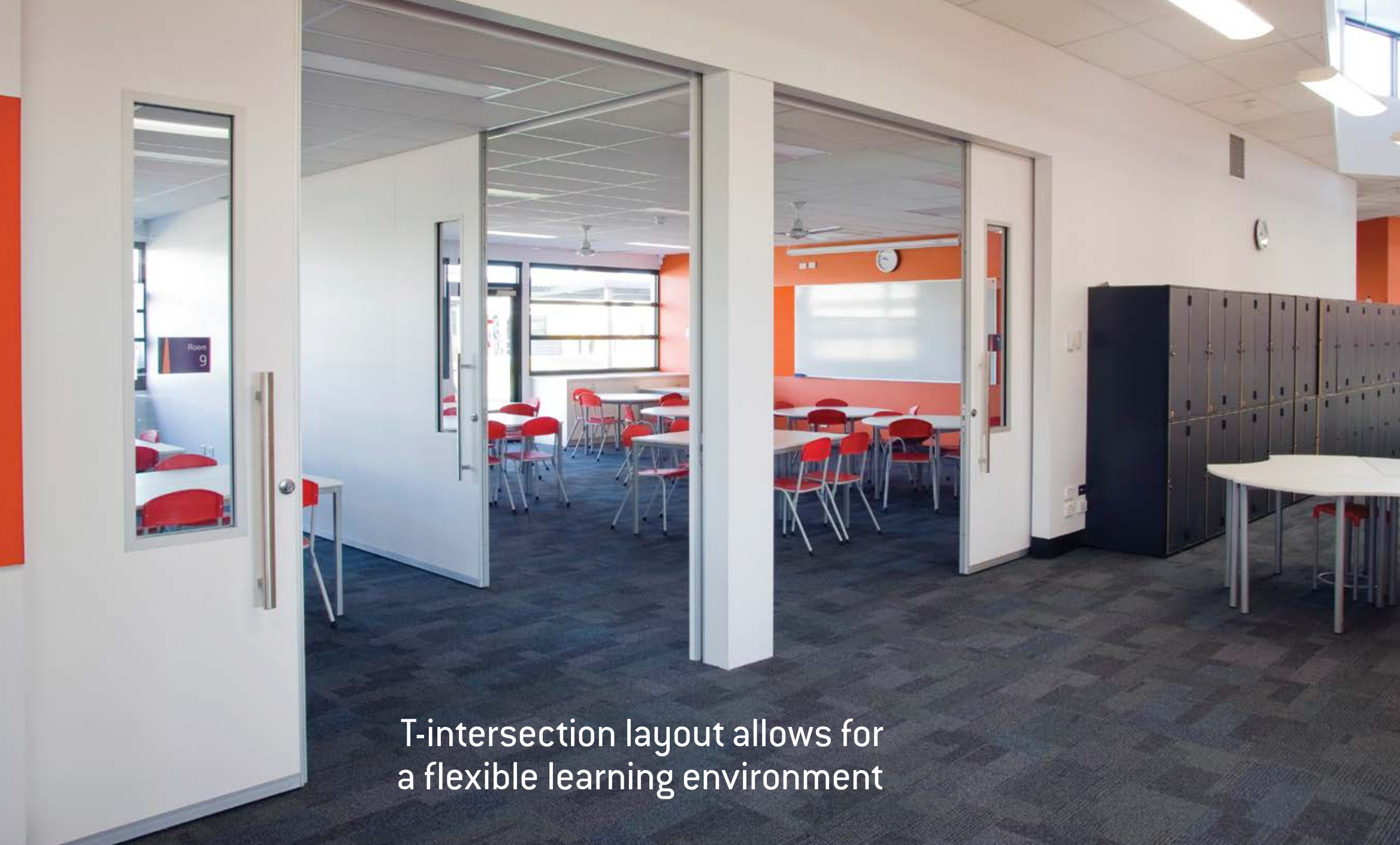
CAVITY FIXED

	GLAZED	SOLID	SOLID
LAB R_w SEAL	TYPE 1	TYPE 2	TYPE 4
30*	✓		
34		✓	
40		✓	
43			✓

* Acoustic opinion. All other R_w points are certified NATA lab test results.



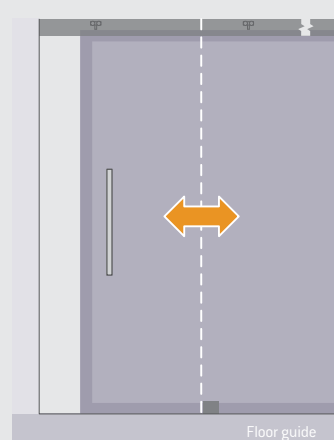
Acoustically resolved
and visually connected



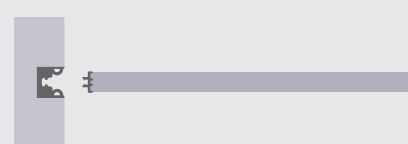
T-intersection layout allows for a flexible learning environment



SINGLE PANEL LAYOUT COMBINATIONS



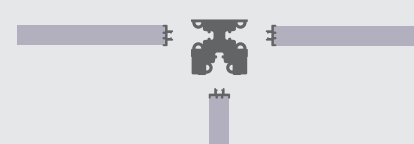
Panel can be fabricated from multiple modules



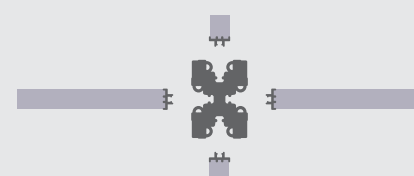
Single panel to receiving jamb



Double panels to receiving jamb

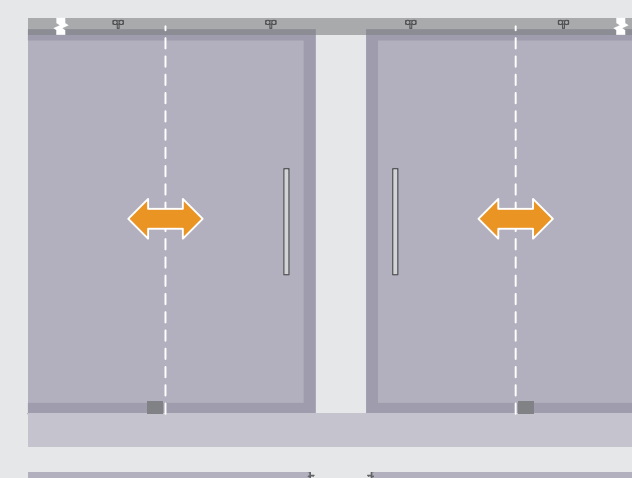


Third panel intersects column to close off three separate areas



Fourth panel intersects column to close off four separate areas

BI-PARTING LAYOUT



FIXING AND LAYOUTS

Lotus Acoustic Sliders have been designed to suit both cavity and face fixed applications.

There are several layouts or configurations for the Acoustic Slider System to ensure maximum flexibility of room design.

These layouts also include dual panel sliders that can be used in single or bi-parting layout combinations to provide for larger opening widths.

NATA certified acoustic reports and opinions are available for all configurations.

SEALS - SOLID SLIDERS

Lotus Acoustic Sliders offer two seal combinations that suit different site and acoustic requirements. The full perimeter of the opening is acoustically sealed at the top and bottom rail as well as the receiving and trailing jambs.

SEALS - FACE FIXED

SEAL TYPE 2

R_w 29, 34, 36

Top Rail

Bottom Rail

Wall Seal

WALL SIDE

Sweep Seal

Automatic Seal

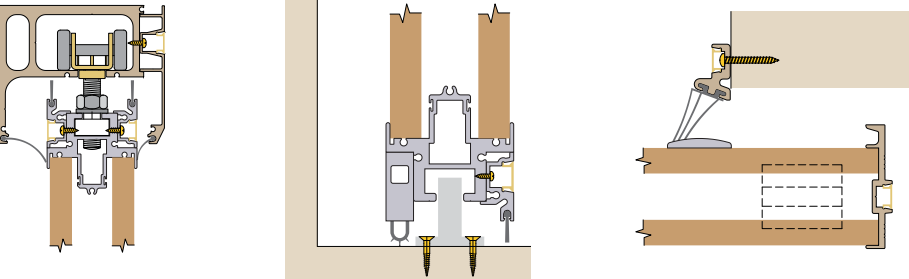
Single Sweep Seal

ROOM SIDE

Sweep Seal

Sweep Seal

—



SEAL TYPE 4*

R_w 38

Top Rail

Bottom Rail

Wall Seal

WALL SIDE

Sweep Seal

Automatic Seal

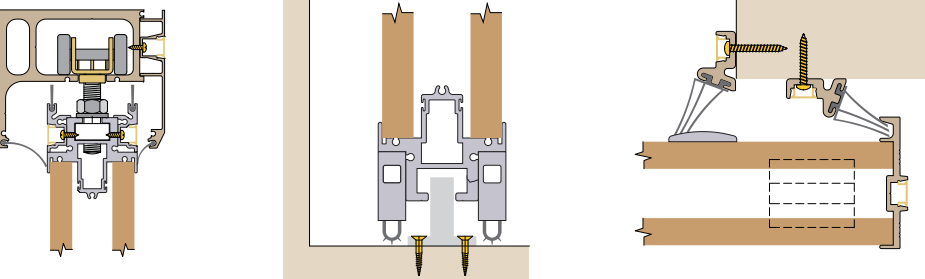
Double Sweep Seal

ROOM SIDE

Sweep Seal

Automatic Seal

—



* Type 4 seals can be used on all systems where floors are out of level or where operability is very important.

SEALS - CAVITY FIXED

SEAL TYPE 2

R_w 34, 40, 43

Top Rail

Bottom Rail

Wall Seal

WALL SIDE

Sweep Seal

Automatic Seal

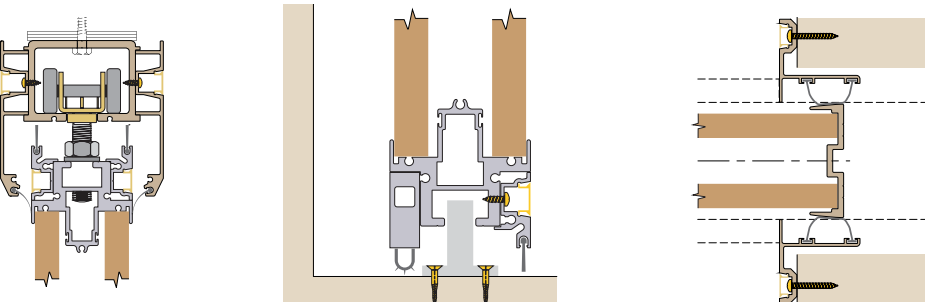
Cavity Balloon Seal

ROOM SIDE

Sweep Seal

Sweep Seal

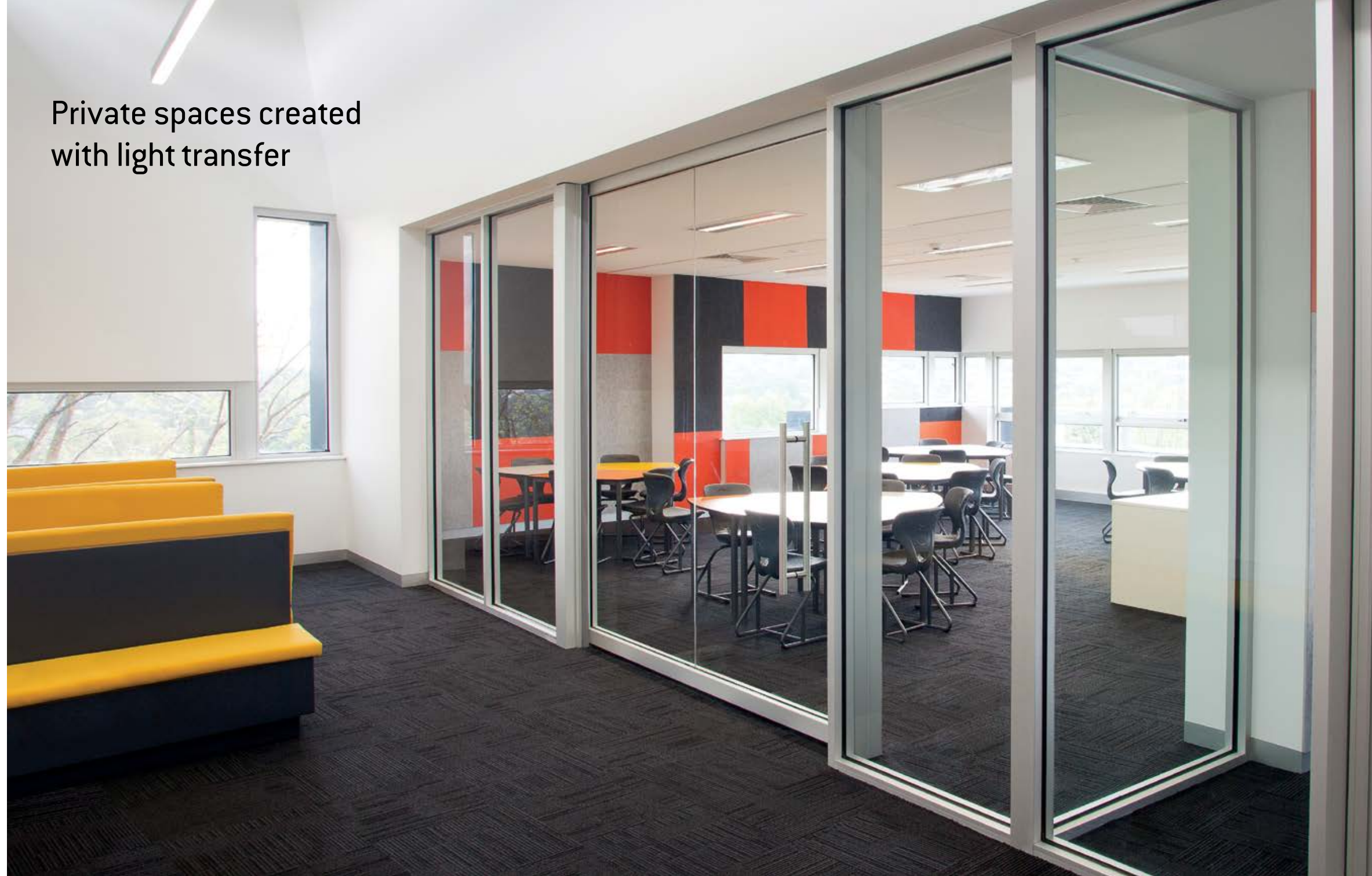
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Lotus’ seal systems eliminate acoustic ‘mouse holes’ inherent in sliding door systems for maximum acoustic performance

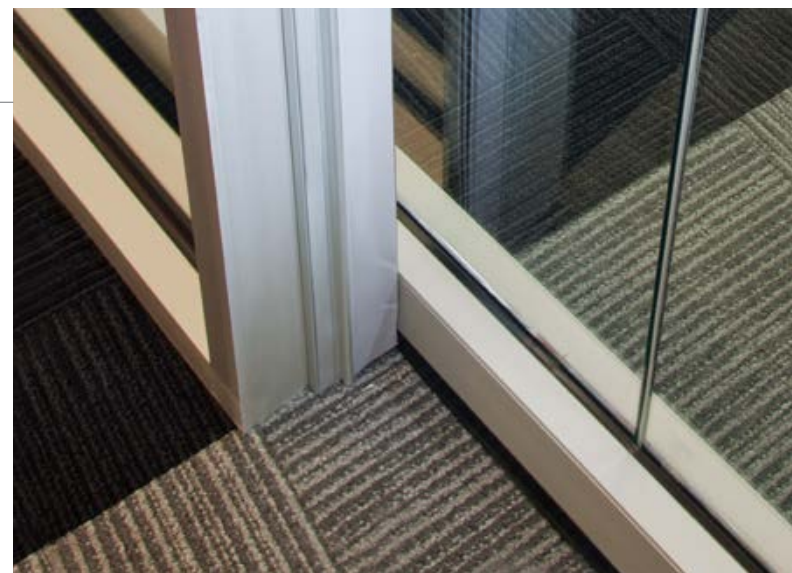
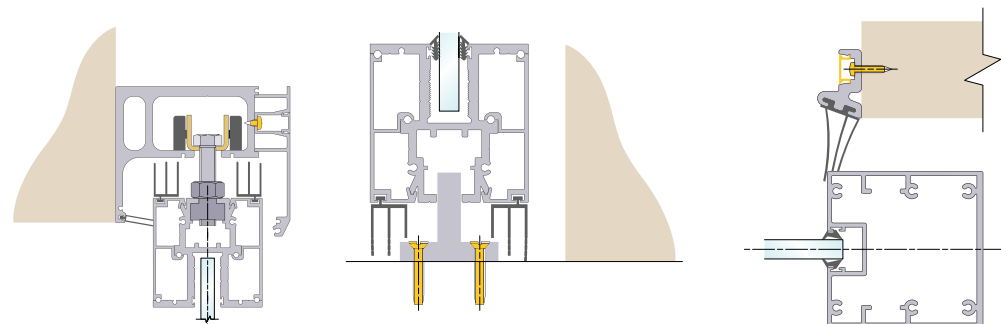


Private spaces created
with light transfer



SEALS - GLAZED SLIDERS

Lotus Acoustic Sliders offer seal combinations that suit different site and acoustic requirements. The full perimeter of the opening is acoustically sealed at the top and bottom rail as well as the receiving and trailing jambs.



SEALS - FACE FIXED

SEAL TYPE 1	R _w 30	
	WALL SIDE	ROOM SIDE
Top Rail	Sweep Seal	Sweep Seal
Bottom Rail	Sweep Seal	Sweep Seal
Wall Seal	Single Sweep Seal	—

SEALS - CAVITY FIXED

SEAL TYPE 1	R _w 30	
	WALL SIDE	ROOM SIDE
Top Rail	Sweep Seal	Sweep Seal
Bottom Rail	Sweep Seal	Sweep Seal
Wall Seal	Cavity Balloon Seal	—



Lotus sliders can be optioned with many useful accessories, adding functionality and practicality



Snib



SABS mechanism

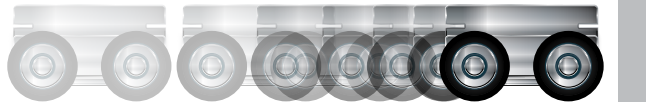
ACCESSORIES

We offer a range of accessories that enhance the functionality of the Lotus Acoustic Slider System, including

- Mortice locks
- Pinboards
- Pen pockets
- Kick rails
- Snibs
- Whiteboards
- Chair rails
- Footbolts

LOTUS SLIDER AUTO BRAKING SYSTEM (SABS)

Also available is a unique slow down mechanism to control the movement of the panel at the end of its motion.



The SABS system in action

The Lotus Slider Auto Braking System (SABS) ensures that when approaching the end of its range of movement in the opening or closing direction, the panel is 'braked' so it closes softly against the receiving jamb or stop.

This protects the panel and the surrounding structures from slamming and minimises the possibility of serious finger entrapment or injury. This system does not interfere with the ease of operability of the panel. The SABS system is only required in applications where there is limited seal friction. Please consult Lotus regarding specifying this feature.

FINISHES

Because of our board-within-frame construction type we can offer nearly limitless finish options to suit all functional, aesthetic and budget requirements.

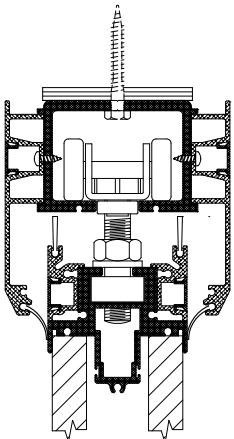
Most finish selections are supported by 'concealed' vertical joints between modules, giving the look of one continuous sliding panel. Some pinnable finishes require this junction to be 'exposed', with a visible aluminium lip.

For the Glazed Sliders, glass must be toughened or toughened laminated and will support any glass finish available in these glass types.

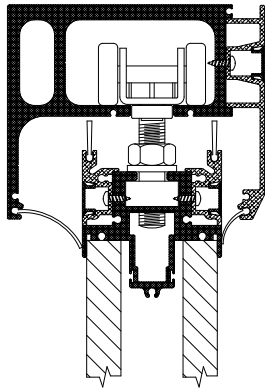
TECHNICAL INFORMATION

These pages contain selected general information; please consult Lotus for assistance with specific projects.
CAD data is available at lotusdoors.com.au

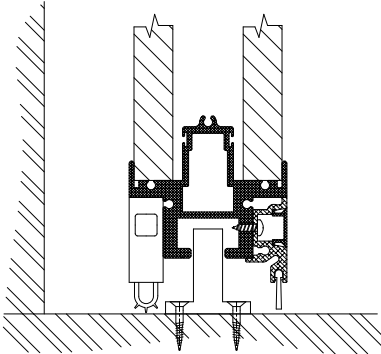
1 HEAD DETAILS



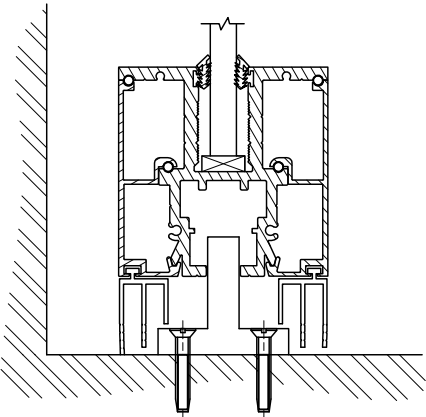
2 TOP RAIL



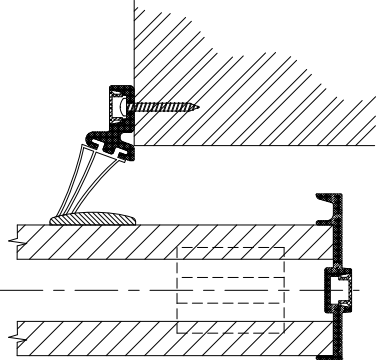
3 BOTTOM RAIL



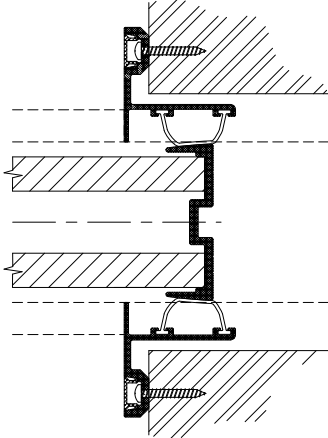
4 BOTTOM RAIL (GLAZED)



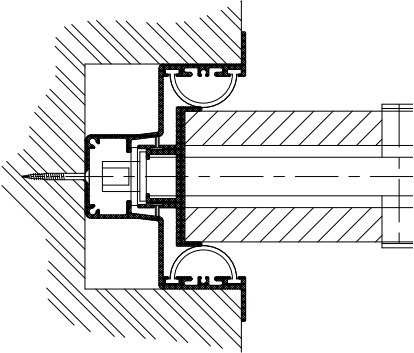
5 FACE FIXED WALL SEAL



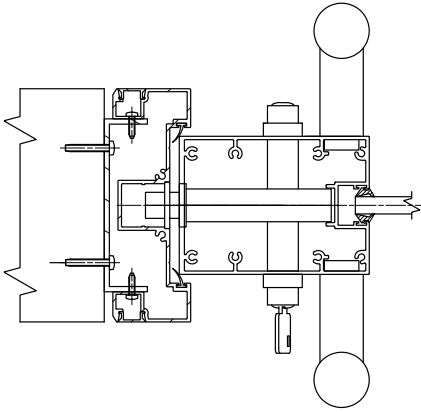
6 CAVITY FIXED WALL SEAL



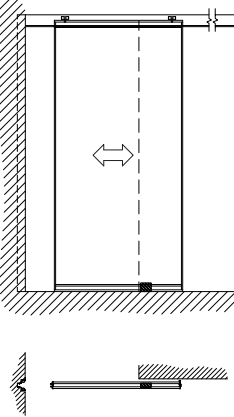
7 JAMBS



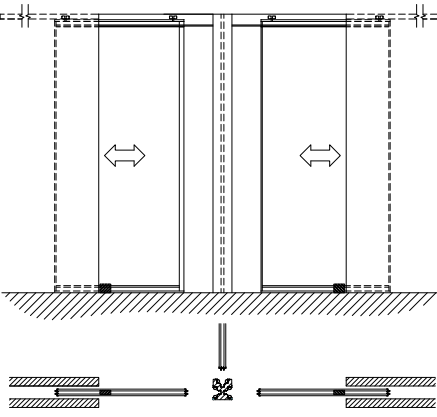
8 110MM STILE (GLAZED)



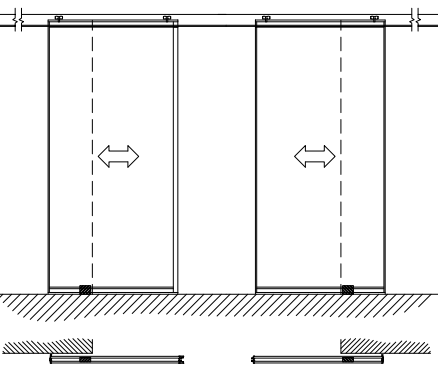
9 SINGLE PANEL



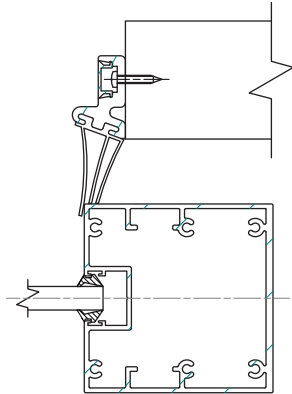
10 T-INTERSECTION



11 BI-PARTING



12 FACE FIXED WALL SEAL (GLAZED)





SYSTEM WEIGHTS

Panel type	Fixing options	R _w	29	30	34	36	38	40	43
Solid	Face Mounted	Weight / m ² (kgs)	27	–	34	35	35	35	35
	Cavity Mounted	Weight / m2 (kgs)	–	–	27	–	–	33	34
Glazed (10mm)	Face Mounted	Weight / m ² (kgs)	–	35	–	–	–	–	–
	Cavity Mounted	Weight / m2 (kgs)	–	35	–	–	–	–	–

Wall weights are calculated on a 2700mm x 1200mm module.

FLOOR LEVELS

Floors should be +/- 5mm across the whole opening. Variance greater than this will have an impact on both acoustic performance and ease of operability.

MODULE DETAILS

	Solid	Glazed
Panel thickness	65mm	80mm
Wall Stand Off (outside face of slider panel - Face Fixed only)	100mm	115mm
Maximum Height	3000mm	3000mm
Maximum Module Width	1200mm	1500mm
Maximum Overall Width - Single Slider	3600mm	3600mm
Maximum Overall Width - Double Slider	4800mm	4800mm
Stile Perimeter Lip	12mm	–
Rail Perimeter Lip	14mm	–
Intermediate stile thickness	6mm	–
Top & Bottom Rail	–	80mm
Trailing Stile	–	80mm
Leading Stile	–	80mm / 110mm

SPECIFICATION GUIDE

Use this step-by-step guide to specify your Lotus Acoustic Slider System.

STEP 1: PANELS

example code SL65C

Specify the intermediate stile type. See page 4 - 5.

SL65C	Solid slider	Concealed
SL65E	Solid slider	Exposed
SL80G	Glazed slider	Butt jointed

STEP 2: ACOUSTICS

example code 34

Specify the acoustic performance in RW.
See page 6.

	Face Fixed	Cavity Fixed
29	✓	
30*	✓	✓
34	✓	✓
36	✓	
38	✓	
40		✓
43		✓

* glazed sliders only

STEP 3: FIXING

example code C

Choose face or cavity fixing.

F	Face Fixed
C	Cavity Fixed

STEP 4: LAYOUTS

example code B

Specify how the panels should intersect.
See pages 8 - 9.

S	Single
B	Bi-Parting

STEP 5: SEALS

example code 2

Choose Seal type 1, 2 or 4. This can affect the acoustic rating of the system. See pages 10 - 13

	Face Fixed	Cavity Fixed	
1	R _w 30	R _w 30	Glazer slider
2	R _w 29, 34, 36	R _w 34, 40, 43	Solid slider
4	R _w 38	R _w 38	Solid slider

SAMPLE SPECIFICATION CODE

SL65C/34/CB2 ... then specify finish and accessories





HEATING AND COOLING SOLUTIONS

SPLIT SYSTEMS

THE EXCLUSIVE
AIR CONDITIONER SUPPLIER
OF THE BLOCK 2017





THE BEST AIR ANYWHERE

At Daikin, we're not just in the business of air conditioners. We're in the business of human comfort. Our passion for designing and engineering smart technologies ensures your comfort levels are maximised.

Daikin's recognised as an expert in air conditioning. As specialists, air conditioning is all we do. In fact, we're the only company in the world to make both air conditioners and refrigerants which enables us to deliver air conditioning solutions that are world leading in performance, quality and reliability.

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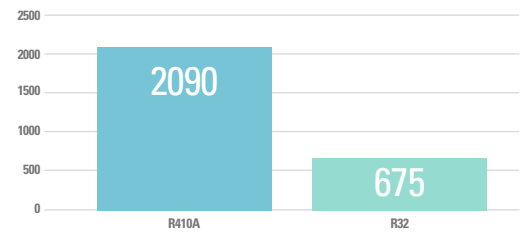
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COMFORT REINVENTED

For over 90 years, Daikin has invested heavily in Research and Development to deliver more effective climate control for you and your family. Daikin technologies help make Daikin air conditioners energy efficient, powerful, reliable and easy to use.

Here are some examples of the innovative technology you can find in your Daikin split system.

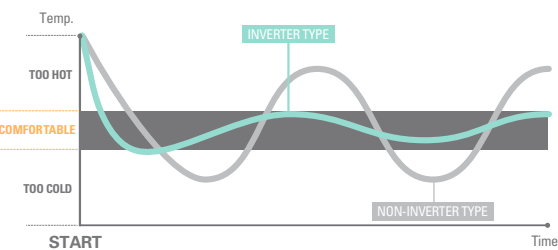
GLOBAL WARMING POTENTIAL



R32 REFRIGERANT

All Daikin wall mounted split systems use R32 refrigerant. With a lower global warming potential and a higher refrigeration potential than refrigerants such as R410A, R32 systems can deliver more efficient cooling and heating with less risk of harm to the environment.

LESS TEMPERATURE FLUCTUATION



INVERTER TECHNOLOGY

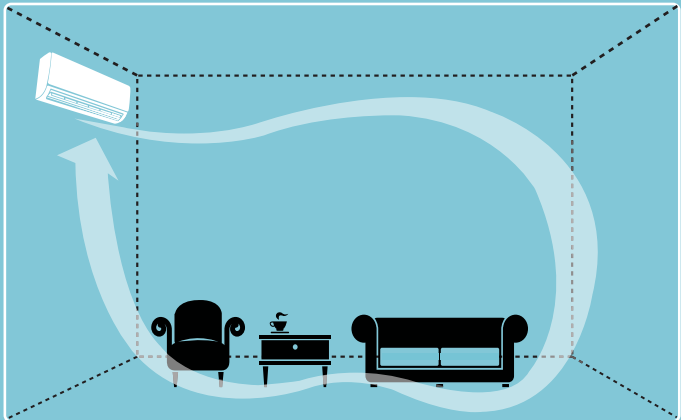
An inverter system works like the accelerator of a car, gently increasing or decreasing power. They reach the desired temperature quicker and steadily maintain it without fluctuations. That means uninterrupted comfort and significant savings on running costs.



Neodymium Magnet
10x Stronger

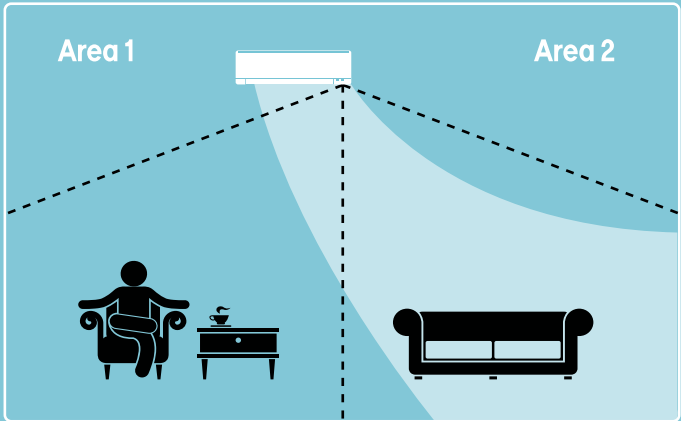
RELUCTANCE DC MOTOR

Our outdoor units incorporate Daikin's Reluctance DC motors. These motors which drive our compressors, utilise the magnetic torque of neodymium magnets in conjunction with reluctance torque, which can boost efficiency by up to 40% more than conventional motors.



COANDA AIRFLOW TECHNOLOGY

Our wall mounted indoor units* feature an advanced louvre design for streaming air upwards along the ceiling and creating a circulatory air motion in the occupied space. This ensures rapid cooling of the area, even temperature distribution and improved comfort levels.



INTELLIGENT EYE SENSOR

Each indoor wall mounted model is fitted with Daikin's trademark Intelligent Eye human sensor. This sensor cleverly switches the unit into energy saving mode when the room is unoccupied. On models fitted with the more advanced 2-Area variant, the intelligent eye can also be used to provide draught free comfort.

Draught free comfort operations: If occupant detected in area 1, airflow is directed away

*Only applicable to Cora 20-71 Class Models and all US7 Models

Top of its class and packed with advanced technologies, US7 delivers ultimate comfort with its humidifying, dehumidifying, ventilating and air purification features.

2.5kW
-TO-
5.0kW
CAPACITY RANGE

3
MODELS

REVERSE
CYCLE



US7

AS SMART, AS IT IS STYLISH



INDUSTRY LEADING

US7 is the first split system in Australia to be awarded a 7-star 'Super Efficiency' rating*. It is also packed with advanced technologies and a range of innovative features that distinguishes US7 from every other.



ADVANCED HUMIDIFICATION

Excessively dry air can cause dry skin and a sore throat. Our advanced humidification unit in the outdoor unit draws moisture from outdoor air and distributes this indoors to make you feel warmer and more comfortable.



R32 REFRIGERANT

R32 is the next generation in refrigerants with a substantially lower 'Global Warming Potential Factor' than R410A, providing less risk of harm to the environment.



COANDA AIRFLOW

Discharge louvres are specially designed to stream air upwards along the ceiling for longer throws and delivering rapid cooling and even temperature distribution in the occupied space.



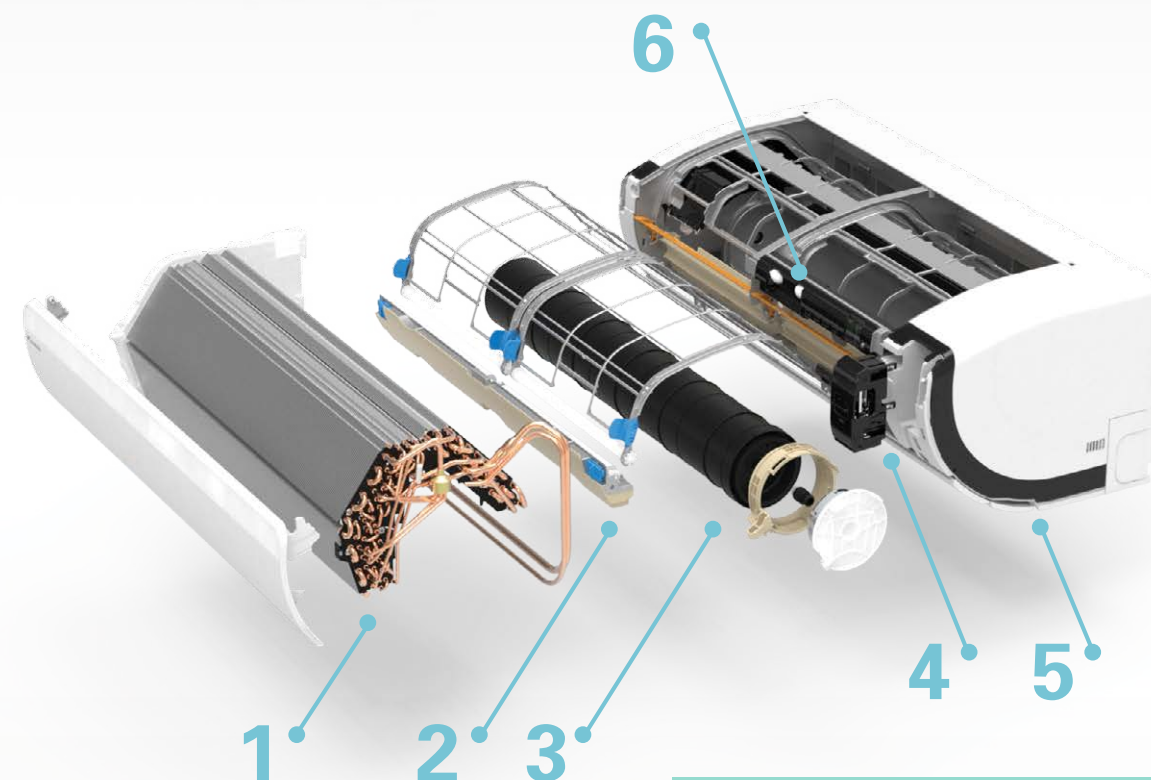
POWERFUL DEHUMIDIFICATION

Through intelligent control of the indoor heat exchanger and mixing warmer room air with dehumidified air, US7 cleverly reduces humidity without making your room too cold and uncomfortable.



UNIQUE TWO-STAGE FILTRATION

While the outdoor unit removes carbon monoxide, exhaust gasses and bad odours via a thermal catalyst, the indoor unit's flash streamer technology removes mould, formaldehyde and other allergens from the air keeping your room's air fresh and clean.



D-Mobile Interface (Option)

Daikin's D-Mobile Smartphone Interface allows you to control your Daikin Split System from anywhere, anytime.

TECHNOLOGY

1. HIGH DENSITY HEAT EXCHANGER

US7's five row heat exchanger utilising Ø5mm copper piping delivers superior cooling and heating performance.

2. AUTOMATIC SELF CLEANING FILTER

An internal brush automatically collects and deposits dust from the air filter to help maintain stable airflow and minimise power consumption.

3. HYPER SAW EDGE FAN

Unique 'Saw Edge' design of the indoor fan rotor delivers superior airflow and quiet operations as low as 19dBA (25-35 Class Model).

4. FLASH STREAMER TECHNOLOGY

Decomposes bacteria and mould absorbed on the filter by ionisation with an advanced plasma electric discharge.

5. NATURAL BREEZE AIRFLOW

By randomly varying airflow and direction, US7 simulates the sensation of a gentle breeze for improved comfort.

6. 2-AREA INTELLIGENT EYE

Ensures draught free comfort. If no movement detected for a period of 20 minutes, the air conditioner adjusts the set temperature by $\pm 2^{\circ}\text{C}$ to save energy.

ENERGY RATING

CLASS		25	35	50
STAR RATING	COOL	★★★★★★★★	★★★★★★★	★★★★★
	HEAT	★★★★★★★★	★★★★★★★	★★★★★★

The more stars, the more energy efficient. The Star Rating Index is determined under conditions of AS/NZS 3823.1.1

*25 Class Model, as of 22/10/14 - visit www.energyrating.gov.au for details
Note: Please see features checklist on page 30 for full list of features

Engineered in Europe with the latest technology, its stylish and elegant design seamlessly integrates into the modern home.

2.5kW
-TO-
5.0kW
CAPACITY RANGE

6
MODELS

REVERSE
CYCLE
SILVER OR
WHITE FINISH



ZENA

DESIGNED TO IMPRESS

- R32**

R32 REFRIGERANT

R32 is the next generation in refrigerants with a substantially lower 'Global Warming Potential Factor' than R410A, providing less risk of harm to the environment.
- PROGRAM DRY FUNCTION**

Besides reducing humidity, this function automatically controls temperature and airflow rate and will cleverly switch into cooling mode if the room temperature rises too much.
- INVERTER POWERFUL OPERATION**

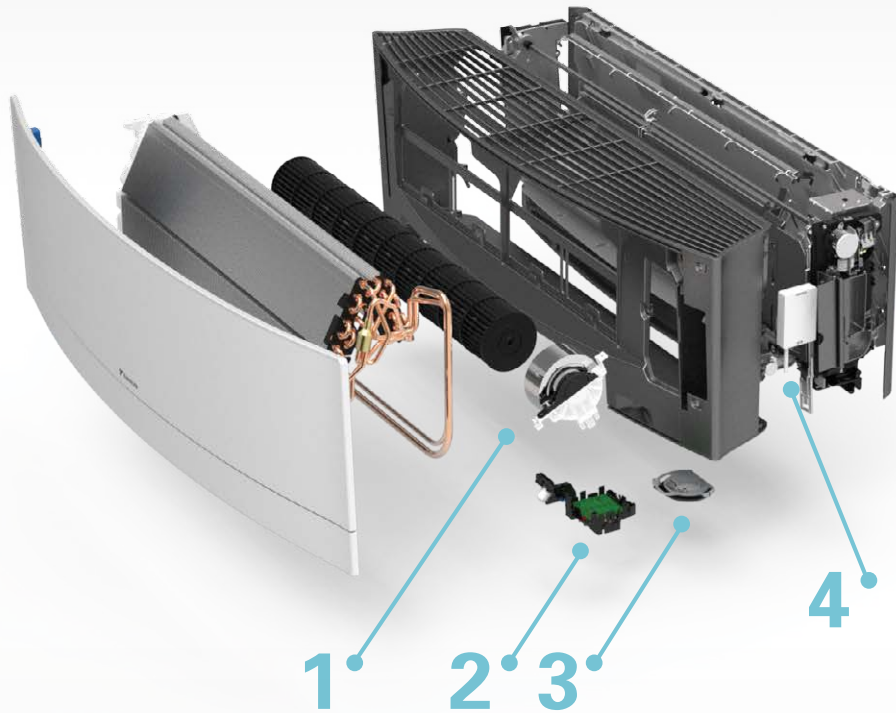
Push the POWERFUL button on the remote control and you'll be relieved with a cooling or heating boost for a 20 minute period, even if the unit's already operating at high capacity.
- AIR PURIFICATION**

Each model is fitted with a titanium apatite deodorising air purification filter that traps microscopic particles, decomposes odours and even deactivates bacteria.
- INTELLIGENT COMFORT**

Daikin's 2-area Intelligent Eye human sensor helps direct airflow away from you for draught free comfort and automatically enables energy saving operations when the room is unoccupied.
- COMFORT MODE**

Airflow direction is optimised such that airflow is streamed upwards during cooling to prevent cold airflow being blown onto the body and downward during heating to drive warm air towards the floor of the room.

Note: Please see features checklist on page 30 for full list of features



D-Mobile Interface (Option)
Daikin's D-Mobile Smartphone Interface allows you to control your Daikin Split System from anywhere, anytime.

TECHNOLOGY

- 1. DC FAN MOTOR**

Daikin's DC Fan Motor is efficient and compact, featuring five step fan speeds including quiet and auto mode.
- 3. MULTI COLOUR MONITOR LAMP**

LED lamp lights up a different colour based on operation mode for easy identification and convenient monitoring at a glance.
- 2. 2-AREA INTELLIGENT EYE**

Ensures draught free comfort and if no movement detected for a period of 20 minutes, the air conditioner adjusts the set temperature by $\pm 2^{\circ}\text{C}$ to save energy.
- 4. INTEGRATED CONNECTIVITY**

The optional D-Mobile Wireless LAN module can be conveniently placed into an internal housing compartment in the Zena indoor unit.

ENERGY RATING

CLASS	25	35	50
STAR RATING	★★★★★	★★★★	★★★
COOL	★★★★★	★★★★	★★★
HEAT	★★★★★	★★★★	★★★

The more stars, the more energy efficient. The Star Rating Index is determined under conditions of AS/NZS 3823.1.1

Delivered in understated confidence, featuring whisper quiet operation, industry leading energy efficiency and premium comfort levels without compromising on style.



2.0kW
-TO-
9.4kW
CAPACITY RANGE

16
MODELS

REVERSE
CYCLE OR
COOLING
ONLY



CORA

STYLED TO PERFORM

R32

R32 REFRIGERANT

R32 is the next generation in refrigerants with a substantially lower 'Global Warming Potential Factor' than R410A, providing less risk of harm to the environment.



COANDA AIRFLOW

Discharge louvres are specially designed to stream air upwards along the ceiling for longer throws and delivering rapid cooling and even temperature distribution in the occupied space.



INVERTER POWERFUL OPERATION

Push the POWERFUL button on the remote control and you'll be relieved with a cooling or heating boost for a 20 minute period, even if the unit's already operating at high capacity.



INTELLIGENT COMFORT

The New 2-area Intelligent Eye is so clever it can now either direct airflow towards you or away from you for draught free comfort. If the room is unoccupied the unit will automatically enable energy saving operations.



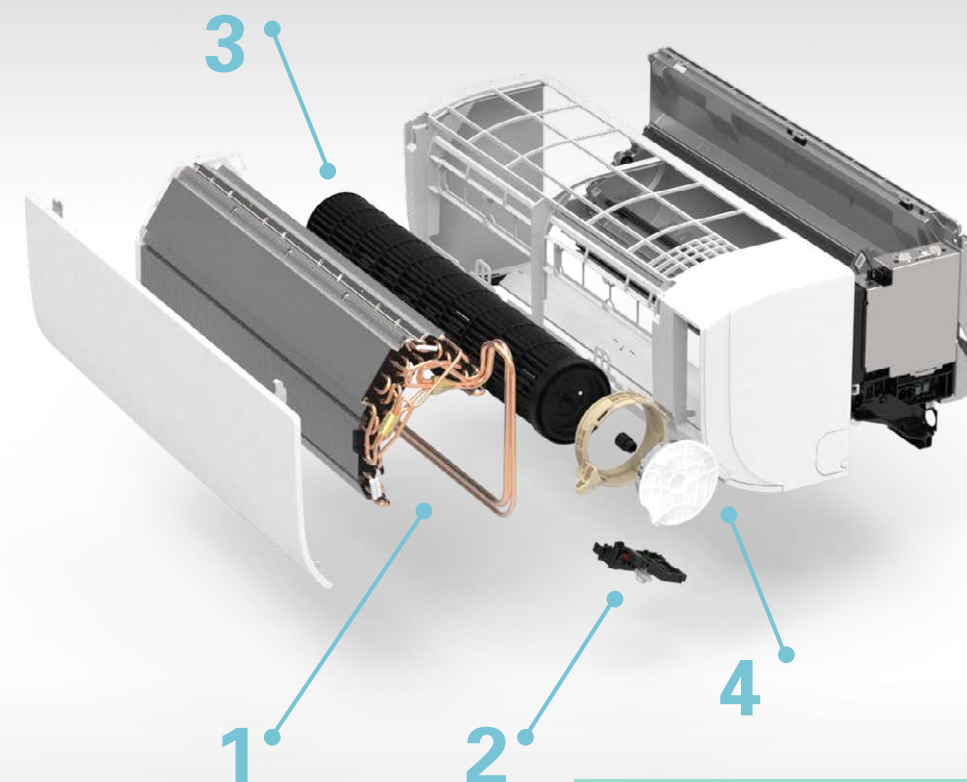
PRECISION CONTROL

For even greater precision and control, you can now set your room temperature in increments of 0.5°C to ensure optimal comfort conditions all year round.



AIR PURIFICATION

Each model is fitted with a titanium apatite deodorising air purification filter that traps microscopic particles, decomposes odours and even deactivates bacteria.



D-Mobile Interface (Option)

Daikin's D-Mobile Smartphone Interface allows you to control your Daikin Split System from anywhere, anytime.

TECHNOLOGY

1. REDESIGNED HEAT EXCHANGER

Slit type fin design with Ø5mm piping increases heat exchange area for improved capacity output and energy performance.

2. NEW 2-AREA INTELLIGENT EYE

Gives you the option to direct airflow either towards or away from you for draught free comfort. If no occupation is detected, the air conditioner operates in energy saving mode.

3. CROSS FLOW FAN

Large diameter rotor with aerofoil blade design delivers larger volumes of air more quietly than ever before.

4. NEW ODM MOTOR

Compact 10 pole DC outer diameter rotor motor delivers higher torque more efficiently.

ENERGY RATING

CLASS	20	25	35	46	50
STAR RATING	COOL				
	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
	HEAT				
	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★
	60	71	85	95	
	★★★★	★★★★	★★★★	★★★★	
	★★★★★	★★★★★	★★★★★	★★★★★	

The more stars, the more energy efficient. The Star Rating Index is determined under conditions of AS/NZS 3823.1.1. Cooling Only models are available from 20 to 71 Class, heating Star Rating does not apply.

Note: Please see features checklist on page 30 for full list of features. Features and appearance varies for 85-95 Class Models, New 2-Area Intelligent Eye only applicable to 20-46 Class Models

European designed floor standing heat pump that is quiet, discrete and features state-of-the-art heating technology from its unique front radiant heat panel.

2.5kW
-TO-
4.8kW
CAPACITY RANGE

3
MODELS



NEXURA

BEST OF BOTH WORLDS



RADIANT MODE

At the touch of a button, Nexura's aluminium front panel warms up just like a traditional radiator. The result is a comfortable feeling of warm air that envelopes you with a quieter heating experience.



SUPERIOR HEATING

As stylish as it is, Nexura is also powerful. It is able to reach your desired temperature rapidly by operating the unit in 'powerful' heating mode which circulates warm air throughout your room effectively.



PROGRAM DRY FUNCTION

Besides reducing humidity, this function automatically controls temperature and airflow rate and will cleverly switch into cooling mode if the room temperature rises too much.



HOT START

Prior to heating, the indoor unit warms to a pre-set temperature before the fan switches on, ensuring only warm air is discharged and eliminating cold draughts.



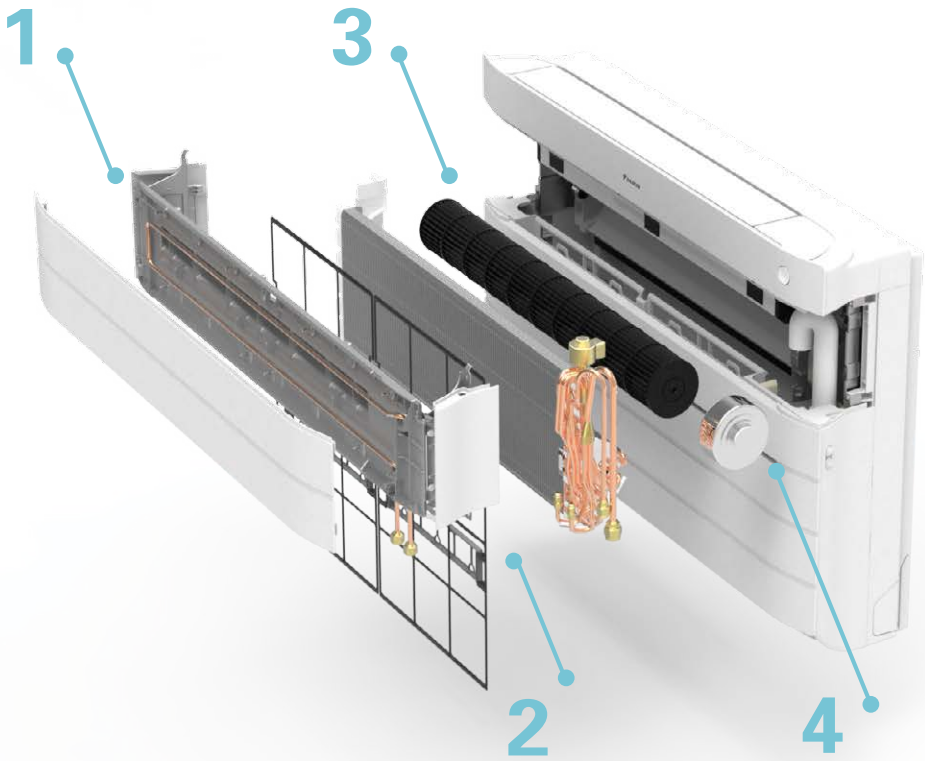
ECONO MODE

This mode limits the maximum power consumed by the system preventing the tripping of your circuit breaker should you have other household appliances operating simultaneously with your air conditioner.



AIR PURIFICATION

Each model is fitted with a titanium apatite deodorising air purification filter that traps microscopic particles, decomposes odours and even deactivates bacteria.



TECHNOLOGY

1. RADIANT PANEL

Aluminium panel connected to a sub heat exchanger enables radiant heating with panel surface temperatures of up to 55°C.

2. ADVANCED FILTRATION

Features the combination of a particulate pre-filter for collecting dust particles and a titanium apatite deodorising air purification filter.

3. CROSS FLOW FAN

Large diameter rotor with aerofoil blade design delivers larger volumes of air more quietly than ever before.

4. DC FAN MOTOR

Daikin's DC Fan motor is efficient and compact, featuring five step fan speeds including quiet and auto mode.

ENERGY RATING

CLASS	25	35	50
STAR RATING	★★★★★	★★★★	★★★
COOL	★★★★★	★★★★	★★★
HEAT	★★★★★	★★★★	★★★

The more stars, the more energy efficient. The Star Rating Index is determined under conditions of AS/NZS 3823.1.1

Note: Please see features checklist on page 30 for full list of features

Compact floor standing unit with a wide selection of capacities, ideal for placement under a window sill or semi-recessed into a unused fireplace.

2.5kW
-TO-
7.1kW
CAPACITY RANGE

6
MODELS



FLOOR STANDING

COMPACT & CONVENIENT



DUAL DISCHARGE VENTS

You can select to use either top, or top and bottom discharge vents to distribute air evenly through the room for better heating comfort.



ECONO MODE

This mode limits the maximum power consumed by the system preventing the tripping of your circuit breaker should you have other household appliances operating simultaneously with your air conditioner.



WIDE OPERATING RANGE

Daikin's floor standing units are robust in design and feature an intelligent defrost system. So even when the mercury drops as low as -10°C, your home still stays comfortable in winter.



STANDBY POWER FUNCTION

When the system is not in use, power supply to the outdoor unit is turned off and the indoor unit switches to standby mode.



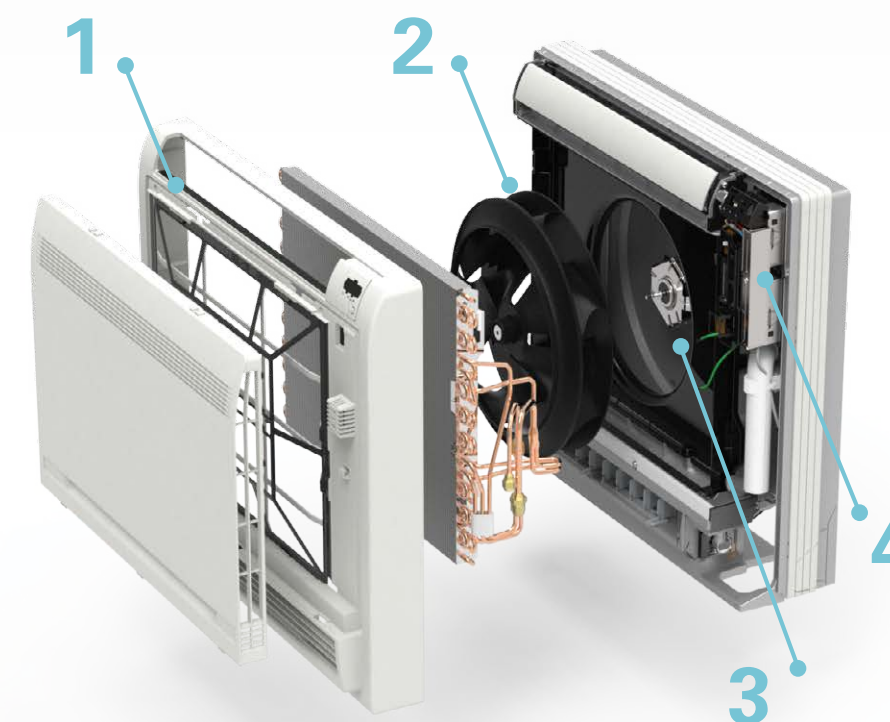
HOT START

Prior to heating, the indoor unit warms to a pre-set temperature before the fan switches on, ensuring only warm air is discharged and eliminating cold draughts.



AIR PURIFICATION

Each model is fitted with a titanium apatite deodorising air purification filter that traps microscopic particles, decomposes odours and even deactivates bacteria.



TECHNOLOGY

1. ADVANCED FILTRATION

Features the combination of a particulate prefilter for collecting dust particles and a titanium apatite deodorising air purification filter.

2. TURBO FAN

The large swept blades enable air to be discharged quietly and efficiently via both the top and bottom discharge vents for even airflow into the room.

3. DC FAN MOTOR

Daikin's DC Fan motor is efficient and compact, featuring five step fan speeds including quiet and auto mode.

4. PROGRAM DRY FUNCTION

When operating in this mode, the microprocessor intelligently adjusts temperature and airflow rate to reduce humidity with minimal compromise to comfort.

ENERGY RATING

CLASS	25	35	45	50	60	71
STAR RATING						
COOL	★★★★☆	★★★★	★★★	★★★★	★★★★☆	★★★
HEAT	★★★★★	★★★★	★★★★	★★★★★	★★★	★★★

The more stars, the more energy efficient. The Star Rating Index is determined under conditions of AS/NZS 3823.1.1

Note: Please see features checklist on page 30 for full list of features

If you're after multi room air conditioning, Daikin's Super Multi NX is the clever choice. It takes only one Super Multi NX outdoor unit to maintain comfort in up to five rooms.

5.2kW
-TO-
10.0kW
CAPACITY RANGE

8
MODELS



REVERSE
CYCLE OR
COOLING
ONLY

SUPER MULTI NX

MAKE EVERY ROOM A COMFORT ZONE



DESIGN FLEXIBILITY

Daikin's multi room air conditioners use a single outdoor unit connected to multiple indoor units, thus reducing the outdoor space required and simplifying the installation.



CONVENIENT CONTROL

For convenient controls, both our wired and wireless controllers enable individual control of settings such as temperature, airflow volume and scheduled operations.



TRULY VERSATILE

As many as 5 indoor units can be connected to a single outdoor unit combined with a broad selection of indoor units ranging from wall mounted, floor standing, bulkhead, cassettes and ceiling suspended units.



PRIORITY ROOM SETTING

The feature allows you to shift capacity from the other rooms to your priority room when required for rapid cooling or heating of that space.



INDIVIDUAL COMFORT

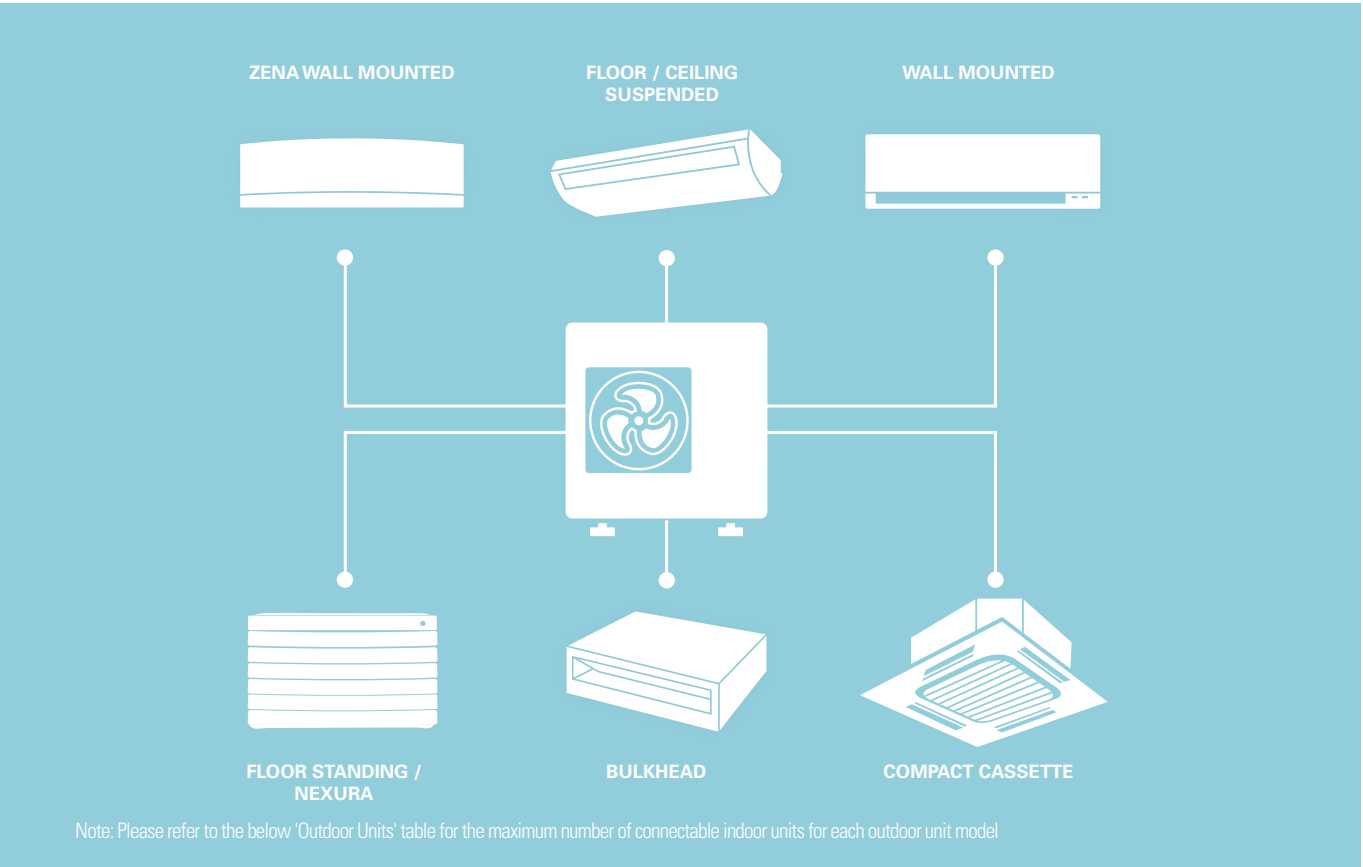
Each indoor unit can be individually controlled, scheduled and set to the desired room temperature ensuring optimal comfort for all occupants in the household at anytime.*



INTELLIGENT COMFORT

Wall mounted indoor units feature Daikin's Intelligent Eye human sensor that ensures draught free comfort and automatically enables energy saving operations when the room is unoccupied.

INDOOR UNIT TYPES



INDOOR AND OUTDOOR UNIT RANGE

INDOOR UNITS								OUTDOOR UNITS				
TYPE	CYCLE	MODEL	CAPACITY CLASS						MAXIMUM CONNECTABLE INDOOR UNITS	CYCLE	MODEL	CAPACITY (KW)
			20	25	35	50	60	71				
Wall Mounted	Cooling Only	FTKS-K(A)VMA	✓	✓	✓	✓	✓	✓	Up to 3 Indoor Units	Cooling Only	3MKS58LVMA9	5.8
	Reverse Cycle	FTXS-K(A)VMA	✓	✓	✓	✓	✓	✓			3MKS68LVMA9	6.8
Wall Mounted - Zena	Reverse Cycle	CTXG-PVMAW (White)	✗	✓	✓	✓	✗	✗		Reverse Cycle	3MXS52LVMA9	5.2
	Reverse Cycle	CTXG-PVMAS (Silver)	✗	✓	✓	✓	✗	✗			3MXS68LVMA9	6.8
Floor Standing	Reverse Cycle	FVXS-KV1A	✗	✓	✓	✓	✗	✗	Up to 4 Indoor Units	Cooling Only	4MKS80LVMA9	8.0
Floor Standing - Nexura	Reverse Cycle	FVXG-K2V1B	✗	✓	✓	✓	✗	✗		Reverse Cycle	4MXS80LVMA9	8.0
Compact Cassette	Cooling Only	FFQ-BV1B9	✗	✓	✓	✓	✓	✗	Up to 5 Indoor Units	Cooling Only	5MKS100LVMA9	10.0
	Reverse Cycle	FFQ-BV1B9	✗	✓	✓	✓	✓	✗		Reverse Cycle	5MXS100LVMA9	10.0
Bulkhead - 900/1,100mm Width	Cooling Only	CDKS-CVMA	✗	✓	✓	✓	✓	✗				
	Reverse Cycle	FDXS-CVMA	✗	✓	✓	✓	✓	✗				
Bulkhead Compact - 700mm Width	Cooling Only	CDKS-EAVMA	✗	✓	✓	✗	✗	✗				
	Reverse Cycle	CDXS-EAVMA	✗	✓	✓	✗	✗	✗				
Floor/Ceiling Suspended Dual	Reverse Cycle	FLXS-B(G)VMA	✗	✓	✓	✓	✓	✗				

*User can select the unit to operate in either cooling or heating mode, not both cooling and heating simultaneously
Please see Super Multi NX brochure for full details and specifications

The ultimate multi room air conditioning system with a wide selection of indoor and outdoor units to suit a variety of room sizes and designs for medium to large size homes.

9.0kW
-TO-
24.0kW
CAPACITY RANGE

6
MODELS



REVERSE
CYCLE

VRV IV-S

BRINGING INNOVATION TO YOUR HOME



ADVANCE TECHNOLOGY

VRV IV-S incorporates the latest technology from our VRV commercial air conditioners including remarkable energy efficiency, quiet operations and long piping runs of up to 100m* for flexible condenser placement.



COMPACT FOOTPRINT

VRV IV-S is available in a range of capacities from 9.0kW up to 24.0kW whilst maintaining a compact installation footprint. This allows you to place the outdoor unit out of sight without compromise to your home's external decor.



ULTIMATE VERSATILITY

As many as 14 indoor units can be connected to a single outdoor unit combined with a wide selection of indoor units ranging from wall mounted, floor standing, bulkhead, ducted, cassettes and ceiling suspended units.



INDIVIDUAL COMFORT

Each indoor unit can be individually controlled, scheduled and set to the desired room temperature ensuring optimal comfort for all occupants in the household at anytime.**



WHISPER QUIET

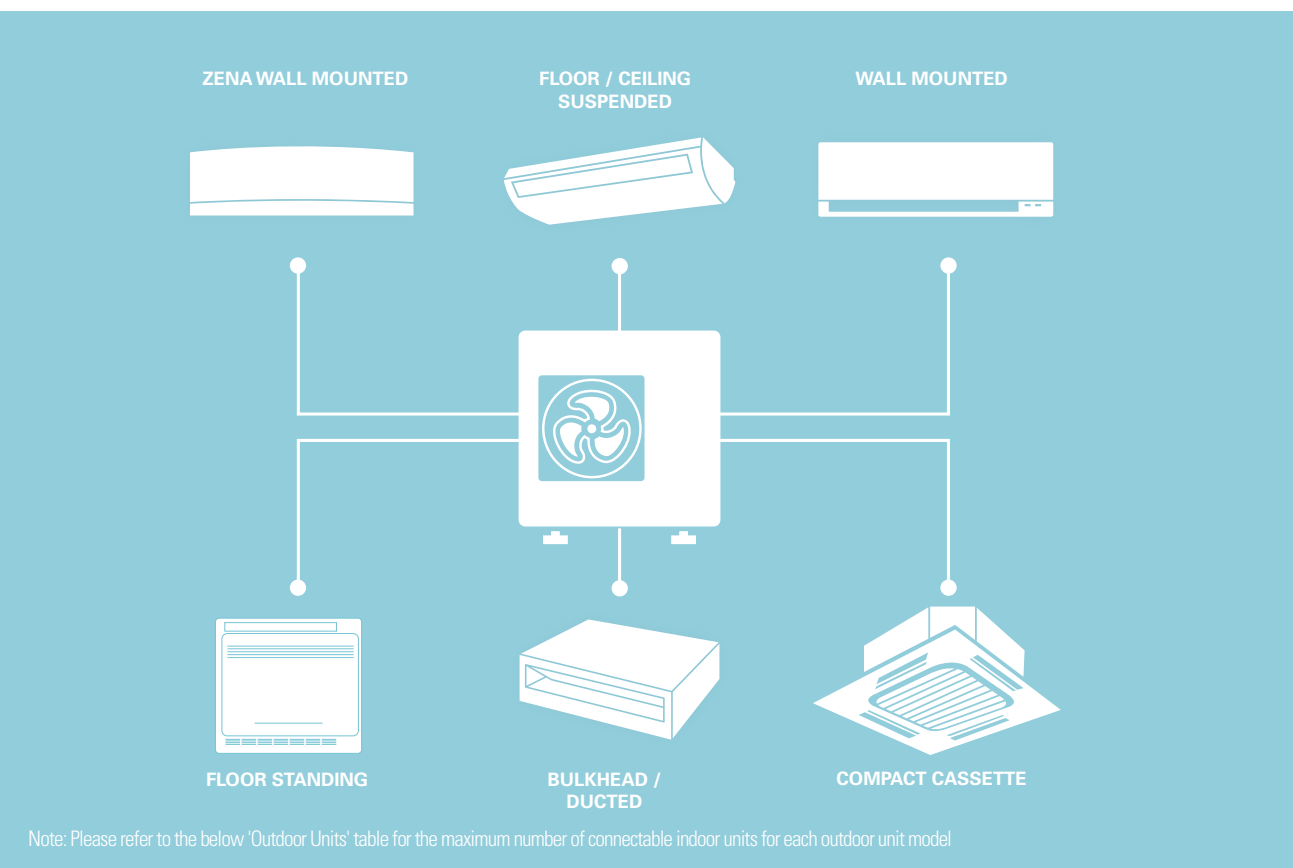
VRV IV-S is not just compact in size but also quiet in operations, featuring a night time quiet mode that reduces the outdoor unit noise level down to 43dBA (11.2kW Model) for minimal impact to the neighbours.



INTELLIGENT COMFORT

Wall mounted indoor units feature Daikin's Intelligent Eye human sensor that ensures draught free comfort and automatically enables energy saving operations when the room is unoccupied.

INDOOR UNIT TYPES



INDOOR AND OUTDOOR UNIT RANGE

		INDOOR UNITS																
TYPE	MODEL	CAPACITY CLASS																
		20	25	32	35	40	50	60	63	71	80	100	125	140	145	180	200	250
Wall Mounted	FTXS-K(A)VMA	✓	✓	✗	✓	✗	✓	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗
Wall Mounted - Zena	CTXG-PVMAW (White)	✗	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
	CTXG-PVMAS (Silver)	✗	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Floor Standing	FVXS-KV1A	✗	✓	✗	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Compact Cassette	FFQ-BV1B9	✗	✓	✗	✓	✗	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Bulkhead - 900/1,100mm Width	FDXS-CVMA	✗	✓	✗	✓	✗	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Bulkhead Compact - 700mm Width	CDXS-EAVMA	✗	✓	✗	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Floor/Ceiling Suspended Dual	FLXS-B(G)VMA	✗	✓	✗	✓	✗	✓	✓	✗	✗	✗	✗	✗	✗	✗	✗	✗	✗
Ceiling Mounted Built-in	FXSQ-PVE	✓	✓	✓	✗	✓	✓	✗	✓	✗	✓	✓	✓	✓	✗	✗	✗	✗
Ceiling Concealed Ducted	FXDYQ-M(A)V1	✗	✗	✗	✗	✗	✗	✗	✗	✗	✓	✓	✓	✗	✓	✓	✓	✓

OUTDOOR UNITS		
MAXIMUM CONNECTABLE INDOOR UNITS	MODEL	CAPACITY (KW)
Up to 5 Indoor Units	RXYMQ3AV4A	9.0
Up to 6 Indoor Units	RXYMQ4AV4A	11.2
Up to 8 Indoor Units	RXYMQ5AV4A	14.0
Up to 9 Indoor Units	RXYMQ6AV4A	16.0
Up to 13 Indoor Units	RXYMQ8AY1	22.4
Up to 14 Indoor Units	RXYMQ9AY1	24.0

*Applies to 16.0kW to 24.0kW models only

**User can select the unit to operate in either cooling or heating mode, not both cooling and heating simultaneously
Please see VRV IV-S brochure for full details and specifications



D-MOBILE

WI-FI CONTROL FOR YOUR DAIKIN WALL MOUNTED SPLIT

D-Mobile puts your air conditioner's frequently used functions at your finger tip with an easy to use app. In conjunction with Daikin's BRP072A42 wireless LAN adaptor, the easy to use D-Mobile app lets you use your smartphone or tablet to operate your Daikin wall mounted air conditioning unit via Wi-Fi or the internet.

THREE WAYS TO CONNECT

1. DIRECT CONNECTION

For locations without a Wi-Fi network, the app can wirelessly connect directly to the a wireless LAN adaptor equipped air conditioner, when in range.

2. WI-FI CONNECTION

A LAN equipped air conditioner can easily be joined to a local Wi-Fi network. Once connected, the system can be controlled from any networked Android or iOS device.

3. INTERNET CONNECTION

Monitor and control your system from virtually anywhere, adjusting temperature and setting for a comfortable environment ready for when you arrive home. With no subscription costs from Daikin, all you need is a permanent internet connection for your Wi-Fi network, and an internet connection for your phone or tablet.

FEATURES

FUNCTION	ZENA	CORA	US7
Start/stop operation	✓	✓	✓
Set operation mode: Auto/Cool/Heat/Fan/Dry	✓	✓	✓
Set temperature operation	✓	✓	✓
Set fan speed	✓	✗	✗
Set airflow direction	✓	✗	✗
Show room temperature	✓	✓	✓
Show outdoor temperature	✓	✓	✓
Error notification	✓	✓	✓
Set weekly schedule: - Start/stop operation - Select operation mode - Set temperature Maximum 4 actions per day	✓	✓	✓
Child lock	✓	✗	✗
Password setting	✓	✓	✓

The D-Mobile app is available for download, free from the Apple App Store or Google Play.

To download the D-Mobile app, search 'Daikin Mobile Controller' in the Apple App Store or Google Play. It will appear as D-Mobile app once downloaded.

DON'T COMPROMISE ON HEALTH AND COMFORT. BREATHE EASY WITH DAIKIN'S AIR PURIFIER.

Turn your home into the great indoors with Daikin's Air Purifier, featuring breathtaking technology, compact portable design and ultra quiet operation.

420 ^{M³/H}
AIR FLOW RATE

46 ^{M²}
ROOMS UP TO

AIR PURIFIER

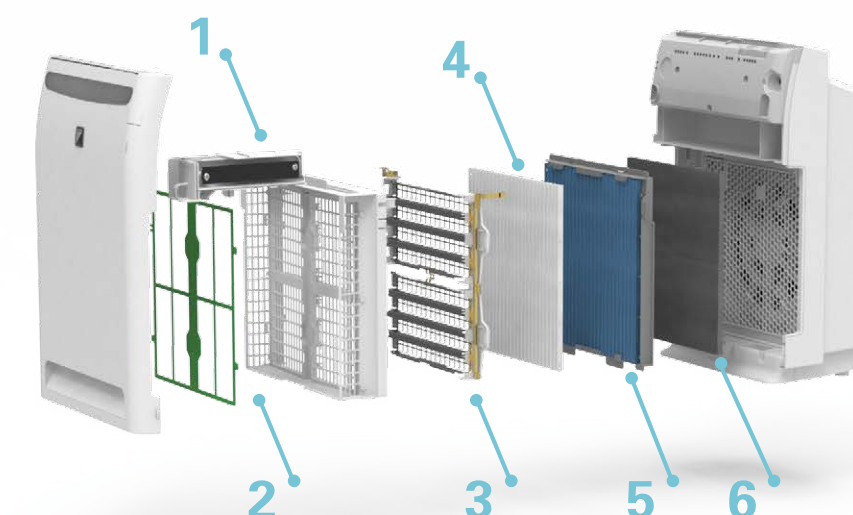
CLEANER, FRESHER, HEALTHIER AIR

Daikin's Air Purifier includes a 6-layer powerful decomposition and removal system to help eliminate bacteria, mould spores, airborne particles, allergens, dust, pollen and unpleasant odours.

It is also ultra quiet with operating sound levels of as low as 16dBA which means you can not only sleep soundly at night, but also with peace of mind.

6 LAYER FILTRATION SYSTEM

1. Streamer Discharge Unit
2. Prefilter
3. Plasma Ioniser
4. Electrostatic Filter
5. Titanium Apatite Deodorising Filter
6. Deodorising Catalyst Filter



Please see Daikin Air Purifier brochure for full details and specifications



THE SENSITIVE CHOICE FOR YOUR HOME

We're proud of our innovations. So we're pleased to announce that Daikin is the only Split System to receive approval from The National Asthma Council Australia. They introduced the Sensitive Choice® program to help identify products better suited for people who suffer from asthma and allergies. Daikin Split Systems and Air Purifiers are recognised by the Sensitive Choice® program, and carry the Blue Butterfly symbol.

DAIKIN CARES FOR YOUR AIR

All Daikin Split Systems and Air Purifiers are designed with an air-purifying filter. Many are fitted with a more advanced Titanium Apatite Deodorising Air Purification filter. These filters not only trap most microscopic airborne particles, but also assist to decompose odours, absorb and deactivate bacteria. Music to the ears of every sensitive nose.

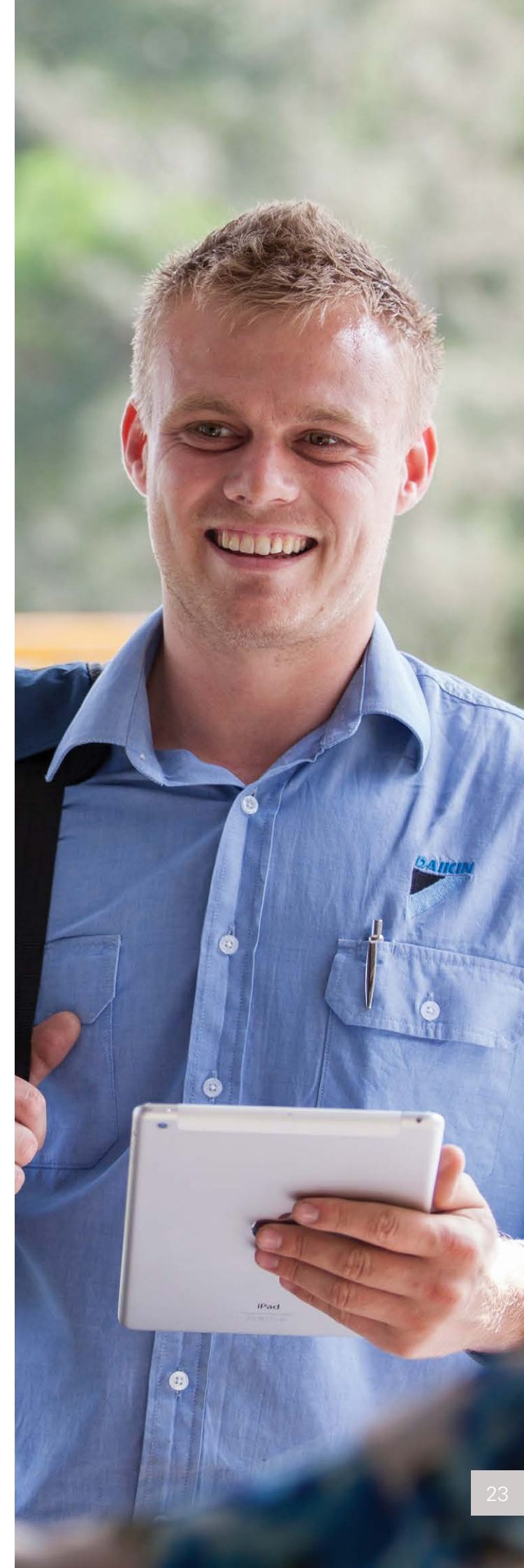


WHY CHOOSE A DAIKIN SPECIALIST DEALER?

Like us, our Dealers are specialists. They know the ups and downs, ins and outs of air conditioning. So their expertise ensures you get the right advice for your needs.

Daikin Specialist Dealers provide custom designed solutions for your home through an in-home quotation. Dealers will not only supply and install the best possible air conditioning solution but will also provide ongoing maintenance to ensure peak efficient performance over the life of the system.

To take the stress out of air conditioning your home, speak to a Daikin Specialist Dealer. With over 450 Specialist Dealers across Australia, our specialists are ready to help you fit the right air conditioning solution for your home.



PRODUCT SPECIFICATION

US7 - Reverse Cycle



INDOOR UNIT		FTXZ25NV1B	FTXZ35NV1B	FTXZ50NV1B
OUTDOOR UNIT		RXZ25NV1B	RXZ35NV1B	RXZ50NV1B
Rated Capacity	Cool (kW)	2.5	3.5	5.0
	Heat (kW)	3.6	5.0	6.3
Capacity Range	Cool (kW)	0.6-3.9	0.6-5.3	0.6-5.8
	Heat (kW)	0.6-7.5	0.6-9.0	0.6-9.4
Indoor Airflow Rate (H)	Cool (l/s)	177	203	250
	Heat (l/s)	195	221	240
Indoor Fan Speeds		5 steps, quiet and automatic		
Energy Label/Star Ratings	Cool	7	5.5	3.5
	Heat	7	5.5	4.5
Front Panel Colour		White		
Power Supply		1 phase, 220-240V, 50Hz		
Power Input (Rated)	Cool (kW)	0.42	0.68	1.18
	Heat (kW)	0.62	0.99	1.37
E.E.R/C.O.P	Cool/Heat	5.95/5.81	5.15/5.05	4.24/4.60
A.E.E.R/A.C.O.P	Cool/Heat	5.90/5.77	5.12/5.03	4.23/4.59
Dimensions (HxWxD)	Indoor (mm)	295x798x372		
	Outdoor (mm)	693x795x300		
Weight	Indoor (kg)	15	15	15
	Outdoor (kg)	50	50	50
Compressor Type		Hermetically sealed swing type		
Refrigerant Type		R32		
Max Pipe Length	(m)	10	10	10
Max Level Difference	(m)	8	8	8
Pipe Sizes	Liquid (mm)	6.4	6.4	6.4
	Gas (mm)	9.5	9.5	9.5
Outdoor Operating Range	Cool (°CDB)	-10 to 43		
	Heat (°CWB)	-20 to 18		
Indoor Sound Level (H/SL)	Cool (dBA)	38/19	42/19	47/23
	Heat (dBA)	39/19	42/19	44/24
Outdoor Sound Level (H/SL)	Cool (dBA)	46	48	49
	Heat (dBA)	46	48	50
Outdoor EPA Sound Power Level (H)	Cool (dBA)	59	61	63
	Heat (dBA)	59	61	64

PRODUCT SPECIFICATION

Zena - Reverse Cycle



WHITE FINISH

SILVER FINISH



INDOOR UNIT		FTXJ25PVMAW	FTXJ35PVMAW	FTXJ50PVMAW	FTXJ25PVMAS	FTXJ35PVMAS	FTXJ50PVMAS
OUTDOOR UNIT		RXJ25PVMA	RXJ35PVMA	RXJ50PVMA	RXJ25PVMA	RXJ35PVMA	RXJ50PVMA
Rated Capacity	Cool (kW)	2.5	3.5	5.0	2.5	3.5	5.0
	Heat (kW)	3.2	4.0	5.8	3.2	4.0	5.8
Capacity Range	Cool (kW)	0.9-3.3	0.9-4.1	1.4-5.5	0.9-3.3	0.9-4.1	1.4-5.5
	Heat (kW)	0.9-4.7	0.9-5.1	1.1-7.0	0.9-4.7	0.9-5.1	1.1-7.0
Indoor Airflow Rate (H)	Cool (l/s)	138	177	180	138	177	180
	Heat (l/s)	173	198	207	173	198	207
Indoor Fan Speeds		5 steps, quiet and automatic					
Energy Label/Star Ratings	Cool	4.5	3	2	4.5	3	2
	Heat	4.5	3.5	2.5	4.5	3.5	2.5
Front Panel Colour		White			Silver		
Power Supply		1 phase, 220-240V, 50Hz					
Power Input (Rated)	Cool (kW)	0.54	0.92	1.47	0.54	0.92	1.47
	Heat (kW)	0.7	0.99	1.59	0.7	0.99	1.59
E.E.R/C.O.P	Cool/Heat	4.63/4.57	3.80/4.04	3.40/3.65	4.63/4.57	3.80/4.04	3.40/3.65
A.E.E.R/A.C.O.P	Cool/Heat	4.56/4.52	3.77/4.01	3.38/3.63	4.56/4.52	3.77/4.01	3.38/3.63
Dimensions (HxWxD)	Indoor (mm)	303x998x212			303x998x212		
	Outdoor (mm)	550x765x285		735x825x300	550x765x285		735x825x300
Weight	Indoor (kg)	12	12	12	12	12	12
	Outdoor (kg)	34	34	47	34	34	47
Compressor Type		Hermetically Sealed Swing Type					
Refrigerant Type		R32					
Max Pipe Length	(m)	20	20	30	20	20	30
Max Level Difference	(m)	15	15	20	15	15	20
Pipe Sizes	Liquid (mm)	6.4	6.4	6.4	6.4	6.4	6.4
	Gas (mm)	9.5	9.5	12.7	9.5	9.5	12.7
Outdoor Operating Range	Cool (°CDB)	-10 to 46					
	Heat (°CWB)	-15 to 18					
Indoor Sound Level (H/SL)	Cool (dBA)	38/19	45/20	46/32	38/19	45/20	46/32
	Heat (dBA)	41/19	45/20	47/32	41/19	45/20	47/32
Outdoor Sound Level (H/SL)	Cool (dBA)	46/43	48/45	48/45	46/43	48/45	48/45
	Heat (dBA)	47/44	48/45	48/45	47/44	48/45	48/45
Outdoor EPA Sound Power Level (H)	Cool (dBA)	58	60	60	58	60	60
	Heat (dBA)	59	60	60	59	60	60

PRODUCT SPECIFICATION

Cora - Reverse Cycle



INDOOR UNIT		FTXM20QVMA	FTXM25QVMA	FTXM35QVMA	FTXM46QVMA	FTXM50QVMA	FTXM60QVMA	FTXM71QVMA	FTXM85PVMA	FTXM95PVMA
OUTDOOR UNIT		RXM20QVMA	RXM25QVMA	RXM35QVMA	RXM46QVMA	RXM50QVMA	RXM60QVMA	RXM71QVMA	RXM85PVMA	RXM95PVMA
Rated Capacity	Cool (kW)	2.0	2.5	3.5	4.6	5.0	6.0	7.1	8.5	9.4
	Heat (kW)	2.7	3.2	3.7	4.7	6.0	7.2	8.0	9.0	10.3
Capacity Range	Cool (kW)	0.9-2.8	0.9-3.7	0.9-4.2	0.9-5.5	1.1-6.7	1.1-7.5	2.0-8.9	2.0-10.5	2.0-11.2
	Heat (kW)	0.9-4.3	0.9-5.3	0.9-5.3	1.0-6.7	1.0-8.0	1.0-8.6	2.0-10.6	1.9-11.6	1.9-12.0
Indoor Airflow Rate (H)	Cool (l/s)	152	167	175	203	267	310	310	358	372
	Heat (l/s)	157	168	183	202	287	333	328	422	413
Indoor Fan Speeds		5 steps, quiet and automatic								
Energy Label/Star Ratings	Cool	5	5	3.5	3	4	3	2.5	2	2
	Heat	5	5	5	3.5	4	3.5	3	2.5	2
Front Panel Colour		White								
Power Supply		1 phase, 220-240V, 50Hz								
Power Input (Rated)	Cool (kW)	0.40	0.49	0.81	1.20	1.14	1.52	1.93	2.49	2.79
	Heat (kW)	0.55	0.65	0.77	1.13	1.33	1.74	2.02	2.42	3.07
E.E.R/C.O.P	Cool/Heat	5.00/4.91	5.10/4.92	4.32/4.81	3.83/4.16	4.39/4.51	3.95/4.14	3.68/3.96	3.41/3.72	3.37/3.36
A.E.E.R/A.C.O.P	Cool/Heat	4.82/4.78	4.95/4.92	4.20/4.59	3.79/4.03	4.33/4.43	3.91/4.10	3.53/3.81	3.31/3.62	3.27/3.28
Dimensions (HxWxD)	Indoor (mm)	285x770x223			295x990x263			340x1200x259		
	Outdoor (mm)	550x675x284			695x930x350			990x940x320		
Weight	Indoor (kg)	9	9	9	9	13	13	13	17	18
	Outdoor (kg)	28	30	30	51	54	54	60	80	82
Compressor Type		Hermetically Sealed Swing Type								
Refrigerant Type		R32								
Max Pipe Length	(m)	20	20	20	30	30	30	30	30	30
Max Level Difference	(m)	15	15	15	20	20	20	20	20	20
Pipe Sizes	Liquid (mm)	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4	6.4
	Gas (mm)	9.5	9.5	9.5	12.7	12.7	12.7	15.9	15.9	15.9
Outdoor Operating Range	Cool (°CDB)	-10 to 46								
	Heat (°CWB)	-15 to 18								
Indoor Sound Level (H/SL)	Cool (dBA)	38/19	40/19	42/19	44/26	45/28	48/29	49/30	51/37	53/38
	Heat (dBA)	39/20	40/20	42/20	43/26	45/28	48/29	49/30	51/35	52/35
Outdoor Sound Level (H/SL)	Cool (dBA)	46/43	47/43	49/44	47/44	47/44	49/45	53/49	54/51	54/51
	Heat (dBA)	47/44	48/44	49/45	48/45	48/45	52/45	54/49	56/51	55/51
Outdoor EPA Sound Power Level (H)	Cool (dBA)	58	59	61	59	59	61	65	66	66
	Heat (dBA)	59	60	61	60	60	64	66	68	67

PRODUCT SPECIFICATION

Cora - Cooling Only



INDOOR UNIT		FTKM20QVMA	FTKM25QVMA	FTKM35QVMA	FTKM46QVMA	FTKM50QVMA	FTKM60QVMA	FTKM71QVMA
OUTDOOR UNIT		RKM20QVMA	RKM25QVMA	RKM35QVMA	RKM46QVMA	RKM50QVMA	RKM60QVMA	RKM71QVMA
Rated Capacity	Cool (kW)	2.0	2.5	3.5	4.6	5.0	6.0	7.1
Capacity Range	Cool (kW)	0.9-2.8	0.9-3.7	0.9-4.2	0.9-5.5	1.1-6.7	1.1-7.5	2.0-8.9
Indoor Airflow Rate (H)	Cool (l/s)	152	167	175	203	267	310	310
Indoor Fan Speeds		5 steps, quiet and automatic						
Energy Label/Star Ratings	Cool	5	5	3.5	3	4	3	2.5
Front Panel Colour		White						
Power Supply		1 phase, 220-240V, 50Hz						
Power Input (Rated)	Cool (kW)	0.40	0.49	0.81	1.20	1.14	1.52	1.93
E.E.R	Cool	5.00	5.10	4.32	3.83	4.39	3.95	3.68
A.E.E.R	Cool	4.82	4.95	4.20	3.79	4.33	3.91	3.53
Dimensions (HxWxD)	Indoor (mm)	285x770x223				295x990x263		
	Outdoor (mm)	550x675x284			695x930x350			
Weight	Indoor (kg)	9	9	9	9	13	13	13
	Outdoor (kg)	28	30	30	51	54	54	60
Compressor Type		Hermetically Sealed Swing Type						
Refrigerant Type		R32						
Max Pipe Length	(m)	20	20	20	30	30	30	30
Max Level Difference	(m)	15	15	15	20	20	20	20
Pipe Sizes	Liquid (mm)	6.4	6.4	6.4	6.4	6.4	6.4	6.4
	Gas (mm)	9.5	9.5	9.5	12.7	12.7	12.7	15.9
Outdoor Operating Range	Cool (°CDB)	-10 to 46						
Indoor Sound Level (H/SL)	Cool (dBA)	38/19	40/19	42/19	44/26	45/28	48/29	49/30
Outdoor Sound Level (H/SL)	Cool (dBA)	46/43	47/43	49/44	47/44	47/44	49/45	53/49
Outdoor EPA Sound Power Level (H)	Cool (dBA)	58	59	61	59	59	61	65

PRODUCT SPECIFICATION

Nexura - Reverse Cycle



INDOOR UNIT		FVXG25K2V1B	FVXG35K2V1B	FVXG50K2V1B
OUTDOOR UNIT		RXG25L2V1B	RXG35L2V1B	RXG50L2V1B
Rated Capacity	Cool (kW)	2.5	3.5	4.8
	Heat (kW)	3.4	4.5	5.8
Capacity Range	Cool (kW)	1.3-3.0	1.4-3.8	1.7-5.6
	Heat (kW)	1.3-4.5	1.4-5.0	1.7-8.1
Indoor Airflow Rate (H)	Cool (l/s)	148	151	176
	Heat (l/s)	165	170	203
Indoor Fan Speeds		5 steps, quiet and automatic		
Energy Label/Star Ratings	Cool	5	2.5	1.5
	Heat	4	2.5	2.5
Front Panel Colour		White		
Power Supply		1 phase, 220-240V, 50Hz		
Power Input (Rated)	Cool (kW)	0.54	0.94	1.43
	Heat (kW)	0.76	1.21	1.57
E.E.R/C.O.P	Cool/Heat	4.63/4.47	3.72/3.72	3.36/3.69
A.E.E.R/A.C.O.P	Cool/Heat	4.57/4.43	3.69/3.70	3.22/3.57
Dimensions (HxWxD)	Indoor (mm)	600x950x215		
	Outdoor (mm)	550x765x285		735x825x300
Weight	Indoor (kg)	22	22	22
	Outdoor (kg)	35	35	48
Compressor Type		Hermetically sealed swing type		
Refrigerant Type		R410A		
Max Pipe Length	(m)	20	20	30
Max Level Difference	(m)	15	15	20
Pipe Sizes	Liquid (mm)	6.4	6.4	6.4
	Gas (mm)	9.5	9.5	12.7
Outdoor Operating Range	Cool (°CDB)	10 to 46		
	Heat (°CWB)	-15 to 18		
Indoor Sound Level (H/SL)	Cool (dBA)	38/23	39/24	44/32
	Heat (dBA)	39/22	40/23	46/30
Outdoor Sound Level (H/SL)	Cool (dBA)	46/43	48/44	48/44
	Heat (dBA)	47/44	48/45	48/45
Outdoor EPA Sound Power Level (H)	Cool (dBA)	63	63	63
	Heat (dBA)	63	63	63

PRODUCT SPECIFICATION

Floor Standing - Reverse Cycle



INDOOR UNIT		FVXS25RV1A	FVXS35LV1A	FVXS45LV1A	FVXS50RV1A	FVXS60LVMA	FVXS71LVMA
OUTDOOR UNIT		RXS25RV1A	RXS35LAVMA	RXS45LAVMA	RXS50RV1A	RXS60LAVMA	RXS71LAVMA
Rated Capacity	Cool (kW)	2.46	3.5	4.5	5.0	6.0	7.1
	Heat (kW)	2.9	4.42	5.68	5.8	7.0	7.65
Capacity Range	Cool (kW)	1.3-3.0	1.7-3.8	1.7-5.0	1.7-5.6	2.3-6.7	3.0-8.5
	Heat (kW)	1.3-4.5	1.7-5.0	1.7-8.1	1.7-8.1	2.3-9.0	3.0-10.0
Indoor Airflow Rate (H)	Cool (l/s)	137	147	178	260	292	273
	Heat (l/s)	170	157	196	327	285	317
Indoor Fan Speeds		5 steps, quiet and automatic					
Energy Label/Star Ratings	Cool	3.5	3	2	3	2.5	2
	Heat	4.5	3	2.5	3.5	2	2
Front Panel Colour		White					
Power Supply		1 phase, 220-240V, 50Hz					
Power Input (Rated)	Cool (kW)	0.59	0.92	1.37	1.29	1.7	2.13
	Heat (kW)	0.63	1.17	1.61	1.44	2.03	2.21
E.E.R/C.O.P	Cool/Heat	4.17/4.60	3.80/3.78	3.28/3.53	3.88/4.03	3.53/3.45	3.33 / 3.46
A.E.E.R/A.C.O.P	Cool/Heat	4.12/4.55	3.77/3.75	3.27/3.51	3.86/4.01	3.51/3.44	3.32/3.45
Dimensions (HxWxD)	Indoor (mm)	600x700x210			770x850x290		
	Outdoor (mm)	550x765x285	735x825x300			770x900x320	990 x 940 x 320
Weight	Indoor (kg)	14	14	14	25	25	25
	Outdoor (kg)	34	46	46	46	71	80
Compressor Type		Hermetically sealed swing type					
Refrigerant Type		R410A					
Max Pipe Length	(m)	20	30	30	30	30	30
Max Level Difference	(m)	15	20	20	20	20	20
Pipe Sizes	Liquid (mm)	6.4	6.4	6.4	6.4	6.4	9.5
	Gas (mm)	9.5	12.7	12.7	12.7	12.7	15.9
Outdoor Operating Range	Cool (°CDB)	10 to 46					
	Heat (°CWB)	-15 to 18					
Indoor Sound Level (H/SL)	Cool (dBA)	38/23	39/24	44/32	45/32	47/33	46/33
	Heat (dBA)	41/23	39/24	45/32	49/32	45/33	47/34
Outdoor Sound Level (H/SL)	Cool (dBA)	46/43	47/44	47/44	47/44	49/46	52/49
	Heat (dBA)	50/44	48/45	48/45	51/45	49/46	54/50
Outdoor EPA Sound Power Level (H)	Cool (dBA)	58	61	61	59	63	66
	Heat (dBA)	62	62	62	63	63	66

FEATURES
CHECKLIST

	WALL MOUNTED UNIT				FLOOR STANDING UNIT	
			CORA		NEXURA	FLOOR STANDING
	US7	ZENA	Q-SERIES	P-SERIES		
Reverse Cycle (Heating & Cooling)	FTXZ25NV1B FTXZ35NV1B FTXZ50NV1B	FTXJ25PVMAW FTXJ35PVMAW FTXJ50PVMAW FTXJ25PVMAS FTXJ35PVMAS FTXJ50PVMAS	FTX(K)M20QVMA FTX(K)M25QVMA FTX(K)M35QVMA FTX(K)M46QVMA FTX(K)M50QVMA FTX(K)M60QVMA FTX(K)M71QVMA	FTXM85PVMA FTXM95PVMA	FVXG25K2V1B FVXG35K2V1B FVXG50K2V1B	FVXS25RV1A FVXS35LV1A FVXS45LV1A FVXS50RV1A FVXS60LVMA FVXS71LVMA
DC Inverter	✓	✓	✓	✓	✓	✓
PAM Control	✓	✓	✓	✓	✓	✓
Standby Power Function	✓	✓	✓	✓	✓	✓
Power-Airflow Flaps			✓ ¹			
Power-Airflow Dual Flaps	✓	✓	✓	✓		
Wider Angle Louvres	✓	✓	✓	✓	✓	✓
Vertical Auto-Swing (up and down)	✓	✓	✓	✓	✓	✓
Horizontal Auto-Swing (right and left)	✓	✓	✓	✓		
3-D Airflow	✓	✓	✓	✓		
Circulation Airflow	✓					
Breeze Airflow	✓					
Comfortable Airflow	✓	✓	✓	✓		
Indoor Unit Quiet Operation	✓	✓	✓	✓	✓	✓
Outdoor Unit Quiet Operation	✓	✓	✓	✓	✓	✓
Intelligent Eye			✓ ²	✓		
2-Area Intelligent Eye	✓	✓				
New 2-Area Intelligent Eye			✓ ¹			
Automatic Operation	✓	✓	✓ ³	✓	✓	✓
Program Dry Function		✓	✓	✓	✓	✓
Auto Fan Speed	✓	✓	✓	✓	✓	✓
Hot Start	✓	✓	✓ ³	✓	✓	✓
Titanium Apatite Deodorising Filter		✓	✓	✓	✓	✓
Air-Purifying Filter	✓	✓	✓	✓	✓	✓
Wipe Clean	✓	✓	✓	✓	✓	✓
Econo Mode	✓	✓	✓	✓	✓	✓
Radiant Mode					✓	
Powerful Operation	✓	✓	✓	✓	✓	✓
LCD Wireless Remote Control	✓	✓	✓	✓	✓	✓
Indoor Unit On/Off Timer	✓	✓	✓	✓	✓	✓
24-Hour On/Off Switch	✓	✓	✓	✓	✓	✓
Countdown Off Timer	✓					
Quick Heating Timer	✓					
Weekly Timer		✓	✓	✓	✓	✓
Nightset Mode	✓	✓	✓	✓	✓	✓
Auto-Restart after Power Failure	✓	✓	✓	✓	✓	✓
Self Diagnosis with Digital Display	✓	✓	✓	✓	✓	✓
Anticorrosion Treatment of Outdoor Heat Exchanger Fun	✓	✓	✓	✓	✓	✓
Demand Enabled Response (DRED)		✓	✓ ⁴	✓		
Wireless LAN Connection	✓ ⁴	✓ ⁴	✓ ⁵	✓ ⁴		
Multi Colour Monitor Lamp		✓				
0.5°C Step Room Temperature Control			✓			

1 Only available for 2.0-4.6 kW Class
2 Only available for 5.0-7.1 kW Class
3 Only available in Reverse Cycle Models
4 Optional Accessory
5 Optional Accessory, Remote Control PCB also required (KRP067A41 for 20-46 Class, KRP980B2 for 50-71 Class)

Notes:
i. The Rated Capacity, Power Input and Running Current are determined under conditions T1 (cooling) or H1 (heating) of AS/NZS 3823.1.1.
Cooling: Indoor temp: 27°CDB/19°CWB
Outdoor temp: 35°CDB/24°CWB
Heating: Indoor temp: 20°CDB/15°CWB
Outdoor temp: 7°CDB/6°CWB
ii. The cooling (or heating) output capacity will be reduced below the rated value as the outdoor temperature approaches the maximum (or minimum) outdoor temperature operating range limit.
iii. Indoor and outdoor unit sound levels are determined in an anechoic chamber at a distance of 1 metre from the front of the unit. They are normally higher during actual operation due to ambient conditions.
iv. Inverter air conditioners do not have a current surge during start up. The compressor start current of an inverter air conditioner is typically lower than specified running current.
v. The specifications, designs and information in this brochure are subject to change without notice. Unit colours shown are as close as possible to actual unit colours. Colours depicted in this brochure may vary slightly.



The specifications, designs and information in this brochure are subject to change without notice. Unit colours shown are as close as possible to actual unit colours. Colours depicted in this brochure may vary slightly.

ASSUMPTIONS

All representations made in Daikin marketing and promotional material are based on the assumptions that the correct equipment has been selected, appropriately sized and installed in accordance with Daikin's installation instructions and standard industry practices.

QUALITY CERTIFICATIONS

Daikin Industries Limited was the first air conditioning equipment manufacturer in Japan to receive ISO 9001 certification. All Daikin manufacturing facilities have been certified to ISO 9001 Quality Management System requirements. ISO 9001 is a certificate for quality assurance concerning 'design, development, manufacturing, installation and related service' of products manufactured at that factory.

ENVIRONMENTAL CERTIFICATIONS

Daikin Industries Limited has received ISO 14001 Environmental Certification for the Daikin production facilities listed below. ISO 14001 is an international standard specifying requirement for an environmental management system, enabling an organisation to formulate policy and objectives, taking into account legislative requirements and information about significant environmental impacts. It applies to those environmental aspects within the organisation's control and over which it can be expected to have an influence.

The certification relates only to the environmental management system and does not constitute any endorsement of the products shipped from the facility by the International Organisation for Standardisation.

Head Office /Tokyo Office
Shiga Plant (Japan)
Sakai Plant (Japan)
Daikin Industries Ltd (Thailand)
Yodogawa Plant (Japan)
Daikin Australia Pty. Ltd.

Certificate number: EC02J0355
Certificate number: EC99J2044
Certificate number: JOA-E-80009
Certificate number: JOA-E-90108
Certificate number: EC99J2057
Certificate number: CEM20437

Daikin Australia Pty Limited (ISO 9001)

OEC 23256 May 12, 2006
Sydney, Brisbane, Adelaide,
Melbourne, Newcastle,
Townsville, Perth



Daikin Australia Pty Limited (ISO 14001)

CEM 20437 October 27, 2006
Sydney, Brisbane, Adelaide,
Melbourne, Perth



Residential Air Conditioning Manufacturing Div (ISO 9001)

JQA-0486 May 2, 1994
(Shiga Plant)

Commercial Air Conditioning and Refrigeration Manufacturing Div (ISO 9001)

JMI0107 December 28, 1992
(Kanaoka Factory and Rinkai
Factory at Sakai Plant)

Industrial System and Chiller Products Manufacturing Div (ISO 9001)

JQA-0495 May 16, 1994
(Yodogawa Plant and Kanaoka
Factory and Kishiwada Factory)

Daikin Europe N.V (ISO 9001)

Lloyd 928589.1 June 2, 1993

Daikin Industries (Thailand) Ltd
JQA-1452 September 13, 2002
(ISO 9001)



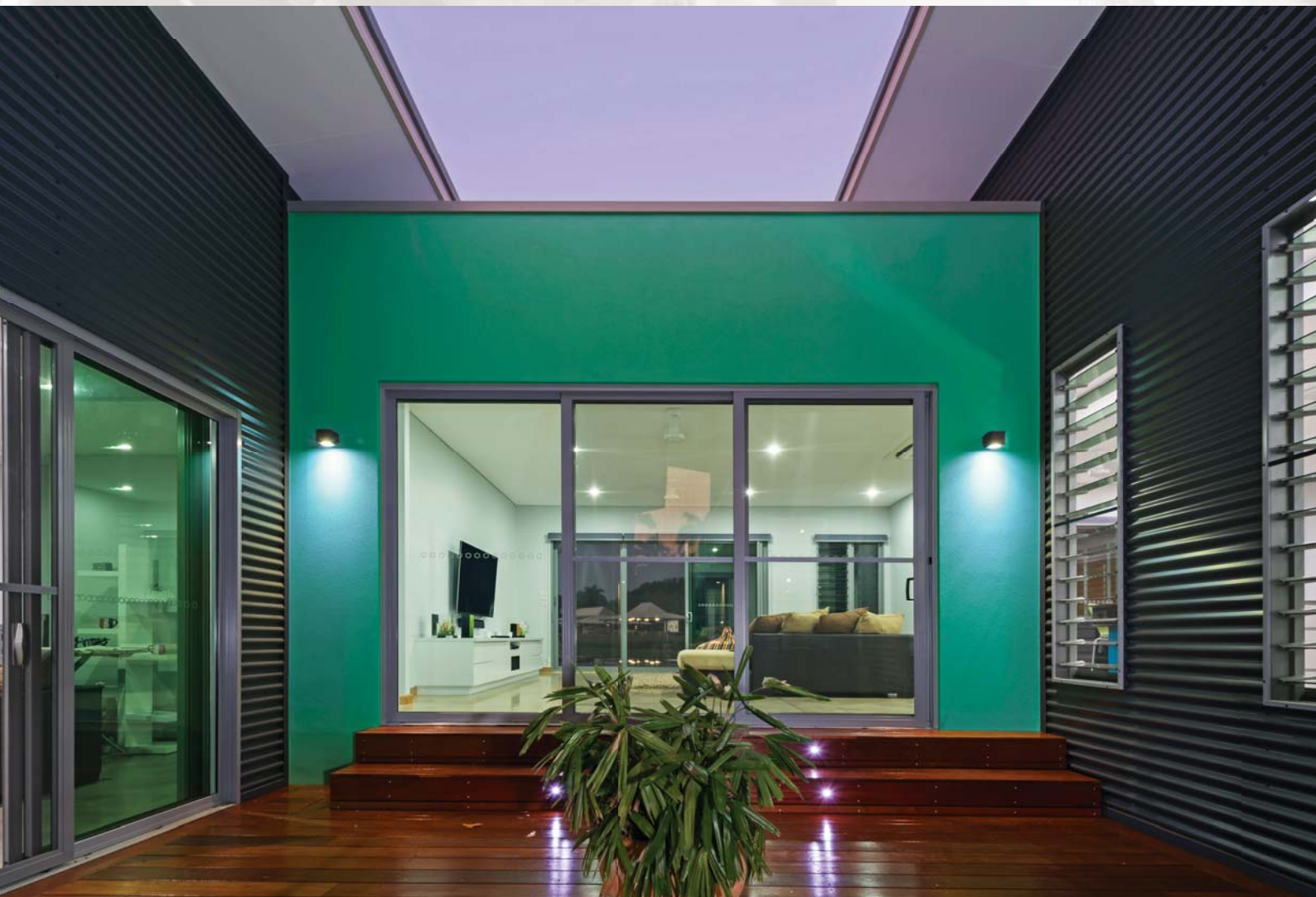
DEALER

For all sales enquires email:
sales@daikin.com.au

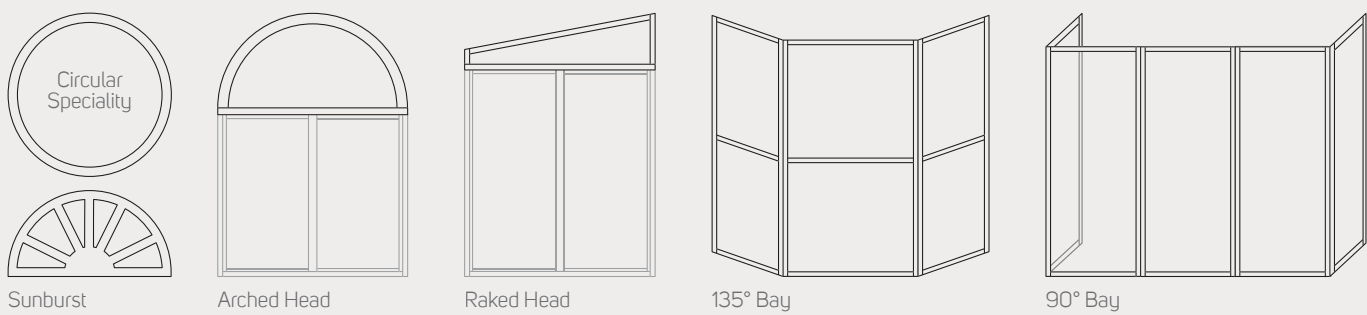
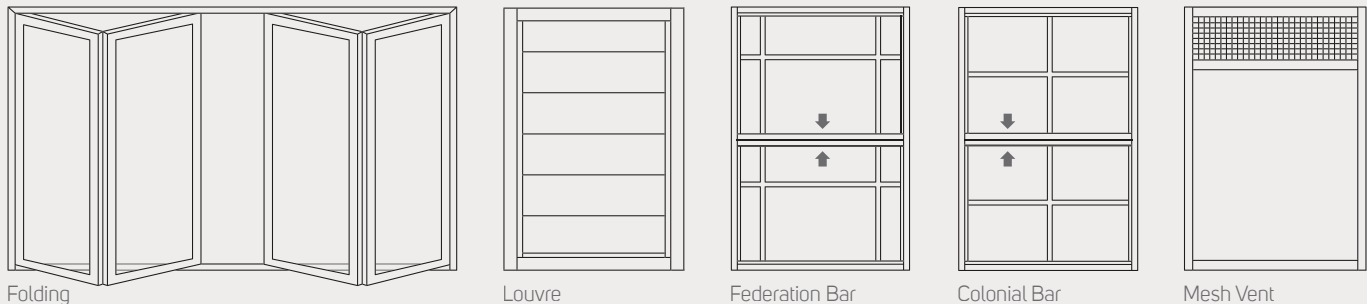
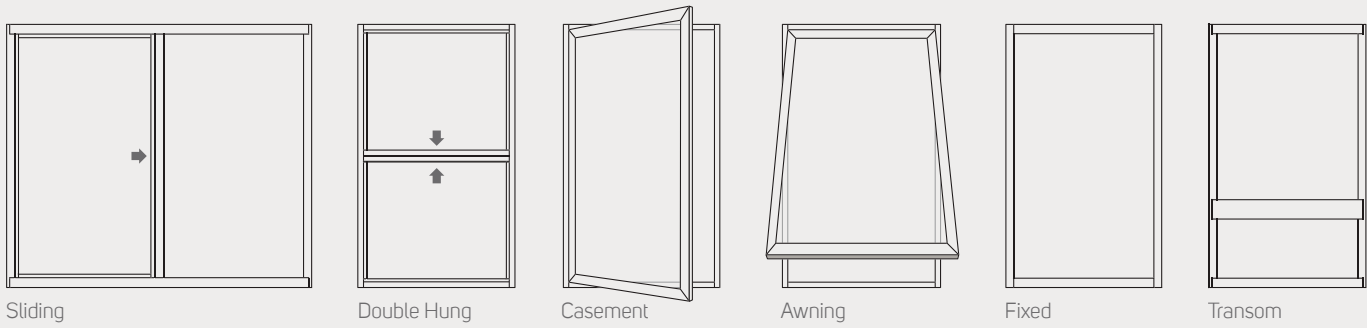
For customer service or technical support:
1300 368 300

daikin.com.au

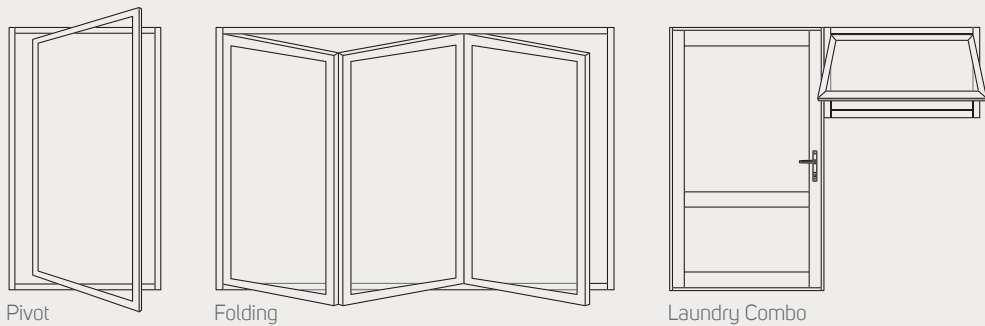
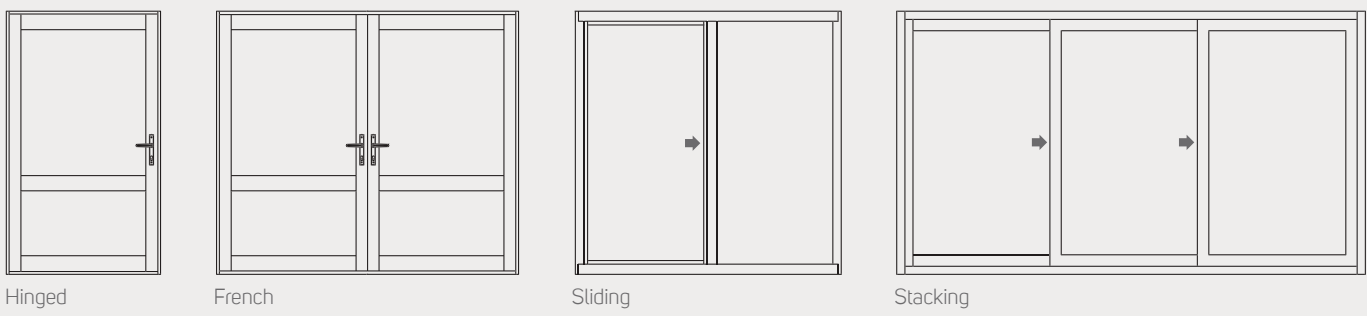
Capral Aluminium
Window & Door Configurations



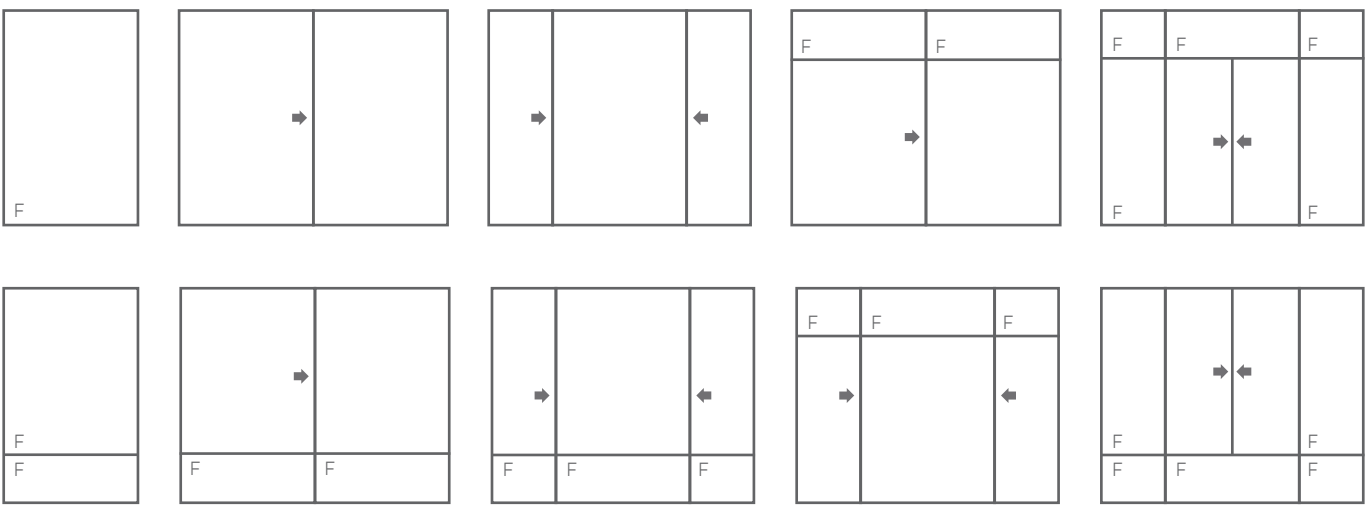
Capral Window Style options



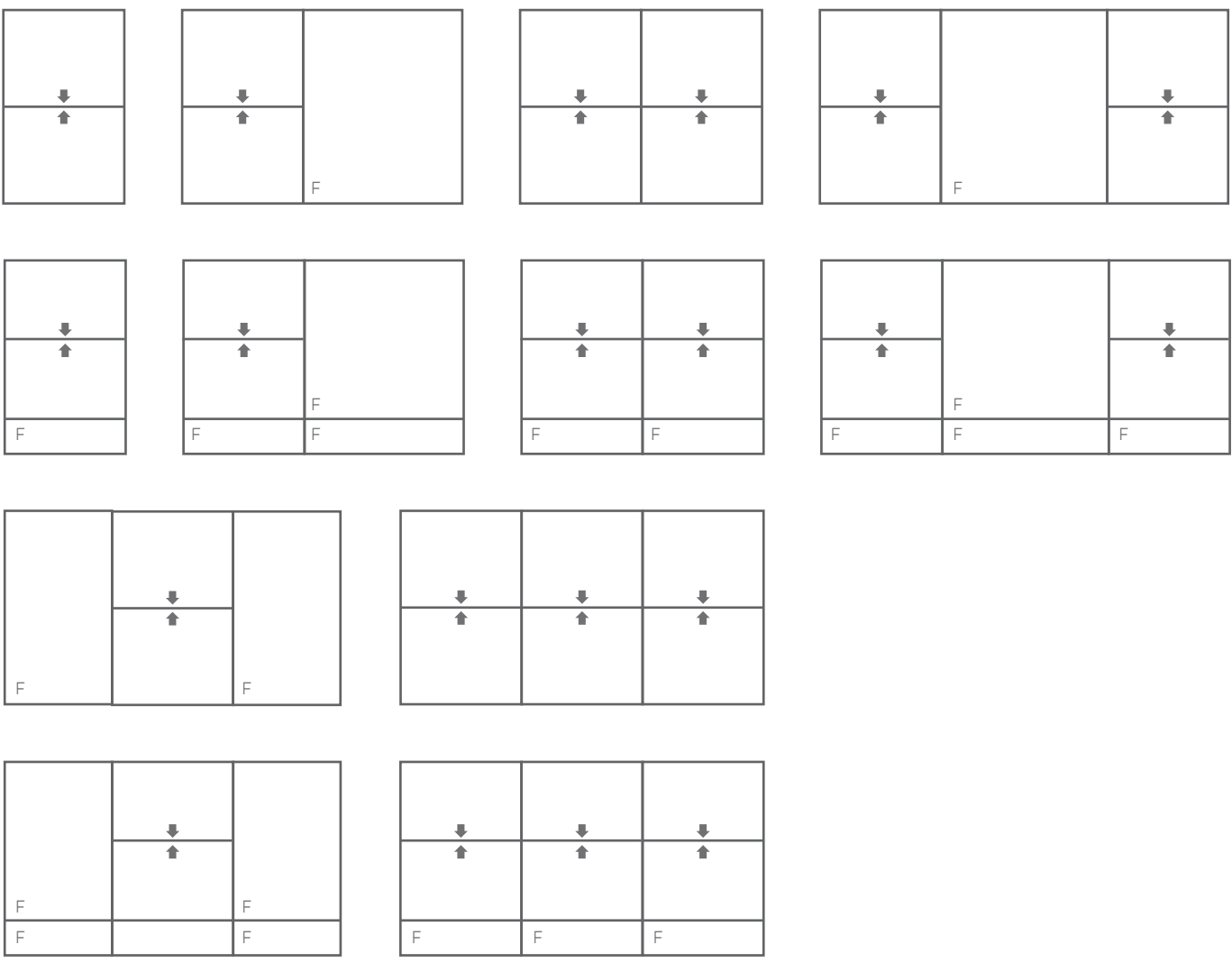
Capral Door Style options



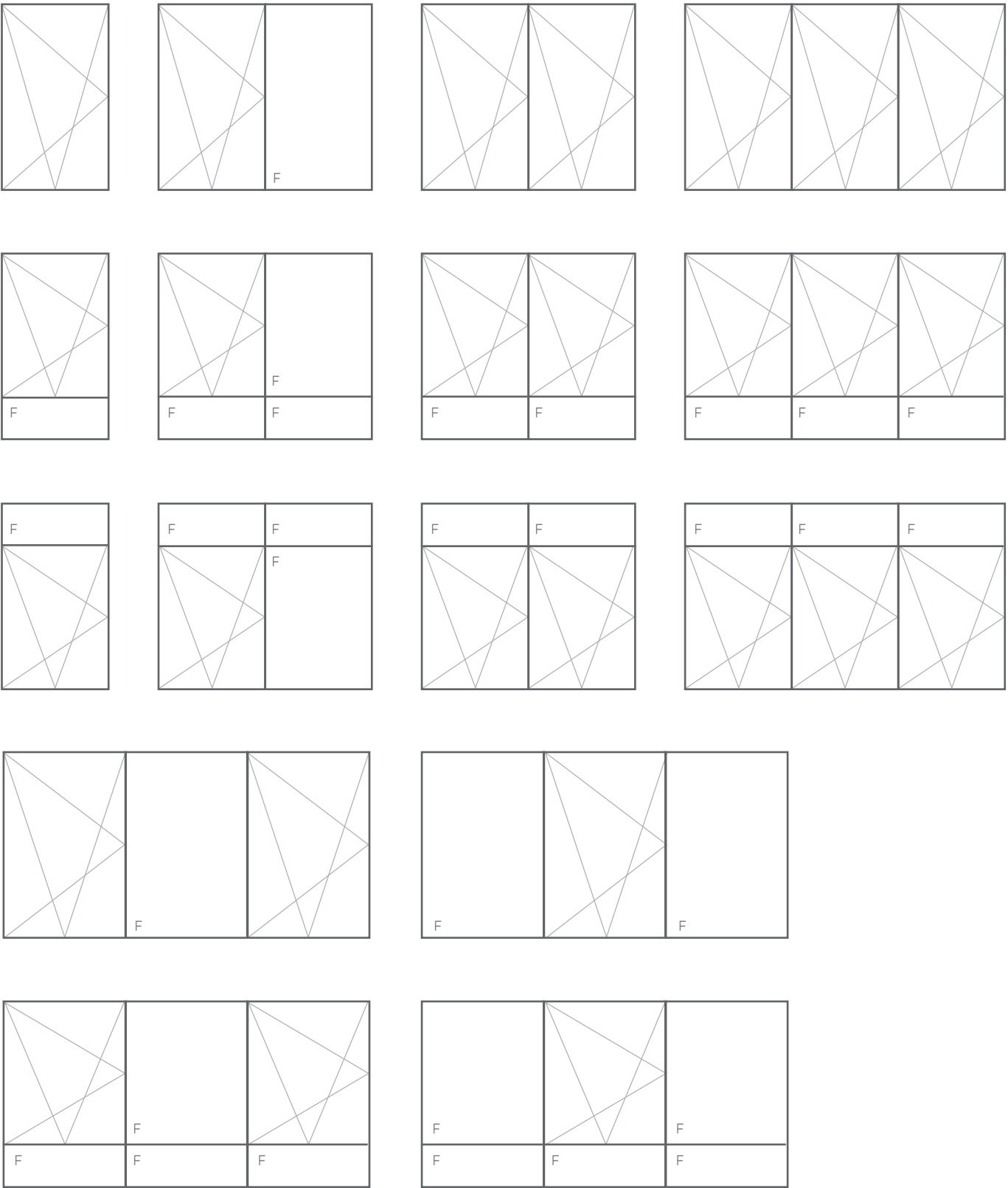
Sliding Windows



Double Hung Windows



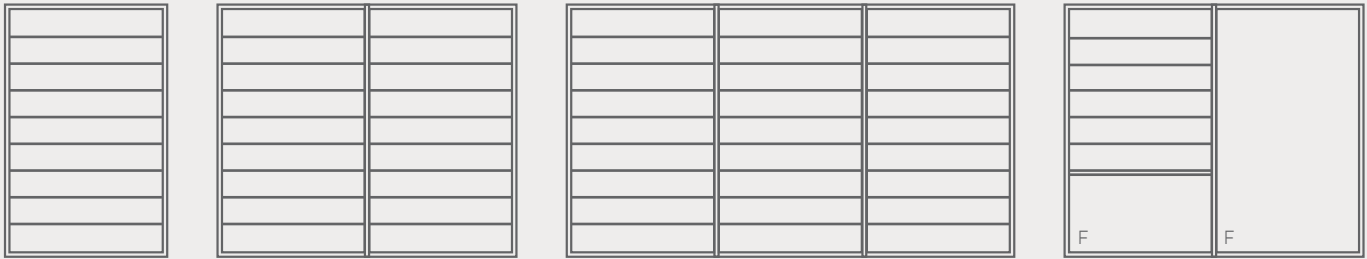
Awning/Casement Windows



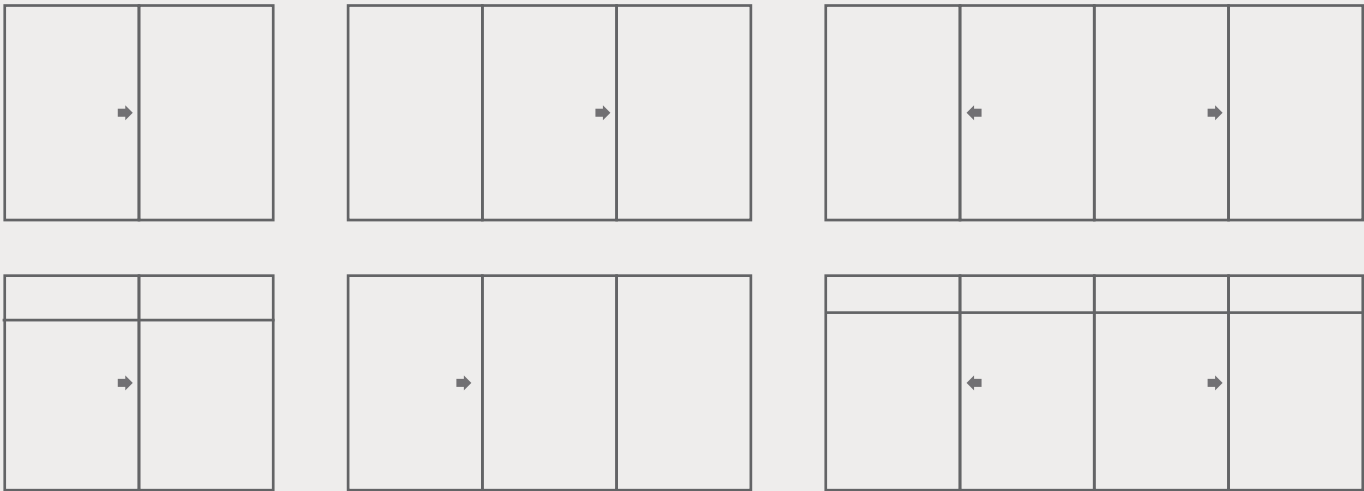
Awning/Casement Windows



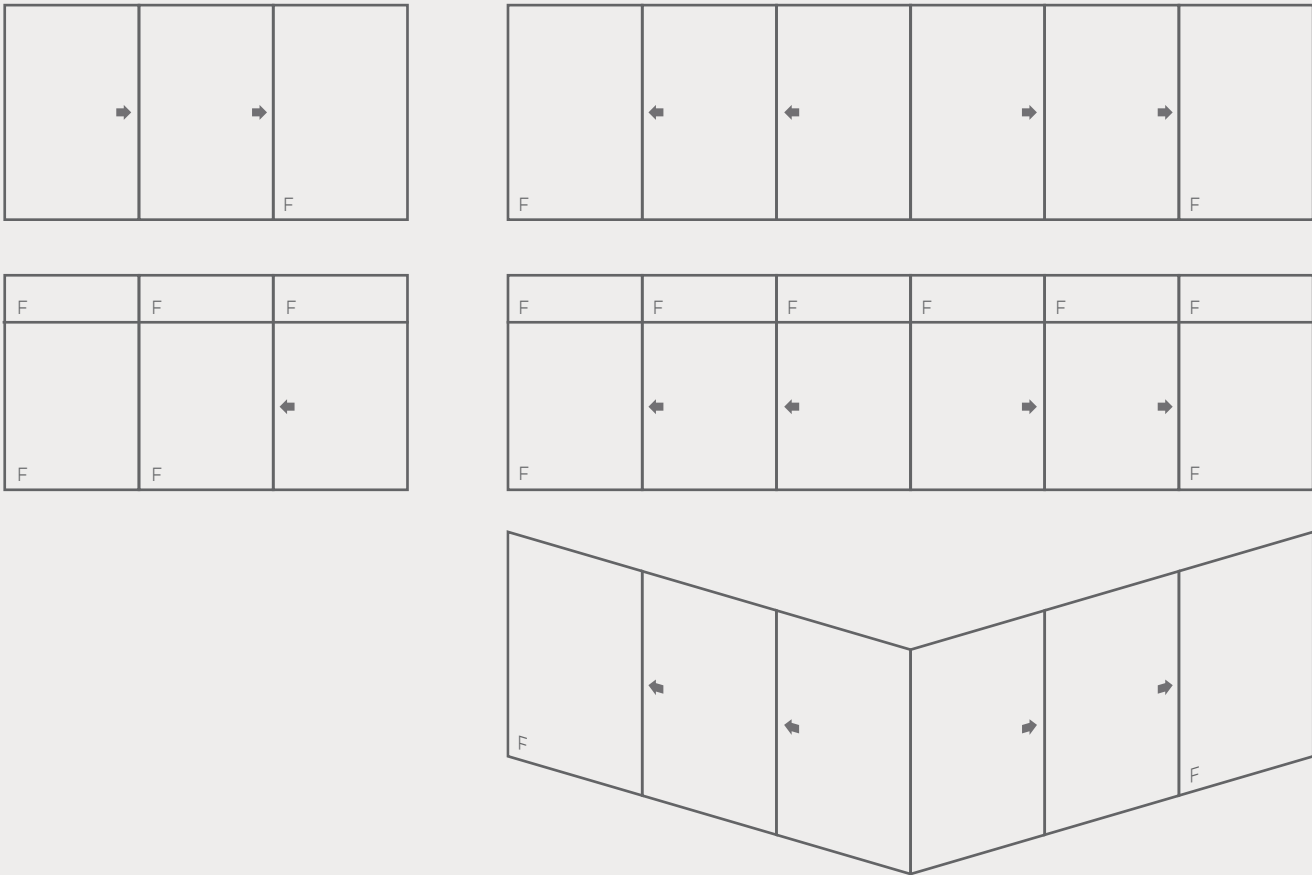
Louvre Frames



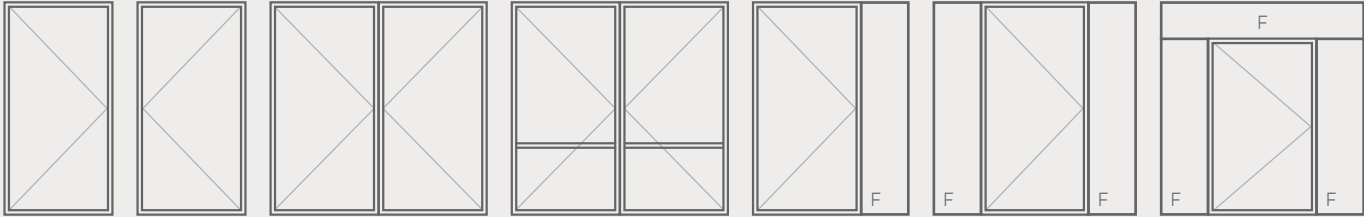
Sliding Doors



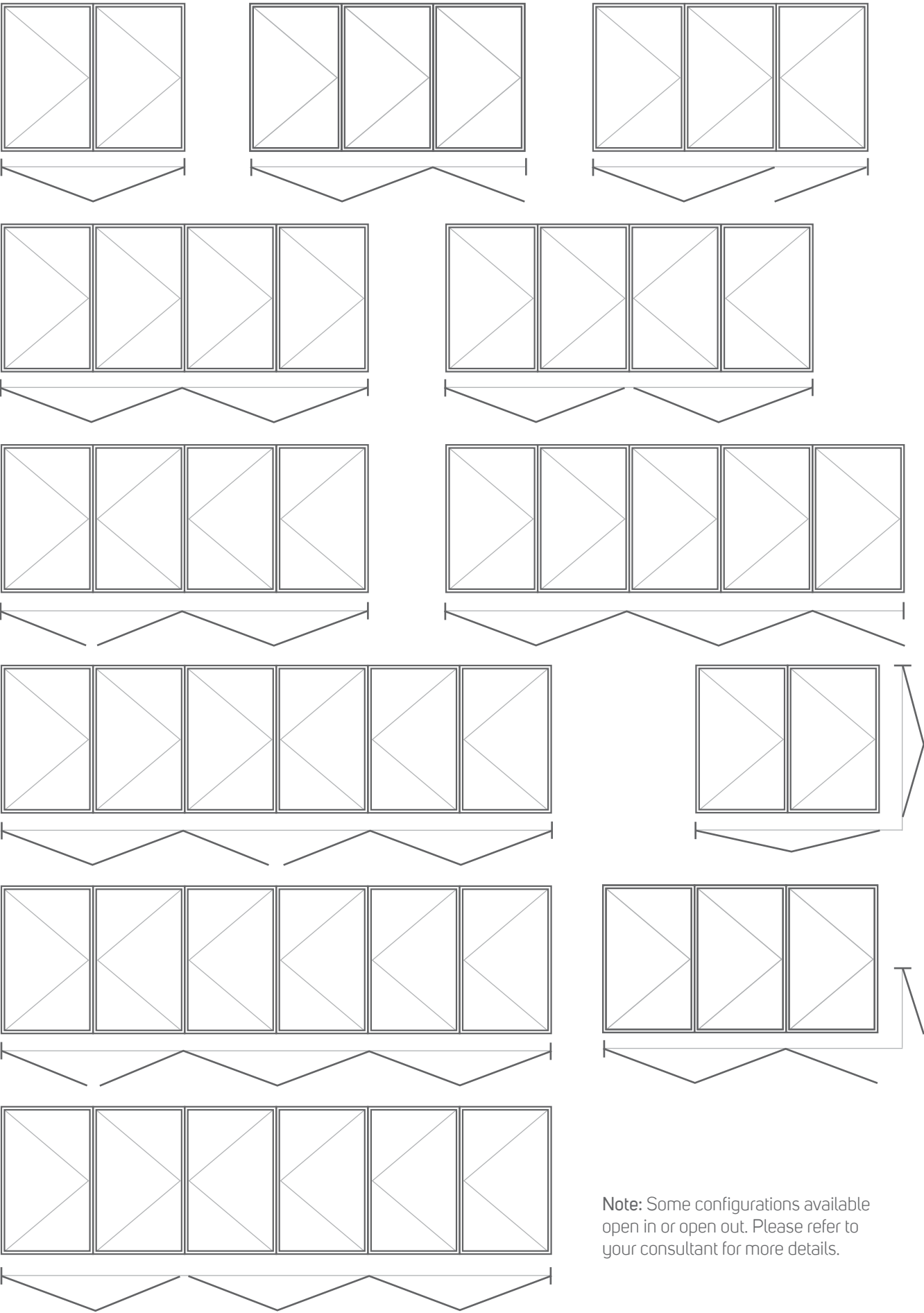
Stacking Door



Hinged Doors



Folding Doors



Note: Some configurations available open in or open out. Please refer to your consultant for more details.

Caring for your new Capral Aluminium product correctly should greatly enhance its life, appearance and functionality. Below are some tips that should help to extend the life of your aluminium product.

Caring for your new Capral Aluminium product

Aluminium Windows and Doors

All external aluminium surfaces of windows and doors should be washed with clean water and a mild detergent at least every three months. A soft sponge or similar should be used to avoid scratching the glass or aluminium. In coastal or industrial areas where the environmental conditions are more demanding, the cleaning program should be carried out on a monthly basis.

Abrasive, chemical cleaners or steel wool should not be used as such methods may result in damage to the glass or aluminium surfaces. Drainage slots should be checked on a regular basis to ensure they have not become blocked with residual dirt or grime.

Awning/Casement Windows and French Doors

With sashes open, the sash and opening perimeter should be cleaned regularly and kept clear of dust and foreign matter. All door and window operating hardware should be cleaned and operated regularly to ensure smooth operation. Lubricants should not be used on casement stays, as this will affect their operation.

Double Hung Windows

Window jamb tracks should be cleaned regularly and kept clear of dust and foreign matter. Window operating hardware should be cleaned and operated regularly. It is imperative that both top and bottom sashes are operated fully on a regular basis to ensure smooth operation.

Sliding Windows and Sliding Doors

Sill recesses should be regularly cleaned and kept clear of dust and foreign matter. A brush and vacuum within the track area may be used to do this. Door locks should be checked from time to time for satisfactory operation and may require adjustment to compensate for building settlement.

Door rollers are factory set and should not require any adjustment. However, if due to building settlement, an adjustment needs to be made, the door panel must first be lifted to relieve weight from the roller assembly. Adjustment should be made using a Phillips head screwdriver.

Insect and Safety Screens

- Flyscreens can be cleaned by vacuuming or washing thoroughly using a soft brush.
- Clean screens 3 to 4 times per year.
- Add a small amount of mild detergent to a bucket of warm water.
- Carefully remove the screen.
- Hose the screen down thoroughly.
- Dip a soft nylon brush into the bucket of water and gently brush the screen.
- Hose down well.
- Allow the screen to dry before replacing.

Hardware

Regular maintenance is required for all hardware, even stainless steel components, as they are moving parts. In most environments, maintenance is recommended every six (6) months and every three (3) months in marine and industrial environments.

Hangers, pivots and brackets should be given a light spray of corrosion preventative silicone based spray (such as CRC Marine 66 or Innox) followed by a light wipe with a dry cloth to remove excess. Exposed surfaces should be wiped down with warm soapy water and a soft rag and then rinsed clean before applying preventative. Visible surfaces of hinges should be wiped down with warm soapy water on a soft rag and then rinsed off by wiping with a clean damp rag. Application of a thin film of light machine oil or one of the corrosion preventative sprays mentioned above will help to maintain the original lustre of the metal finish. Be careful not to get these compounds on the timber work itself as they may cause staining.

Drop bolts should be sprayed with a lubricant such as those mentioned above and the sliding pin inside the bolt and to the lock cylinder.

Maintenance Tip:

Abrasive-type cleaning agents (Ajax or similar) or other abrasive cleaning materials such as steel wool or the like, can severely damage aluminium surfaces and should be avoided.

Glass

It is recommended that all glass surfaces be kept clean by prompt removal of all dirt or other contaminants. Clean water and, in some instances, a small amount of mild detergent should be used. After washing, any detergent residue must be thoroughly rinsed away with clean water.

Under no circumstances is any form of blade, scraper or abrasive cleaner to be used. Stubborn dirt or residue should be lightly sponged off to avoid scratching of the glass.

The frequency of cleaning required will depend on environmental conditions such as proximity to the ocean or industrial areas. As a general guide, glass should be cleaned at least quarterly.



Capral window and door installation information

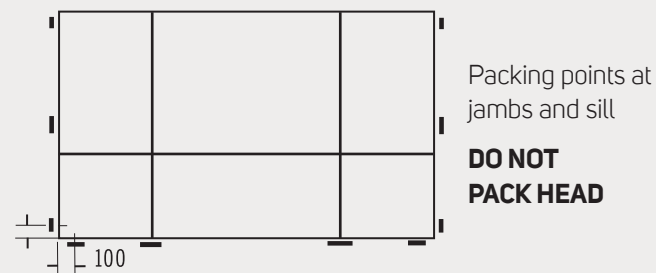
General notes

Before installation

- Check the window or door label to ensure that the window has the appropriate 'N' rating (strength/water resistance) for the installation location.
- Lift all windows and doors carefully from trucks or other transport mechanisms. Do not use slings.
- When handling or transporting windows or doors, carry the product in a vertical position from the bottom of the product. Window sashes must be closed and in a locked position.
- Avoid knocking or damaging the product in any way.
- Stack the product carefully on edge to avoid damage to the powder coat or like finishes.
- Stack windows and doors in a dry place and cover the product to protect against pane, dust or weather damage and/or exposure.

During installation

- Ensure that there is sufficient clearance around the perimeter of the frame before attempting to install a window or a door. If the wall condition is not shown, please contact your local fabricator or Capral for the appropriate technical advice.
- Once the clearance is established, ensure the aluminium frame is insulated from contact with other metals to avoid potential future corrosion of the aluminium. This could be by a bitumen coating of any steelwork around the window or door, or the application of flashing membranes.
- When installing the product, please note that it is important not to distort the window or door frame by forcing it open in any way.
- Please note that windows and doors are non-load bearing and an allowance of 12mm from the underside of the sill brick or tile is required to allow for building settlement.
- The sill must be straight and level at all times. Plumb jamps in both directions and pack the frame at the sill and jamps only. Please see illustration above right.



- The frame must be square and out of twist which is essential for the smooth operation of the sashes.
- Check that the diagonal measurements are equal. Clearance must be maintained between the fill brick or tiles and the window or door frame.
- Ensure that all flashings are correctly fitted.
- Do not stand on or place any loads on the sill or any other part of the frame. Do not use as a support scaffolding or slide material through the frames.
- Before the sliding panels (if applicable) are inserted, the tracks should be cleaned thoroughly to remove all dirt and other substances.

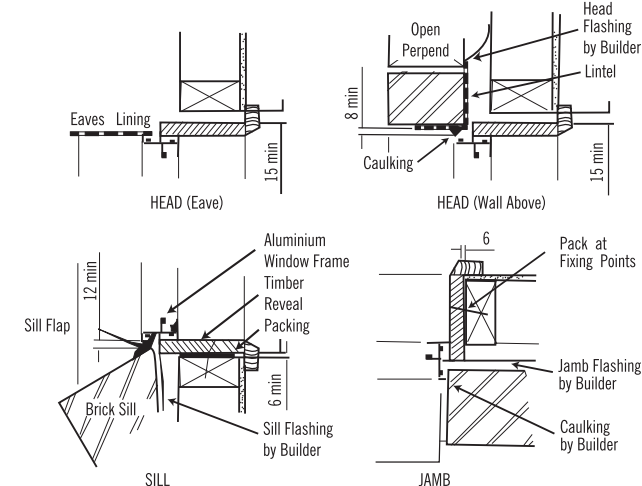
Please Note: Aluminium window and door frames should not come into direct contact with bricks, concrete brickwork or cement rendered surfaces as in some cases this may result in corrosion.

After installation

- Protect windows and doors from damage during the construction process.
- If plastic wrap has been provided, **do not remove** it until the brickwork is complete.
- If the window or door comes into contact with cement, mortar, paint acids or any other substance, **wash it off immediately.**
- Use soft cloths to clean and avoid scratching the surface.
- Do not scrape tools or anything else on the window or door frame.
- Clean the windows and doors with warm soapy water or a mild detergent and rinse with clean water.
- Ensure that the drainage spots on the aluminium frames are not blocked.

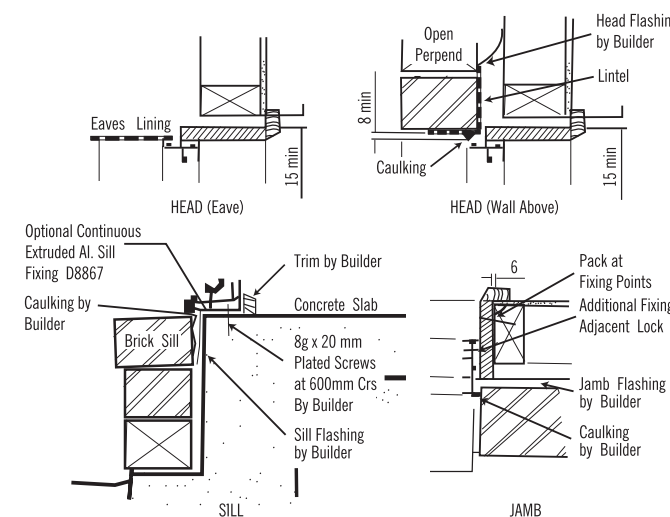
Windows

Brick Veneer Construction



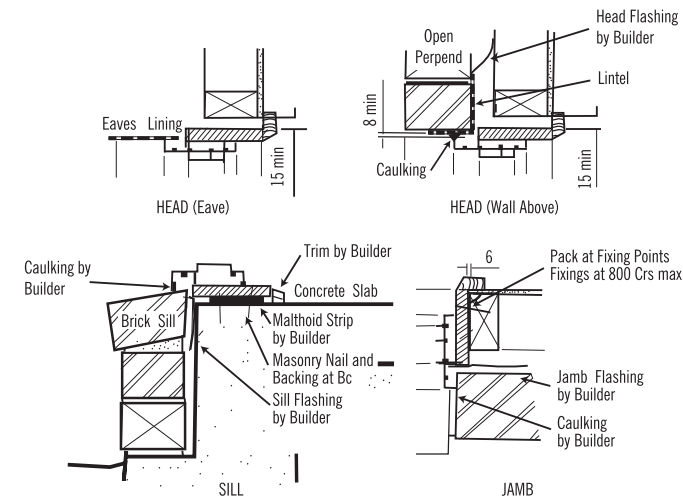
Sliding Doors

Brick Veneer Construction

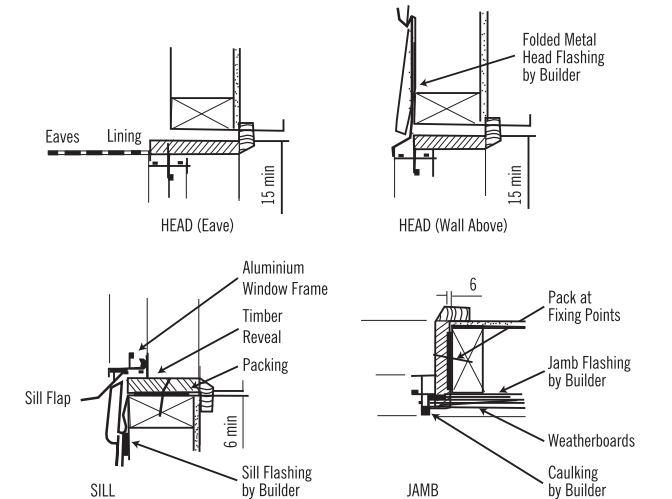


French and Hinged Doors

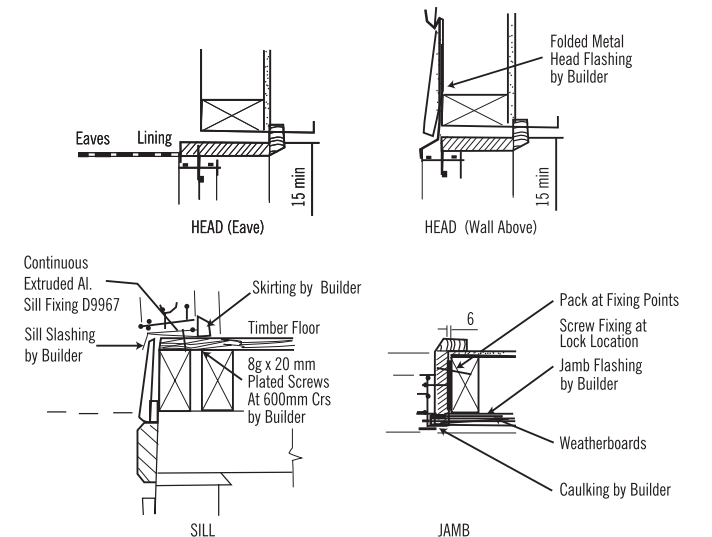
Brick Veneer Construction



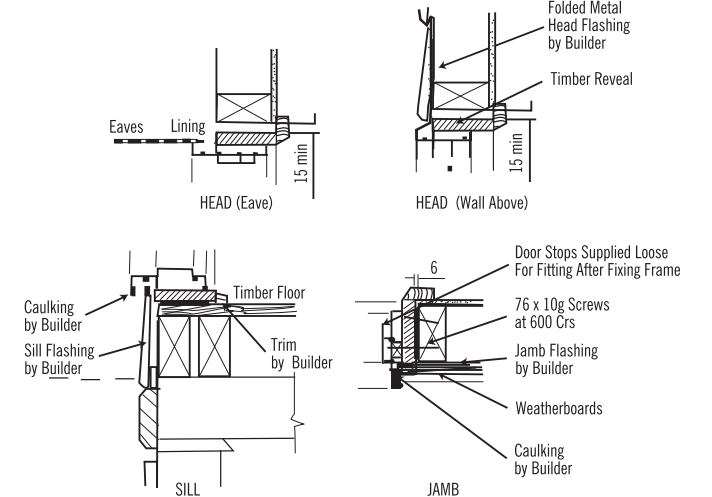
Weatherboard Construction



Weatherboard Construction



Weatherboard Construction





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