

P/S Aerofoil® Solar Protection Systems



By using P/S Group's Solar Protection Systems on buildings and schools they could create comfortable, productive environments for employees and students alike. External sunshades are simply the most effective method of reducing heat and glare in a building's interior. Properly designed sun controls can reduce heat gain by up to 85% whilst increasing the interiors usable space by allowing occupants to sit adjacent to windows. P/S Aerofoil installations will assist in compliance with Building Regulations.

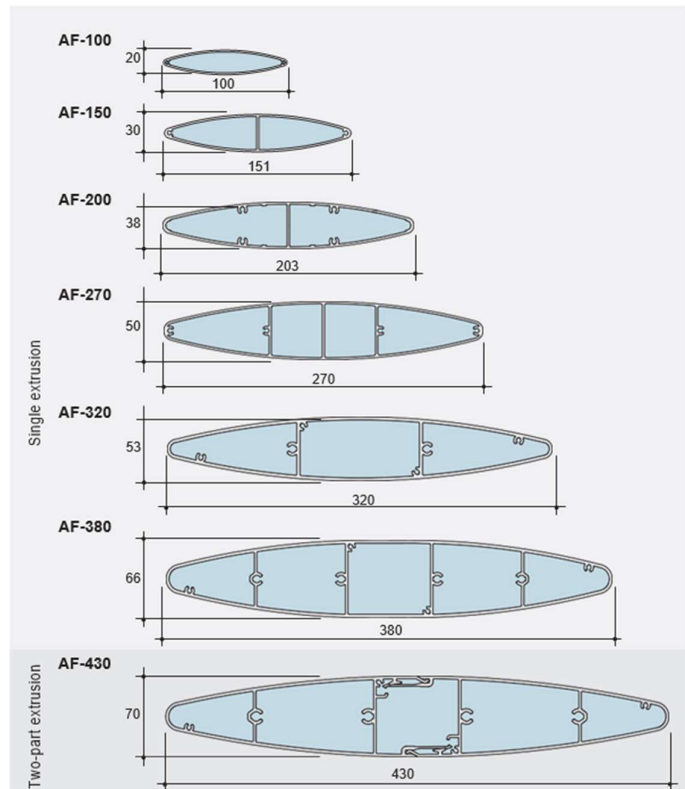
P/S Aerofoil blades are both stylish and practical. The clean lines and sleek profile of the Aerofoil blade achieve an appearance of quality and individuality, whilst providing an effective solution to the control of solar heat gain in buildings.

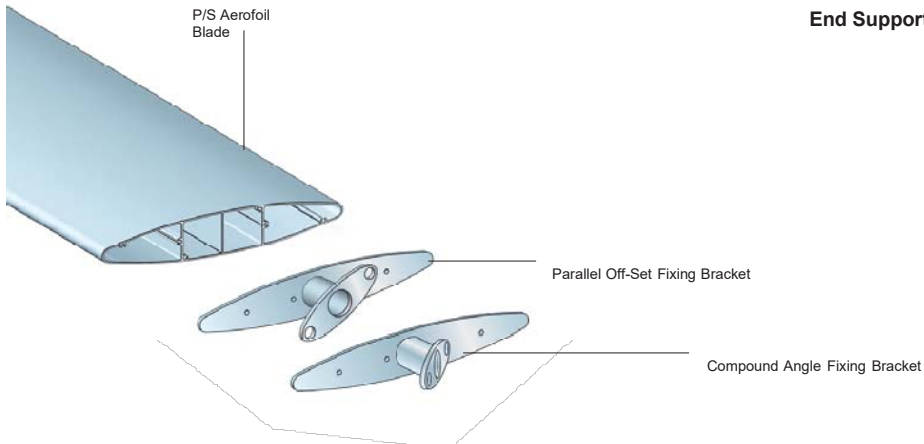


A number of options are available for securing P/S Aerofoil blades to the supporting structure, which allows a variety of blade configurations to produce a bespoke design. Cantilevered sunshades are ideal for both new and existing construction. They provide effective shading while maintaining unobstructed views. Projection and blade size may be varied to suit the project requirement.

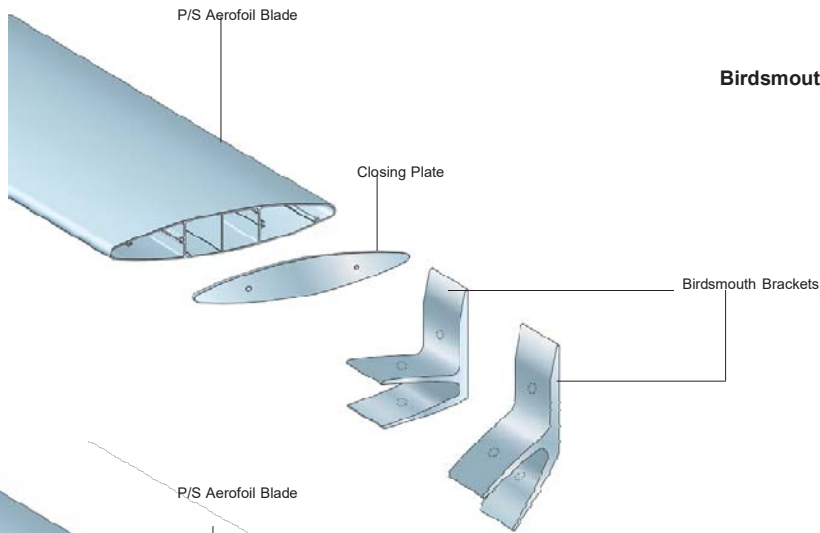
Facade mounted blades are a perfect alternative for applications where greater control is required over direct sunlight. The choice of blade orientation, either horizontal or vertical, is largely determined by a combination of form and function. The form being architectural preference, the function being the amount of light cut-off required and the building orientation.

Blade size selection

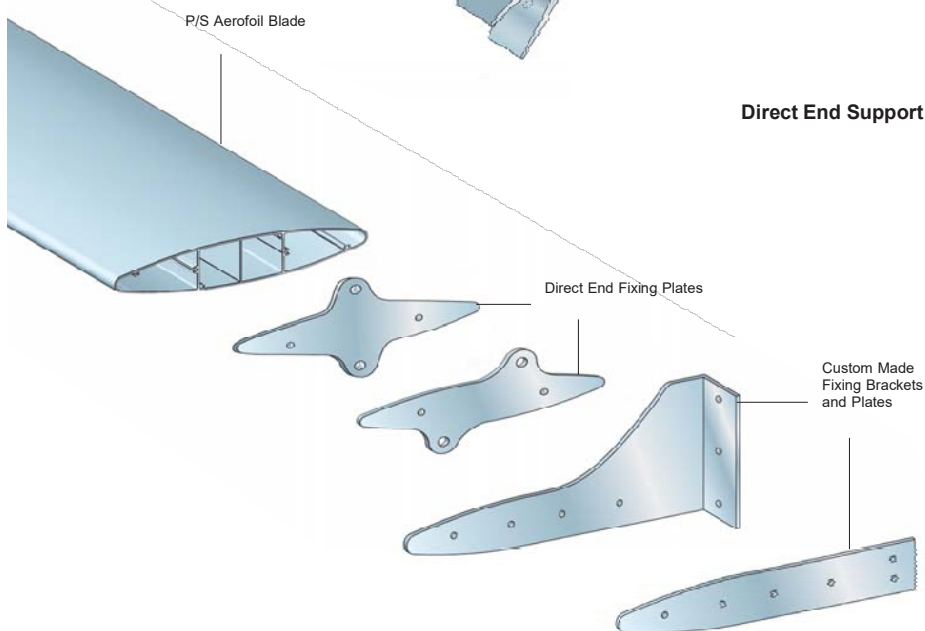




End Support Fixing



Birdsmouth Support Fixing



Direct End Support Fixing





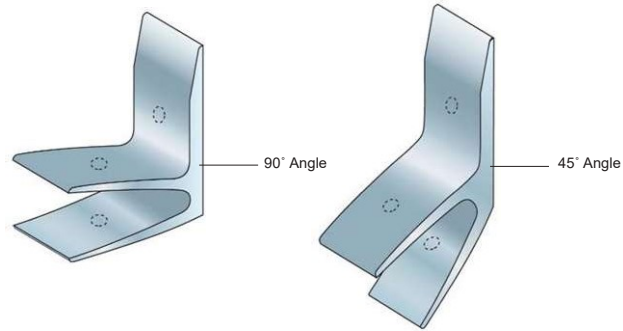
P/S Aerofoil® Birdsmouth Support Fixing



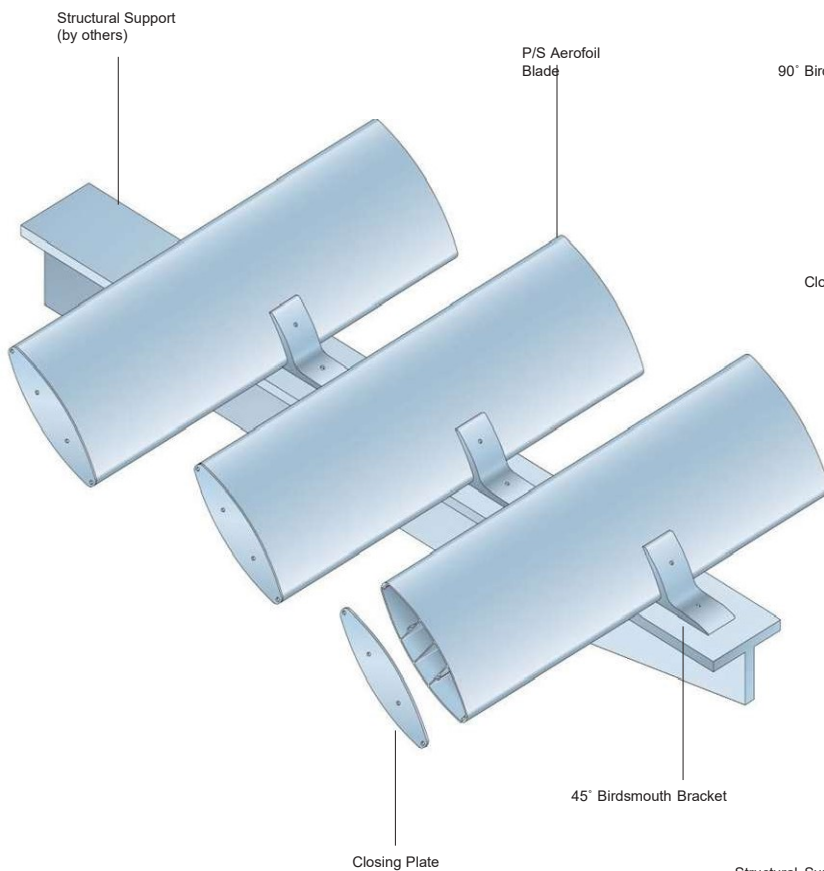
Extruded aluminium birdsmouth brackets provide a simple and effective fixing system for P/S Aerofoil blades. Brackets are available in either 45° or 90° angle options.

Standard bracket widths are 50mm for AF-150 and 100mm for AF-200, 270 and 320 blades. These are suitable for facade or cantilevered mounting.

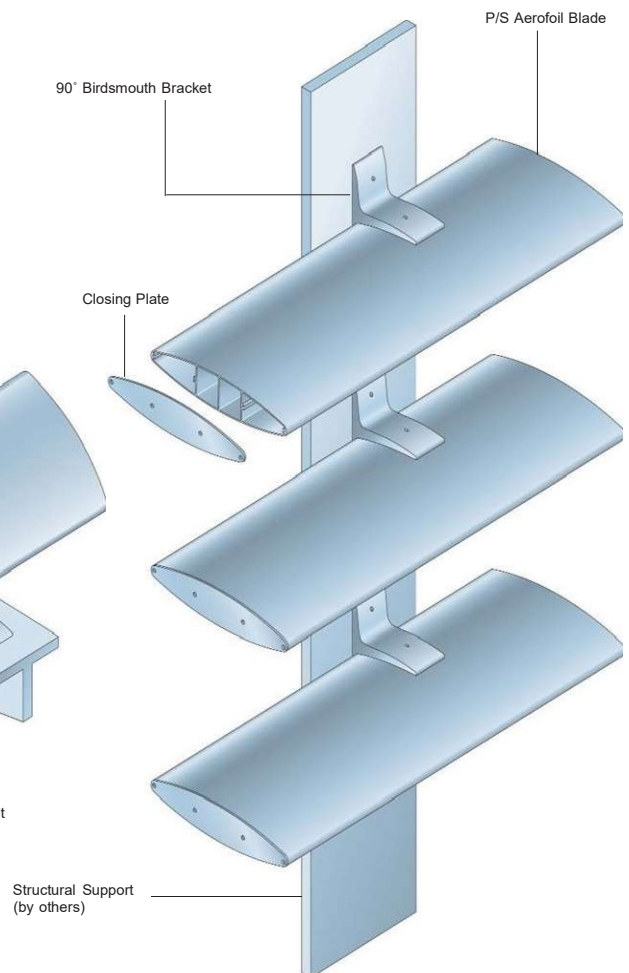
Birdsmouth Bracket Angle Options



Cantilevered Mounting



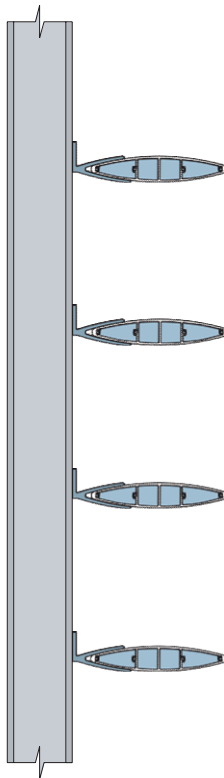
Façade Mounting (horizontal or vertical)



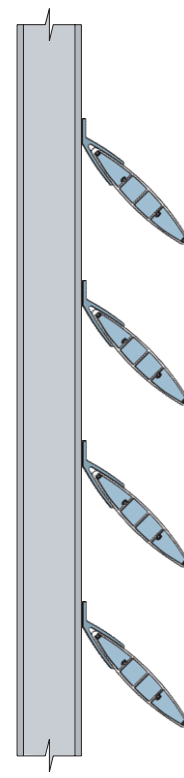
Aluminium Closing Plates can be supplied to suit the blade selected.



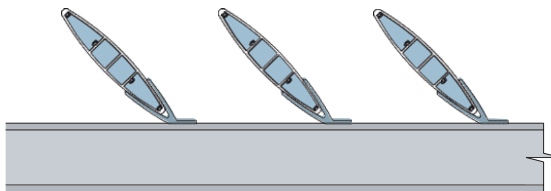
Sectional Elevations



Vertically mounted using 90° Birdsmouth Brackets.



Vertically mounted using 45° Birdsmouth Brackets.



Horizontally mounted using 45° Birdsmouth Brackets.

P/S Aerofoil®

Direct End Support Fixing



Stainless steel Direct End Fixing Plates available in 30°/45°/60° and 90° orientations provide the greatest versatility in fixing options.

Fixing can be back to the building facade via support steelwork run vertically or cantilevered arms providing horizontal support.

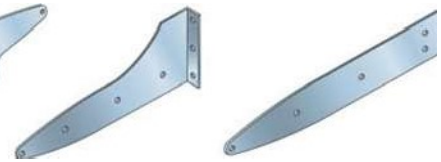
Standard Plates



90° Direct End Fixing Plate

30°/45°/60° Direct End Fixing Plate

Custom Design

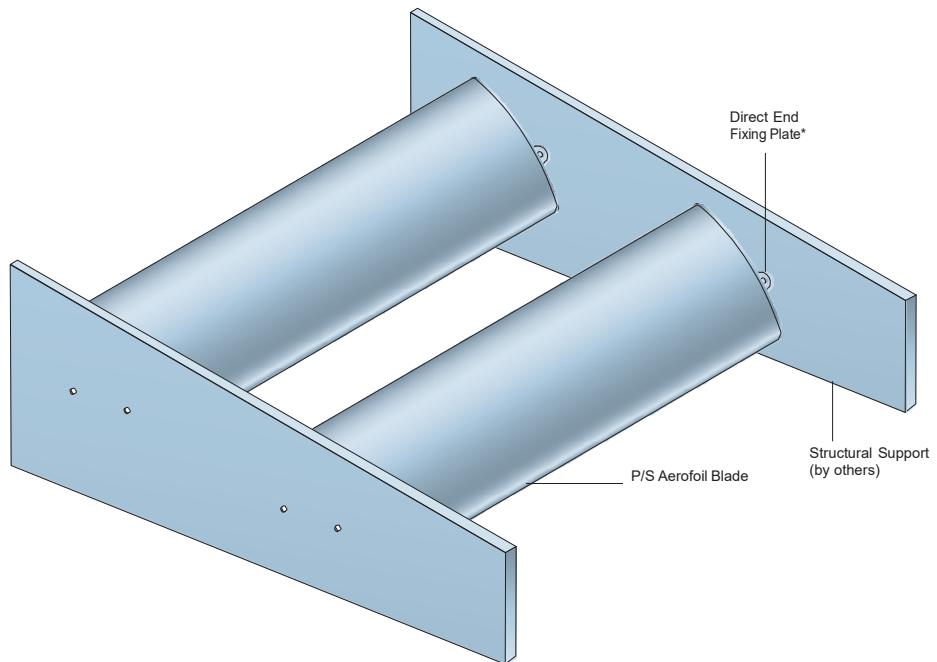


Suggested face fix method*

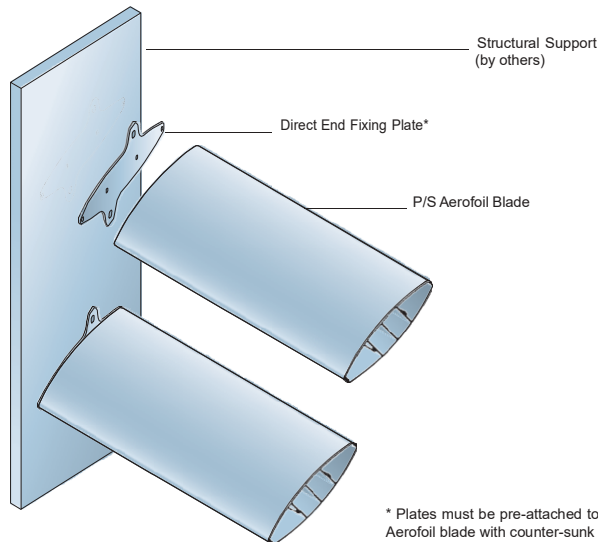
Suggested side fix method*

* Other shapes and blade angles can be supplied. Please contact our Technical Department for details.

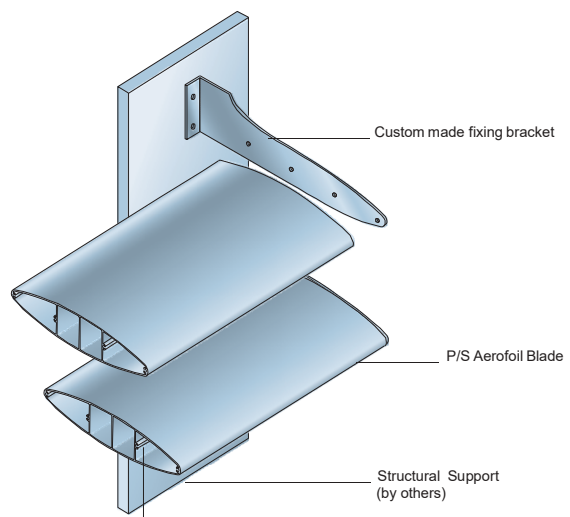
Cantilevered Mounting



Façade Mounting



Façade Mounting

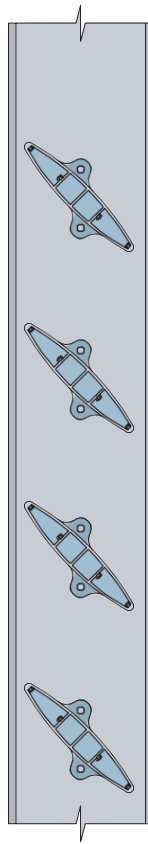


* Plates must be pre-attached to P/S Aerofoil blade with counter-sunk screws prior to fixing to the Structural Support.

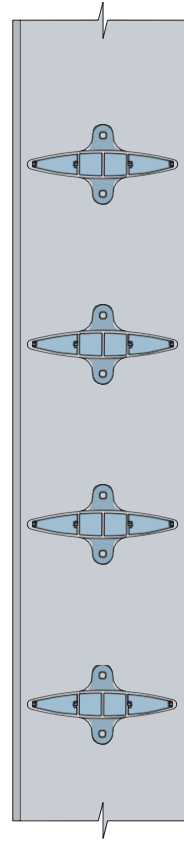
Note: Main screw ports on AF-320, AF-380 and AF-430 blades must be tapped to suit M8x50mm long countersunk screws.



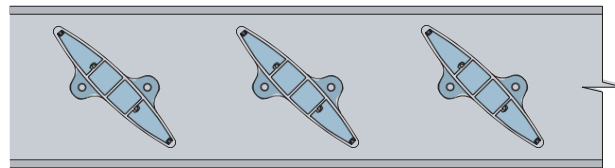
Sectional Elevations



Vertically mounted at 45° using Direct End Fixing Plates



Vertically mounted at 90° using Direct End Fixing Plates



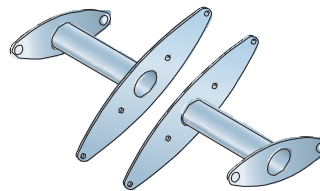
Horizontally mounted at 45° using Direct End Fixing Plates

P/S Aerofoil® End Support Fixing

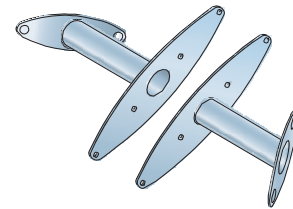


Stainless steel Compound Angle Fixing Brackets are used when dealing with corner details and faceted elevations. To complement this detail, Parallel Off-set Fixing Brackets for use on straight runs are also available.

Parallel Off-set Fixing Brackets*

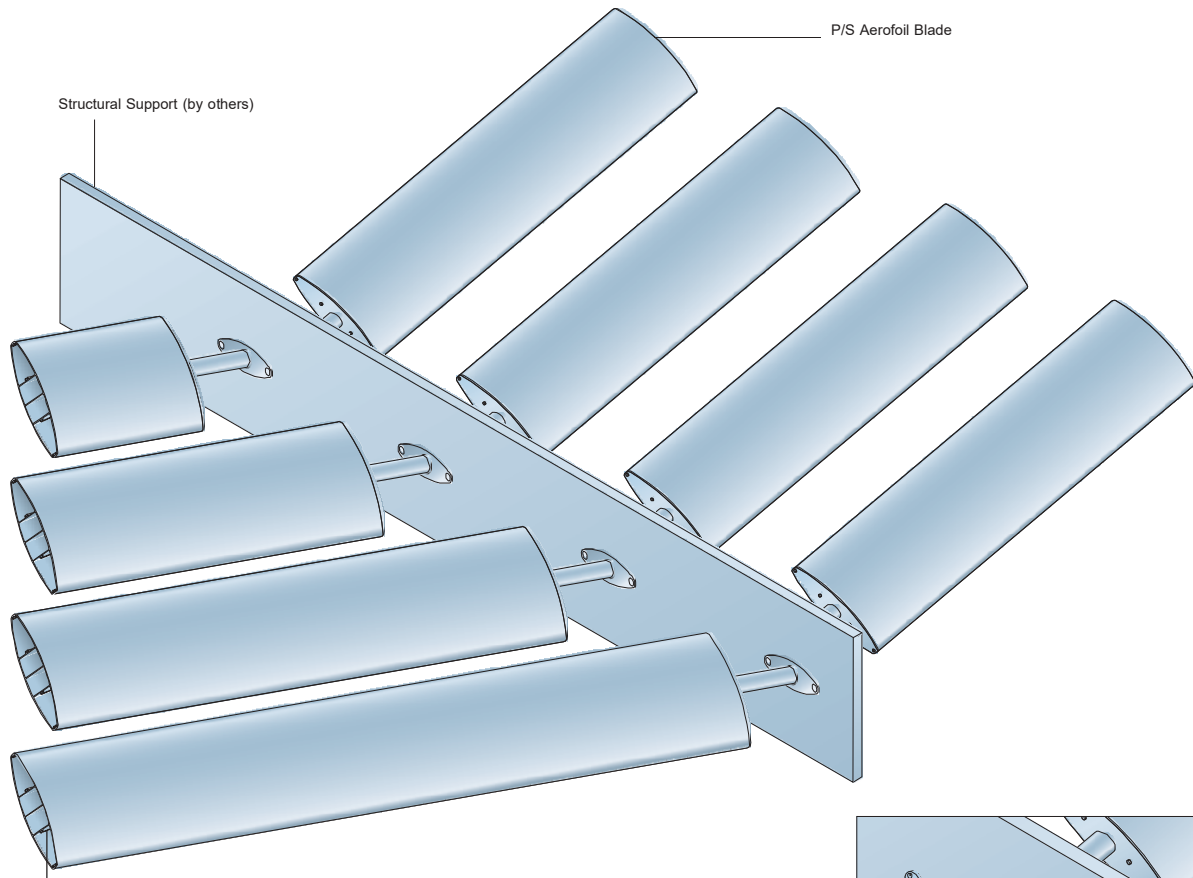


Compound Angle Fixing Brackets*



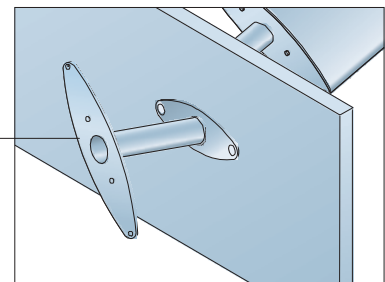
* For angles available please refer to page 16.

Cantilevered Mounting



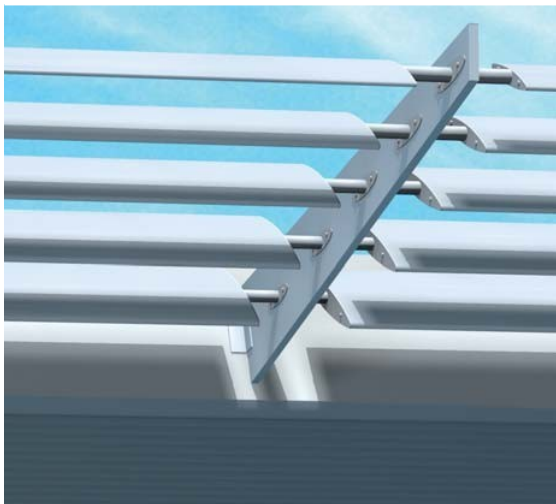
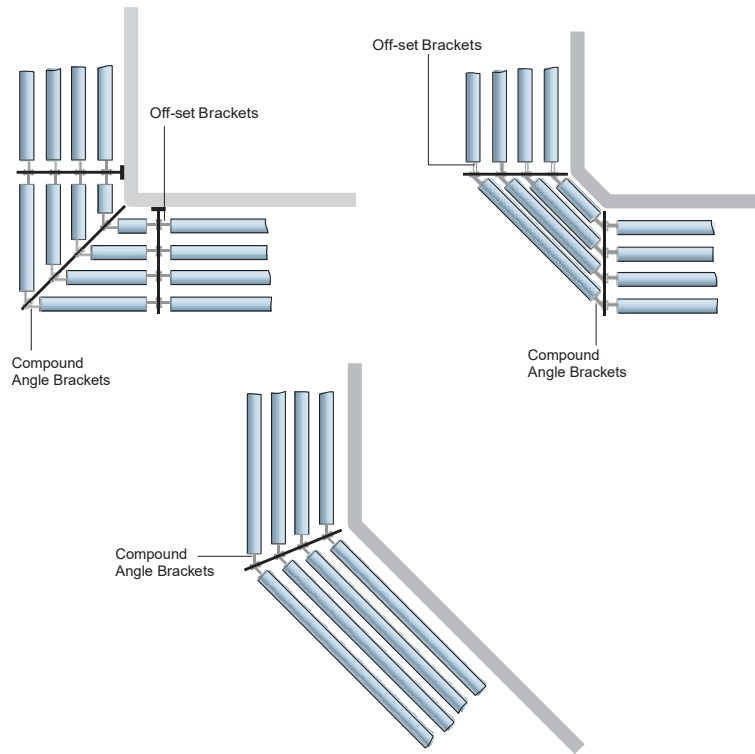
Note: Main screw ports on AF-320, AF-380 and AF-430 blades must be tapped to suit M8x50mm long countersunk screws.

Compound Angle Fixing Bracket

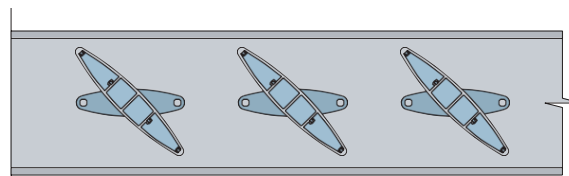




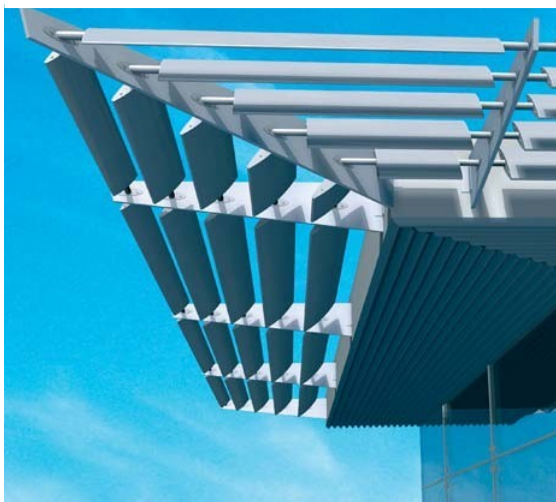
Corner Options



Sectional elevation



Horizontally mounted at 45° using Compound Angle Brackets.



P/S Aerofoil® Custom Designs

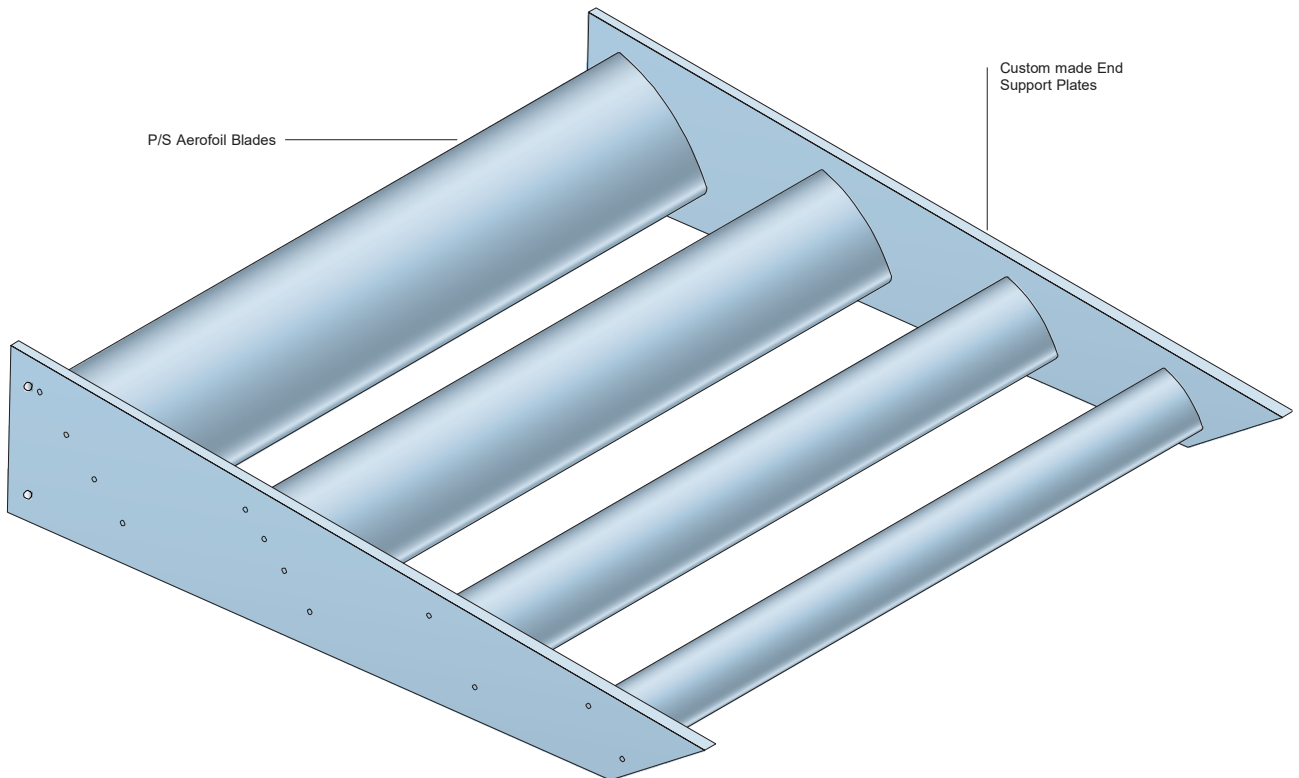


P/S Aerofoil blades allow full flexibility for a custom design, putting the stamp of individuality on a building.

Customised units, using standard blades and laser cut end support plates or brackets, can be produced for individual applications.



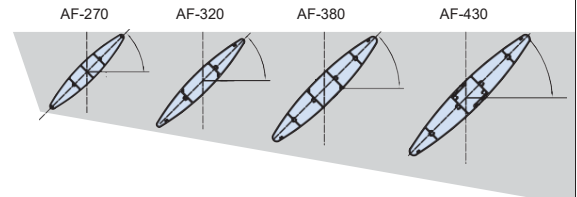
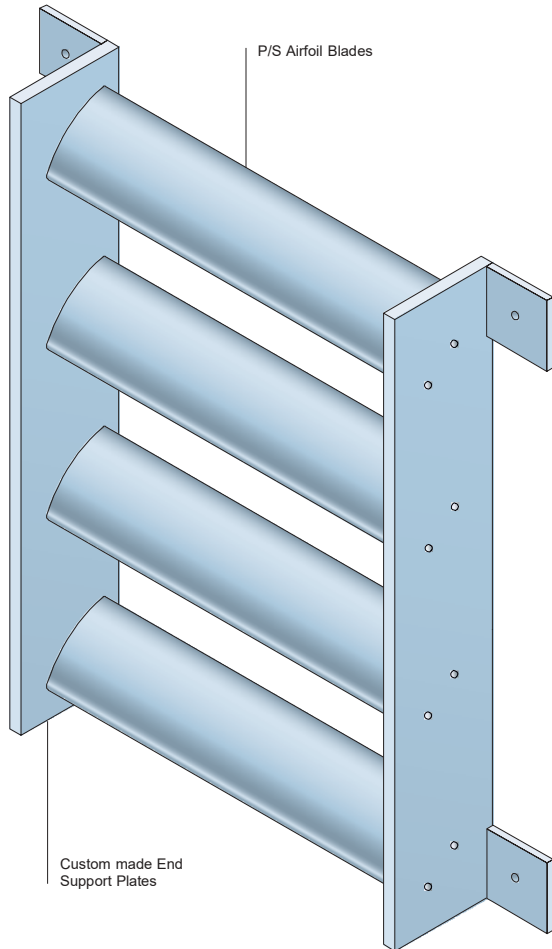
Example of P/S Factory Produced Unit



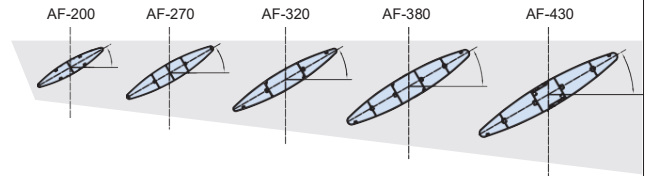


Example of P/S Factory Produced Unit

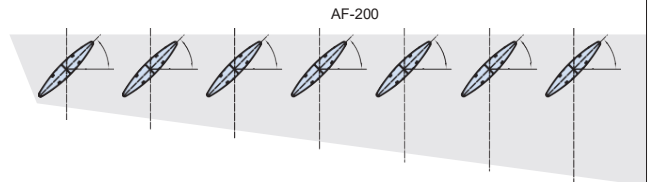
Typical Options



Different sized blades fixed at 45°



Different sized blades fixed at 30°



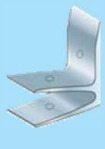






Same sized blades fixed at 45°

P/S Aerofoil®

Technical information



Bracket and Blade size compatibility

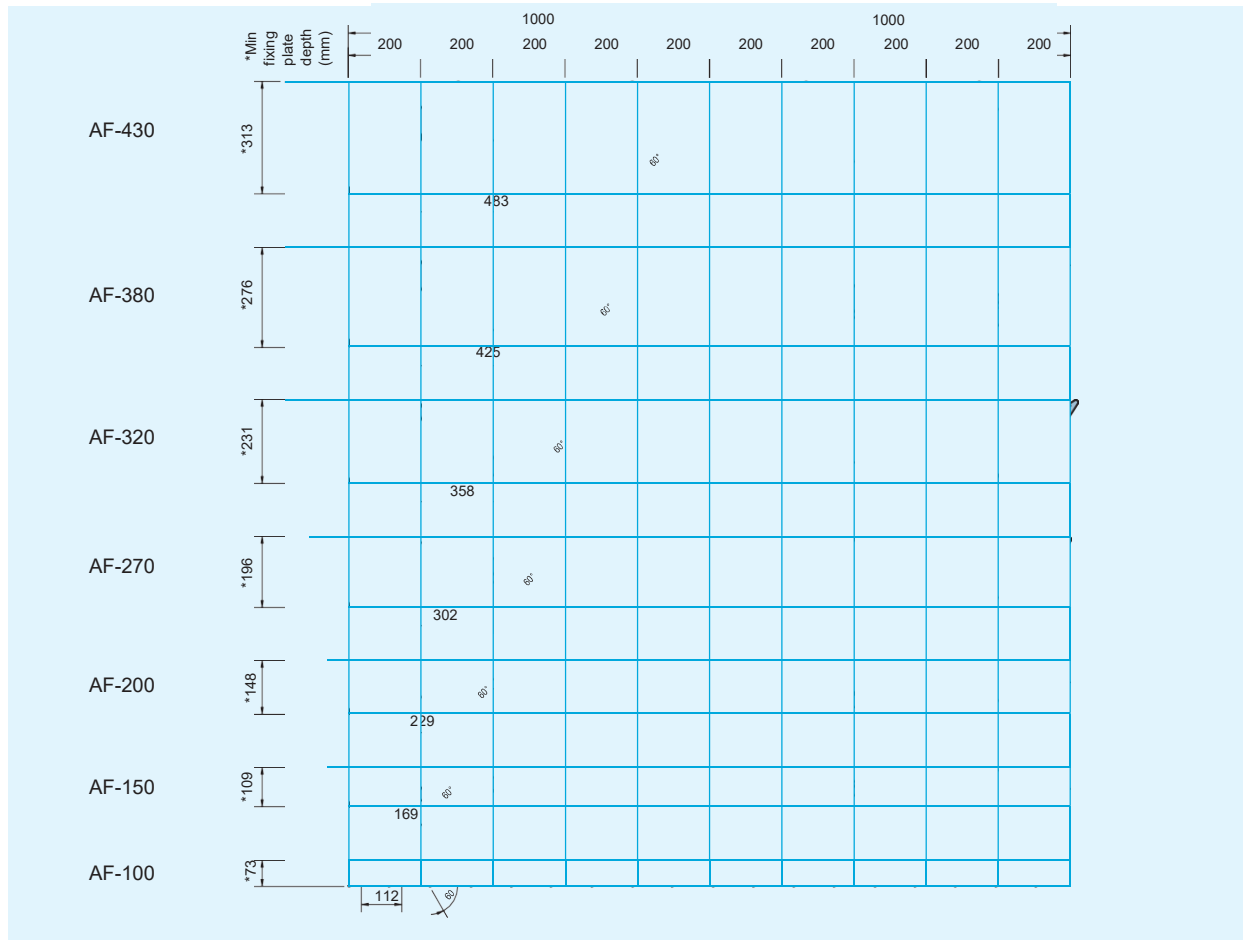
							
	Birdsmouth bracket 90°	Birdsmouth bracket 45°	Closing Plate for use with birdsmouth bracket	Direct End fixing plate	Custom-made fixing bracket	Parallel Off-set fixing bracket	Compound angle fixing bracket
Material	Aluminium	Aluminium	Aluminium or Stainless Steel	Aluminium	Aluminium or Stainless Steel	Stainless Steel	Aluminium
Single extrusion blades							
AF-100	–	–	–	•	•	–	–
AF-150	•	•	•	•	•	•	•
AF-200	•	•	•	•	•	•	•
AF-270	•	•	•	•	•	•	•
AF-320	•	•	•	•	•	•	•
AF-380	–	–	–	•	•	•	•
Two-part extrusion blade							
AF-430	–	–	–	•	•	•	•

Blade Span Capacity

Blade	Wind Load (kPa) / Blade Span (mm)						
	0.50kPa	0.75kPa	1.00kPa	1.25kPa	1.50kPa	1.75kPa	2.00kPa
AF-100	2661mm	2324mm	2112mm	1960mm	1845mm	1752mm	1676mm
AF-150	3787mm	3308mm	3006mm	2790mm	2626mm	2494mm	2386mm
AF-200	4716mm	4120mm	3743mm	3475mm	3270mm	3106mm	2971mm
AF-270	5654mm	4939mm	4488mm	4166mm	3920mm	3724mm	3562mm
AF-320	6397mm	5588mm	5077mm	4713mm	4435mm	4213mm	4030mm
AF-380	7771mm	6788mm	6168mm	5726mm	5388mm	5118mm	4895mm
AF-430	8215mm	7176mm	6520mm	6053mm	5696mm	5411mm	5175mm

The above blade span dimensions are for guidance only and represent the maximum recommended span for each blade profile, when fixed in a typical horizontal canopy arrangement.

Typical blade spacings for cantilevered arrangements (based on a 45° blade angle and 60° sun cut-off angle).



Finishing options

Aerofoil blades are powder coated as standard to one of the stock colours from the Syntha Pulvin range (including many RAL and BS colours). Non-standard finishing options include Syntha Pulvin metallic polyester powder, specially formulated polyester powder colours, mill finish or anodised.

Syntha Pulvin colour swatches are available upon request.

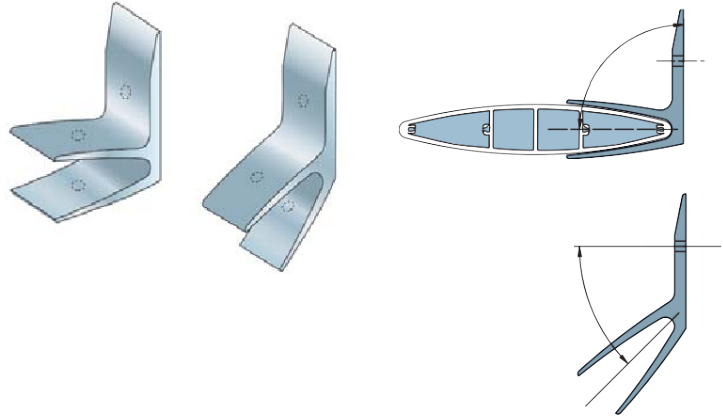
P/S Aerofoil®

Technical information



Birdsmouth Brackets

Blade Type	Bracket Angles	Standard Bracket Width (in mm)	Fixing Hole Size (in mm)
AF-150	45°, 90°	50	6.5
AF-200	45°, 90°	100	6.5
AF-270	45°, 90°	100	8
AF-320	45°, 90°	100	8



Compound Angle Fixing Brackets (45°)*

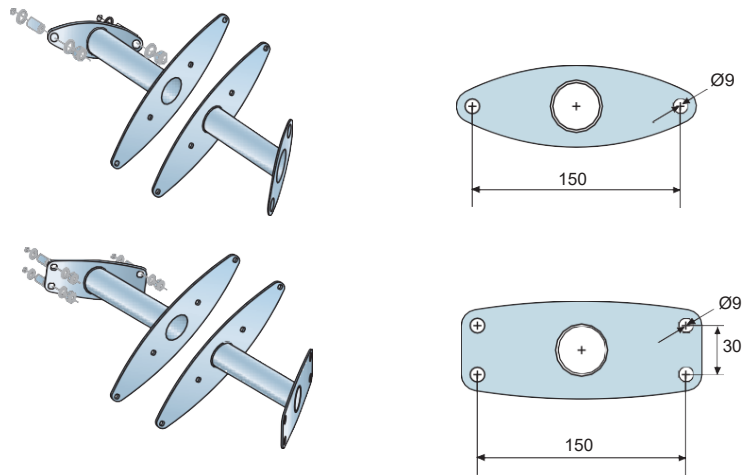
Blade type	Standard** blade angles	Fixing hole quantities and size (in mm)
AF-150	45°	2x9
AF-200	45°	2x9
AF-270	45°	2x9, 4x9†
AF-320††	45°	2x9, 4x9†
AF-380††	45°	2x9, 4x9†
AF-430††	45°	2x9, 4x9†

* Other angles (i.e 30° and 60°) available on special request, please contact our Technical department for details on 01296 611000.

** Other angles (i.e. 30° and 60°) available on special request.

† Four hole fixing brackets should be used where blade span exceeds 3500mm.

†† Main screw ports must be tapped to suit M8x50mm long screws.



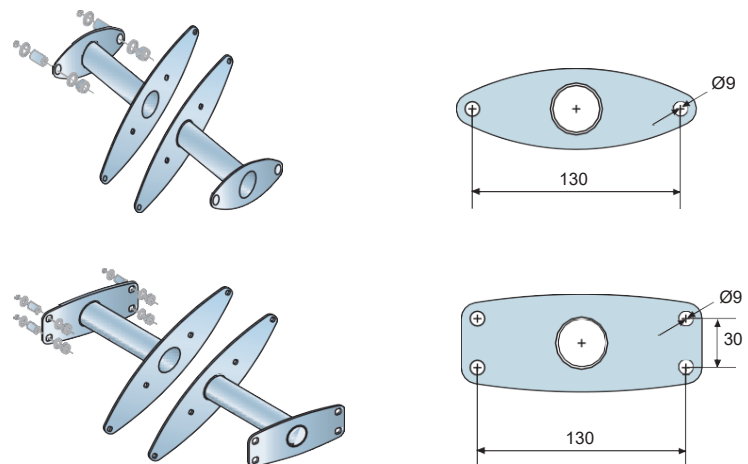
Parallel Off-set Fixing Brackets

Blade type	Standard* blade angles	Fixing hole quantities and size (in mm)
AF-150	45°	2x9
AF-200	45°	2x9
AF-270	45°	2x9, 4x9†
AF-320††	45°	2x9, 4x9†
AF-380††	45°	2x9, 4x9†
AF-430††	45°	2x9, 4x9†

* Other angles (i.e 30° and 60°) available on special request, please contact our Technical department for details on 01296 611000.

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†† Main screw ports must be tapped to suit M8x50mm long screws.

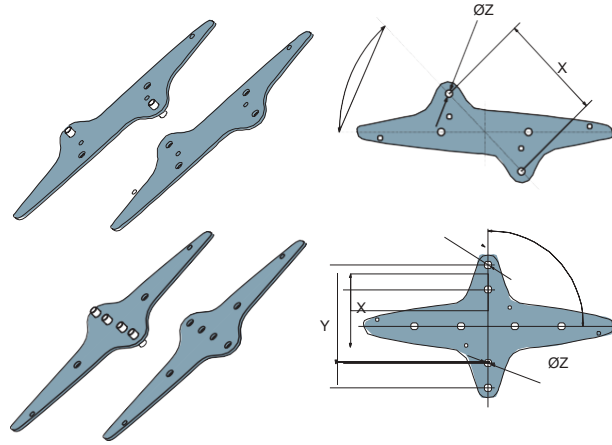


Direct End Fixing Plates

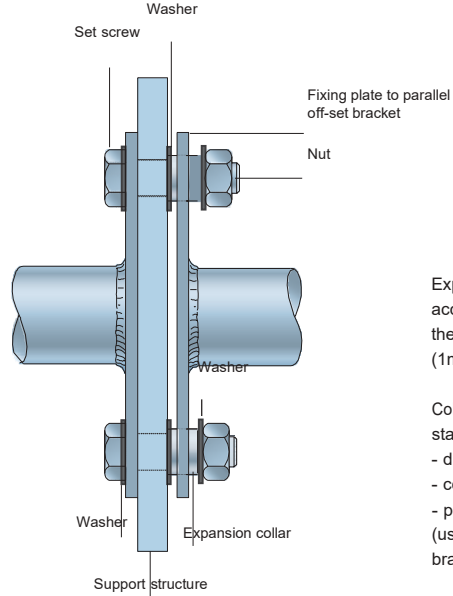
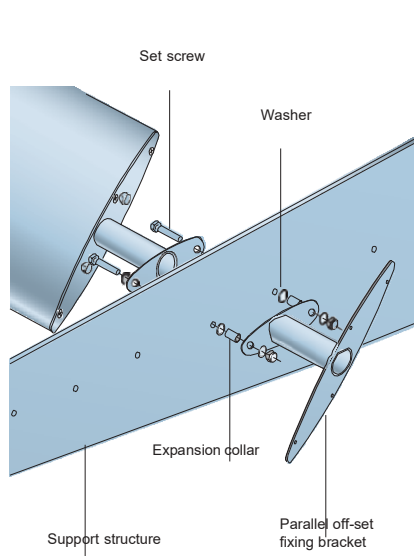
Blade Type	Plate Angles		Distances between fixing points (x, y in mm)	Plate thickness (in mm)	Fixing hole quantities and sizes (z in mm)
	Cantilevered mounting	Façade mounting			
AF-150	45°, 60*, 90°	30°, 45°, 90°	80	3	2x9
AF-200	45°, 60*, 90°	30°, 45°, 90°	80	3	2x9
AF-270	90°	90°	80	3	2x9
	45°	45°	110	3	2x9
AF-320†	60*°	30°	90	3	2x9
	90°	90°	85	4	2x9
AF-380†	45°	45°	130	4	2x9
	60*°	30°	100	4	2x9
AF-430†	90°	90°	110, 180	4	4x11
	45°	45°	180, 250	4	4x11
AF-430†	60*°	30°	130, 200	4	4x11
	90°	90°	110, 180	4	4x11
AF-430†	45°	45°	180, 250	4	4x11
	60*°	30°	130, 200	4	4x11

* 60° angle available on special request, please contact our Technical department for details on 01296 611000.

† Main screw ports must be tapped to suit M8x50mm long screws.



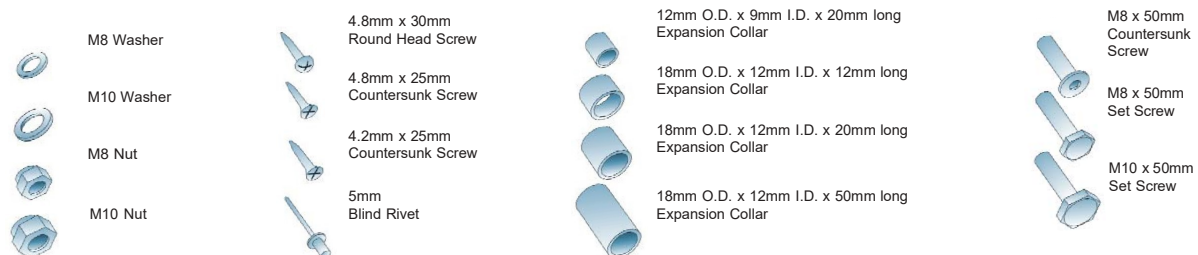
Expansion collar detail



Expansion collars accommodate tolerance/thermal movement of a blade (1mm per 1 metre of blade).

Collars are supplied as standard for use with:
 - direct end fixing plates
 - compound angle brackets
 - parallel off-set brackets (used only with left hand side brackets/plates).

Fixing components



P/S Aerofoil®

Technical information



Blades

P/S Aerofoil blades are extruded in grade 6063-T6 aluminium alloy in seven standard widths. Blades can be extruded in lengths of 6.0 metres.

However, subject to minimum quantities, we are able to extrude any blade profile to one or more specific lengths to suit project requirements, thus minimising unnecessary waste.

Mounting Options

There are various methods for securing P/S Aerofoil blade profiles to the supporting structure, although typically blades would be 'end fixed' between (and usually within the depth of) supporting plates or rafters. Alternatively, a number of 'Bracket Fixed' options are available.

End Fixings

All Aerofoil blades incorporate screw ports within the extrusion, allowing self-tapping screws/or bolts to be passed through supporting end plates and into the end of the blades. This method of fixing is strong enough to support the blade even at its maximum span.

Birdsmouth Brackets

Extruded aluminium brackets for AF-150, AF-200, AF-270 and AF-320 blade profiles are available in either 90° or 45° angle options and are cut to custom width to suit project requirements. It should be noted, however, that the width of the brackets will have a bearing on their maximum spacing. Custom bracket designs may also be possible to suit a particular project requirement. Where required, aluminium closing plates can be supplied to suit the blade profile selected.



