

Safetyline
jalousie



SMARTAIR SYSTEM & FREE MOTOR INITIATIVE





We do windows and doors on high rise buildings ranging from 4-28 stories across Sydney.

We've been working with Safetyline Jalousie for about 4 years now and have completed approx. 12-15 different projects together for clients like Parkview, Richard Crookes and Taylors.

Our site team install the Safetyline Jalousie louvres which are supplied as a fully glazed system, that is delivered to site and easily slides into our frames or openings, taking about 10 minutes and we can walk away.

It was an easy decision to team up with Safetyline Jalousie. Their service is always great and the product is great which is a big thing in our industry.



Paul Borg, Director, SUPPLIED HOLDINGS NSW



I have been consulting in noise and vibration for over 30 years. My reputation is important. If I don't recommend the right products, then we don't get the right results, which is why I use the best. I have no hesitation in recommending Safetyline Jalousie louvre windows, they are the best louvred acoustic window on the market that are able to provide a significant reduction in noise. You get value for money in that you get a product that is going to last a long time.

This is an Australian owned company, family run business and I'm proud to support them.



Nick Koikas, Director, KOIKAS ACOUSTICS NSW



From aged-care homes to sports halls, from schools to skyscrapers, Safetyline Jalousie's louvres have been installed in hundreds of commercial projects nationwide, which is testimony to the value of their products.

Over 10 years, the thousands of architects our national team have worked with assure us, that when it comes to improving natural ventilation and enhancing indoor air quality, no other louvres compete with Safetyline's.

Time and time again, architects across the country have attested, Safetyline's louvres are superior in reliability and ease of use.

They love the way they look in all settings and trust them above all other products because of their quality and proven track record of safety, security and longevity.



Elsie Atttoh, CEO, THE ARC AGENCY



**Australian
family business
driving jobs** for
small business.

Driving jobs, contracts, and delivering projects into the hands of window fabricators across Australia.



1500 window fabricators



1500 window fabricator companies

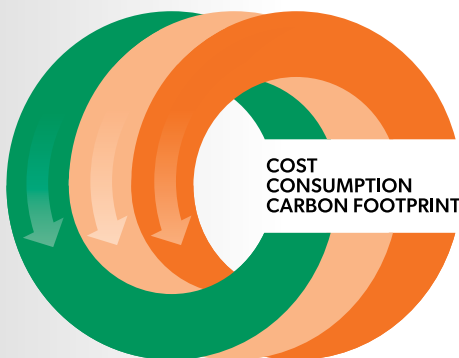
15,000 employees / jobs

4.82 billion annual revenue



Safetyline jalousie delivering on

Our louvre window systems provide prefabricated, functional, **reliable-automated** end use while delivering **energy efficient** solutions.



Safetyline **jalousie**

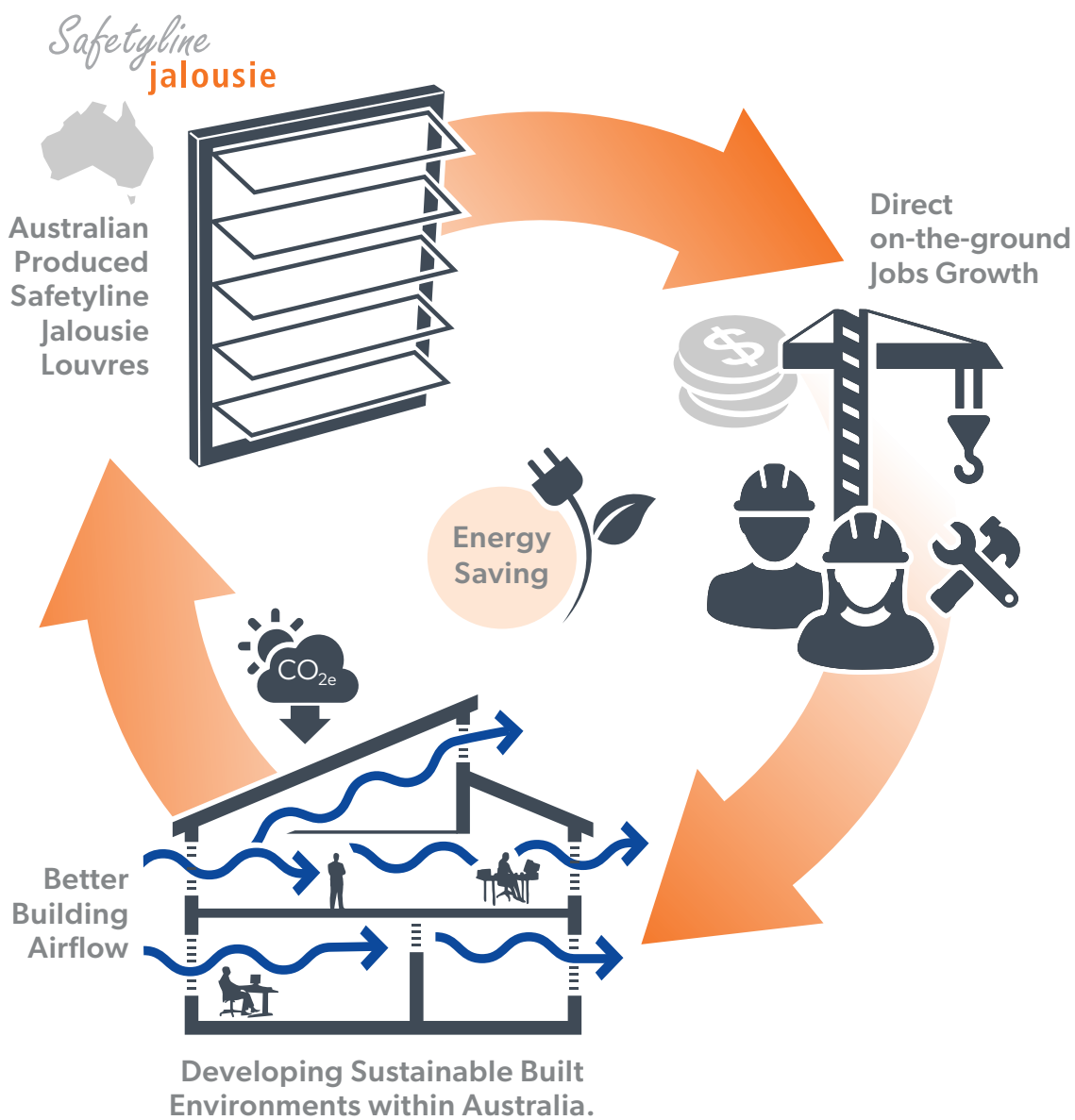
“Our purpose is to provide economically viable, energy efficient solutions for indoor air environments that improve health, wellbeing and productivity.”

Leigh Rust,
Founder & Director Safetyline Jalousie.

SMARTAIR

CIRCULAR IMPACT

FLOW CHART



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SAFETYLINE JALOUSIE INTRODUCTION

The purpose of this proposal is to provide a pre-programmable, fully automated, tried and tested complete turnkey air quality louvre window solution product, that can deliver on environmental, economic and social benefits for built environments across Australia.

Safetyline Jalousie and Blue Squared Window Automation SmartAir System provide motors and associated controls and sensors at an upfront cost comparable, if not below, both current motor costs and that of manual winders, delivering triple bottom line benefits.

SmartAir System enables all spaces to monitor temperature and humidity which will inform, cue and operate motorised high performance louvre windows that provide free air coupled with superior sealing capabilities that block wind, water, air and noise.

The SmartAir System provides natural ventilation to spaces by monitoring internal and external ambient temperatures, automatically locking out the AC. SmartAir incorporates morning and night purging options to cool the buildings fabric during unoccupied periods reducing air conditioning energy costs. The system also utilises wind and rain sensors to automatically close the louvres without the need for user interaction.

Adoption of the Free Motors Initiative and SmartAir System proposal by Safetyline Jalousie and Blue Squared Window Automation will provide a fully automated and control monitoring of Indoor Air Quality based on CO₂ levels, temperature and humidity.

We value this opportunity to present the outstanding features of the SmartAir System.



Safetyline jalousie



1 PROPOSAL INTRODUCTION

The purpose of this proposal is to highlight how Safetyline Jalousie SmartAir System drives and stimulates economic, social and environmental outcomes that not only create immediate opportunities to enact on, but enable long term, stable trajectory outcomes like indoor health targets, jobs growth, workplace productivity and energy reductions.

Safetyline Jalousie seeks to emphasise the importance of adopting a product like the SmartAir System and Free Motors Initiative in buildings across Australia. This sustainable product in conjunction with the proposed economic incentives and health advantages, will prove its worth for now and the future of its built environments.

Additionally, the 'Free Motors Initiative SmartAir System' identifies financial efficiencies, highlights indoor air quality based on CO₂ level reductions, while examining its capacity to generate long-term returns and stabilised job growth in metro, regional and rural areas in states and territories across Australia.

Documentation throughout this proposal will highlight Safetyline Jalousie's central focus on delivering sustainably designed window louvres that provide outstanding performance for built environments, which in turn aid key stakeholders the capacity to align to many of the United Nations global sustainable development goals.



2 SMARTAIR SYSTEM PRODUCT DESCRIPTION

2.1 PRODUCT OVERVIEW

The purpose of the Safetyline Jalousie SmartAir system is to provide a pre-programmable, fully automated, tried and tested complete turnkey air quality solution that enables all spaces to monitor temperature, CO₂ and humidity.

This will inform, cue and operate motorised high performance louvre windows that have 86% free air coupled with superior sealing capabilities that block wind, water, air and noise. This will:



Naturally ventilate
spaces



Remove smoke
exhaust



Deliver safety via fire
indicator panel trip



Enable stair
pressurisation to
exhaust smoke in
a fire event



Reduce air conditioning costs
supporting energy savings
and reduction of greenhouse
gas emissions



Control CO₂ and
ambient temperatures
for comfortability

Additionally, the system is adapted to recognise morning or night purges, interlock air conditioning, automatically close louvres due to rain or wind and also automatically lock for security without the need for human input.

Blue Squared Window Automation SmartAir System provides motors, associated controls and sensors at an upfront cost comparable, if not below, both current motor costs and that of manual winders, delivering triple bottom line benefits for louvre windows.

2 SMARTAIR SYSTEM PRODUCT DESCRIPTION

2.2 USAGE BENEFITS AND KEY PERFORMANCE INDICATORS

When using the Safetyline Jalousie and Blue Squared Window Automation SmartAir System coupled with high performance motorised Safetyline Jalousie JX series louvre windows, will be pre-programmed to specifically designed parameters to automate the control of the environment.

All SmartAir Systems will produce each of the following benefits to the environment in which they are installed:

- › Monitor and automate reduction in CO₂ levels
- › Natural ventilation
- › The monitoring, control and improvement of air quality
- › Controlled thermal comfort
- › Reduction in external sound distractions
- › Safe and secure spaces
- › The ability to meet requirements for air infiltration in an air conditioned space
- › Improvements in health of occupants
- › Increasing longevity and life cycle of spaces through quality products
- › A sustainable and future proof solution

The fitting and installation of the SmartAir System will also generate reductions in:

- › Air conditioning costs, inturn power consumption
- › Carbon footprint
- › The occurrence of maintenance problems and their associated costs
- › The reliance on human intervention and operate air quality systems

Additionally, Safetyline Jalousie's unique louvre windows will bring added value and offer unrivalled flexibility in design options through unmatched performance ratings, strength, reliability and versatility.

There are many performance advantages and benefits of Safetyline Jalousie louvre windows. We pride our quality of product on the eight high level Key Performance Ratings.



2 SMARTAIR SYSTEM PRODUCT DESCRIPTION

2.3 SAFETYLINE JALOUSIE KEY PERFORMANCE RATINGS



ULTIMATE LIMIT STATE (ULS)

Up to 9525pa - conventional glass on glass louvre is approx. 3000pa



WATER PENETRATION RESISTANCE

800pa - conventional glass on glass louvre is approx. 300pa



SERVICEABILITY LIMIT STATE (SLS)

Up to 4000pa - conventional glass on glass louvre is approx. 1500pa



ACOUSTICS

CSIRO lab tested to 35 Rw - conventional glass on glass louvre is approx. 26 Rw



AIR INFILTRATION

0.12 L/Sqm/S - this is 12 times better than a conventional glass on glass louvre window



SAFETY & SECURITY

Impact Load tested up to 550kg - conventional glass on glass louvre is approx. 30kg



WINDBORNE DEBRIS

Impact test passed type B (for cyclones) - conventional louvres are not



SPAN

Up to 1400mm - larger windows reduce perimeter framing and install time - hugely cost effective - conventional louvres are limited to 900mm

ADVANTAGES AND BENEFITS

- ☒ Prefabricated and delivered to site as a complete unit fully framed and fully glazed, assembled and ready to insert into the openings.
- ☒ Ability to use any type of commercially available glass as the louvre blades from 6mm to 6.76mm
- ☒ Meets fall prevention requirements with no need for added options
- ☒ Meets the requirements for use as balustrade with no added options
- ☒ Made in factories based in Sydney, Australia

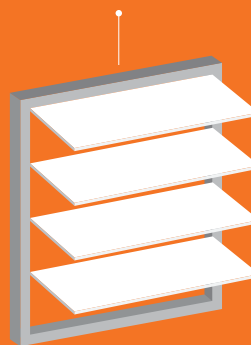
MOTORISED AND AUTOMATED



Windows and motors are fully compliant as part of complete failsafe solution for fire mode / smoke exhaust / relief air / stair pressurisation purposes



Alternatively can be a stand-alone mechanical ventilation system utilising sensors for wind / rain / temperature / timers / humidity / laser presence sensors etc



The associated / required wiring and controls are fully compatible / able to interface to any BMS / Cbus systems

2 SMARTAIR SYSTEM PRODUCT DESCRIPTION

2.3 SAFETYLINE JALOUSIE KEY PERFORMANCE RATINGS

Designed and developed exclusively by the Technal company which is a division of the European giant Norsk Hydro, a fully integrated aluminum company. Safetyline Jalousie louvre windows have a long history of superior performance in commercial, public and residential projects across the globe.

They have been manufactured in Sydney, Australia since 2009 by SMR Designs, which is a family owned and operated Australian company.

Safetyline Jalousie has provided louvre windows to over 1000 projects Australia wide, supplying approximately 250,000 high performance louvre windows along with over 20,000 motors to operate our windows to a selection of these projects.

Safetyline Jalousie has distributor partner agreements across all states and territories that allow the company the capability to provide louvre windows to over 4000 window fabricators throughout Australia, providing job certainty and upskilling for current and new industry apprentices.



2 SMARTAIR SYSTEM PRODUCT DESCRIPTION

2.4 SMARTAIR SYSTEM FUNCTIONALITY

Product functionality is imperative for products to become sustainable for long term use. The SmartAir System drives significant features which enable strong functionality and capabilities for facilities management, the users, key stakeholders and the streamlining for operational management of buildings.

Key product features that identify Safetyline Jalousie's SmartAir System as the industry leader are:



Out of Hours

All louvres remain closed with user interface and external signals locked out for security.



Early Morning

All louvres open for a predetermined period then automatically close returning to out of hours lock out.

In the event of rain during the purge cycle, the louvres will close only reopening upon the rain ceasing (a maximum opening on rain from 0-100% is achievable on a zone by zone basis).



Day Mode

Louvres are controlled via local CO₂ inputs. Upon reaching the activation CO₂ PPM level, the louvres will open and the AC will be locked out.

In the event of rain sensor activation, the louvres will close, and the AC will be reactivated (a maximum opening on rain from 0-100% is achievable on a zone by zone basis).

Upon the deactivation of the rain sensor, the louvres will reopen and the AC will be locked out, providing that the CO₂ PPM is still in the activation band.

If a local day to day switch is installed, activation of this will override and lock out all other inputs with exception to the rain sensor and end of day closing signals. This lock out period is programmable from 5-600 minutes on a zone by zone basis. Upon the pre-set time lapsing, the system will return to standard day mode controlled primarily by the CO₂ sensor.



End of Day

Upon reaching the end of the working day, all louvres will return to the fully closed position with full lock out of all other inputs. Timers are fully programmable to suit the required activities and project specifics for the building.

2 SMARTAIR SYSTEM PRODUCT DESCRIPTION

2.5 SENSOR CONTROLS DELIVERING EFFICIENCIES

The SmartAir system consists of equipment developed specifically for façade window automation. The main control panel was designed in the United Kingdom for use in the second wave of the Building Schools for the Future (BSF) program, which heavily relied on BB101, guideline for ventilation, thermal comfort and indoor air quality.

There are now in excess of 10,000 units installed globally, including installations within some of the recently built NSW schools. Used in conjunction with the former SmartAir's CO₂, now the NvLogiq room controller, healthier learning and workspaces have been achieved globally using this equipment for nearly a decade.

The wall mounted display incorporates a state-of-the-art CO₂ sensor which is self-calibrating, along with temperature and humidity sensors. The LED display indicates the current levels in numerical format along with a traffic-light backlit system indicating when measured levels are rising, **AMBER - mid range, RED - high range**. The display is fully programmable with setpoints for activation to achieve optimal performance for the specific space/project.

The CO₂ sensor itself is from the leading manufacturer with over 7 million units out in the field globally and a failure rate of less than 0.05%. In the manufacturing process, the sensors also go through a 4-point calibration process.

The louvre motor/drive has been developed specifically for the Safetyline Jalousie louvre system, with the final installation environment being taken into consideration. All cabling is concealed within the louvre and the drives have anti-vandal end caps.

All componentry offered within this scheme is designed with compatibility in mind to offer seamless installation and operational functionality.



10,000+
control panels
installed globally
over more than 10 years



7,000,000
units of
CO₂ sensors
used in projects globally

3 LOUVRE PERFORMANCE ANALYSIS OF LEARNING SPACES

3.0 INSIGHTS REPORT OF SAFETYLINE JALOUSIE LOUVRE

An energy modelling analysis of Jalousie louvres used in a school classroom application was conducted. Both a generic modular classroom building and a case study (Alexandria Park Primary school) were considered in Sydney, Brisbane, and Melbourne climates. The airtightness of Jalousie louvres when compared to other products, and the effectiveness of natural ventilation using Jalousie louvres, was studied.

The generic modular classroom formed the crux of the study and is present in identical or similar forms across both NSW and Australia. The case study model was used to provide further evidence of the trends identified and to test the applicability of the modelling approach in a real project.

Initial energy modelling results were mixed, due to the apparent conflict between airtightness and natural ventilation in each climate. The key findings of the initial energy modelling conclude that:

- › Using Jalousie louvres can significantly increase the airtightness of a building, by between 7% and 20% for the cases tested.
- › Using louvres for natural ventilation provides more outside air to learning spaces than required by minimum standards. For the cases tested, 9%, 24% and 12% more outside air was provided to learning spaces in Sydney, Brisbane, and Melbourne respectively.

Following the initial modelling, a revised louvre control strategy was developed as follows:

- › Louvres are fully opened when the temperature outside is within a suitable (comfort) band and wind speed is sufficient to deliver the required outside air rate to the learning area
- › Louvres are partially opened at the 10% or 20% position for a wider band of temperatures to assist in removing heat from the learning areas. The required outside air rate is provided by mechanical ventilation. Air conditioning or heating is not operating (as the outside air + internal heat gains result in a suitable learning space temperature). We anticipate this wider temperature band to be 3°C to 5°C lower than the natural ventilation setpoint, however this wider band will be project specific.
- › Louvres are closed (such that they achieve a high degree of airtightness) outside this wider setpoint band (i.e. when it is too hot or too cold outside). The required outside air rate is provided by mechanical ventilation. Air conditioning or heating is operating.

Through consideration of the revised control strategy, the following results were determined for the generic classroom level and case study respectively. For both cooling and heating dominated climates, a project specific analysis is recommended to optimise the louvre control systems and maximise benefits beyond the figures presented herein.

Table 1 Summary of case study results for revised controls scenario

Data modelling by Inhabit Group of our Case Study Project using Safetyline Jalousie louvre windows utilising the Smart Air System proves that our system can increase thermal comfort levels for occupants, reduce ongoing energy usage and therefore costs and ultimately reduce greenhouse gas emissions for the operating life of the project.

Metric	Sydney (scenario CSJ)	Brisbane (scenario CBJ)	Melbourne (scenario CMJ)
Annual thermal energy use, % saving	=4% to 5%	=4% to 5%	=3.5%
Annual GHG emission savings, kgCO _{2e} per classroom	=30 per classroom	=50 per classroom	=25 per classroom
Annual electricity savings, \$ per classroom	=\$10 per classroom	=\$17 per classroom	=\$7 per classroom
Additional ventilation supplied, % above requirement	=11% to 14%	=22% to 28%	=4% to 10%

Based on a review of both the generic classroom level façade and the case study learning space façades, it was determined that approximately 15% of the façade consisted of louvres. NCC 2019 sets a façade air infiltration limit of 10 m³/m².h @ 50 Pa.

This figure was used for all façade elements other than the elements replaced by the Jalousie louvres. The airtightness of the façade area occupied by louvres was varied as per Table 1, which also shows the resultant whole of façade airtightness figure. **It is worth noting that the airtightness benefit of Jalousie louvres increases as the percentage façade area increases.**

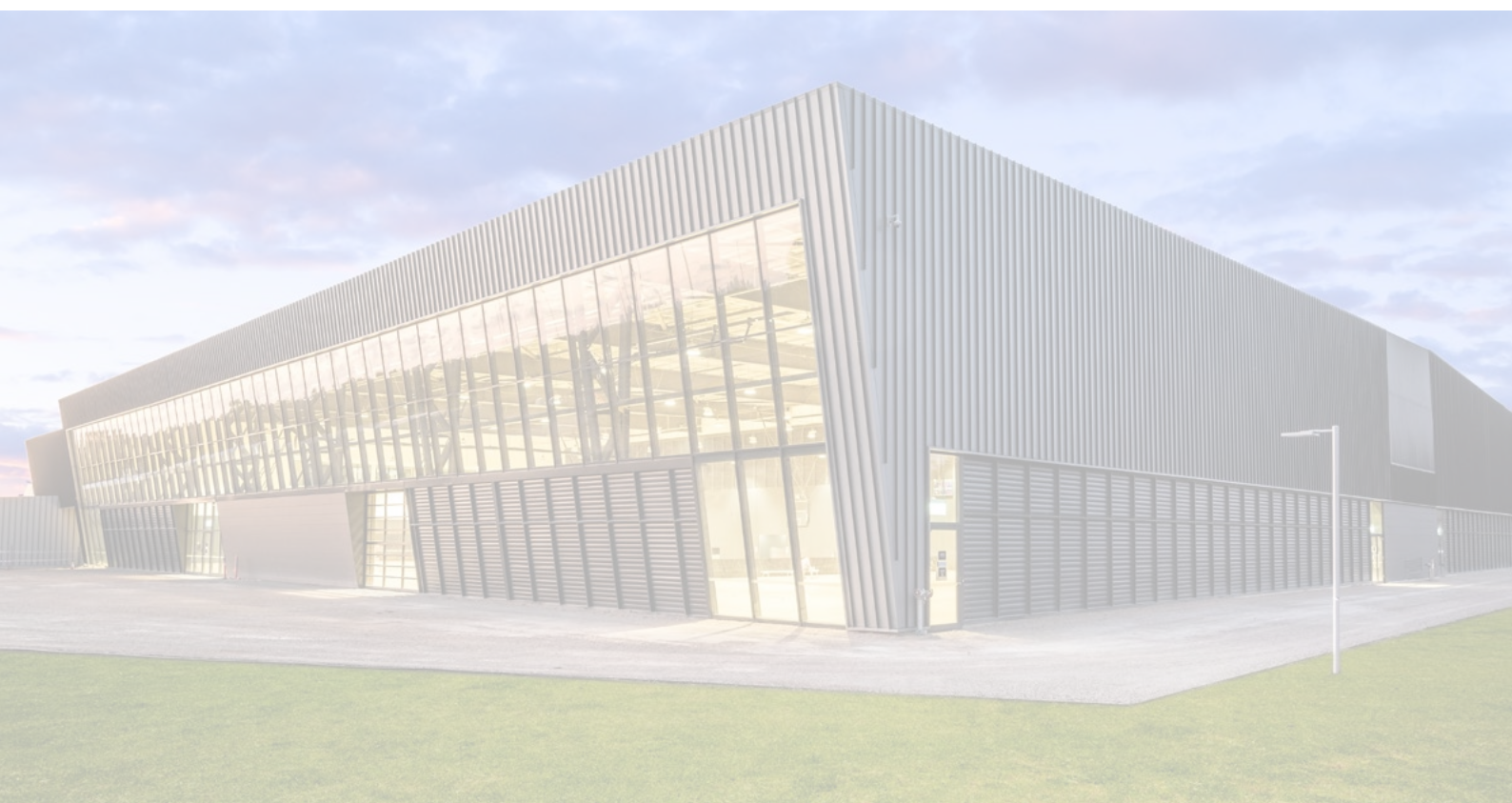


Table 2 Summary of generic classroom level results for revised controls scenario

Data modelling by Inhabit Group of Generic Learning Spaces using Safetyline Jalousie louver windows utilising the Smart Air System proves that our system can increase thermal comfort levels for occupants, reduce ongoing energy usage and therefore costs and ultimately reduce greenhouse gas emissions for the operating life of the project.

Metric	Sydney (scenario GSJ)	Brisbane (scenario GBJ)	Melbourne (scenario GMJ)
Annual thermal energy use, % saving	1.5%	1.7%	3.4%
Annual GHG emission savings, kgCO_{2e}	167 24 per classroom	340 49 per classroom	478 68 per classroom
Annual electricity savings, \$	\$54 \$8 per classroom	\$111 \$16 per classroom	\$123 \$18 per classroom
Additional ventilation supplied, % above requirement	9%	24%	12%

Table 3 Facade Airtightness Data

Data modelling by Inhabit Group proved that Safetyline Jalousie louveres have a much higher airtightness figure than the generic louveres tested or indeed the requirements of NCC 2019 and therefore increased the tested buildings overall air tightness by up to 20% and reduced the number of air changes per hour allowing for a much tighter control of the indoor air quality.

Louvre type	Airtightness, L/m².s @ 75 Pa as per AS 2047	Calculated* (scenario GBJ) m³/m².h @ 50 Pa	Resultant whole-of-facade airtightness, m³/m².h @ 50 Pa	Relative benefit of Jalousie louveres
Jalousie louver	0.12	0.10	8.55	-
Generic louver A	1.5	1.23	9.16	7%
Generic louver B	1.9	1.55	9.34	8%
Generic louver C	5	4.08	10.70	20%
All other facade elements (as per NCC 2019)	3.4	2.78	10.00	-

*Note: The façade industry standard metric of L/m².s @ 75 Pa was converted to the building energy industry standard metric of m³/m².h @ 50 Pa using a standard flow exponent of 0.5.

It is noted that Jalousie louveres have a much higher airtightness figure than the generic louveres tested, or indeed the requirements of NCC 2019.

3 LOUVRE PERFORMANCE ANALYSIS OF LEARNING SPACES

A further scenario was created in an effort to address the control-related drawbacks of the initial scenario. The key outcomes of this revised scenario are that:

- Jalousie louvres are airtight, therefore they provide benefit during heating months
- Jalousie louvres can be automatically operated so they are partially open during favourable conditions, providing benefit during cooling months. The partial opening of the louvres mimics the airtightness performance of the less airtight scenarios, however this is reproduced in a controllable fashion. A calculation of louvre opening position to mimic a lower level of airtightness resulted in an opening position of 10% to 20%.
- Louvres are fully opened when the temperature outside is within a suitable (comfort) band and wind speed is sufficient to deliver the required outside air rate to the learning area.
- Louvres are partially opened at the 10% or 20% position for a wider band of temperatures to assist in removing heat from the learning areas. The required outside air rate is provided by mechanical ventilation. Air conditioning or heating are not operating (as the outside air + internal heat gains result in a suitable learning space temperature). We anticipate this wider temperature band to be 3°C to 5°C lower than the natural ventilation setpoint, however this setpoint will be project specific.
- Louvres are closed (such that they achieve a high degree of airtightness) outside this wider setpoint band (i.e. when it is too hot or too cold outside). The required outside air rate is provided by mechanical ventilation. Air conditioning or heating are operating.

Note that the results of this scenario are considered conservative. A control system that is project specific and considers specific climate and heat gains will result in better performance.



4 THE SMARTAIR SYSTEM FREE MOTORS INITIATIVE

Enabling more sustainably designed and built environments, delivering opportunities for sustainable retrofitting of existing buildings, and supporting new projects to meet budget are some of the many advantages and benefits of the SmartAir System. The improved outcomes for projects without increasing the cost, is the purpose behind Safetyline Jalousie providing the 'Free Motors Initiative' product that can deliver for triple bottom solutions now and ongoing for the future.

4.1 INITIATIVE OVERVIEW

We believe every project and space is entitled to the benefits of motorising and automating the monitoring and control of air quality. With that in mind, and in conjunction with the SmartAir Proposal, Safetyline Jalousie would like to offer all projects, including retrofitting existing projects along with both present and future builds, the opportunity to add our SmartAir louvre motors to any windows quote completely free of charge.

By offering motorised louvre windows at the same cost of manually operated louvre windows we hope to alleviate any cost prohibiting factors that would influence the quality outcome of the project.



5 PRICING AND CASE STUDIES

The following five case studies provide an example of past and proposed expenses involving the installation of the SmartAir System, in conjunction with louvre motors and free motor initiative package.

- › **Old Bar Public School**
- › **Catherine Field**
- › **East Leppington**
- › **Wagga Wagga**
- › **Oran Park**



5.1 CASE STUDY PROJECT 1

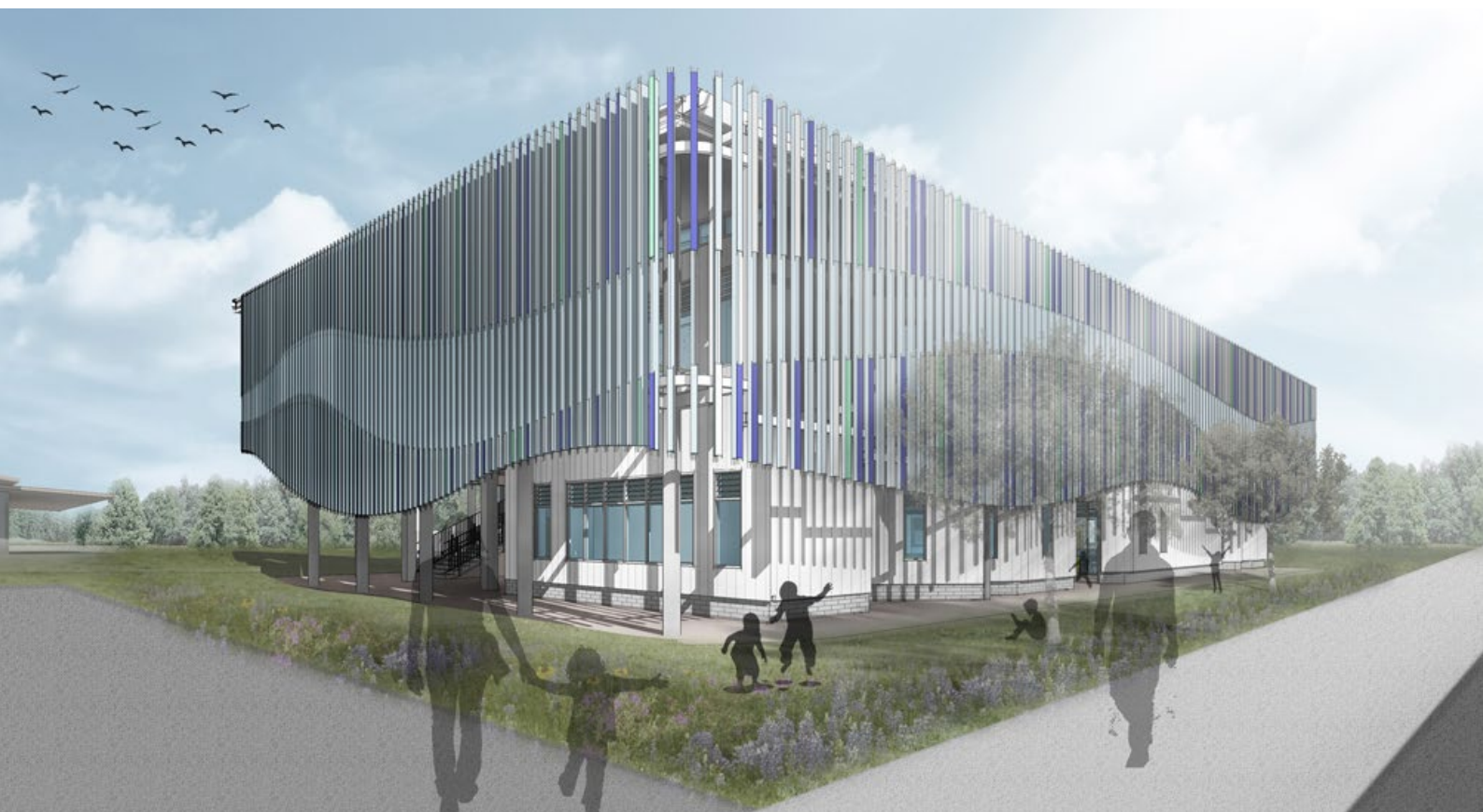
Old Bar Public School

Louvre control via day switch

Based on 31 CO₂ control areas

Completed ☒

Total Louvre Motors	101
Control Panels	31
Zones	
Standard Cost of Project (Motors + Controls) (Motors @ \$410, Controls @ \$650 + \$75 per zone for NV-Link)	\$62,560
Free Motor Initiative Package Cost (no CO ₂) \$236 per motor point (min 4 points per zone) + \$75 per zone for NV-Link	(31 x \$933) \$28,925
SmartAir CO₂ Sensors @ \$925 per zone	\$28,675



5.2 CASE STUDY PROJECT 2

Catherine Field



Based on 70 CO₂ control areas

Total Louvre Motors	578
Control Panels	122
Zones	70
Standard Cost of Project (Motors + Controls) (Motors @ \$410, Controls @ \$650 + \$75 per zone for NV-Link)	\$321,530
Free Motor Initiative Package Cost (no CO ₂) \$236 per motor point (min 4 points per zone) + \$75 per zone for NV-Link	(578 x \$236) \$151,570
SmartAir CO₂ Sensors @ \$925 per zone	\$64,750

5.3 CASE STUDY PROJECT 3

East Leppington

Based on 65 CO₂ control areas

Total Louvre Motors	508
Control Panels	118
Zones	65
Standard Cost of Project (Motors + Controls) (Motors @ \$410, Controls @ \$650 + \$75 per zone for NV-Link)	\$285,855
Free Motor Initiative Package Cost (no CO ₂) \$236 per motor point (min 4 points per zone) + \$75 per zone for NV-Link	(508 X \$236) \$134,203
SmartAir CO₂ Sensors @ \$925 per zone	\$60,125



5.4 CASE STUDY PROJECT 4

Wagga Wagga



Based on 27 CO₂ control areas

Total Louvre Motors	176
Control Panels	41
Zones	27
Standard Cost of Project (Motors + Controls) (Motors @ \$410, Controls @ \$650 + \$75 per zone for NV-Link)	\$100,835
Free Motor Initiative Package Cost (no CO ₂) \$236 per motor point (min 4 points per zone) + \$75 per zone for NV-Link	(176 x \$236) \$52,529
SmartAir CO₂ Sensors @ \$925 per zone	\$17,550

5.5 CASE STUDY PROJECT 5

Oran Park

Based on 39 CO₂ control areas

Total Louvre Motors	318
Control Panels	93
Zones	
Standard Cost of Project (Motors + Controls) (Motors @ \$410, Controls @ \$650 + \$75 per zone for NV-Link)	\$190,830
Free Motor Initiative Package Cost (no CO ₂) \$236 per motor point (min 4 points per zone) + \$75 per zone for NV-Link	(93 x \$933) \$86,769
SmartAir CO₂ Sensors @ \$925 per zone	\$36,075



5 PROPOSED EXPENSES

5.6 FREE MOTORS INITIATIVE AND SMARTAIR SYSTEM PRICING MATRIX

Current Average Cost per Space to Motorise windows - \$1800 (motors only)

Current Average Cost per Space to use Manual Winders - \$1600 (image below)

Proposed Average Cost per space to provide fully automated SmartAir System with Free Motor Initiative - \$1869 (includes all Motors, Controls (NV-PSU), Co Sensor, A/C interlock)

LEARNING SPACE PRICING MATRIX	Motor Price	Non-UPS	72hr UPS
Base Learning Space single zone cost (all equipment required to motorise and control up to 4 louvre control points (excluding sensor & cabling)	\$0	\$944.00 0	\$1,369.00 0
Additional motor points within zone (per point) including controls		\$236.00 0	\$262.00
SmartAir CO ₂ sensor and A/C interlock relays per zone		\$925.00 0	\$925.00
Rain Sensor, Morning Purge & End of day closing per block/building		\$632.00 0	\$632.00



6 PRODUCT RISK ASSESSMENT

A project specific trap hazard risk assessment is offered on every project as part of our package.

The trap hazard risk assessment is to be carried out on a project and location basis, although on projects such as the modular build programme, a generic risk assessment may be used on similar types of areas/rooms. The risk assessment highlights trap hazards, and what preventative measures are required to mitigate risks, if any exist. The recommendations are submitted at the design stages of a project and the full risk assessment is included within the O&M manuals at project handover stage.

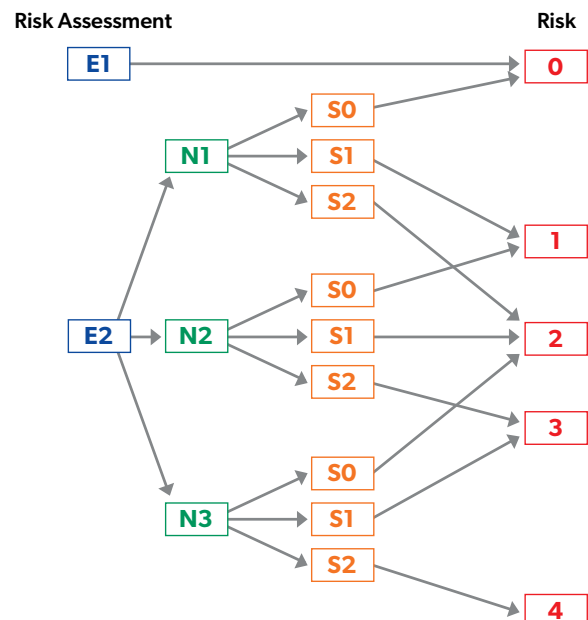
Safetyline Jalousie provides fully detailed risk assessments for every project, ensuring our clients can assess, mitigate and embed necessary internal policies and safety protocol procedures. Assessment examples are made available at your request.

6.1 TRAP HAZARD RISK ASSESSMENT

A project specific trap hazard risk assessment is offered on every project as part of our package.

The trap hazard risk assessment is to be carried out on a project by project and location by location basis, although on projects such as the modular build programme a generic risk assessment may be used on similar type areas/rooms. The risk assessment highlights trap hazards, and if any and what preventative measures are required to mitigate risks. The recommendations are submitted at the design stages of a project and the full risk assessment is included within the O&M manuals at project handover stage.

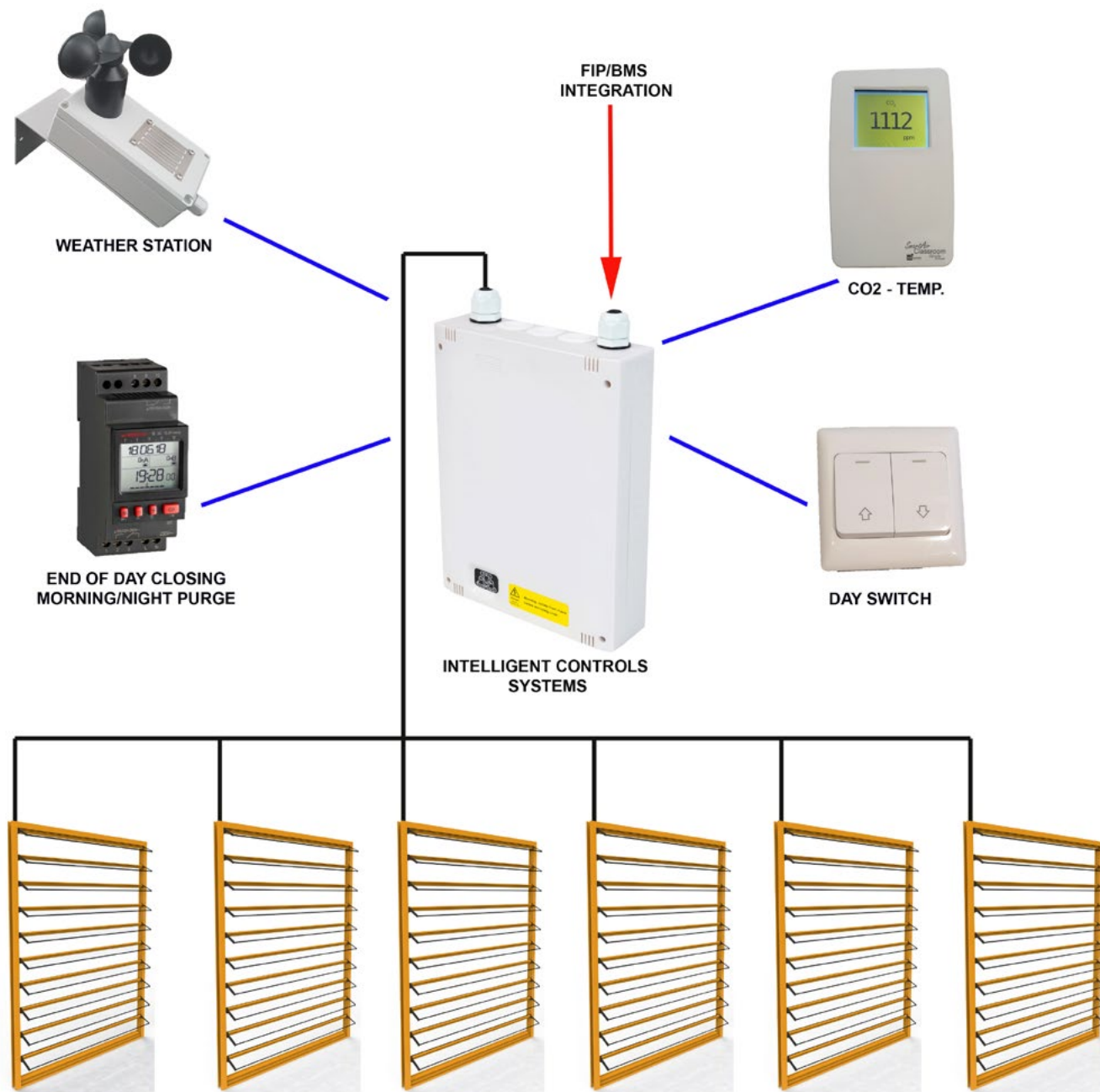
IEC 60335-2-103:2017 covers the hazards associated with the movement of the driven parts of gates, doors and windows. It is the responsibility of the person issuing the enquiry to clearly specify the requirements for power operated doors or windows. The supplier installing the power operated door or window is responsible for complying with the enquiry taking into account, IEC 60335-2-103-2017 and the state-of-the-art technology.

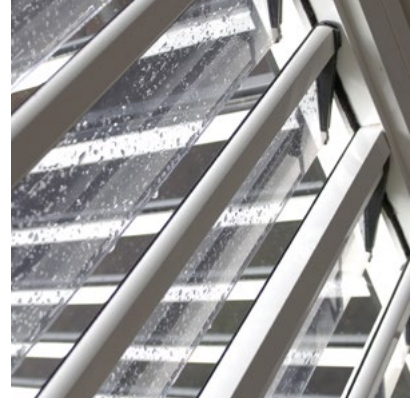
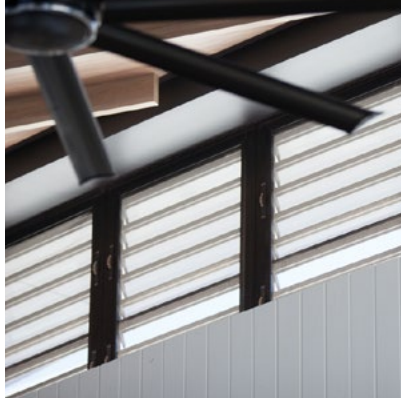


E = Location of louvres (accessibility)
N = Type of building (Office, educational, public, etc)
S = Control system and possible preventative measures introduced
1-4 (low to high) = Risk to occupants of trap hazard injury

6 PRODUCT RISK ASSESSMENT

6.2 PRODUCT INSTALL SPECIFICATION





Safetyline jalousie

P: 1300 86 3350

P: +61 2 9450 3350

E: sales@safetylinejalousie.com.au

www.safetylinejalousie.com.au

PO Box 584, Terrey Hills NSW 2084

SMR Designs Pty Ltd

ABN 23 123 507 853

