



SOLINEAR

specialist architectural facade engineers

AQUARIUS™ X-LINE 100

Louvre Systems

AQUARIUS™ X-LINE 100

The Aquarius™ X-LINE Louvre system generally offers the designer four standard blade spacings at 100mm, 75mm, 50mm and 35mm, with each configuration having inherent airflow and weather performance capability. However, due to the flexibility of the louvre support system, virtually any blade pitch is achievable. The louvre system has a full range of accessories including bird guard, insect mesh, security mesh, security bars, intumescent dampers and both insulated and single skin blanking panels.

Manufactured as an extruded single bank system, Solinear's Aquarius™ X-LINE 100 is a louvre system designed for screening or cladding applications when weather performance is not a crucial requirement, and high levels of plant screening or air volumes are required to pass through the louvre with corresponding low pressure drops.

Additionally, a 'double bank' chevron blade profile variant is available, which provides even greater rain defence properties, should this be a critical issue to the building's weather tightness.

All Aquarius™ louvre systems are available with a range of standard and bespoke designed perimeter frameworks to ensure a full and complete weathered interface with the building structure.

| Blade Type | Profile Geometry | Accessories | Variations |
|---------------------|------------------|----------------------|------------|
| 28mm | Z-profile | Birdguard | Operable |
| 50mm | | Insect Mesh | Removable |
| 75mm | | Security Mesh | |
| 100mm | | Insulated | |
| Fully-bespoke pitch | | Single Skin Blanking | |
| variances available | | Panels | |

Penetration Classes

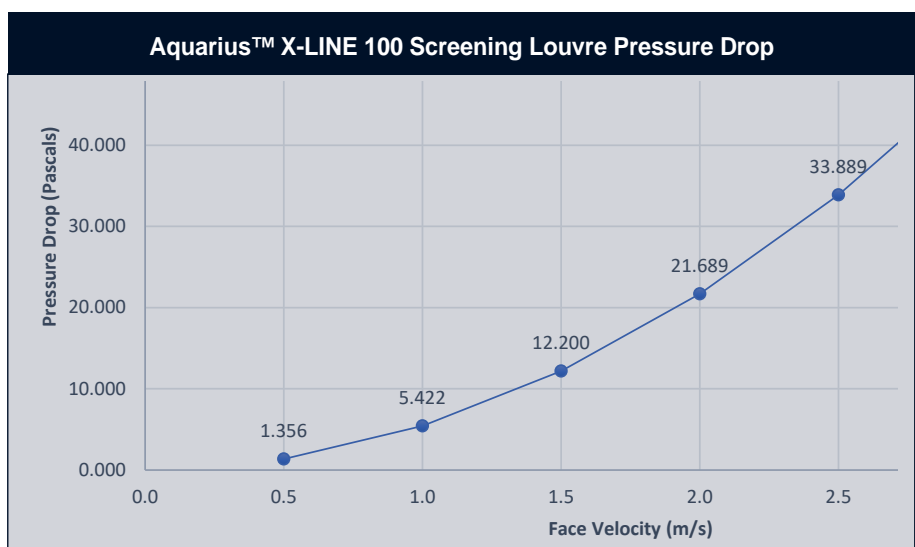
| Class | Effectiveness | Max. allowed penetration of simulated rain l/h.m ² |
|-------|---------------|---|
| A | 1 to 0.99 | 0.75 |
| B | 0.989 to 0.95 | 3.75 |
| C | 0.949 to 0.80 | 15.00 |
| D | Below 0.8 | Greater than 15.00 |

Source: BS EN 13030:2001

Aerodynamic performance classes

Discharge loss coefficient classes

| Class | Discharge loss coefficient C _d |
|-------|---|
| 1 | 0.4 to 1.0 |
| 2 | 0.3 to 0.399 |
| 3 | 0.2 to 0.299 |
| 4 | 0.199 and below |



AQUARIUS™ X-LINE 100

Aquarius™ X-LINE 100 Louvre System:

- Versatile, high-performance and robust louvre screening system with louvre blades manufactured to Solinear proprietary geometric 'Z' and 'V' profiles.
- Louvre blades are fitted back to concealed vertical support mullions to provide a continuous, unbroken appearance.
- Suitable for data centre walls, plant enclosures, sub-stations, cladding openings, air intake, and air discharge points to buildings.
- Good visual obscuration properties and airflow performance, providing moderate rain defence characteristics.
- Suitable for high levels of plant screening or where large air volumes are required with low pressure drops.
- Profiles extruded from 6063:T6 grade corrosion resistant aluminium alloy to BS1474.
- Louvre blade profiles set to standard 100mm vertical pitch spacing.
- Also available in stainless steel or galvanised mild steel.

- Standard and bespoke designed perimeter frameworks available.
- Available in factory assembled modules or as a "kit-form" system for assembly in-situ.

Options available:

- Polyester powder coated to BS EN 12206-1. 2004 BS/6496
- Natural or colour anodised to BS EN ISO 7599.
- Single, double, bi-fold and sliding louvre door sets available – can be inward and outward opening.
- Bird guard, insect mesh and vermin mesh available in black polypropylene, aluminium, galvanised steel and stainless steel.
- Security mesh or security bars integrated into the louvre make up.
- Single skin or non-combustible insulated blanking panels.
- Intumescent fire block dampers.
- Operating louvre blades for close-off function.

Single Bank Louvre System Performance:

- Provides 58.7% free area at louvre face.
- BSRIA development tested to Class B2 up to 1.0 m/s
- Intake K factor = 8.30, Ce = 0.347
- Extract K factor = 9.01, Ce = 0.333

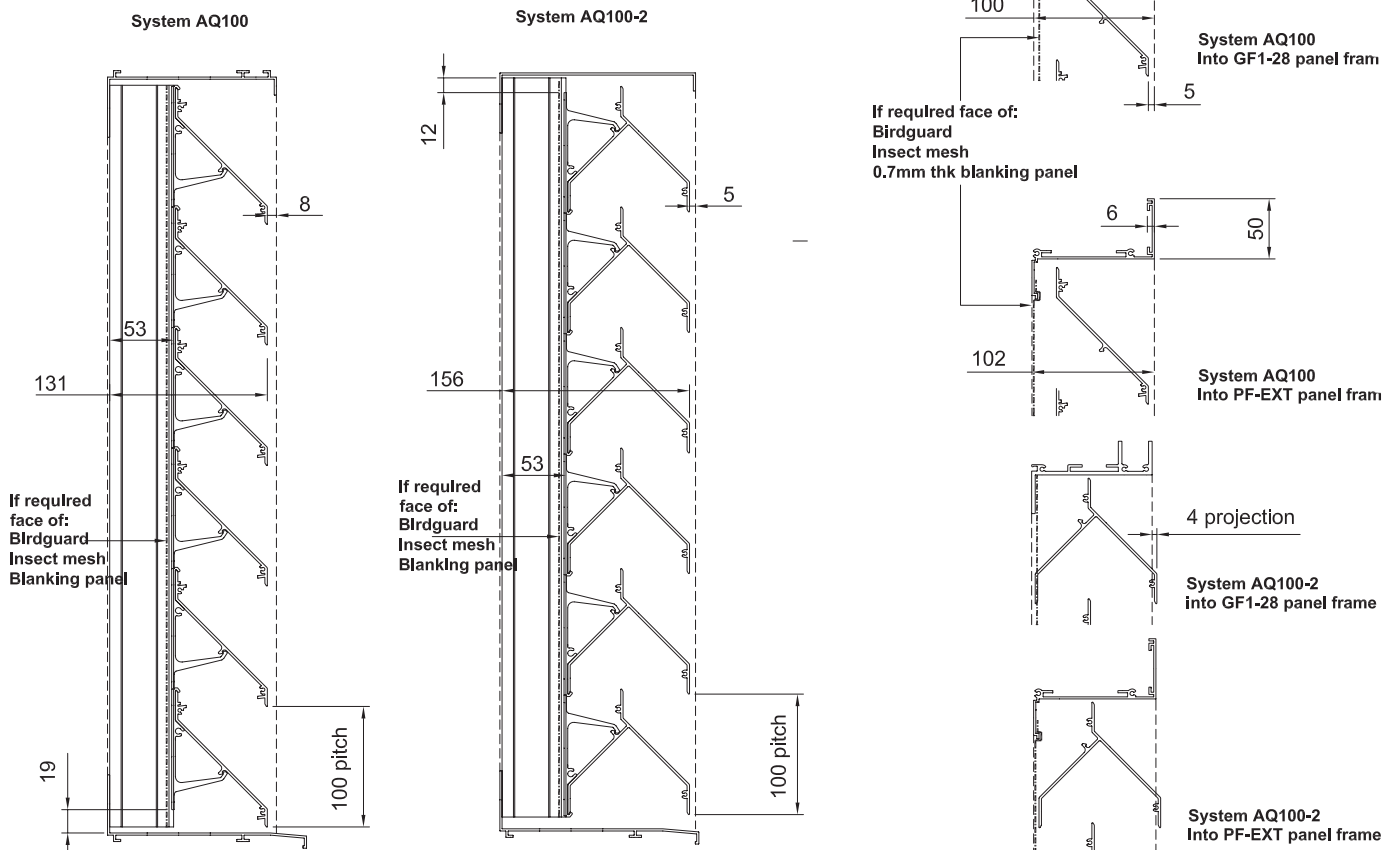
Double Bank Louvre System Performance:

- Provides 43.52% free area at louvre face.
- CFD derived Class A2 at 0.0 m/s suction and Class B2 up to 1.0 m/s.
- Intake K factor = 9.58, Ce = 0.323
- Extract K factor = 10.34, Ce = 0.311

Performance Testing and Classification

- Louvres tested according to BS EN 13030:2001.
- Two-part test: measures water penetration and pressure drop.
- Results divide louvres into classes, with 'A' being the most effective and 'D' the least.

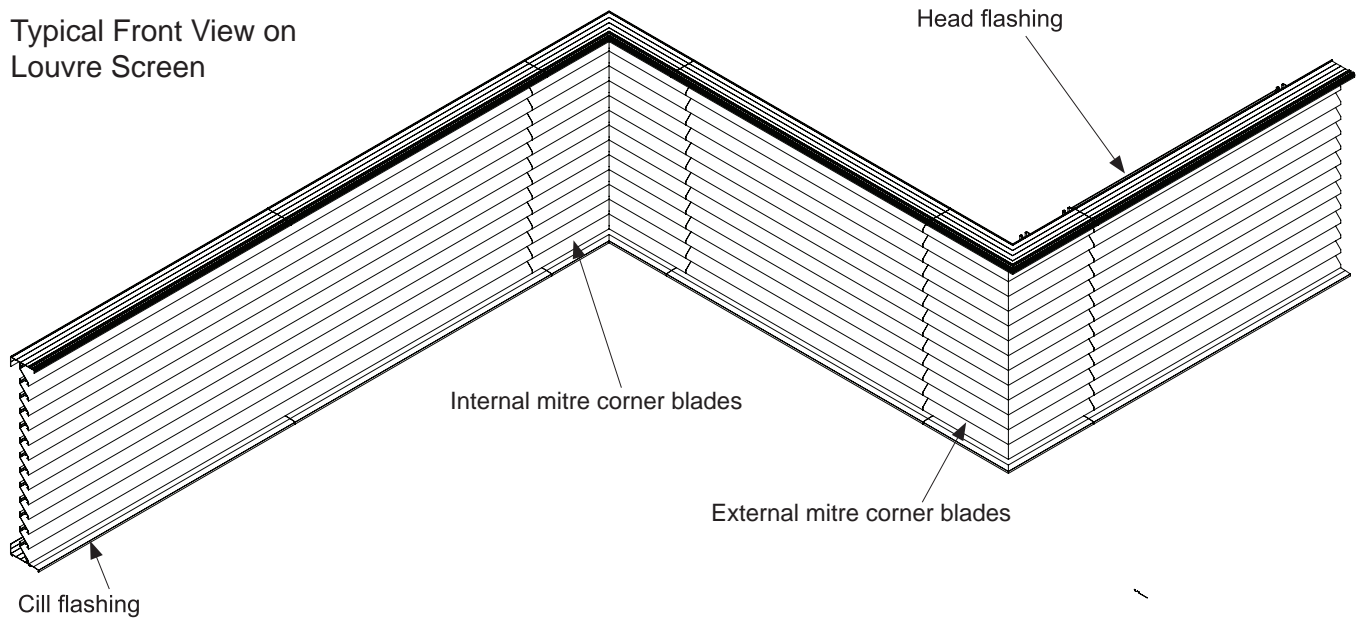
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Scale drawings available on request



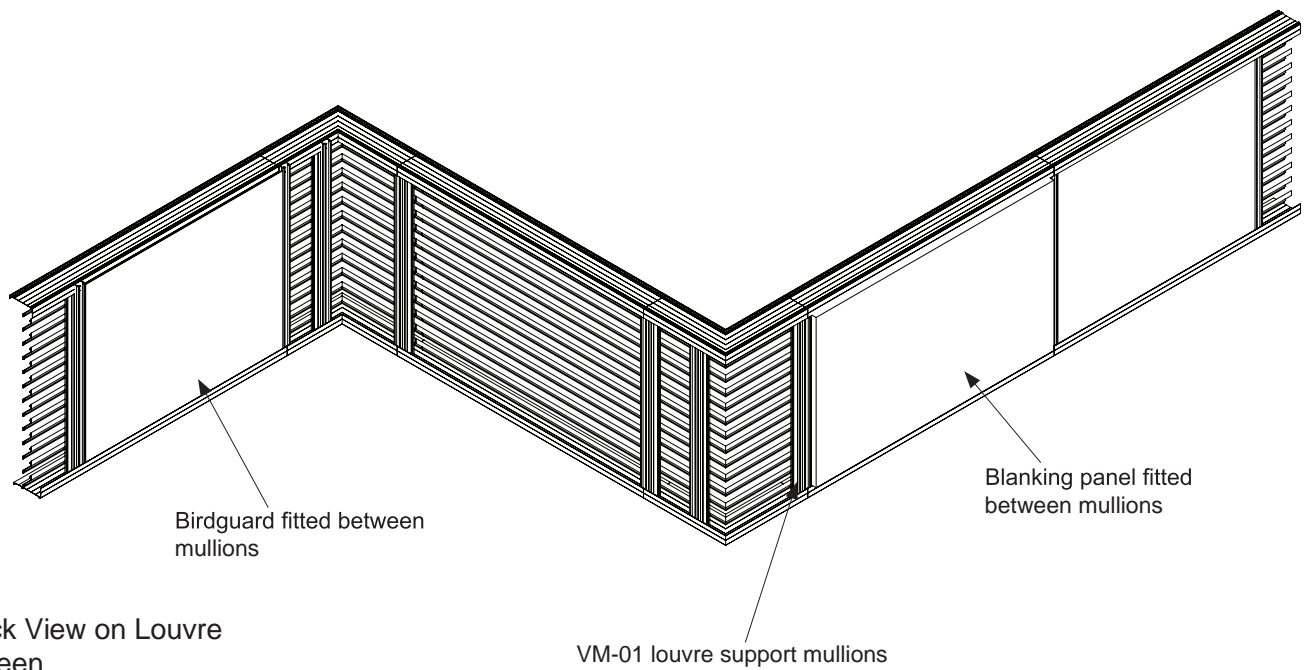
AQUARIUS™ X-LINE 100

Aquarius™ X-LINE 100 General Arrangement Details

Typical Front View on Louvre Screen



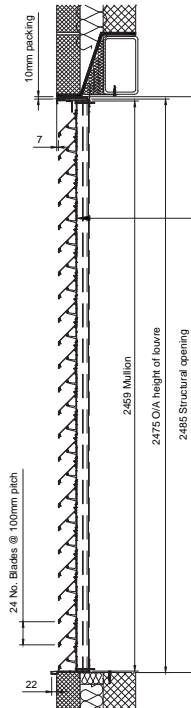
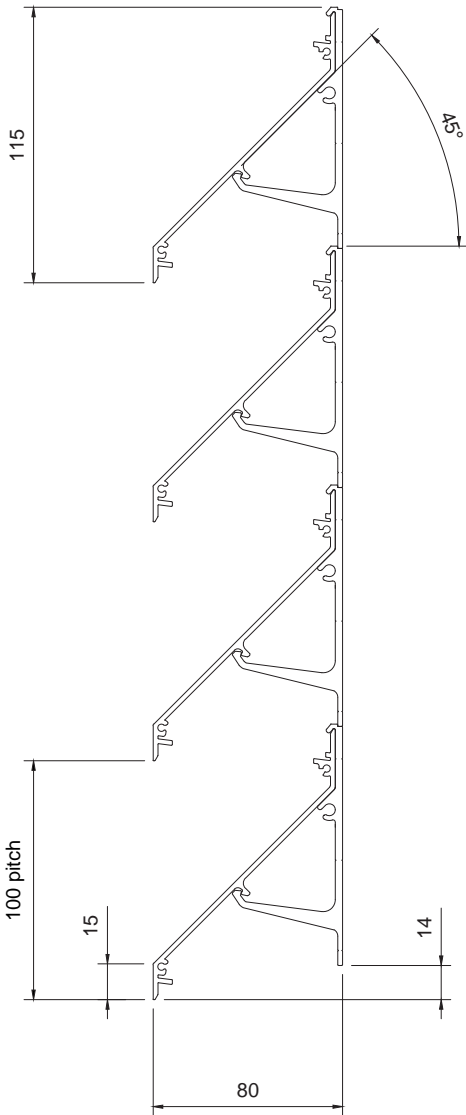
Back View on Louvre Screen



AQUARIUS™ X-LINE 100 Single Bank

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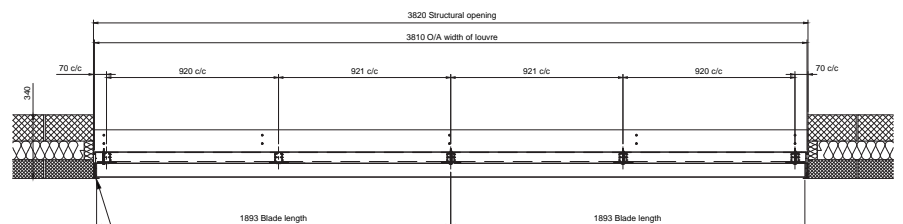
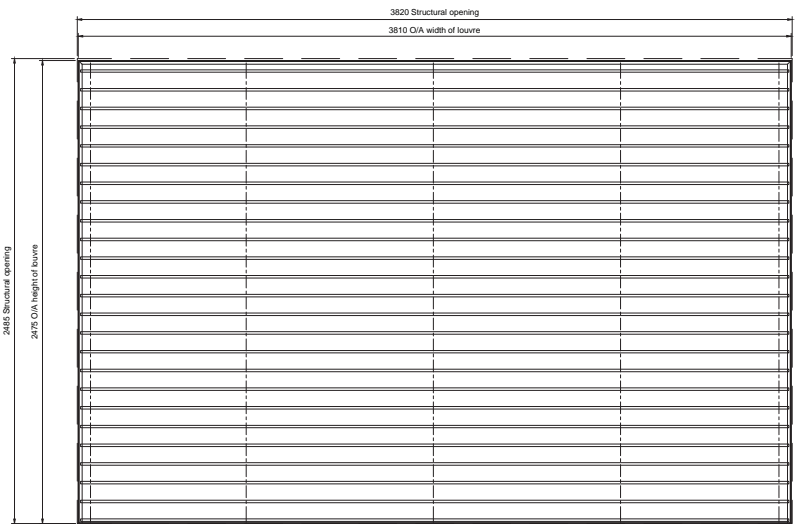
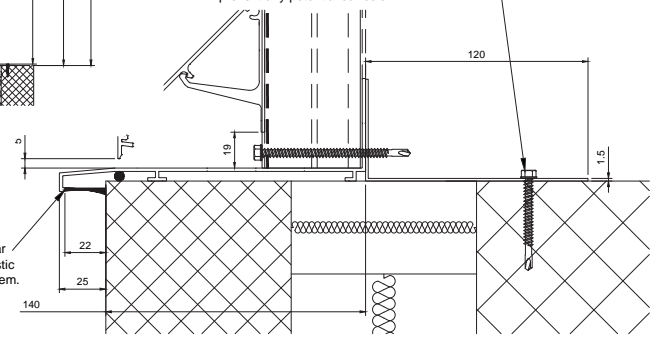
Example of single bank
louvre system: Leeds Arena



Black, Polypropylene bird guard fixed between wings of AQ support mullions using ali/steel dome rivets.

1.5mm folded galvanized steel fixing straps by Solinear running continuously along head and sill line of louvre. Fastened directly into block work or steelwork structure at nominal 300mm c/c using tapcons or fine thread TEK screws respectively. Louvre panel fixed to straps using long series, coarse thread TEK screws. Barrier tape will be used between the components to prevent any potential corrosion.

Louvre sealed at all sides by Solinear using low mod, silicone sealant. Mastic supplied to match rest of louvre system.

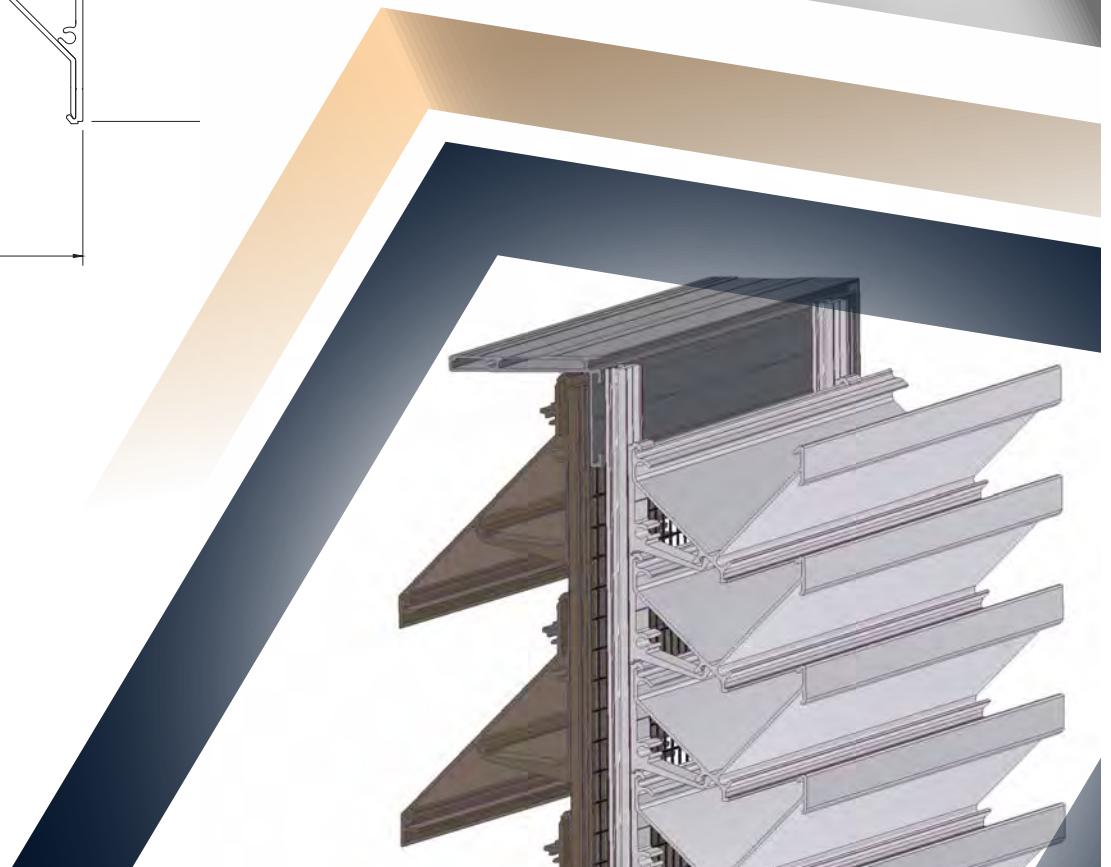
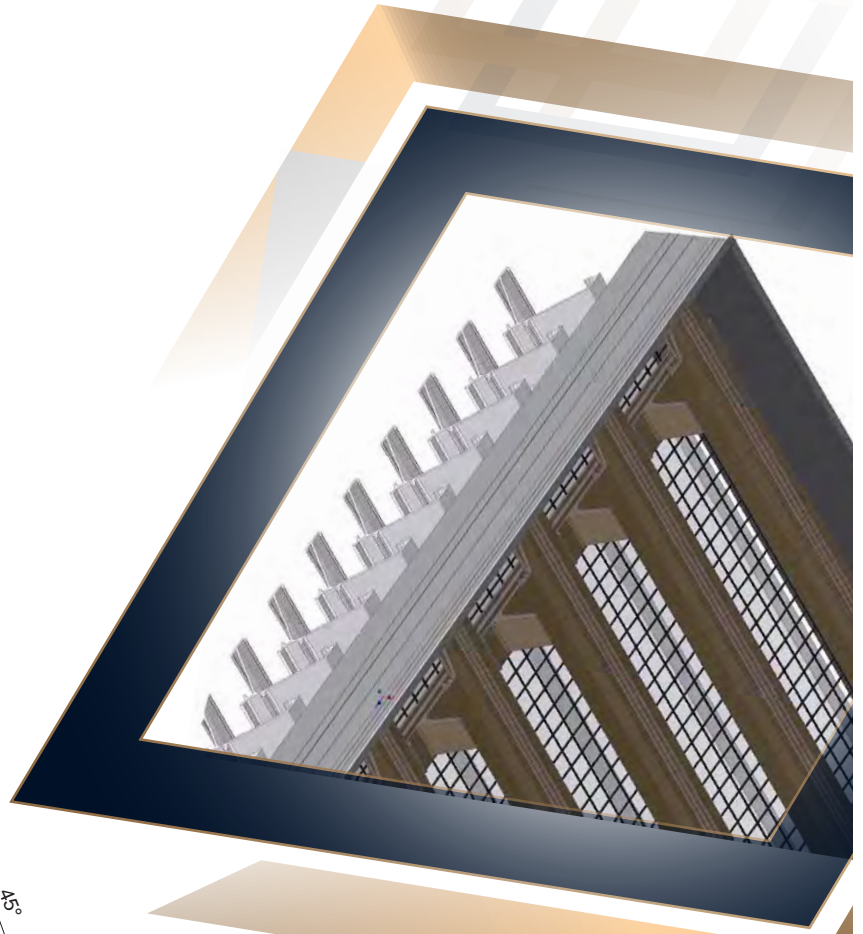
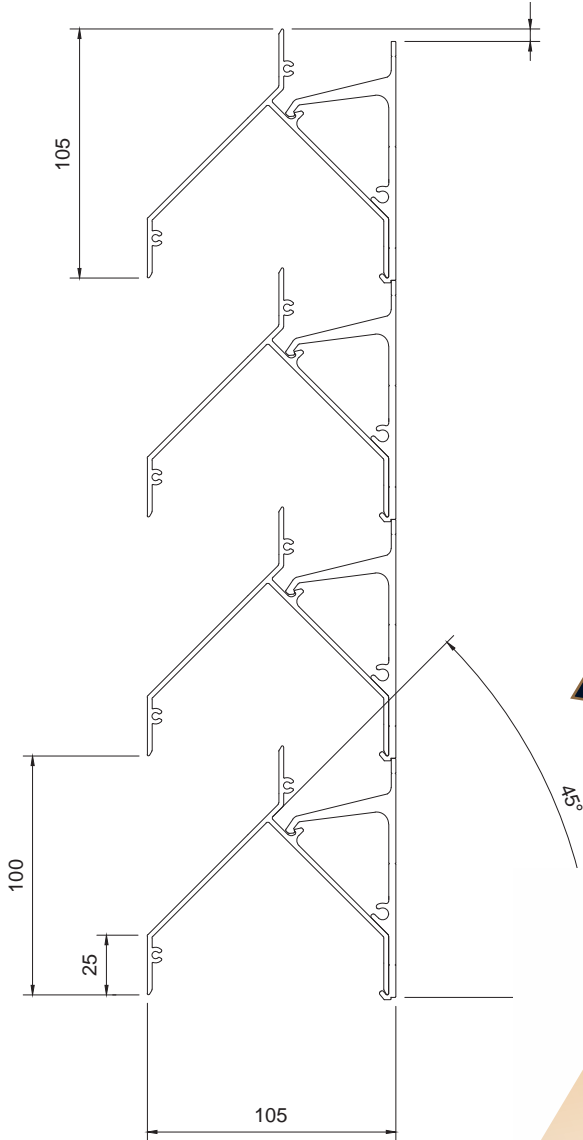


Front face of headjamb flashings to be flush with face of structure.



AQUARIUS™ X-LINE 100 Double Bank

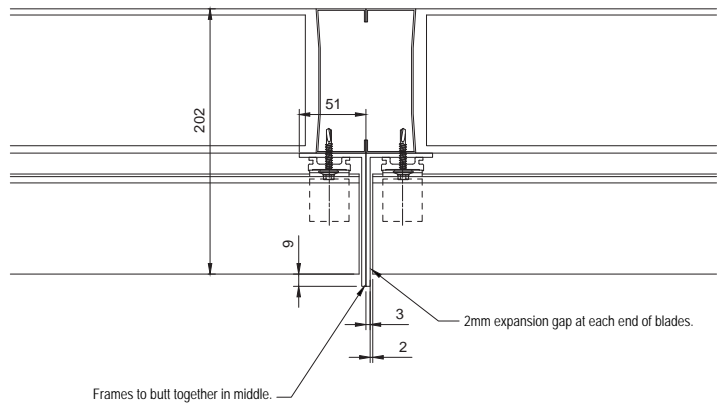
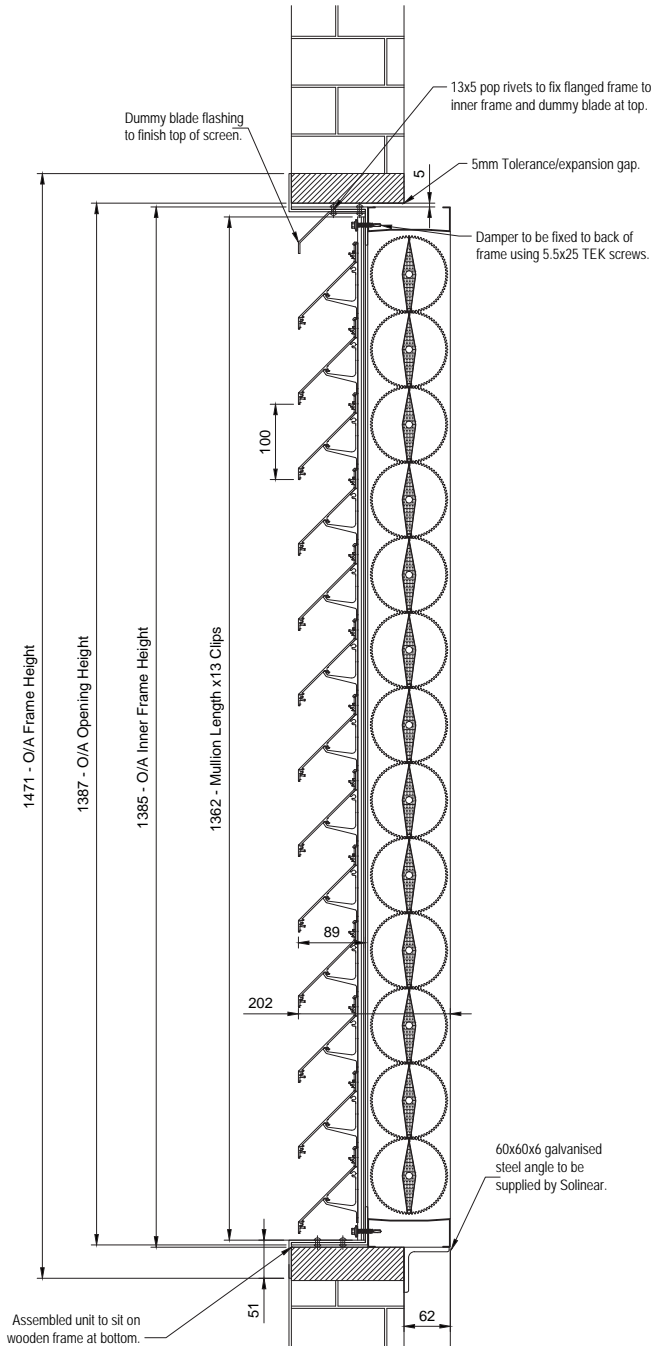
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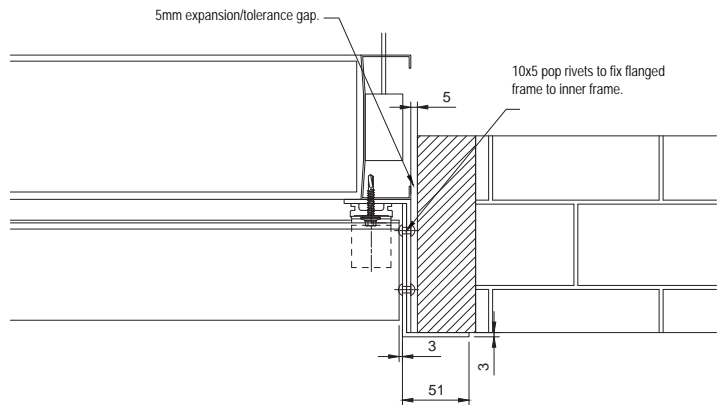
AQUARIUS™ X-LINE 100 Damper

Example: Aquarius™ X-line 100 Blades
 10mm Pitch
 Flatbar mullion + clip
 Custom 100x50x3.2 angle frame
 Rega damper

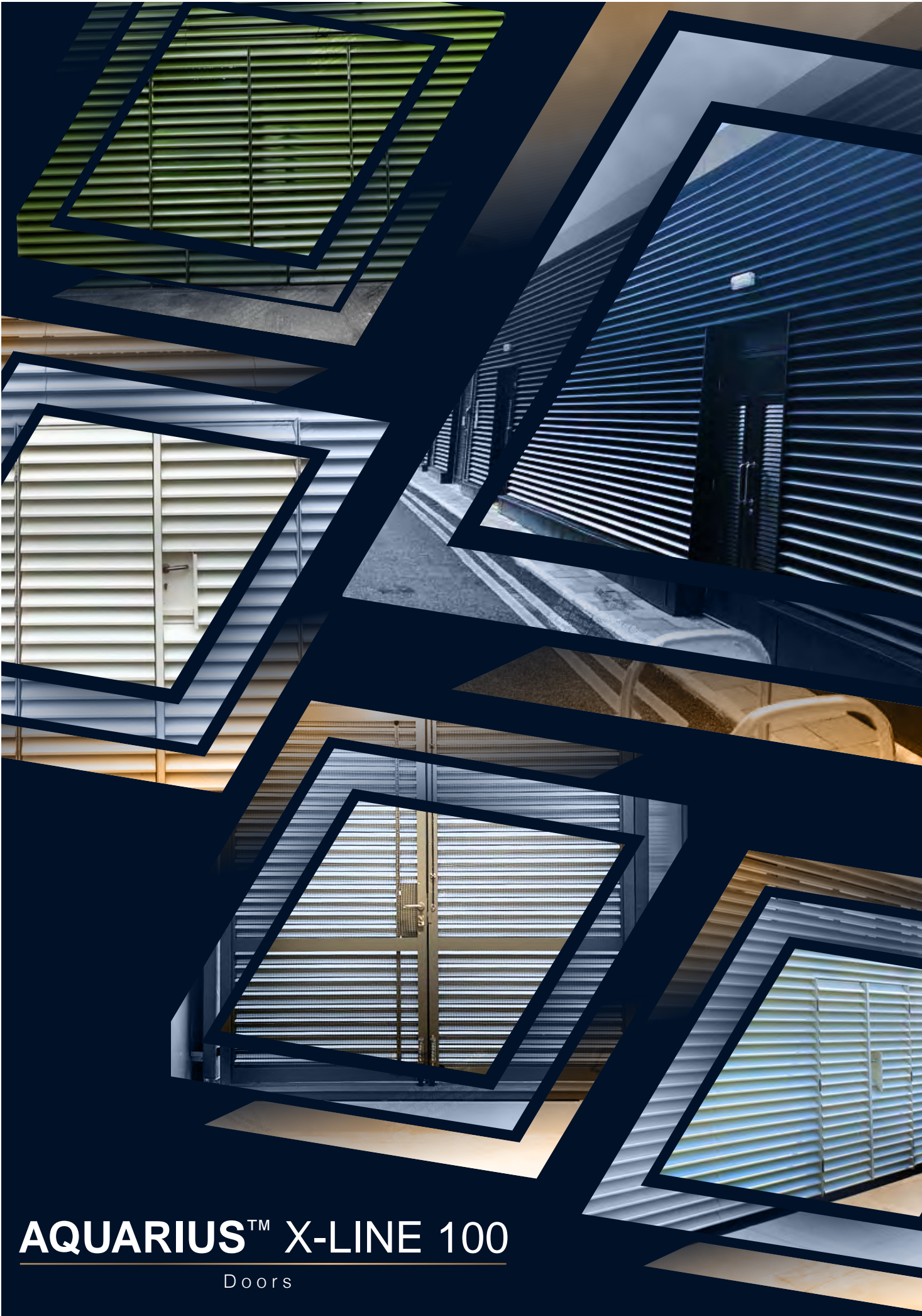
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Detail 1



Detail 2



AQUARIUS™ X-LINE 100

Doors

AQUARIUS™ X-LINE 100 SINGLE DOORS

Louvre doors are vital for high/low voltage sub-stations, boiler rooms and rooms requiring constant airflow for ventilation or combustion purposes whilst offering a high level of weather protection to the enclosed spaces. They can also be used for general access into roof plant louvre screens.

The Aquarius™ X-line 100 louvre product range includes single or double louvre doorsets. They can be arranged for either inward or outward opening and are available in all of our louvre product ranges, including acoustic louvre doorsets.

Louvre doors can be supplied to any given structural opening size, generally ranging from 750-1200mm wide (single door) and from 1000-4000mm wide (double door).

Door heights are made to suit the opening requirements with regard and consideration to practicalities of installation and safe practical use by building occupants.

Supplied as standard with Class 9, stainless steel butt hinges and overhead, sliding bar restrictor units to limit opening of door leaf beyond 95° during normal usage

and 180° by integral cam-lok adjustment, for full access to the space via the doorway. Also provided with a pivot mortice deadlock and euro-prole cylinder (lock keyed to outside and thumb-turn to inside).

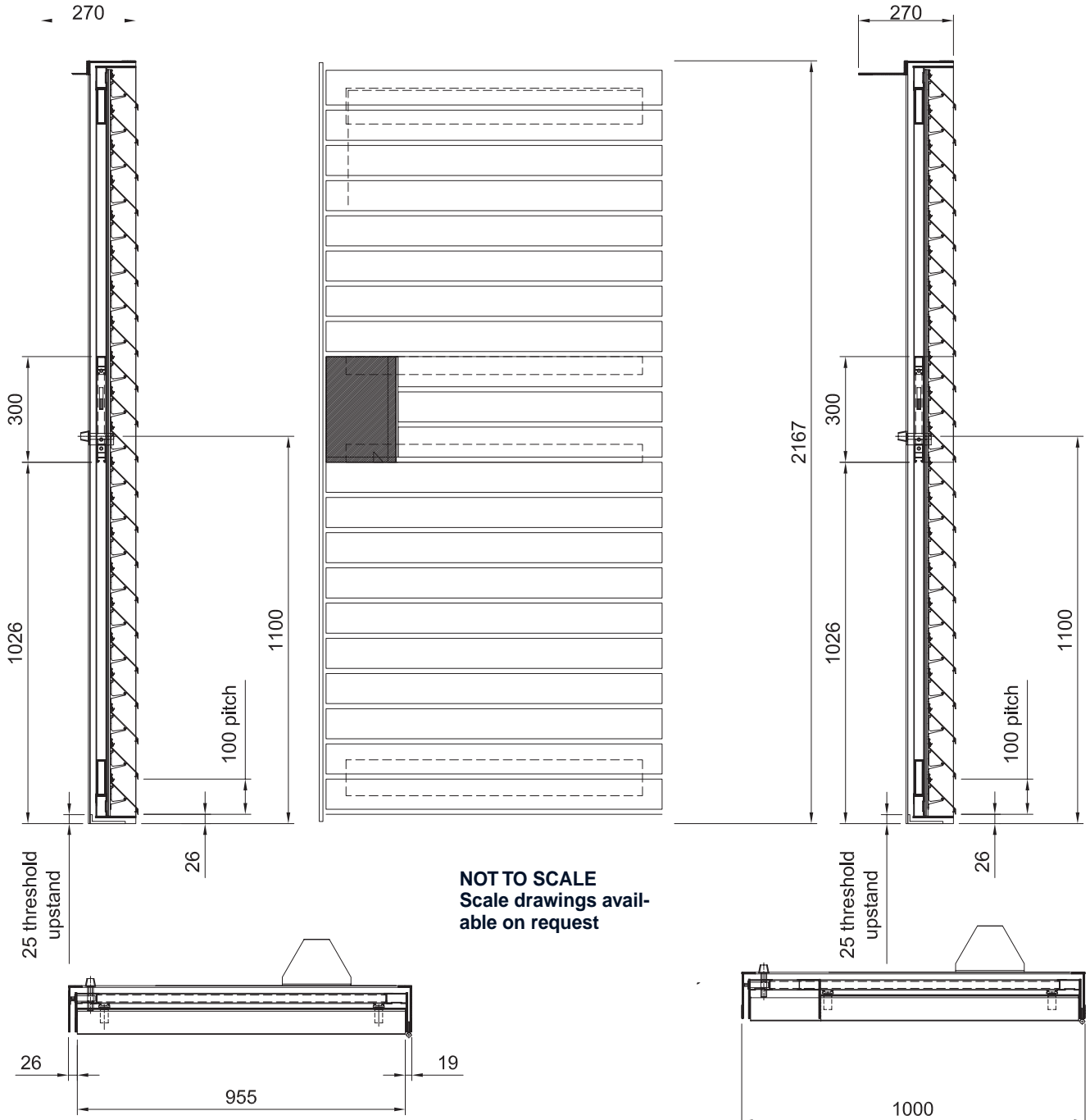
Double louvre doors are provided with spring assisted shoot bolts affixed to the slave door leaf.

Aquarius™ XLINE louvre doors can be fitted with emergency escape panic hardware, magnetic locking devices and keypad entry locking systems. The supply of these

component items is restricted to Solinear specification due to integration requirements with the louvre door sub-framing sections.

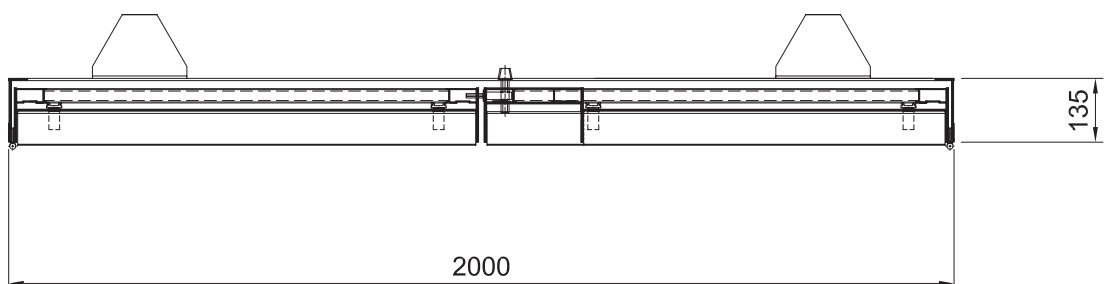
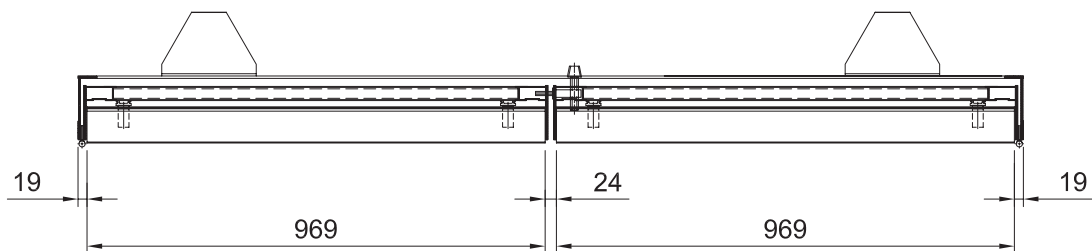
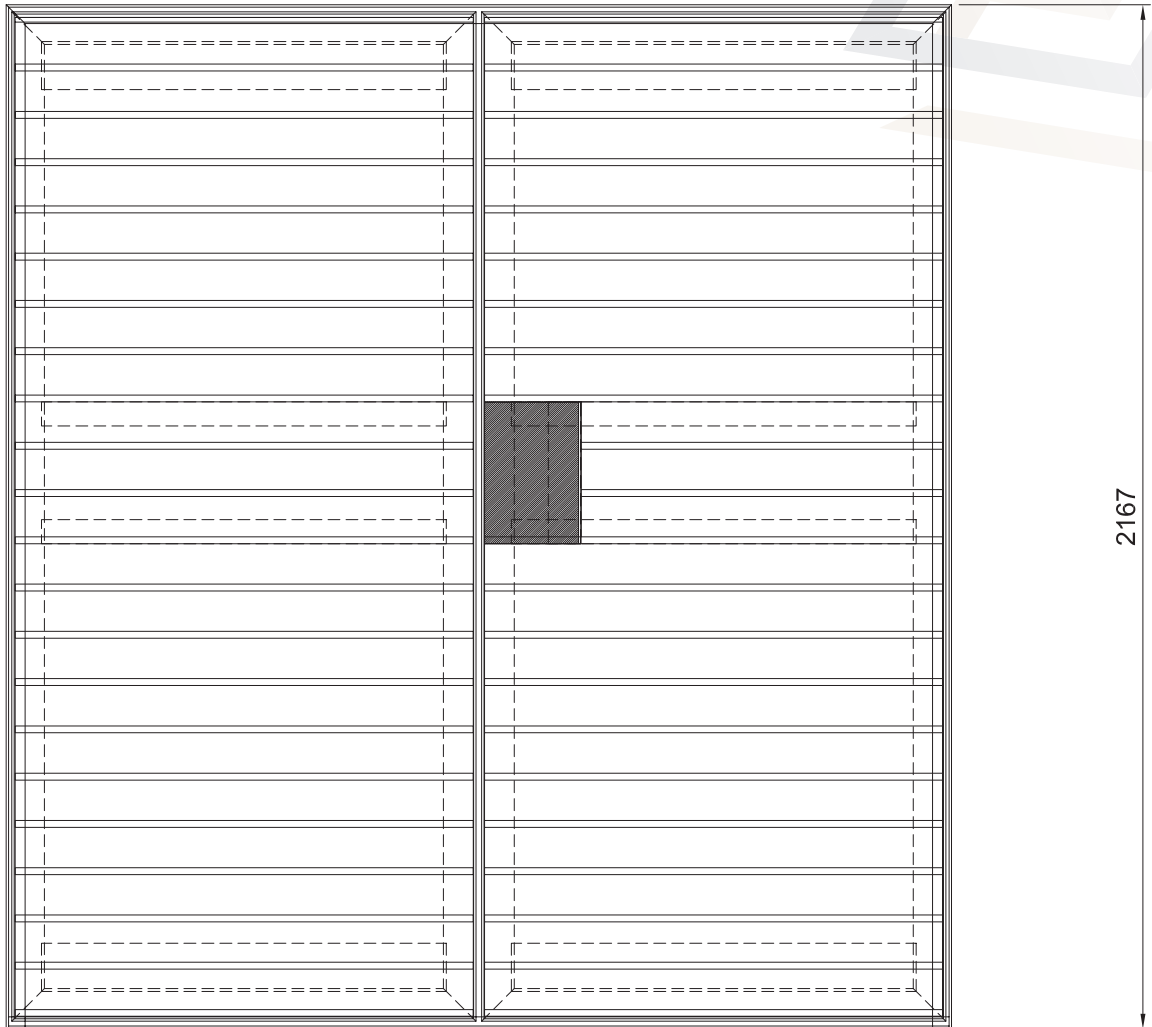
Where improved air leakage performance is required, louvre doors can be adapted in design and manufacture to incorporate brush seals and blanking panels.

Solinear can supply and install fire doors and steel doors where security is a requirement. Steel doors can be supplied with steel louvre panels inset to provide ventilation to the guarded space.



AQUARIUS™ X-LINE 100 DOUBLE DOORS

NOT TO SCALE
Scale drawings
available on
request



AQUARIUS™ RANGE

Solinear's Aquarius™ range has been designed to include an extensive range of fixed and operating louvre products suitable for installation into any structural or glazed opening within a building or as a free-standing structure to a roof plant area.

Generally employed as effective screening and/or means of natural ventilation, it is often used as a plant room louvre or installed where plantroom machinery requires simultaneous protection from the elements and ambiently controlled ventilation and/or there is a requirement for noise mitigation.

WANT TO KNOW MORE ABOUT OUR AQUARIUS™ RANGE?

Click [here](#) for our dedicated Aquarius™ products web page.

CASE STUDIES

Visit our [Aquarius™ case studies](#) web page for examples and download project PDFs.

SPECIFICATION ADVICE

Click [here](#) to view and download our NBS Specification Advice example.

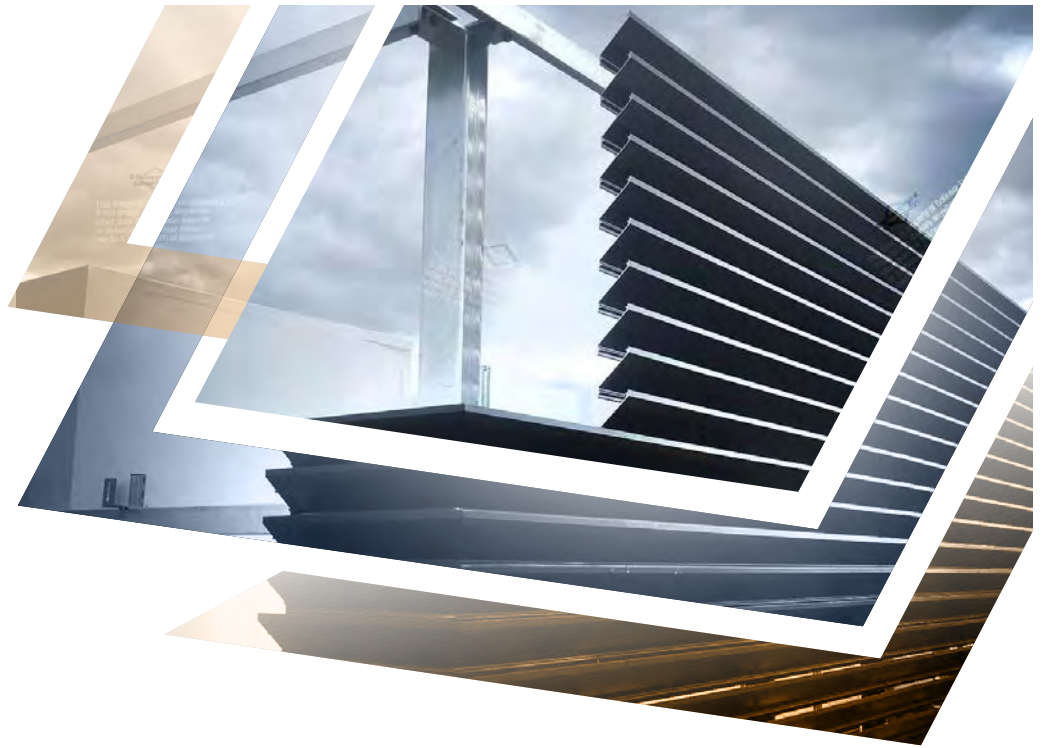
HAVE ANY QUESTIONS?

Contact a member of our friendly team on the details below or visit our website for more information about Solinear and our products and services:

☎ 01347 879 046

@ mail@solinear.co.uk

🌐 www.solinear.co.uk



WHAT WE OFFER



We offer a full Design, Manufacture and Installation service for our range of static and operable external solar shading systems. Manufactured from a range of materials including extruded aluminium, stainless steel, galvanised or mild steel and a range of timber species that provide a sustainable, cost effective and aesthetically pleasing addition to any structure.

PROJECT MANAGEMENT

All projects are managed by fully qualified and experienced project managers - guaranteed by Solinear to be responsible for the efficient and successful implementation of the product, manufacture and installation.

DESIGN

We design all of our products using the very latest Autodesk Mechanical and Inventor 3D design software. Thus allowing us to incorporate external details and supply our drawings and design documents in electronic DXF/DWG/ DWF or PDF file format for easy collaboration, design

reference and inclusion directly into your own CAD details or model.

BIM

Solinear is BIM level 2 compliant and as such BIM models of our products are available for download through our dedicated online library.



Click on the SOLBIM logo above to visit Solinear's free BIM library.

ADVANCED ANALYSIS

Sun path solar analysis can be carried out to support our solar shading

proposals. Specialist computer software uses predictive ray casting technology to model the sun's paths and subsequently calculate the amount of sunlight penetrating the building façade after our solar shading system has been taken into account.

INSTALLATION

To ensure your complete confidence in our projects we employ fully trained CITB registered installation engineers for each project. All associated installers will possess relevant CSCS documentation, IPAF and PASMA training. All site supervisors have SSSTS at minimum.

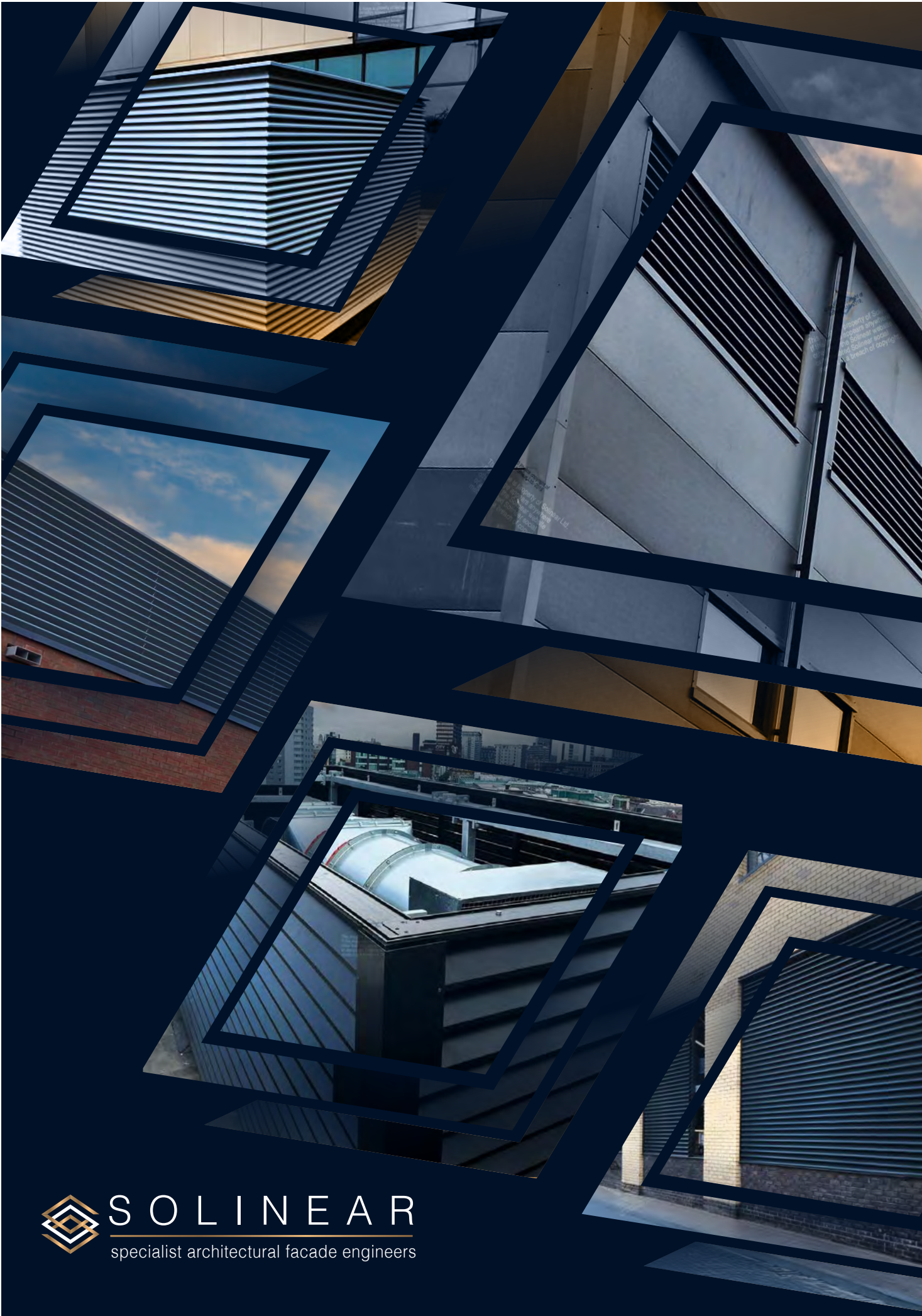


Constructionline
Gold Member



Constructionline
Silver Member





SOLINEAR
specialist architectural facade engineers