element control systems
commercial louvres & solar shading

SOLAR SHADING SYSTEMS

commercial louvres | solar shading | design consultancy | sales and installation | natural ventilation

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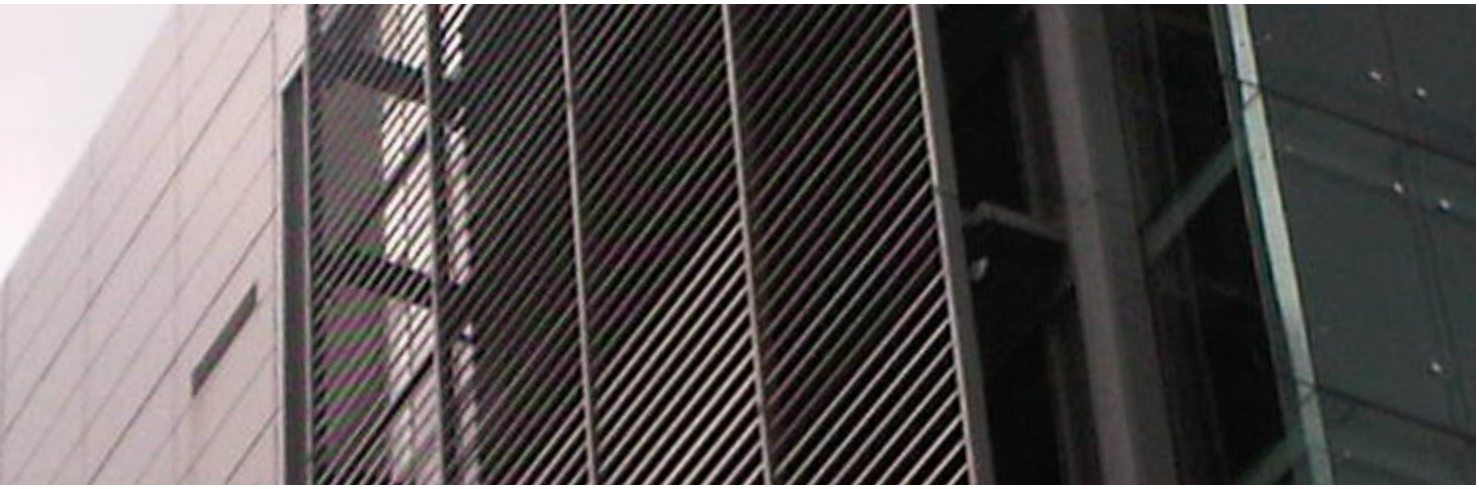

INTRODUCTION

There are many different reasons to want to control the amount of sunlight that is admitted into a building. In warm, sunny climates excess solar gain may result in high cooling energy consumption; in cold and temperate climates winter sun entering south-facing windows can positively contribute to passive solar heating; and in nearly all climates controlling and diffusing natural illumination will improve daylighting.

Well-designed sun control and shading devices can dramatically reduce building peak heat gain and cooling requirements and improve the natural lighting quality of building interiors. Depending on the amount and location of fenestration, reductions in annual cooling energy consumption of 5% to 15% have been reported. Sun control and shading devices can also improve user visual comfort by controlling glare and reducing contrast ratios. This often leads to increased satisfaction and **productivity**. Shading evices offer the opportunity of differentiating one building facade from another. This can provide interest and human scale to an otherwise undistinguished design.

The use of sun control and shading devices is an important aspect of many energy efficient building design strategies. In particular, buildings that employ **passive solar heating** or **daylighting** often depend on well-designed sun control and shading devices.

During cooling seasons, external window shading is an excellent way to prevent unwanted solar heat gain from entering a conditioned space. Shading can be provided by building elements such as awnings, overhangs, and trellises.

The design of effective shading devices will depend on the solar orientation of a particular building facade. For example, simple fixed overhangs are very effective at shading south-facing windows in the summer when sun angles are high. However, the same horizontal device is ineffective at blocking low afternoon sun from entering west-facing windows during peak heat gain periods in the summer. All **Element Control Systems** products have been structurally proven by fully qualified engineers.

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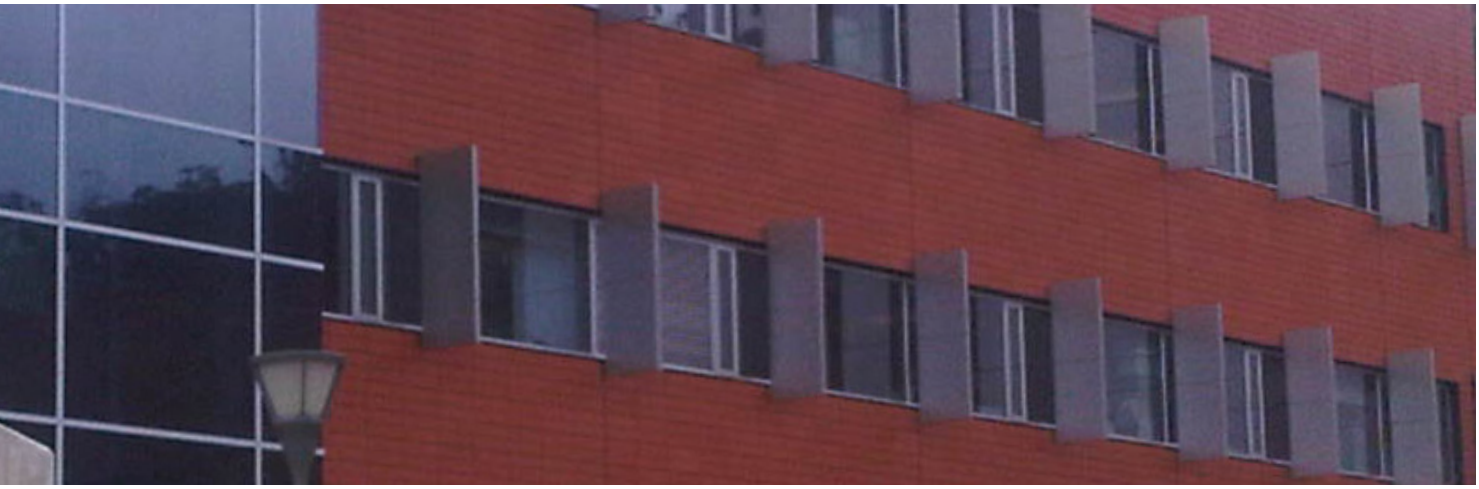

The **Element Control Systems** Solar Shading products are placed on the external façade of a building adjacent to windows to reduce sun and heat entry into a building.

They always provide an aesthetically pleasing addition to the building and are often used solely for their aesthetic properties.

A wide range of materials, finishes and manufacturing techniques are used in their construction. Element Control Systems and their employees have had many years experience in providing solar shading solutions to industry.

Many buildings require very individual solar shade designs and as such ECS offer a free no obligation unique engineered service to suit individual needs. Full in house solar engineering, structural and aerodynamic services are employed to achieve the zoptimum aesthetic and economic solution.

AIR STREAM

The Air Stream solar shade system consists of fixed or operable extruded aluminium elliptical blades spanning between vertical plate arms protruding from the building. It provides a striking appearance whilst offering maximum solar shading.

For extra effect the blades can be operable via specials brackets and pivots to suit individual installations. Driving echanisms can be electrical or manual, whilst control systems include automatic electric with solar tracking or thermal sensors.

The blades, due to their shape are able to span from 2200mm up to 5000mm depending on section and have been structurally verified by qualified engineers.

Blade sections are available with overall dimensions of 67mm,100mm, 150mm, 200mm and 300mm. Larger sizes are available.

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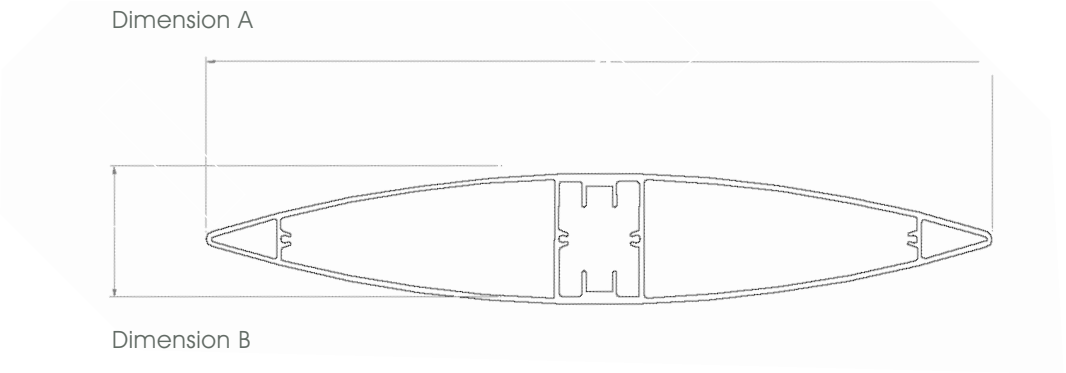
HORIZONTAL AND VERTICAL SPAN TABLE

Dimension A (mm)	Dimension B (mm)	Horizontal Span (mm)	Vertical Span (mm)
67	15	2000	2500
100	20	2300	3000
150	30	3000	4000
200	35	3600	4500
300	45	5000	5500

AIR STREAM ELLIPTICAL LOUVRE PROFILE



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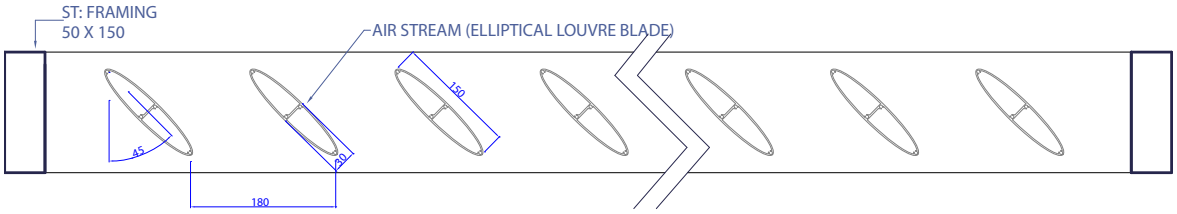
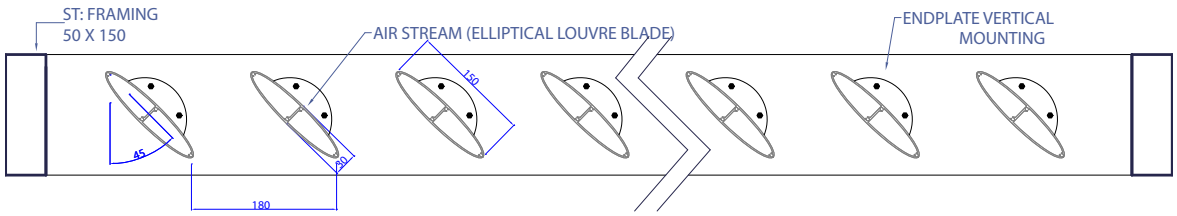
TYPICAL SECTIONS THROUGH SOLAR SHADE

Typical Specification
Solar Shading System shall be Element Control Systems Air Stream Eliptical Screening system . Blades are manufactured from minimum 2mm thickness aluminium extrusion Type 6063 T6 complete with various internal extrusion profiles to suit end plates for fixing purposes (or external angle fixing brackets)
Material/ Finishes
Powder coated / Anodised



TYPICAL SECTION THROUGH SOLAR SHADE HORIZONTAL VIEW



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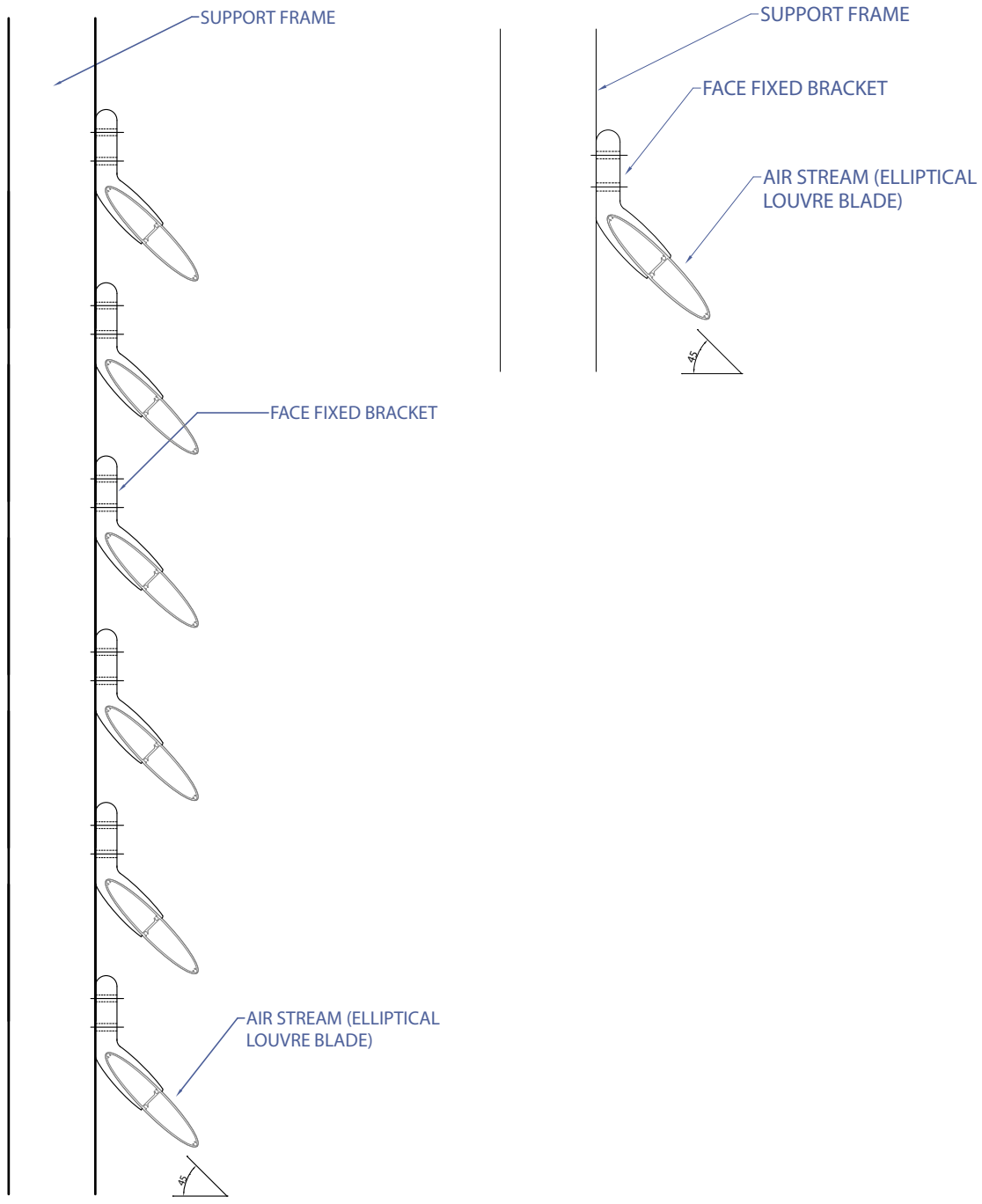
FACE FIXING METHOD



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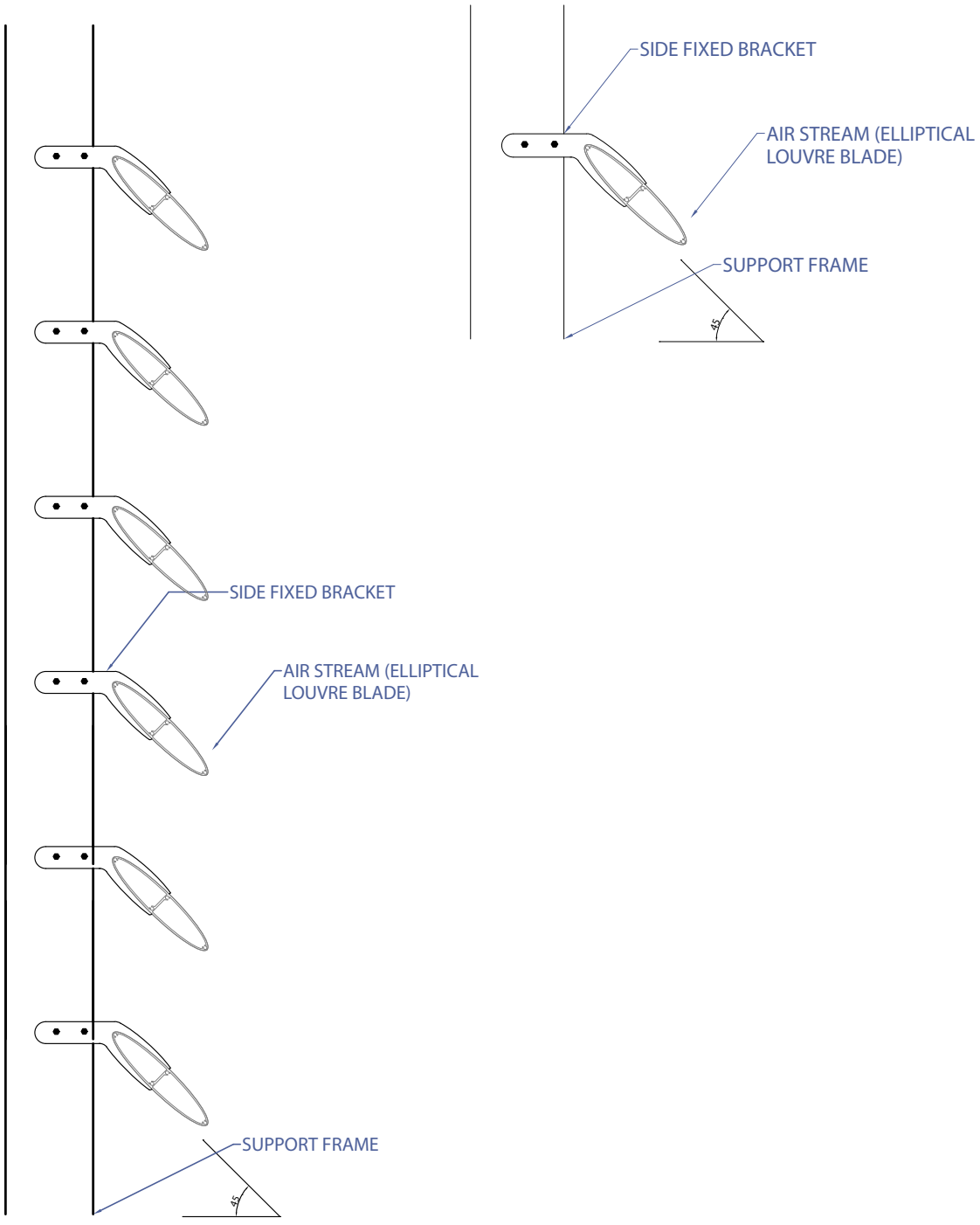
SIDE FIXING METHOD



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