



OPENING ROOFS

# ProductManual



**10 YEAR  
WARRANTY**

CW\_V1\_0517

**CW SYSTEM\_PRICE LIST**

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Lumex Opening Roof  
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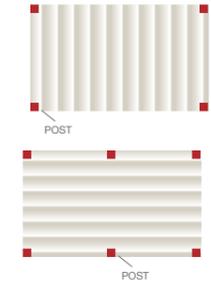
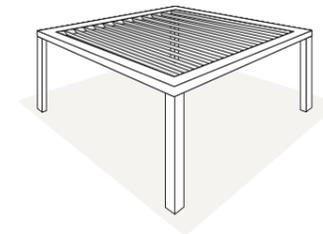
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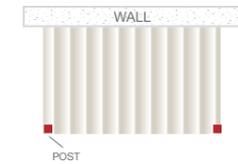
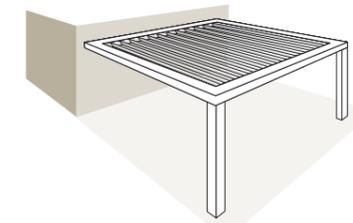
Lumex Opening Roof  
**General Specification**

**Design Options - Roof Configurations**

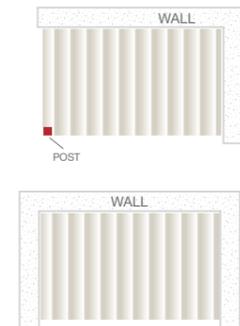
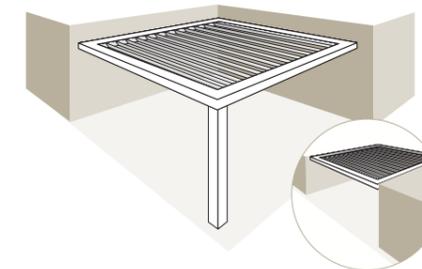
Free standing  
 4 x post



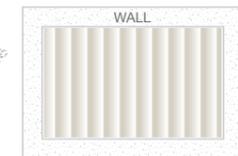
1 x Wall  
 2 x Post



2 / 3 x Wall  
 1 x Post



4 Wall  
 0 x Post



Lumex Opening Roof  
**General Specification**

**Max Spans**

**Max Blade Span - 5000mm**  
 ( Refer to the Engineer Span Tables for exact wind class span.)

**Max Beam Span between Post - 6000mm**  
 ( Refer to the Engineer Span Tables for exact wind class span.)

**Max Area per Motor - 16m<sup>2</sup>**

**Colours**

**Standard Colours**

- Gloss White
- Paper Bark
- Shale Grey
- Monument

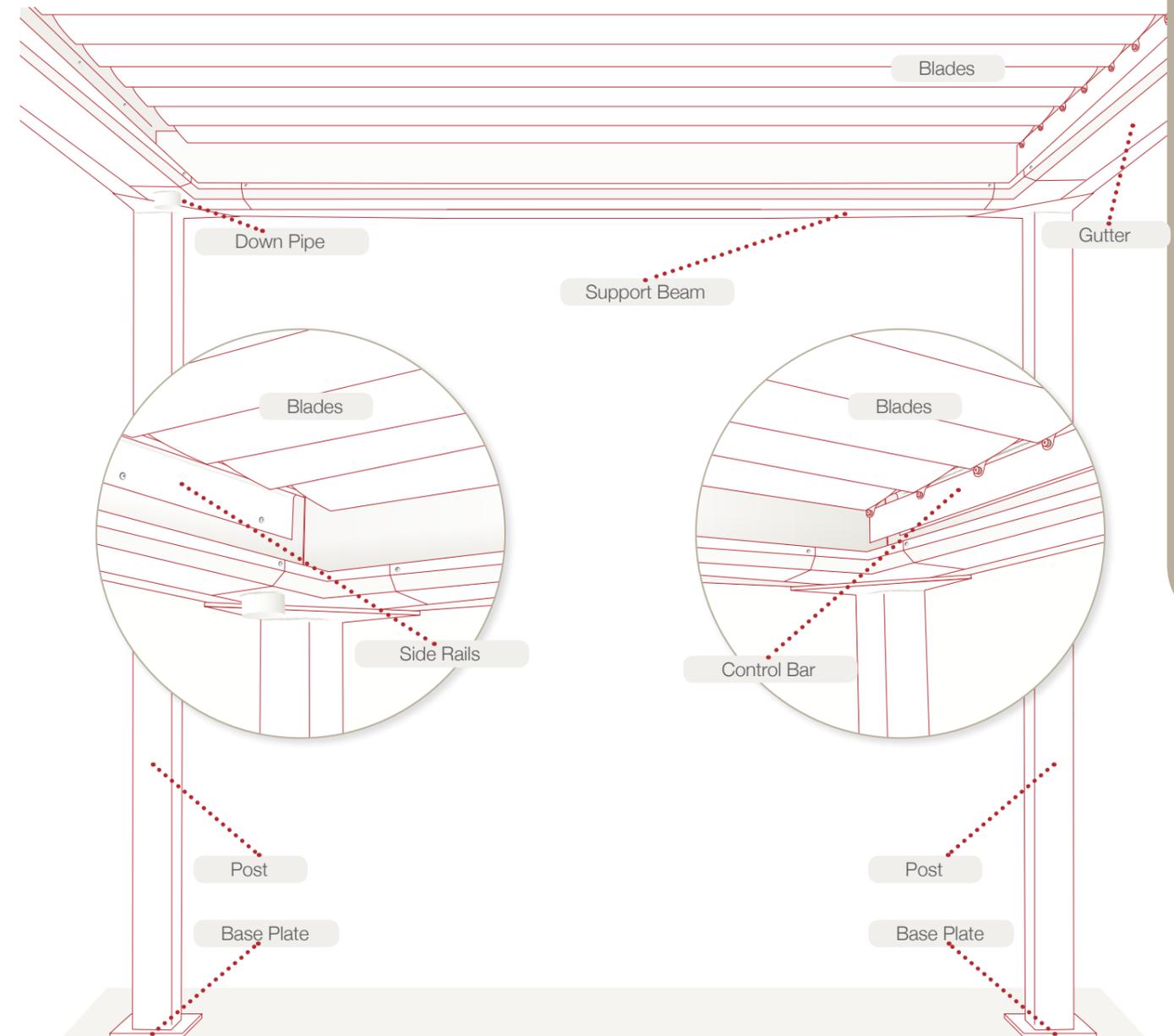
**Custom Colours**

- Satin White
- Surfmist
- Dune
- Deep Ocean
- Matt Black
- Ironstone
- Pale Eucalypt
- Manor Red
- Silver
- Loft
- Jasper
- Cottage Green
- Birch White
- Classic Cream
- Woodland Grey

**Please note that these colours are Dulux Powder coat colour matches.  
 There may be a slight colour variation from the Dulux colour swatch.  
 Please refer to the colour swatches supplied by CW Systems.**

Lumex Opening Roof  
**General Specification**

**Components**

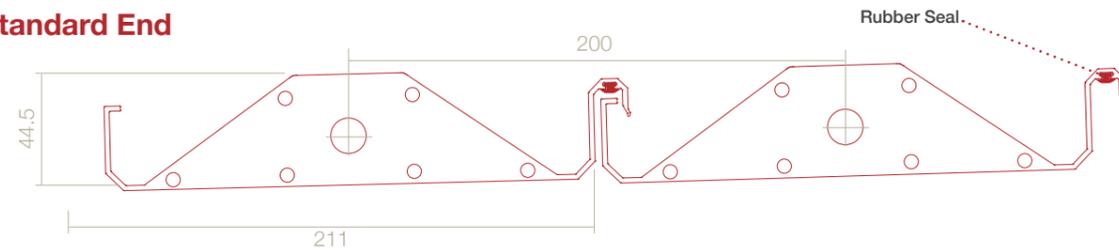


Lumex Opening Roof  
**General Specification**

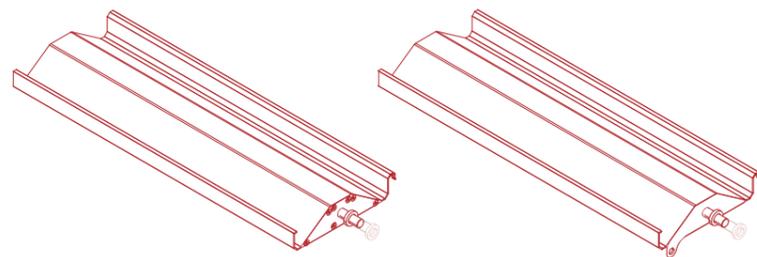
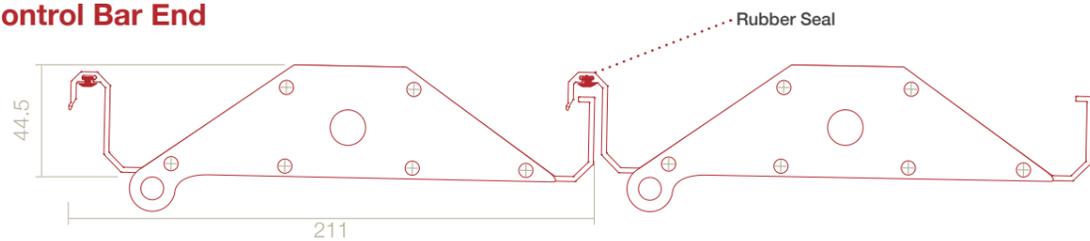
**Components**

**Blade**

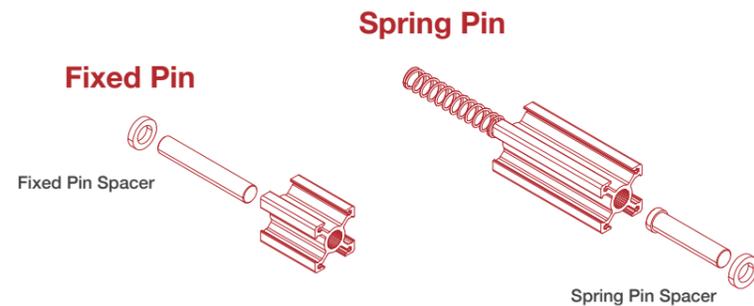
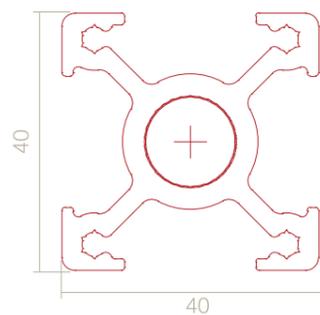
**Standard End**



**Control Bar End**

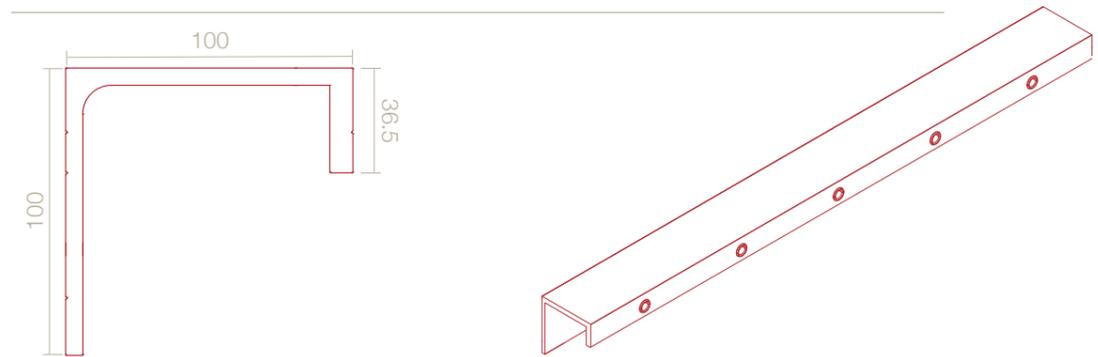


**Louvre Pins**

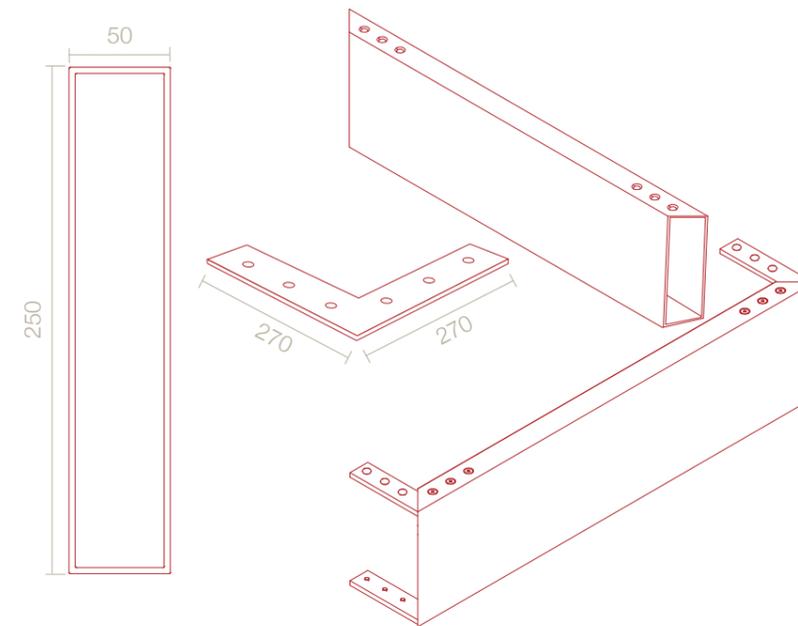


Lumex Opening Roof  
**General Specification**

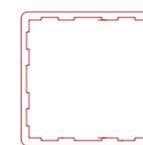
**Side Rail**



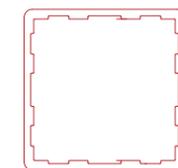
**Support Beam and Bracket**



**Post**



100x100mm Post  
 ( The 100x100mm Post is supplied when concreting the post into the ground in a footing )

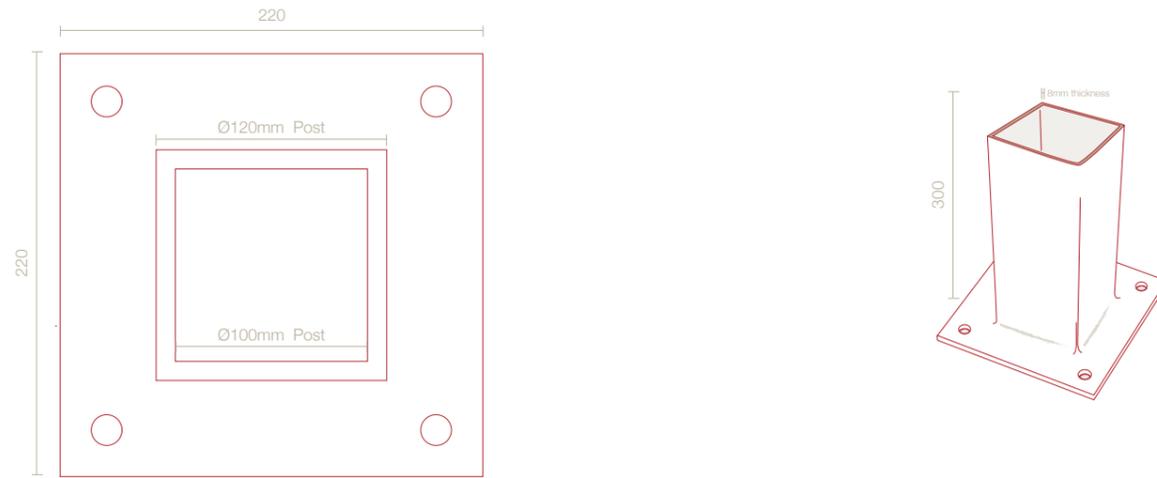


120x120mm Post  
 ( The 120x120mm Post is supplied in conjunction with the Base plate to fix onto a cast concrete footing )

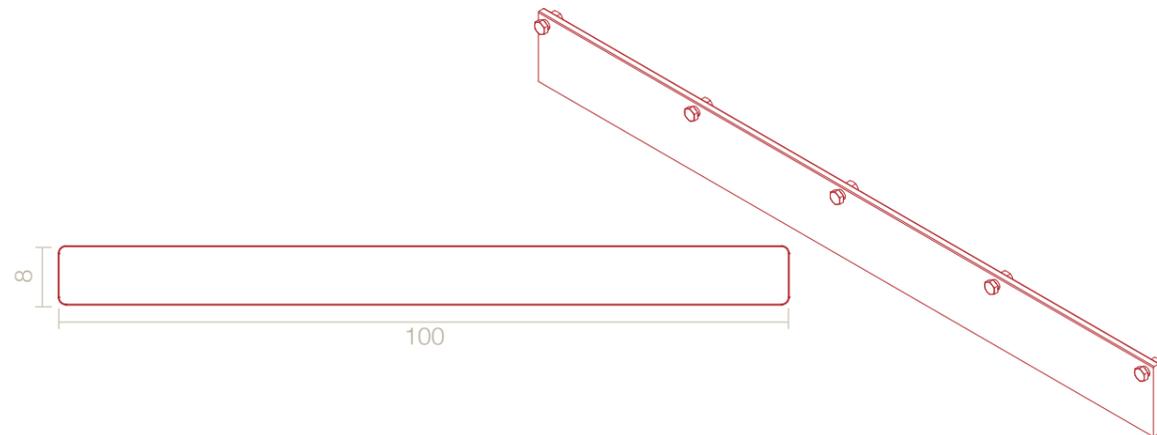
Lumex Opening Roof  
General Specification

Components

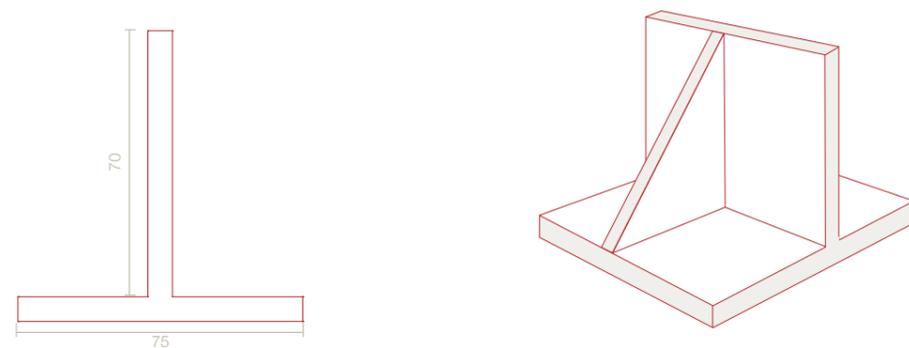
Base Plate



Control Bar

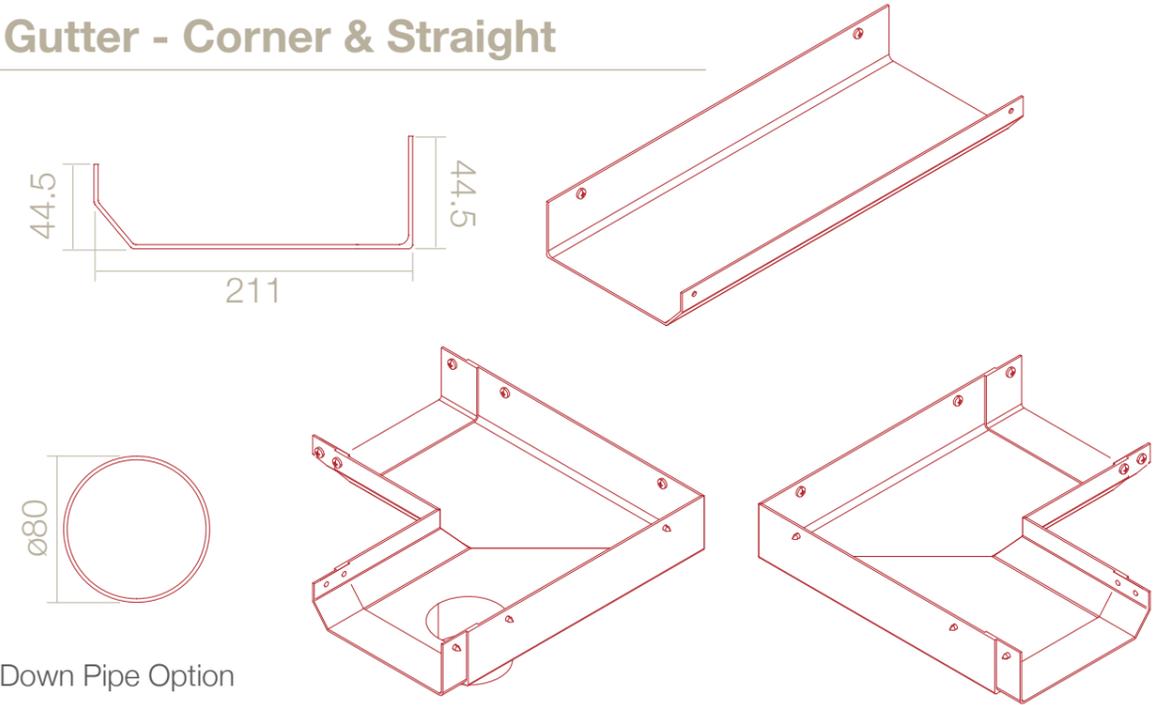


Control Bar Motor Mount

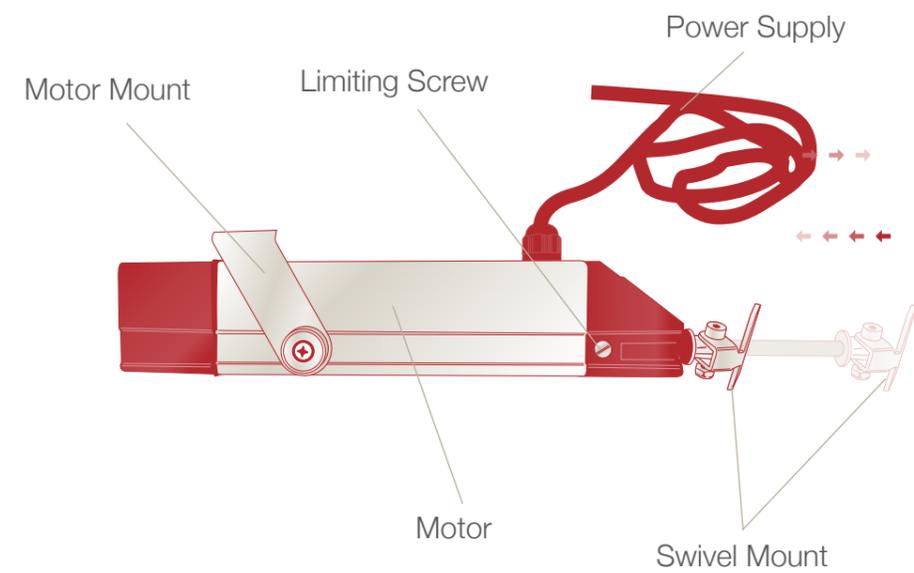


Lumex Opening Roof  
General Specification

Gutter - Corner & Straight

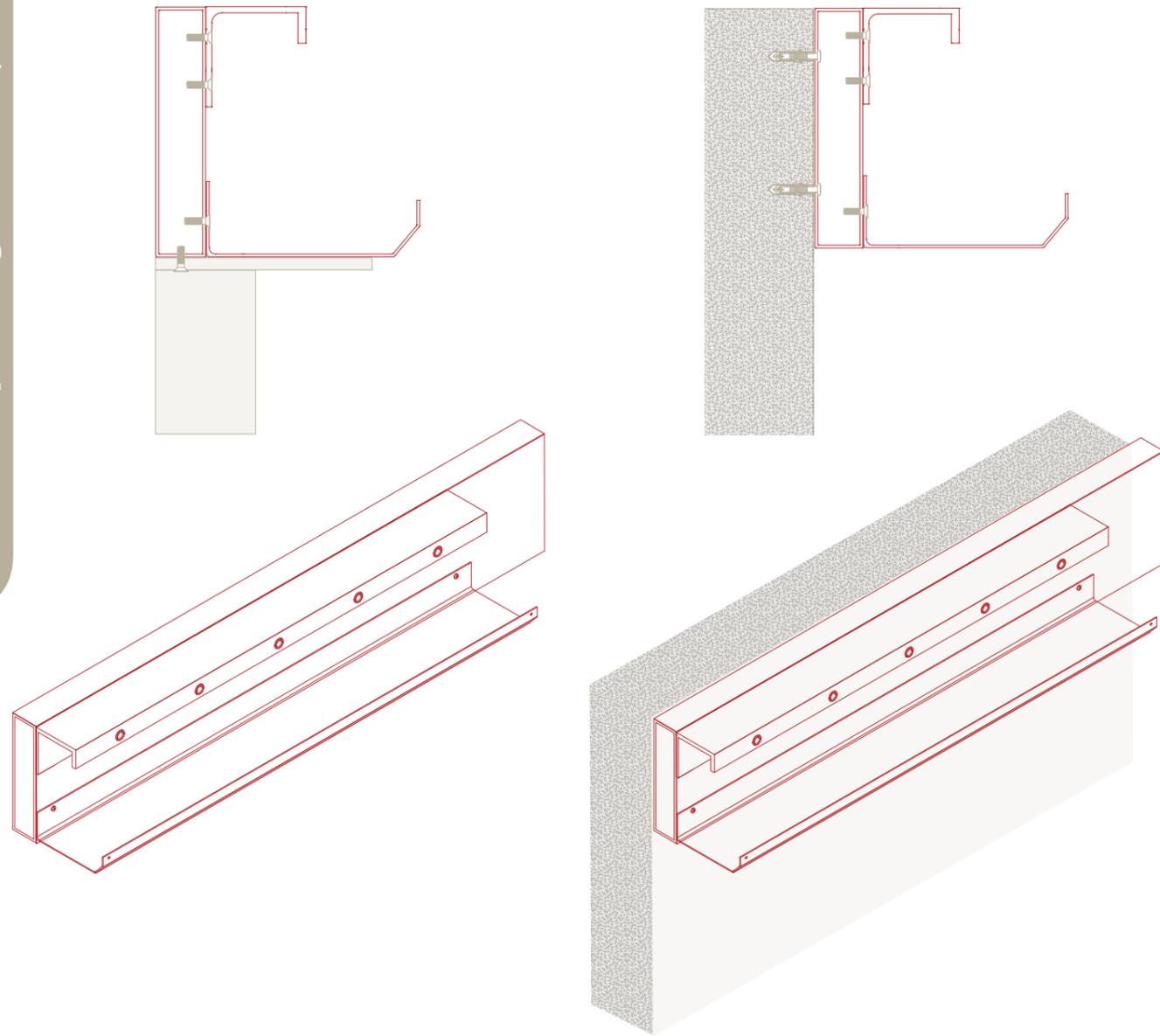


Motor

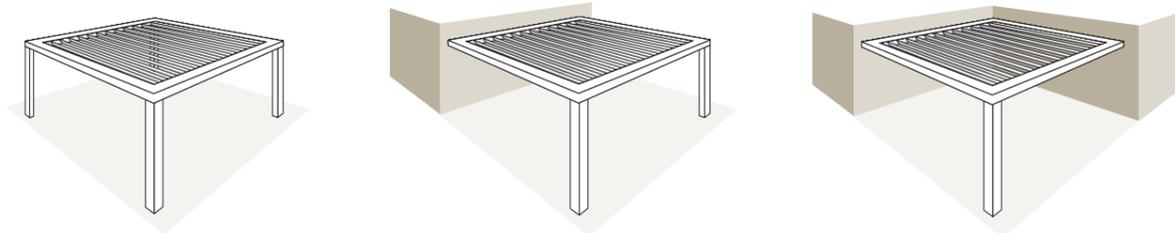


Lumex Opening Roof  
**General Specification**

**Design Options - With Support Beams**

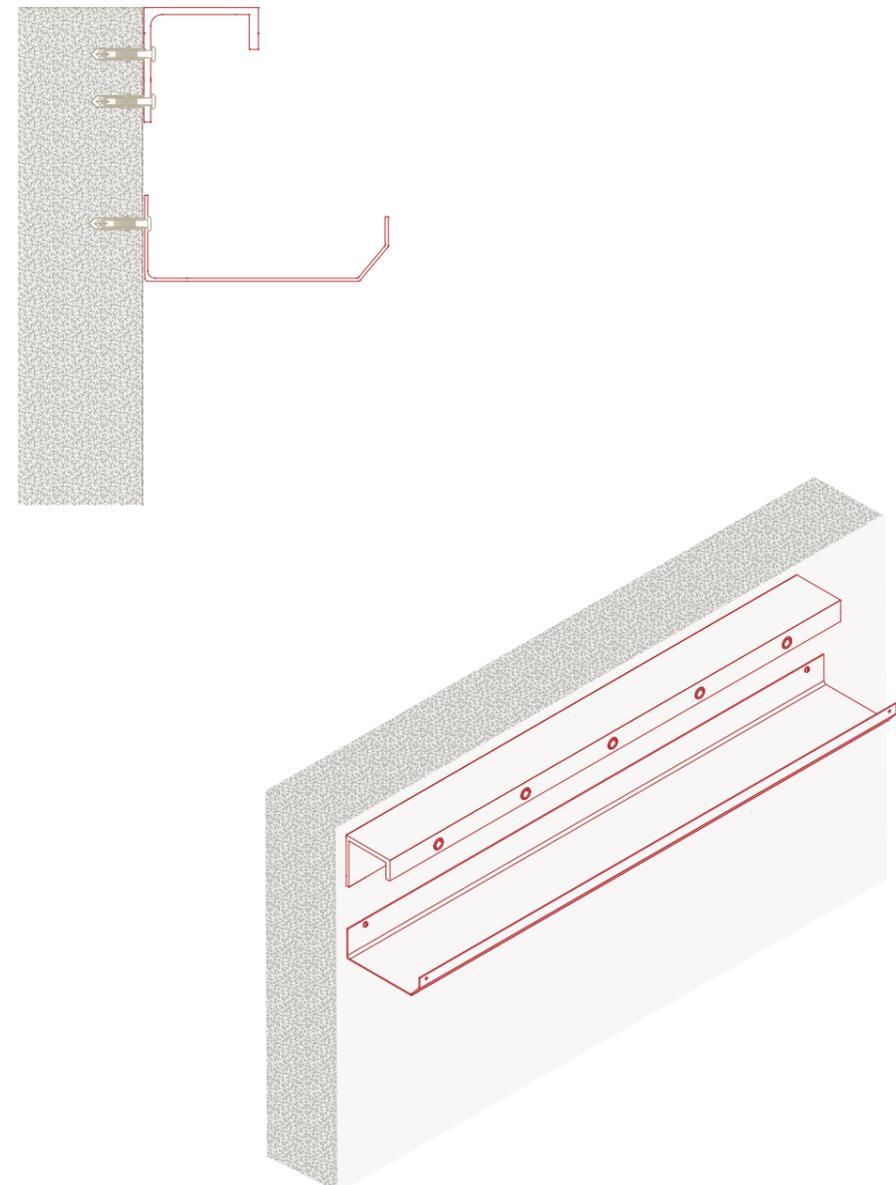


Used for - Free Standing, and 1 & 2 wall mounted configurations



Lumex Opening Roof  
**General Specification**

**Design Options - Without Support Beams**



Used for direct mount installations for - 3 & 4 wall configurations



## Engineer Span Requirements

### 4 Post - Roof configuration



#### Louvre Blade Span Table - 4 Post Configuration

Wind Class	Ultimate Limit State (m/s)	Serviceability Limit State (m/s)	Wu (kPa)	Ws (kPa)	Maximum Allowable Span (mm)	Screw spacing (mm) Side Stile to Beam
N1	34	26	0.69	0.41	5000	100
N2	40	26	0.96	0.41	5000	100
N3	50	32	1.50	0.61	5000	75
N4	61	39	2.23	0.91	4300	75
N5	74	47	3.29	1.33	3500	50
N6	86	55	4.44	1.82	3000	50

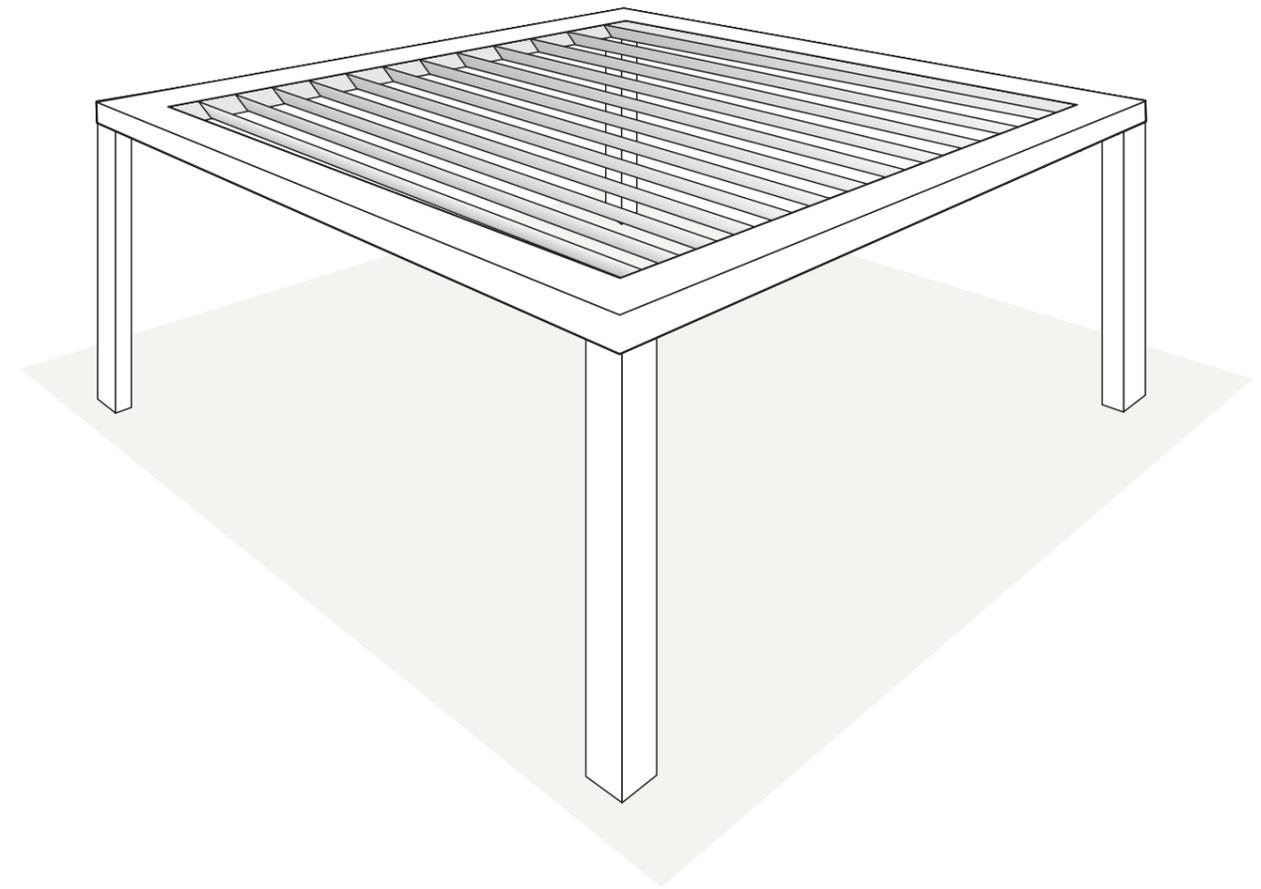
#### Post Span Tables - 4 Post Configuration 250x50x3.0 RHS Perimeter Beam Span Table - 1 Wall (Cpn = +1.2,-1.5)

Wind Class	Ultimate Limit State (m/s)	Serviceability Limit State (m/s)	Wu (kPa)	Ws (kPa)	Maximum Beam Span (mm)	Maximum Allowable Post Height (mm)
N1	34	26	0.69	0.41	5900	3500
N2	40	26	0.96	0.41	4800	3300
N3	50	32	1.50	0.61	3800	3000
N4	61	39	2.23	0.91	3200	2700
N5	74	47	3.29	1.33	2900	2500
N6	86	55	4.44	1.82	2600	2100

#### Perimeter Beam Span Table - 4 Post Configuration

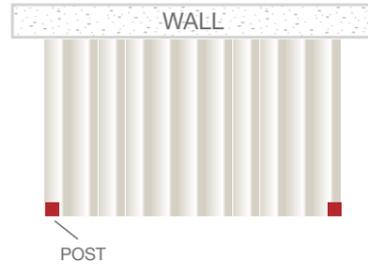
250x50x3.0 RHS Perimeter Beam Span Table - 1 Wall (Cpn = +1.2,-1.5)

Wind Class	Ultimate Limit State (m/s)	Serviceability Limit State (m/s)	Wu (kPa)	Ws (kPa)	Supported Louvre Span (mm)	Maximum Allowable Span (mm)	Number of Fasteners from beam to post
N1	34	26	0.69	0.41	5000	5900	3
N2	40	26	0.96	0.41	5000	4800	3
N3	50	32	1.50	0.61	5000	3800	4
N4	61	39	2.23	0.91	4300	3200	4
N5	74	47	3.29	1.33	3500	2900	5
N6	86	55	4.44	1.82	3000	2600	5



## Engineer Span Requirements

### 1 Walls Roof configuration



#### Louvre Blade Span Table - 1 x Wall Configuration

Wind Class	Ultimate Limit State (m/s)	Serviceability Limit State (m/s)	Wu (kPa)	Ws (kPa)	Maximum Allowable Span (mm)	Screw spacing (mm) Side Stile to Beam
N1	34	26	0.69	0.41	5000	100
N2	40	26	0.96	0.41	4800	100
N3	50	32	1.50	0.61	4500	75
N4	61	39	2.23	0.91	3700	75
N5	74	47	3.29	1.33	3000	50
N6	86	55	4.44	1.82	2500	50

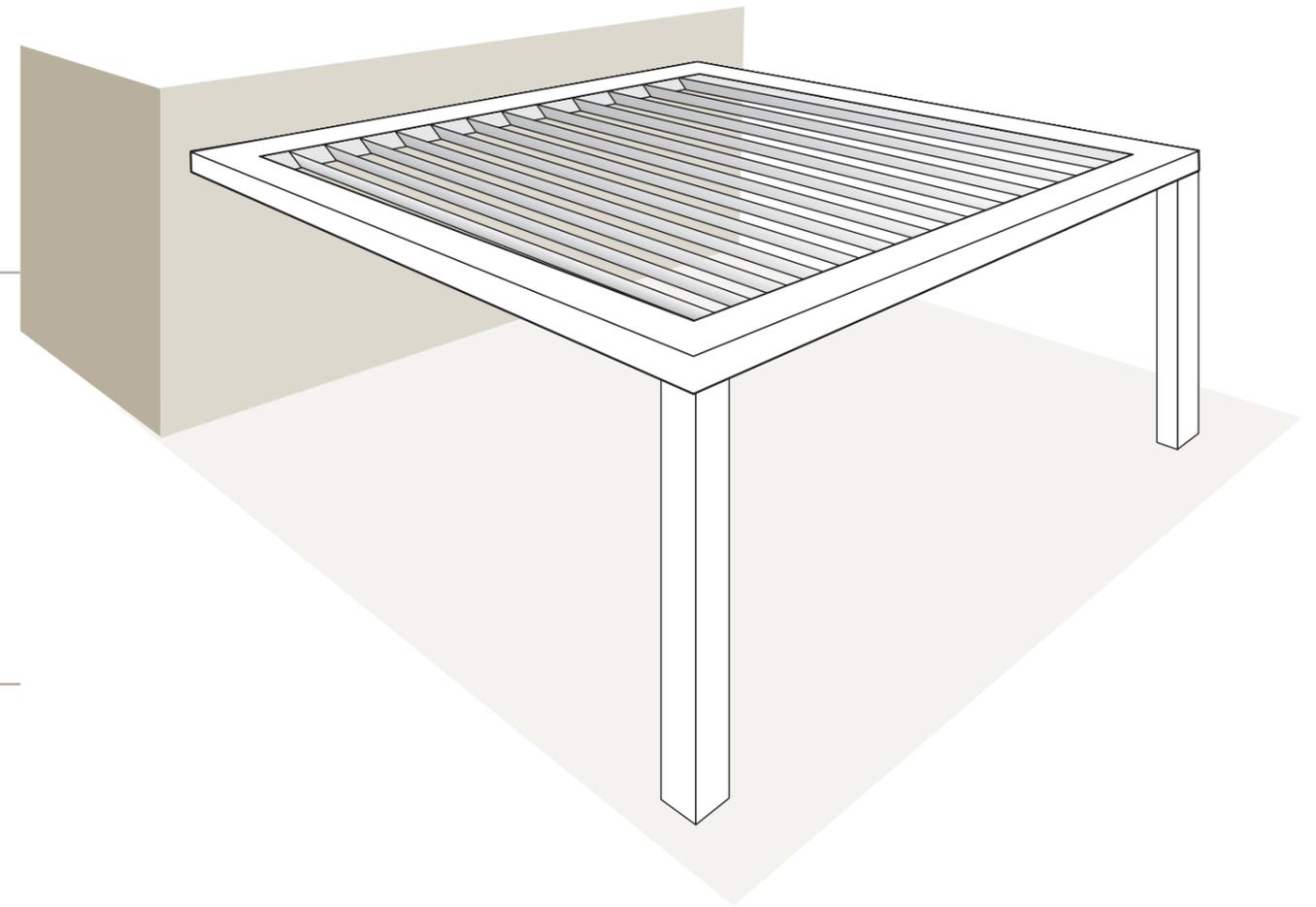
#### Post Span Tables - 1 x Wall Configuration 250x50x3.0 RHS Perimeter Beam Span Table - 1 Wall (Cpn = +1.2,-1.5)

Wind Class	Ultimate Limit State (m/s)	Serviceability Limit State (m/s)	Wu (kPa)	Ws (kPa)	Maximum Beam Span (mm)	Maximum Allowable Post Height (mm)
N1	34	26	0.69	0.41	4800	6000
N2	40	26	0.96	0.41	4300	5000
N3	50	32	1.50	0.61	3600	4600
N4	61	39	2.23	0.91	3300	4100
N5	74	47	3.29	1.33	3000	3500
N6	86	55	4.44	1.82	2800	3000

#### Perimeter Beam Span Table - 1 x Wall Configuration

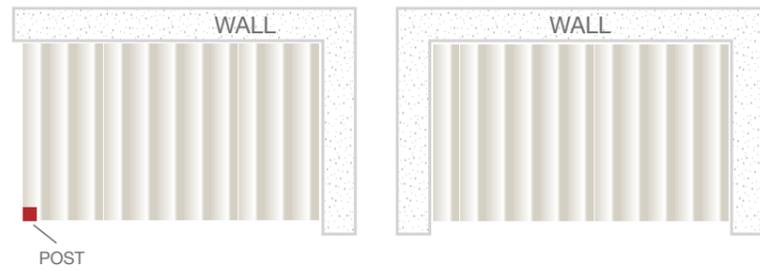
250x50x3.0 RHS Perimeter Beam Span Table - 1 Wall (Cpn = +1.2,-1.5)

Wind Class	Ultimate Limit State (m/s)	Serviceability Limit State (m/s)	Wu (kPa)	Ws (kPa)	Supported Louvre Span (mm)	Maximum Allowable Span (mm)	Number of Fasteners from beam to post	Supported Louvre Span (mm)	Maximum Allowable Span (mm)	Number of Fasteners from beam to post	Supported Louvre Span (mm)	Maximum Allowable Span (mm)	Number of Fasteners from beam to post
N1	34	26	0.69	0.41	5000	4800	3	4500	5000	3	3500	5600	3
N2	40	26	0.96	0.41	4800	4300	3	4000	4800	3	3000	5300	3
N3	50	32	1.50	0.61	4500	3600	4	3500	4200	4	2500	4900	3
N4	61	39	2.23	0.91	3700	3300	4	3000	3600	4	2000	4500	3
N5	74	47	3.29	1.33	3000	3000	5	2500	3300	4	1500	4200	3
N6	86	55	4.44	1.82	2500	2800	5	2000	3100	4	1000	4000	3



# Engineer Span Requirements

## 2 or 3 Walls Roof configuration



### Louve Blade Span Table - 2 or 3 Wall Configuration

Wind Class	Ultimate Limit State (m/s)	Serviceability Limit State (m/s)	Wu (kPa)	Ws (kPa)	Maximum Allowable Span (mm)	Screw spacing (mm) Side Stile to Beam
N1	34	26	0.69	0.41	5000	100
N2	40	26	0.96	0.41	5000	100
N3	50	32	1.50	0.61	4300	75
N4	61	39	2.23	0.91	3500	75
N5	74	47	3.29	1.33	2900	50
N6	86	55	4.44	1.82	2500	50

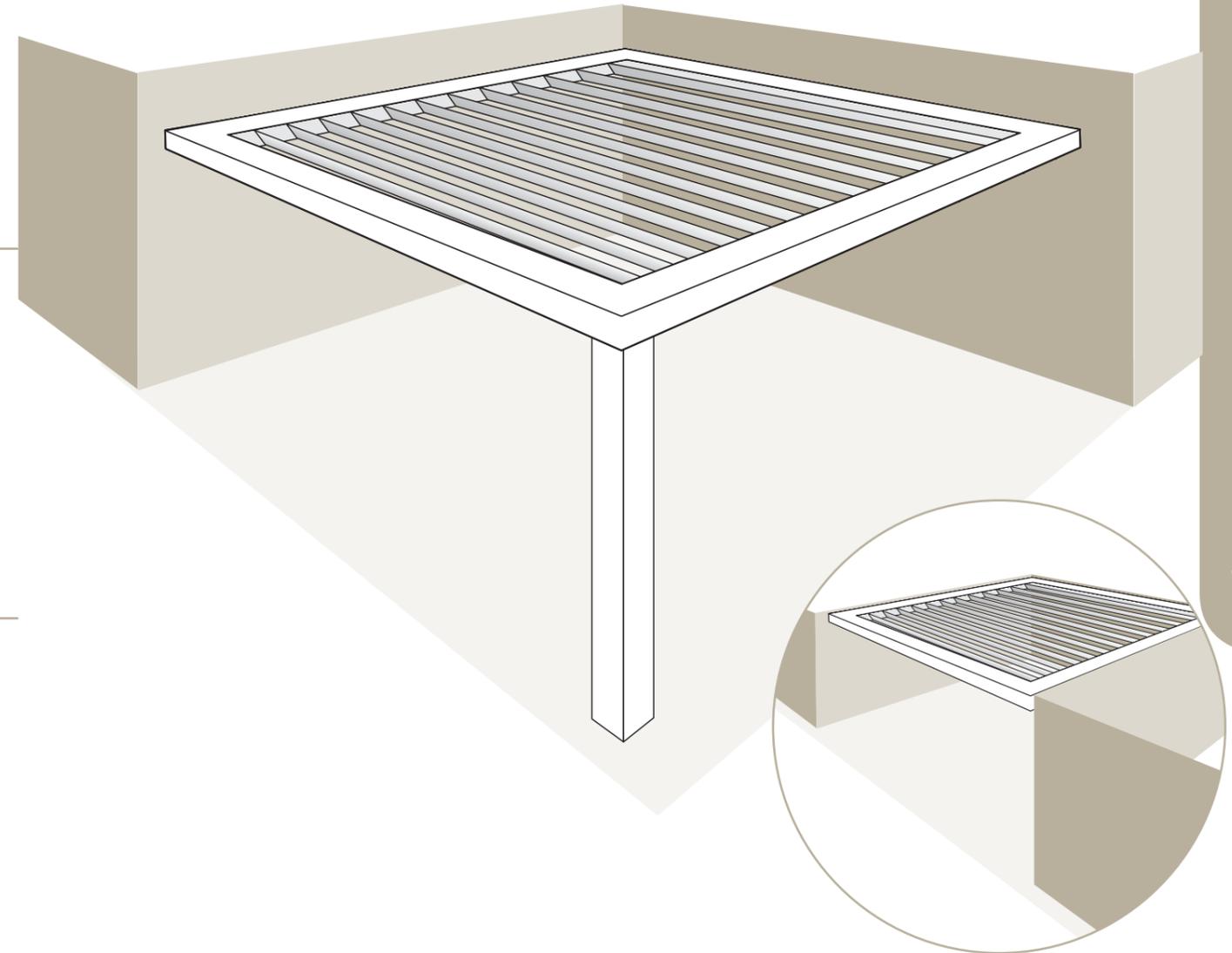
### Post Span Tables - 2 or 3 Wall Configuration 250x50x3.0 RHS Perimeter Beam Span Table - 2 Wall (Cpn = +0.85,-1.5)

Wind Class	Ultimate Limit State (m/s)	Serviceability Limit State (m/s)	Wu (kPa)	Ws (kPa)	Maximum Beam Span (mm)	Maximum Allowable Post Height (mm)
N1	34	26	0.69	0.41	4500	6000
N2	40	26	0.96	0.41	4300	5000
N3	50	32	1.50	0.61	3600	4500
N4	61	39	2.23	0.91	3300	4000
N5	74	47	3.29	1.33	3000	3400
N6	86	55	4.44	1.82	2700	3000

### Perimeter Beam Span Table - 2 or 3 Wall Configuration

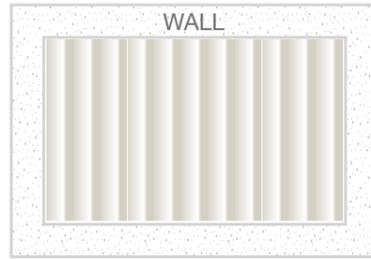
250x50x3.0 RHS Perimeter Beam Span Table - 2 Wall (Cpn = +0.85,-1.5)

Wind Class	Ultimate Limit State (m/s)	Serviceability Limit State (m/s)	Wu (kPa)	Ws (kPa)	Supported Louve Span (mm)	Maximum Allowable Span (mm)	Number of Fasteners from beam to post	Supported Louve Span (mm)	Maximum Allowable Span (mm)	Number of Fasteners from beam to post	Supported Louve Span (mm)	Maximum Allowable Span (mm)	Number of Fasteners from beam to post
N1	34	26	0.69	0.41	5000	5000	3	4500	5400	3	3500	6000	2
N2	40	26	0.96	0.41	5000	4300	3	4000	4800	3	3000	5500	3
N3	50	32	1.50	0.61	4300	3600	4	3500	4000	4	2500	4800	3
N4	61	39	2.23	0.91	3500	3300	4	3000	3500	4	2000	4300	3
N5	74	47	3.29	1.33	2900	3000	5	2500	3200	5	1500	4100	4
N6	86	55	4.44	1.82	2500	2700	5	2000	3000	5	1000	4000	4



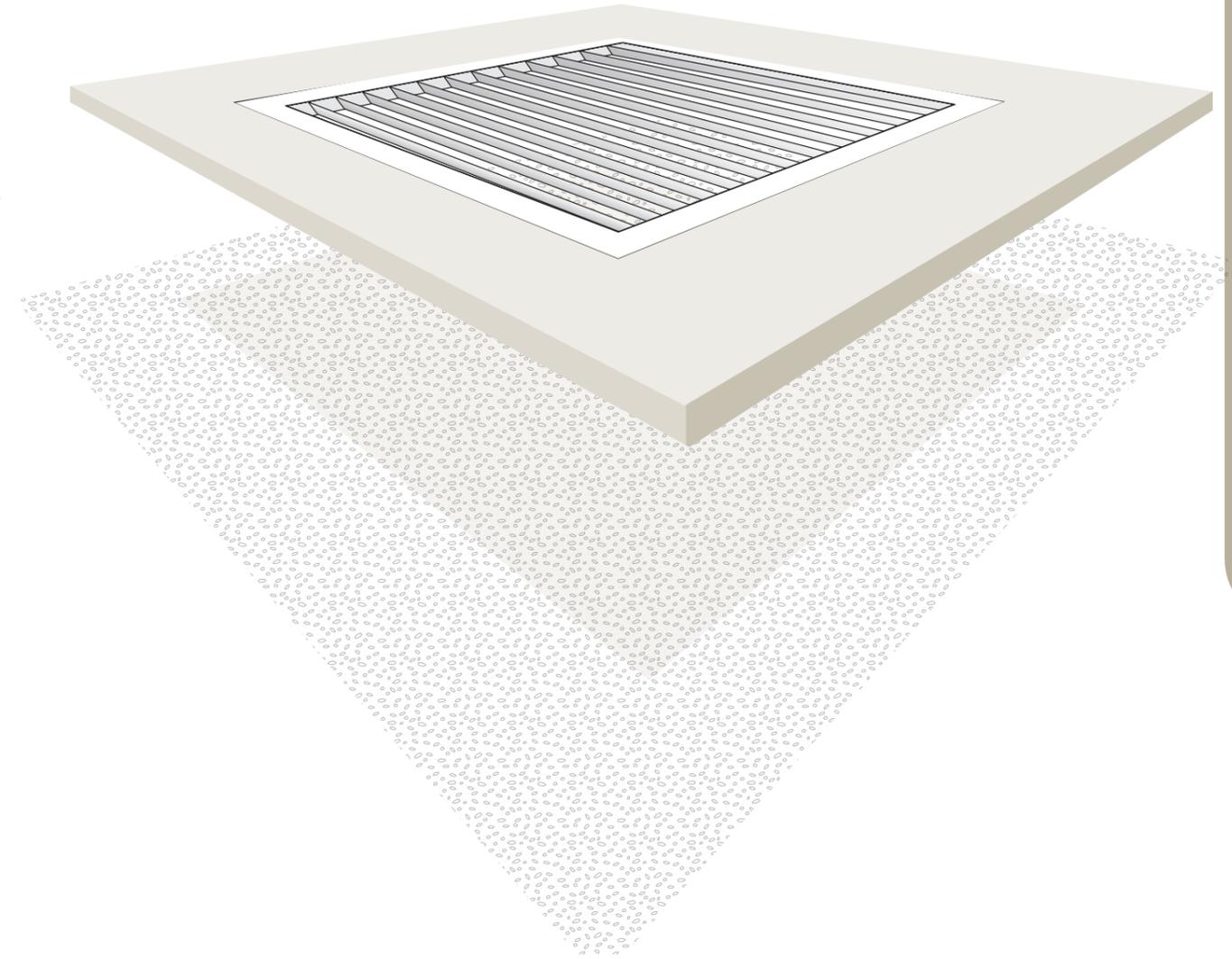
## Engineer Span Requirements

### 4 Walls Roof configuration



**Louvre Blade Span Table - 4 Wall Configuration**

Wind Class	Ultimate Limit State (m/s)	Serviceability Limit State (m/s)	Wu (kPa)	Ws (kPa)	Maximum Allowable Span (mm)	Screw spacing (mm) Side Stile to Beam
N1	34	26	0.69	0.41	5000	100
N2	40	26	0.96	0.41	5000	100
N3	50	32	1.50	0.61	4300	75
N4	61	39	2.23	0.91	3500	75
N5	74	47	3.29	1.33	2900	50
N6	86	55	4.44	1.82	2500	50



**Perimeter Beam Span Table - 4 Wall Configuration**

250x50x3.0 RHS Perimeter Beam Span Table - 4 Wall (Cpn = +0.5,-1.1)

Wind Class	Ultimate Limit State (m/s)	Serviceability Limit State (m/s)	Wu (kPa)	Ws (kPa)	Supported Louvre Span (mm)	Maximum Allowable Span (mm)	Number of Fasteners from beam to post	Supported Louvre Span (mm)	Maximum Allowable Span (mm)	Number of Fasteners from beam to post	Supported Louvre Span (mm)	Maximum Allowable Span (mm)	Number of Fasteners from beam to post
N1	34	26	0.69	0.41	5000	5000	3	4500	5400	3	3500	6000	2
N2	40	26	0.96	0.41	5000	4300	3	4000	4800	3	3000	5500	3
N3	50	32	1.50	0.61	4300	3600	4	3500	4000	4	2500	4800	3
N4	61	39	2.23	0.91	3500	3300	4	3000	3500	4	2000	4300	3
N5	74	47	3.29	1.33	2900	3000	5	2500	3200	5	1500	4100	4
N6	86	55	4.44	1.82	2500	2700	5	2000	3000	5	1000	4000	4

# Lumex Opening Roof Engineer Span Requirements

## Determining Wind Speed

### Selection Procedure

To identify a Wind Classification for a proposed domestic site there are four variables you must first identify. They are Region (figure 1), Terrain Category, Shielding Factor and Topographic Classification. The Wind Classification can then be determined using table 2.

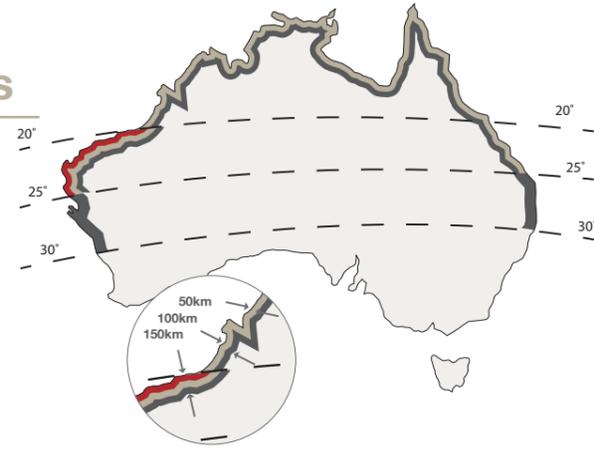
If the permissible gust wind speed is required, refer to table 1 following assessment of wind classification.

\* This is an approximate method for estimating wind speeds for residential structures only. For full analysis refer to Australian Standard AS/NZS1170.2:2011.

Regions are marked with the letters A, B, C and D. Coastal region boundaries are smooth lines set in from a smoothed coastline by 50, 100, 150 and 200km. Islands within 50km of the coast are designated in the same region as the adjacent coast.

NOTE: This map is from Australian Standard AS/NZS1170.2. The wind direction sub-regions of A Region A have been removed for clarity.

- REGION A - Normal
- REGION B - Intermediate 100kms
- REGION C - Tropical Cyclones 50kms
- REGION D - Severe Tropical Cyclones



Design Gust Wind Speed ( ) for Cyclonic Regions A and B

Wind Class	Design Gust Wind Speed ( ) at height (h) m/s	
	Serviceability limit state ( v )	Ultimate limit state ( v )
N1	26	34
N2	26	40
N3	32	50
N4	39	61
N5	47	74
N6	55	86

Design Gust Wind Speed ( ) for Cyclonic Regions C and D

Wind Class	Design Gust Wind Speed ( ) at height (h) m/s	
	Serviceability limit state ( v )	Ultimate limit state ( v )
C1	32	50
C2	39	61
C3	47	74
C4	55	86

Region	Terrain Category	T0			T1			T2			T3		T4	T5
		FS	PS	NS	FS	PS	NS	FS	PS	NS	FS	NS	NS	NS
A	3	N1	N1	N1	N1	N2	N2	N2	N2	N2	N3	N3	N3	N4
	2.5	N1	N1	N2	N1	N2	N2	N2	N3	N3	N3	N3	N4	N4
	2	N1	N2	N2	N2	N2	N3	N2	N3	N3	N3	N3	N4	N4
	1.5	N2	N2	N2	N2	N3	N3	N3	N3	N3	N3	N4	N4	N5
	1	N2	N3	N3	N2	N3	N3	N3	N3	N4	N4	N4	N4	N5
B	3	N2	N2	N3	N2	N3	N3	N3	N3	N4	N4	N4	N4	N5
	2.5	N2	N3	N3	N3	N3	N3	N3	N4	N4	N4	N4	N5	N5
	2	N2	N3	N3	N3	N4	N4	N3	N4	N4	N4	N5	N5	N6
	1.5	N3	N3	N4	N3	N4	N4	N4	N4	N4	N5	N5	N5	N6
C	3	C1	C1	C2	C1	C2	C2	C2	C2	C3	C3	C3	C3	C4
	2.5	C1	C2	C2	C2	C2	C2	C2	C3	C3	C3	C3	C4	NA
	2	C1	C2	C2	C2	C2	C3	C2	C3	C3	C3	C4	C4	NA
	1.5	C2	C2	C3	C2	C3	C3	C3	C3	C4	C4	C4	NA	NA
D	3	C2	C3	C3	C2	C3	C3	C3	C4	C4	C4	C4	NA	NA
	2.5	C2	C3	C3	C3	C3	C4	C3	C4	C4	C4	NA	NA	NA
	2	C3	C3	C4	C3	C4	C4	C4	C4	NA	NA	NA	NA	NA
	1.5	C3	C4	C4	C4	C4	NA	C4	NA	NA	NA	NA	NA	NA
D	1	C3	C4	C4	C4	NA								

## Terrain Category

The wind speed at a structure is influenced by the terrain it flows over as it approaches the structure. The terrain category classifications can be described as follows:



### Category 1

Exposed open terrain with few or no obstructions and enclosed water surfaces. For example, flat, treeless, poorly grassed plains; rivers, canals and lakes; and enclosed bays less than 10km in the wind direction.



### Category 1.5

Open water surfaces for example coastal waters, large open bays on seas and oceans, lakes and enclosed bays extending greater than 10km in wind direction.



### Category 2

Open terrain, including grassland, with well scattered obstructions having heights typically from 1.5-5m with no more than two obstructions per hectare.



### Category 2.5

Terrain with a few trees or isolated obstructions, for example terrain in developing outer urban areas with scattered houses.



### Category 3

Terrain with numerous closely spaced obstructions with heights typically between 3-10m, for example suburban housing.

# Lumex Opening Roof Engineer Span Requirements

## Determining Wind Speed

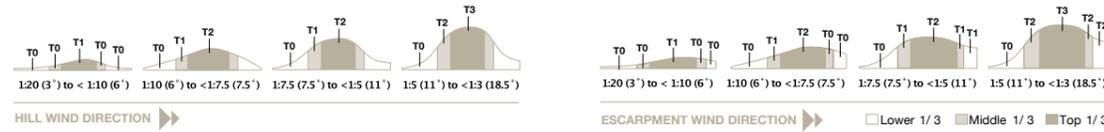
### TOPOGRAPHIC EFFECT

The topographic classification determines the effect of wind on a structure due to its location on a hill, ridge or escarpment and the height and slope of the hill, ridge or escarpment.

The bottom of a hill, ridge or escarpment is the area at the base of which the average ground slope is less than 1 in 20 or approximately 3°. The maximum slope of a hill, ridge or escarpment (regardless of structure site) is measured as the steepest slope through the top half of the hill, ridge or escarpment. With the maximum slope known, the adjacent diagrams may be used to determine the topographic classification based on which third of the hill or escarpment the site is located.

In areas where the maximum slope does not exceed 1 in 20 (approximately 3°) the topographic classification shall be T0.

Note: Diagrams suitable for hill or escarpment heights not exceeding 30m. Refer AS4055:2011 for details if outside of these requirements.



### SHIELDING FACTOR

Shielding classification is required because the wind speed at a structure is influenced by any upwind obstructions of similar size to the structure that are close to the building. In region C and D, trees and vegetation shall not be considered as shielding elements. The three shielding classifications are defined as follows:

#### NS ►► Wind Direction

**NO SHIELDING** eg. Less than 2.5 houses per hectares upwind

**NS - Represents No Shielding**

No Shielding occurs where there are no (or less than 2.5 obstructions per hectare) permanent obstructions upwind. e.g. The first row of houses or single houses abutting open water, airfields and open parklands.

#### PS ►► Wind Direction

**PARTIAL SHIELDING** eg. 2.5 houses per hectares upwind

**PS - Represents Partial Shielding**

Partial Shielding applies to intermediate situations where there are at least 2.5 houses or sheds per hectare upwind of the structure. e.g. Typical "acreage" type suburban development or wooded parklands. The second row of houses abutting open water or parklands may be classified as having partial shielding.

#### FS ►► Wind Direction

**FULL SHIELDING** eg. 10 houses per hectares upwind

**FS - Represents Full Shielding**

Full Shielding is where at least two rows of houses or similar sized permanent obstructions surround the building being considered. In regions A and B, heavily vegetated areas within 100m of the site can provide Full Shielding. The application of Full Shielding is considered appropriate for typical suburban development, equal to or greater than 10 houses and/or similar sized obstructions per hectare.

## DESIGN FACTORS

Wind speeds have been determined using the following factors, in accordance with AS/NZS1170.2:2011 500 year design return period and an average five metre structure height.

Note: A 5% allowance has been used when allocating the wind classification.

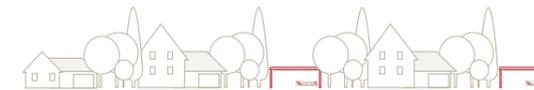
TERRAIN CATEGORIES (MZ,cat)	
Terrain Category	Regions A, B, C and D
1	1.05
1.5	0.98
2	0.91
2.5	0.87
3	0.83

SHIELDING FACTOR (MS)	
Shielding Classification	Factor
Full Shielding (FS)	0.85
Partial Shielding (PS)	0.95
No Shielding (NS)	1.00

TOPOGRAPHIC EFFECT (MT)	
Topographic Classification	Factor
T0	1.00
T1	1.10
T2	1.20
T3	1.30

## WIND SPEED EXAMPLES

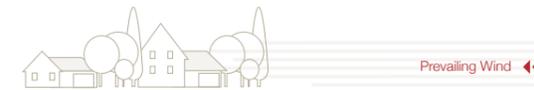
The examples below show typical applications of the rationalised gust wind speeds. For a full analysis refer to AS/NZS1170.2:2011.



REGION A - N1 (W28), REGION B - N2 (W33) AND REGION C - C1 (W41)  
Flat Suburbia



REGION A - N3 (W41), REGION B - N4 (W50) AND REGION C - C3 (W60)  
Structure sited in undulating sparsely populated terrain



REGION A - N2 (W33), REGION B - N3 (W41) AND REGION C - C2 (W50)  
Structures built adjacent to an oval or large vacant lot subject to prevailing winds.



REGION A - N3 (W41) REGION B - N4 (W50) AND REGION C - C3 (W60)  
The first row of buildings adjacent to the sea front



REGION A - N2 (W33), REGION B - N3 (W41) AND REGION C - C2 (W50)  
Structures on undulating terrain in suburbia



REGION A - N4 (W50) REGION B - N5 (W60) AND REGION C - C4 (W70)  
Extremely severe - Isolated building on the crest of a hill

#### Disclaimer

The method used for calculating the design gust wind speeds has been developed by CW Systems with the assistance of suitably qualified engineers in order to comply with the requirements of AS/NZS1170.2:2011 and classified in accordance with the wind classifications allocated in AS4055:2012.

CW Systems does not accept liability for any loss or damage suffered as a result of any errors in the interpretation or application of this design guide. Any person wishing to check any calculations made by them pursuant to this method may wish to seek independent engineering advice.

## Before you Order - Checklist

### Checklist

**Review the site where the opening roof systems will be installed and check the following:**

- Are there any council/ local government regulations that need to be adhered to - Check with the local council.
- Determine the Wind class of the site - Refer to pg 20. Using the Engineer span tables ensure the planned blade, and beam spans and post heights are sufficient.
- Check the level of the site - Determine whether post height adjustments need to be made to ensure the roof is level.
- Determine the roof configuration - refer to page 13 - 19. How many posts are required
- Determine the site aspect - The direction of the Northern sun. Use this to determine the blade rotation.
- Determine whether any footings are required.
- Determine the downpipe drainage points, and stormwater connection points.
- Determine the power supply point.

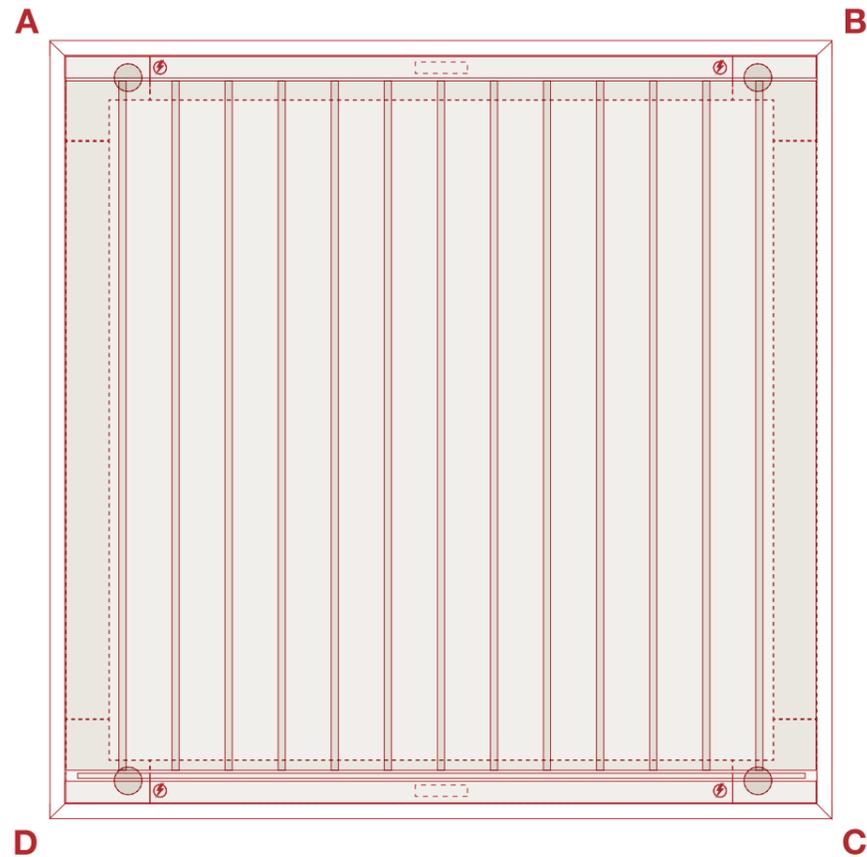
**How to order:**

Order using the A,B,C,D model on the order form.

A-B is always the Width (number of blades). A-D is always the projection of the blades.

Use the A,B,C,D model to determine the Blade rotation, Power connectivity, Storm water drop pipes, and the corners requiring posts.

A copy of the order form is attached on the next page.



## Before you Order - Checklist

### Checklist - order form

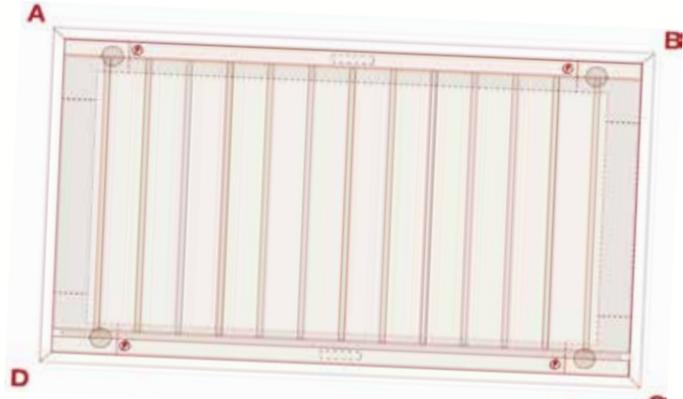


Ph: 02 96260700 Fax: 0298384740  
Email: sales@cwsystems.com.au

Company Name	
Order Name/No.	
Pick Up or Delivery	
Date	

Notes For Office Use Only.

**LUM**



Item #	Location	Width (Size A-B)	Projection (Size A-D)	Colour	Blade Rotation	Mounting Method	Power Connectivity	Down Pipe	Beams					Posts				Item Code			
									Type	A-B	B-C	D-C	A-D	Post Type	Post Length	A	B		C	D	
1																					
2																					
3																					
4																					
5																					
6																					
7																					
8																					

Item #	Notes
1	
2	
3	
4	
5	
6	
7	
8	

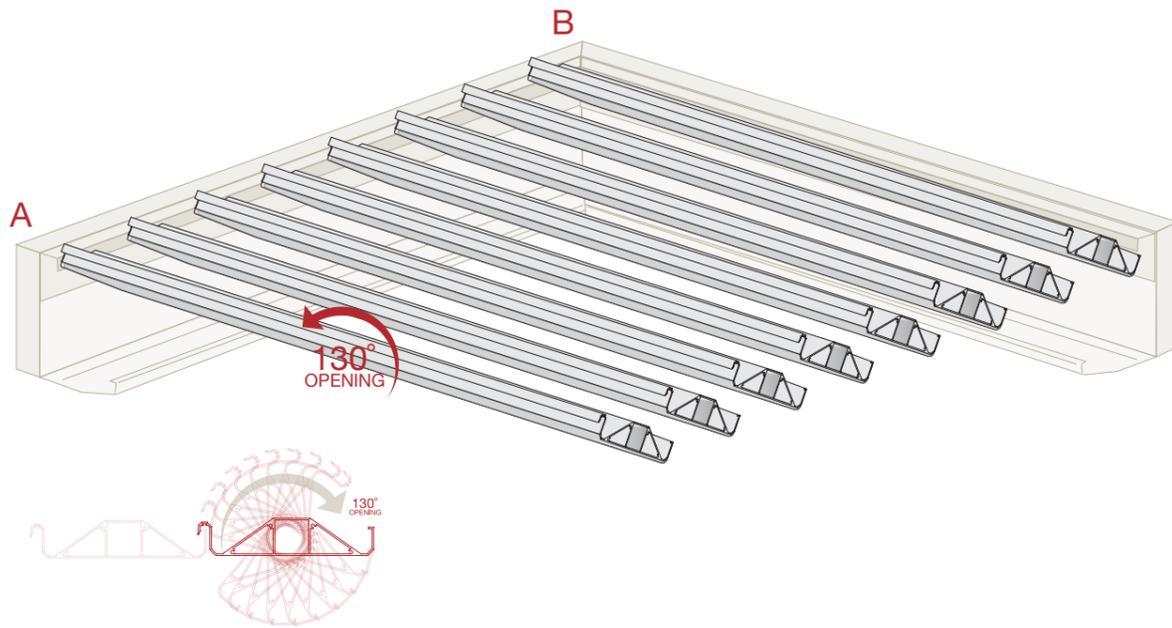


## Lumex Opening Roof Before you Order - Checklist

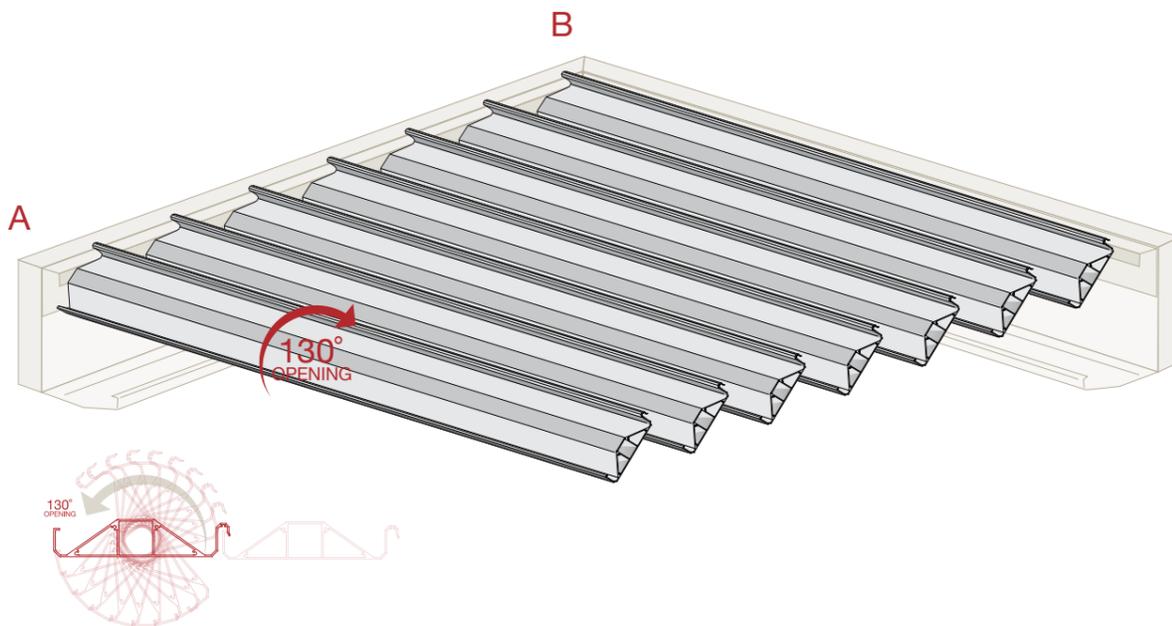
### Checklist

**Blade Rotation.**  
The Blade direction is identified as either; Towards A, or Towards B. See diagram below.

### Closing Direction - Towards A



### Closing Direction - Towards B



## Lumex Opening Roof Before you Order - Checklist

### Checklist

**Determining the Gutter Drop Point.**  
Identify the corner that requires the down pipe (A, B, C, or D). Take into consideration the fall of the roof and the closest storm water connection point.

The Corner gutter for the selected corner will have a 80mm drop pipe, welding into the gutter from which a standard down pipe can be attached.

**Determining the Power Connectivity point.**  
Determine which corner of the roof is closest to you power connectivity point A,B,C or D).

The Motor will be attached to the side rail closest to the power connectivity point. 3 meters of cable will be supplied from the motor to ensure the power point can be reached.

**Posts and Beams:**  
If you do not require 250x50mm beams all around, specify which sides you require the beams; Either A-B, B-C, C-D, A-D.

If you require posts, specify which corners you require the posts.

Lumex Opening Roof  
**Installation Instructions**

**Fixings Supplied**

ITEM	SPECIFICATION	MATERIAL	DESCRIPTION
HEXAGON SOCKET COUNTERSUNK HEAD BOLTS	M8*30	STAINLESS STEEL 304	BEAM CORNER JOINT FIXINGS
COUNTER SUNK RIVET	3*9	STAINLESS STEEL 304	FIXING FOR CORNER / LINE JOINT OF GUTTER
PHILLIPS PAN HEAD SELF TAPPING SCREW	ST4.8*13	STAINLESS STEEL 304	1. FIXING FOR STILE AND BEAM 2. FIXING FOR GUTTER AND BEAM.
PHILLIPS COUNTER SUNK SELF TAPPING SCREW	ST4.2*9.5	STAINLESS STEEL 304	BLADE END CAP
RIVETS	6.4*16.5	ALUMINIUM	FIXING FOR STILE AND BEAM
HEXAGONAL SOCKET HEAD BOLT AND LOCK TIGHT NUT	M8*20	STAINLESS STEEL 304	FIXING FOR BLADE AND TILTROD
HEXAGONAL SOCKET HEAD BOLT	M6*12	STAINLESS STEEL 304	FIXING FOR MOTOR AND STILE
HEXAGONAL SOCKET HEAD BOLT AND NUT	M4*16	STAINLESS STEEL 304	FIXING FOR MOTOR AND T BRACKET
HEXAGONAL SOCKET HEAD BOLT AND NUT	M5*20	STAINLESS STEEL 304	FIXING FOR T BRACKET AND TILTROD

**Tools Required**

The Following tools are suggested for Installation of the Lumex Opening Roof

- |                                      |                          |                     |
|--------------------------------------|--------------------------|---------------------|
| Circular Saw - Aluminium Blade       | Pencil                   | Tape Measure        |
| Rivet Gun                            | Drill                    | Silicone Gun        |
| Impact Drill and Masonry drill bits. | Hex Head drill bits      | Spanners or Ratchet |
|                                      | Phillips Head drill bits | Hex Key set.        |
|                                      | Spirit Level             | 2 x Ladders         |

Lumex Opening Roof  
**Installation Instructions**

**Extra Fixings Required**

ITEM	SPECIFICATION	MATERIAL	DESCRIPTION
HEX HEAD COACH SCREWS	M8 x 75mm	STAINLESS STEEL	WALL MOUNT ANCHORS
LONG ANCHOR PLUG	10 x 80mm	-	WALL MOUNT ANCHORS
DYNA BOLT PLUS HEX NUT BOT	8 X 40MM	STAINLESS STEEL	WALL MOUNT ANCHORS
DYNA BOLT PLUS HEX NUT BOT	10 X 75MM	STAINLESS STEEL	BASE POST ANCHORS

Sikaflex Polyurethane Sealant or Similar

Please note that different mounting methods, and mounting material may require extra / different fixings

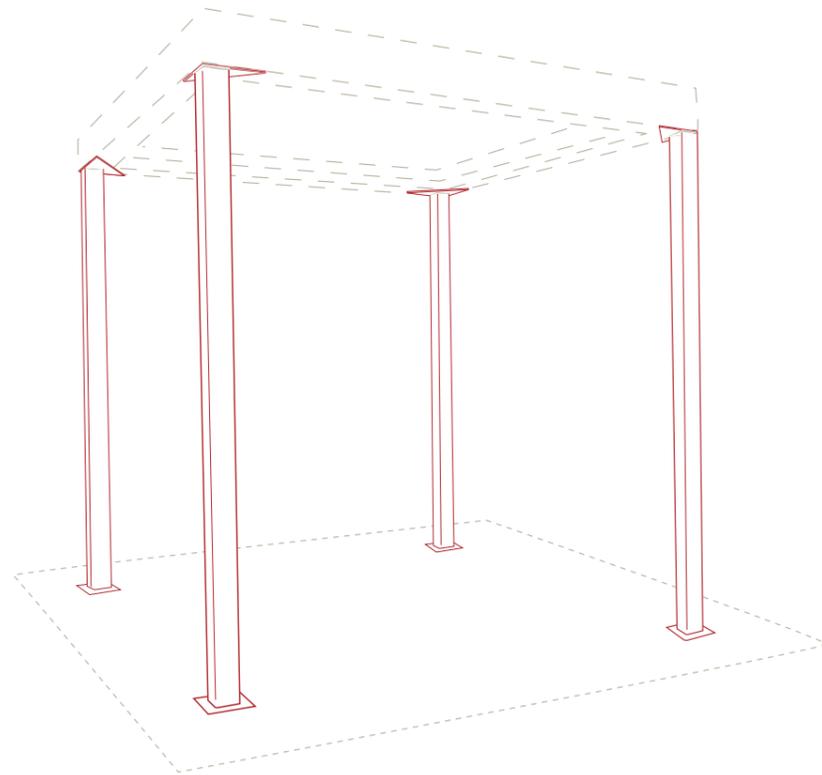
## Lumex Opening Roof Installation Instructions

### STEP 1

Layout the Site. Marking where the 4 corners of the roof will be positioned.

### STEP 2

Check the level of the site. Cut your posts according to the level of the site.

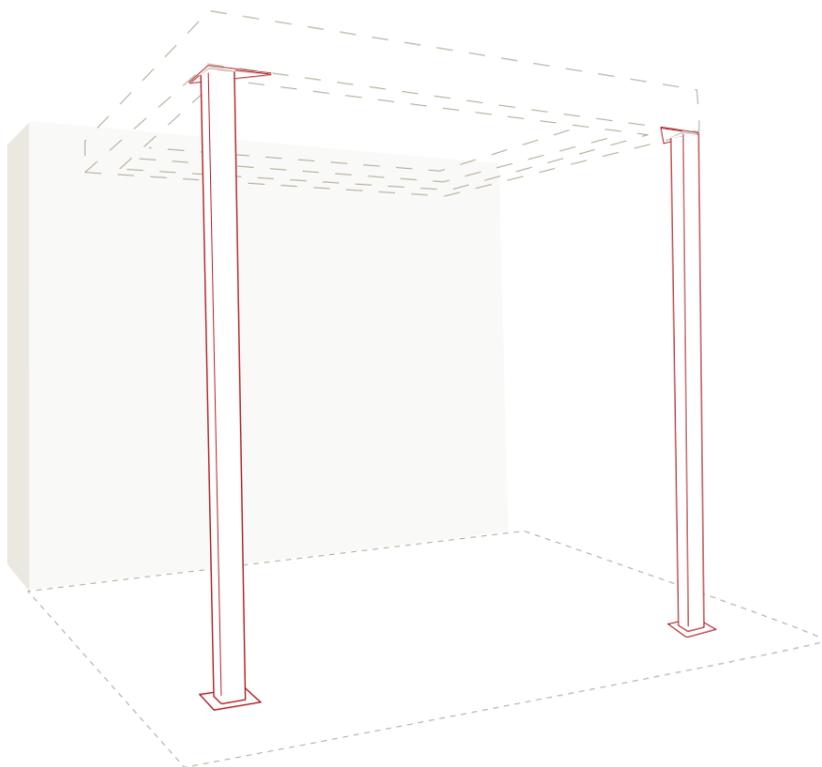


### STEP 1

Layout the Site. Marking where the 4 corners of the roof will be positioned.

### STEP 2

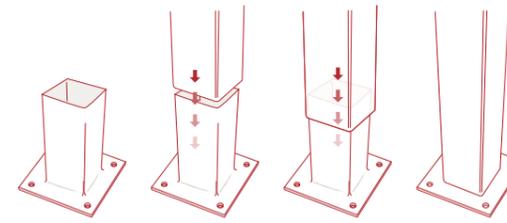
Check the level of the site. Cut your posts according to the level of the site and then mark wall level with the post.



## Lumex Opening Roof Installation Instructions

### STEP 3 - BASE PLATE

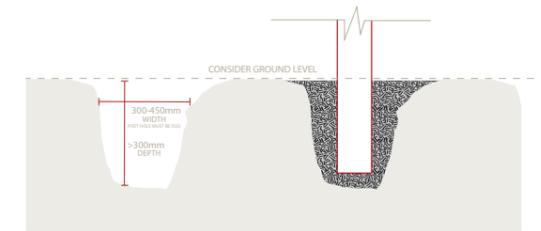
Place the 4 post in position, hold them up with props. Do not fix them into the ground yet.



Do not fix them into the ground yet.

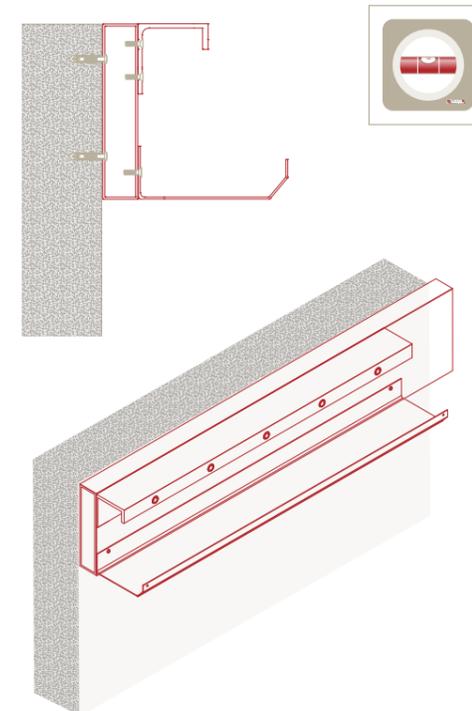
### POST FOOTING

Dig footings at the required depth, and concrete the posts into place, making sure all posts are level at the top.

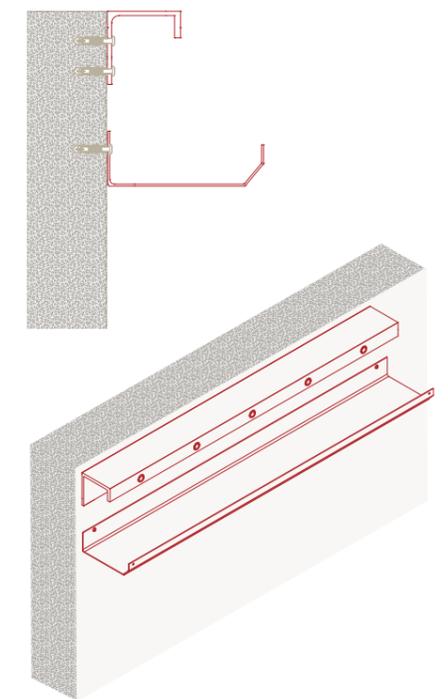


The following instructions apply for free standing structures. If you are wall mounting please mount to the wall as shown below and follow the instructions accordingly.

### With roof surrounds



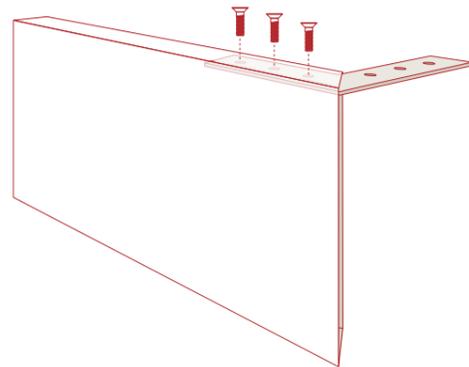
### Without roof surrounds



Lumex Opening Roof  
**Installation Instructions**

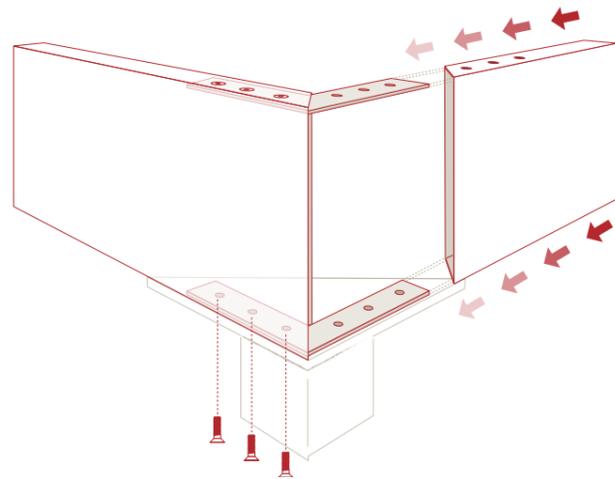
**STEP 4**

Fix the corner joiners into the top of the 250x50 Surrounds, using the Stainless Steel M8x30mm Hex Bolts supplied. Only fix One of Corner joiners into each 250x50 Surround.



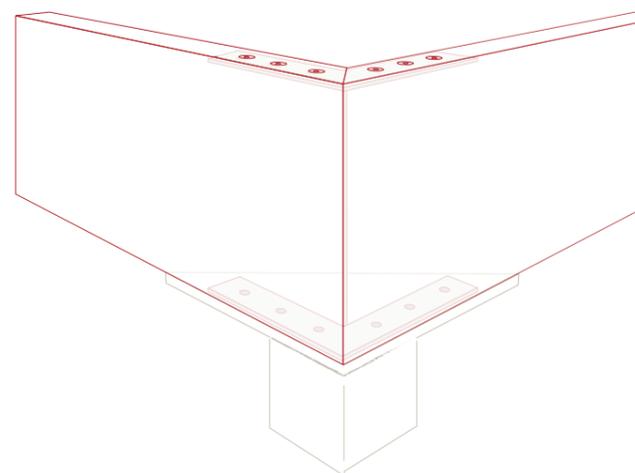
**STEP 5**

Position the first 250x50 Beam on top of the posts, loosely fixing it to the post mounting plate.



**STEP 6**

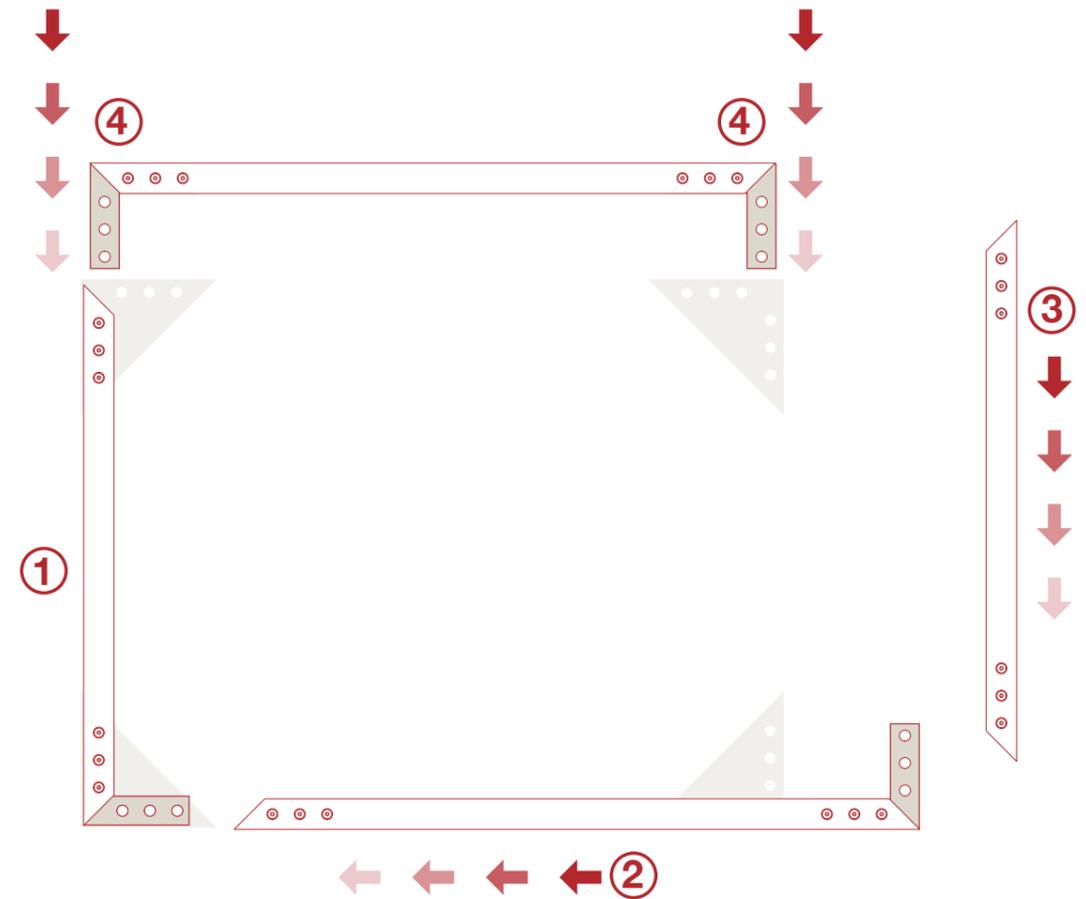
Slide the next 250x50 Beam into the corner joiner of the previous 250x50 beam. Fix the corner into position ensuring the corner is square.



Lumex Opening Roof  
**Installation Instructions**

**STEP 7**

Repeat this process for the 2 other 250x50 beams.



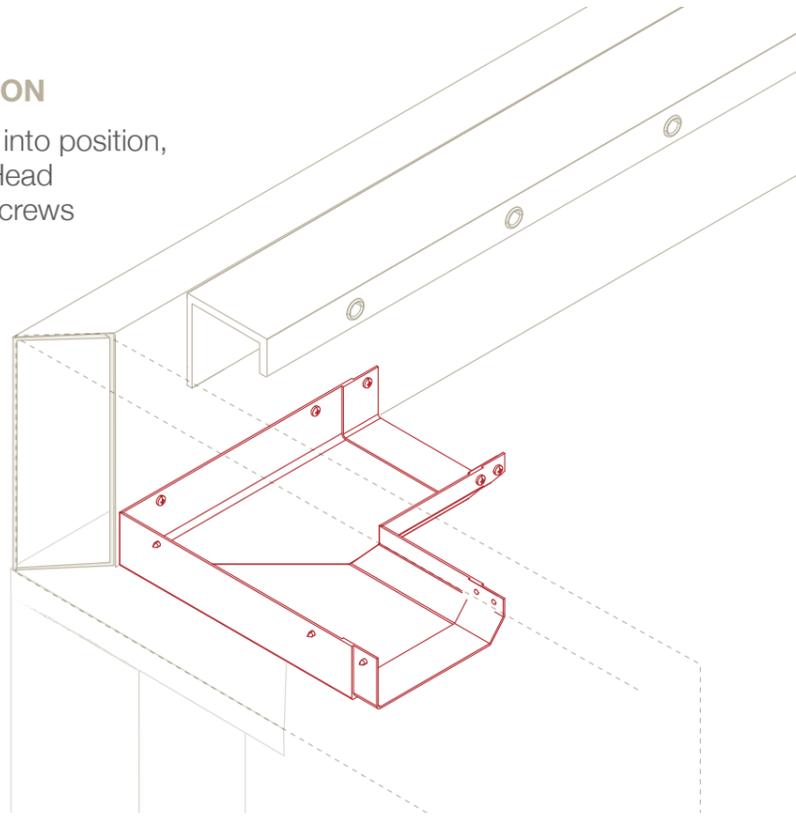
**Please Note**

When fixing directly to a wall or existing structure.  
 Start at the wall first and work your way out to the posts

## Installation Instructions

### STEP 8 - GUTTER INSTALLATION

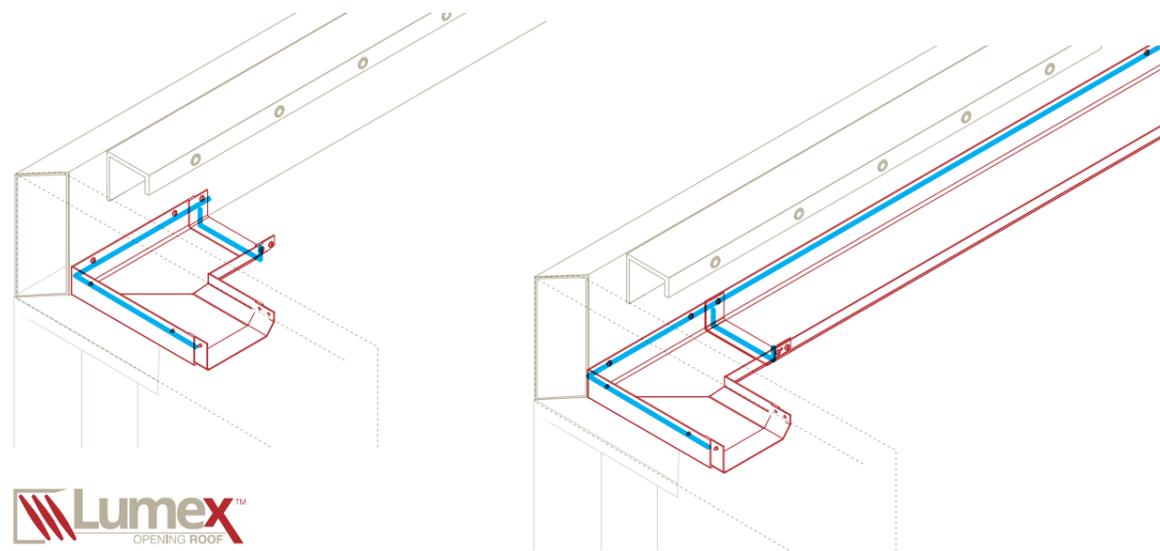
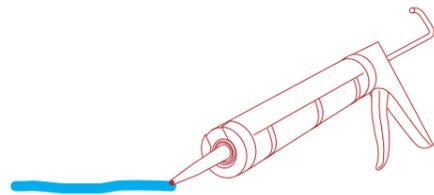
First the corner gutters into position, using the Phillips Pan Head St4.8\*13 self-tapping screws supplied.



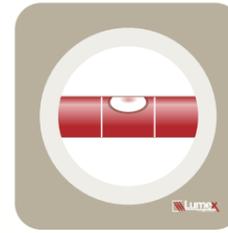
### STEP 9 -

#### Silicone

Before fixing the corner, gutters apply Sikaflex (silicon) or similar to the beam to ensure the joint is completely water tight.



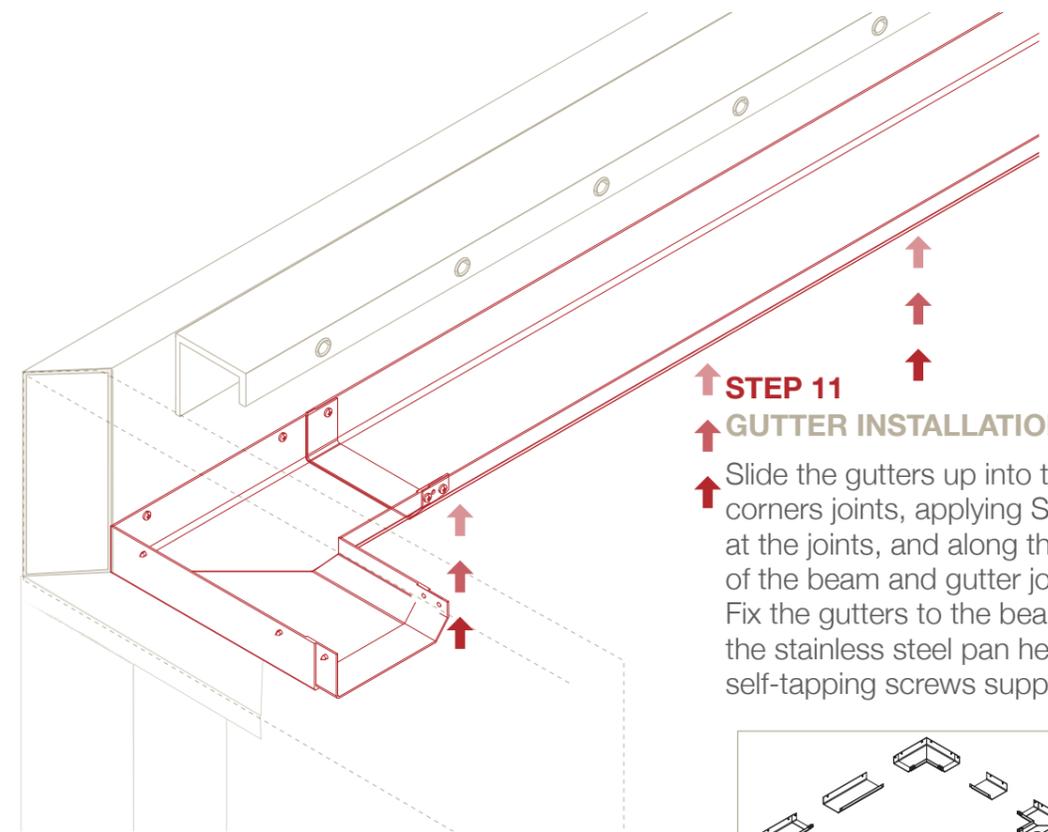
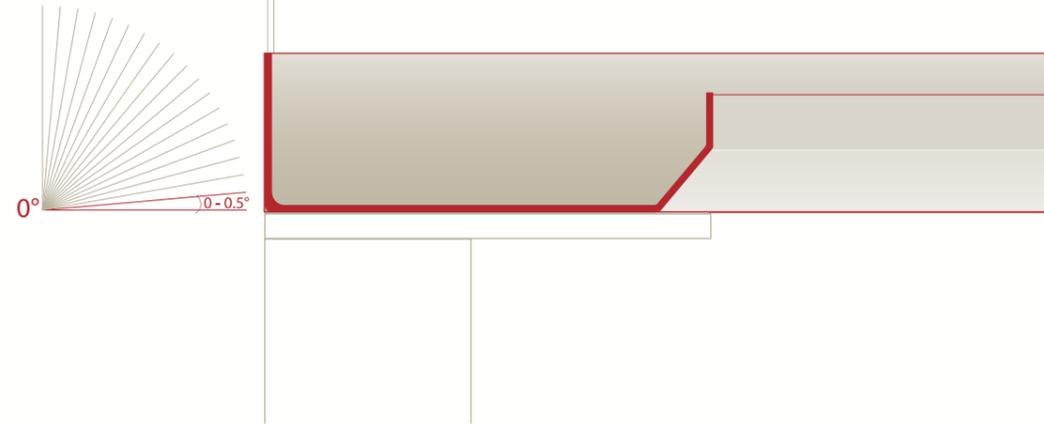
## Installation Instructions



### STEP 10 -

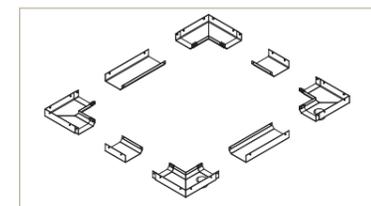
#### Adequate Fall

Ensure you have adequate fall toward the drop pipe corner (corners). Recommended fall is 0.5° min.



### STEP 11 GUTTER INSTALLATION

Slide the gutters up into the corners joints, applying Sikaflex at the joints, and along the edge of the beam and gutter joint. Fix the gutters to the beam using the stainless steel pan head self-tapping screws supplied.

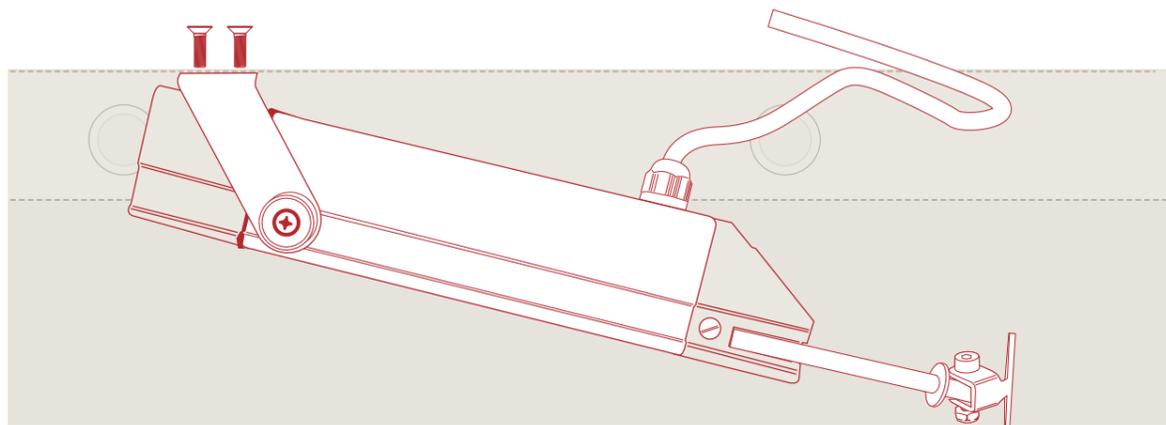
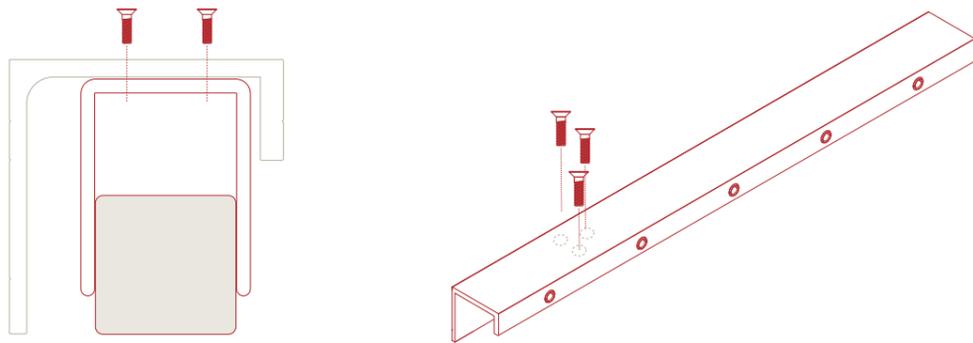


Lumex Opening Roof  
**Installation Instructions**



**STEP 12 -  
 MOTOR INSTALLATION**

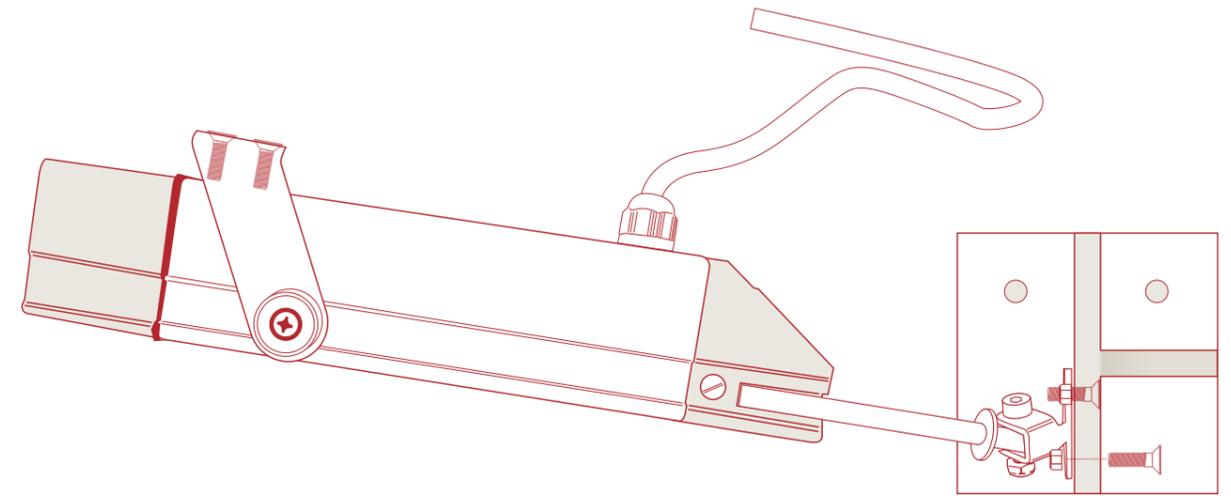
Attach the motor to the motor mount on the Side Rail, using the hex bolts supplied.



Lumex Opening Roof  
**Installation Instructions**

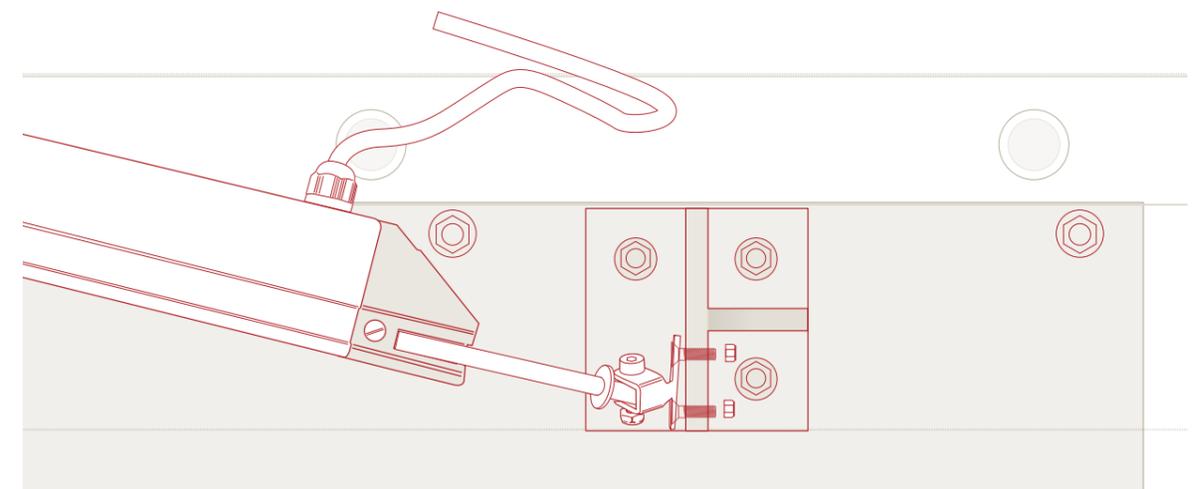
**STEP 13 -  
 MOTOR INSTALLATION**

Attach the Motor to the Control Bar mount using the bolts supplied.



**STEP 14 -  
 MOTOR INSTALLATION**

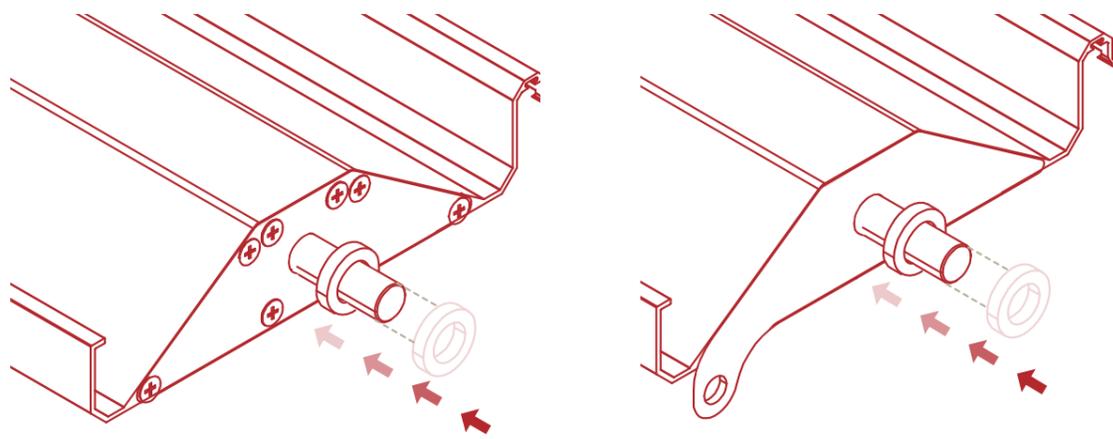
Attach the control bar mount to the control arm.



Lumex Opening Roof  
**Installation Instructions**

**STEP 15 -  
 BLADE INSTALLATION**

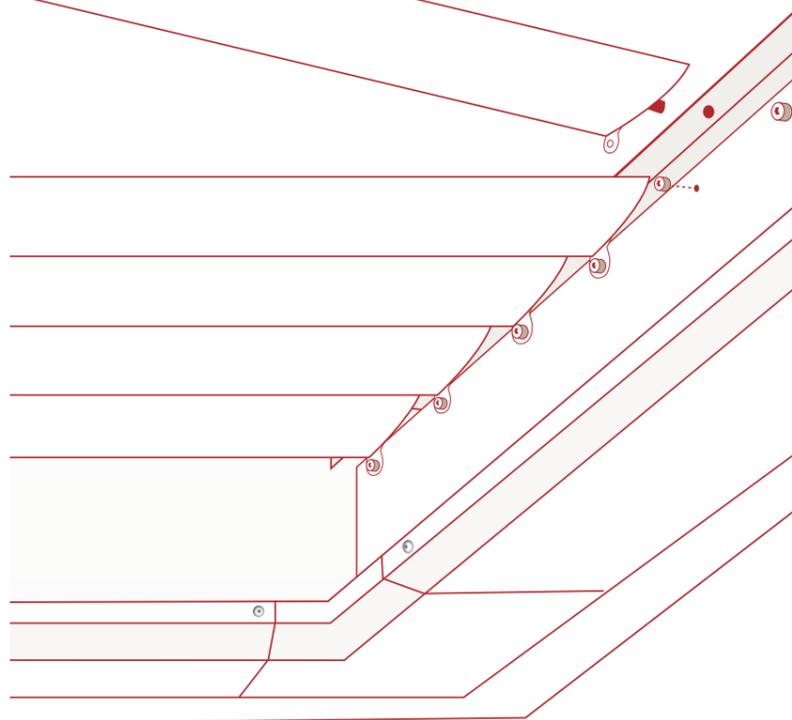
Attach Pin Spacers to both ends of the blade Pins



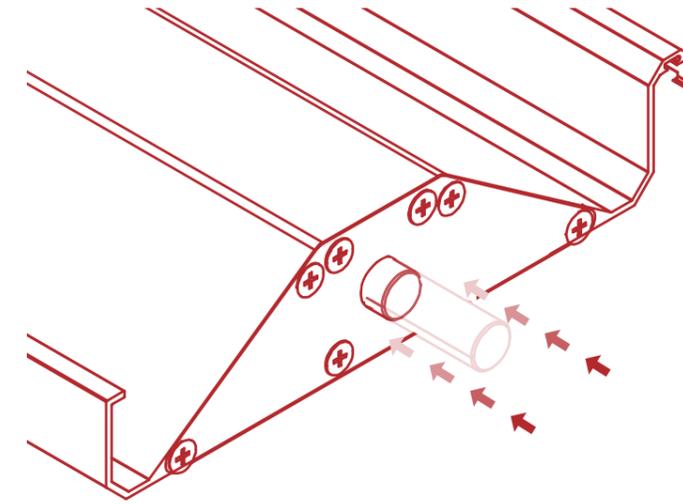
**STEP 16 -  
 BLADE INSTALLATION**

Mount the blades, by sliding the 'fixed pin' in the motor side and the 'spring pin' in the idle side. Fix the blade to the control bar with the bolt provided (M8\*20)

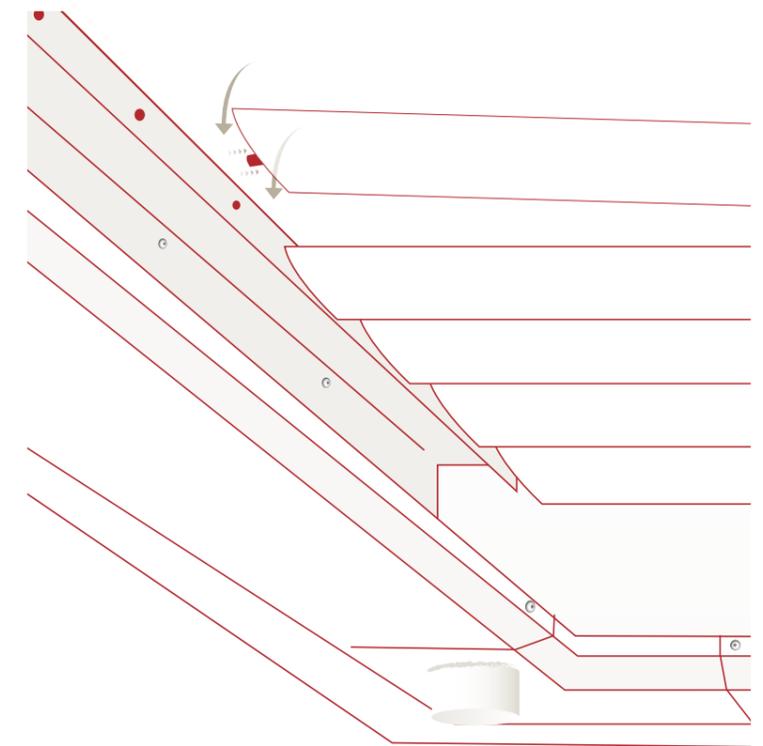
PLACE PIN INTO SIDE  
 RAIL AND ATTACH BLADE  
 TO CONTROL ARM



Lumex Opening Roof  
**Installation Instructions**



PUSH THE SPRING PIN  
 INTO THE BLADE AND  
 RELEASE INTO RAIL.



**STEP 17 -  
 BLADE INSTALLATION**

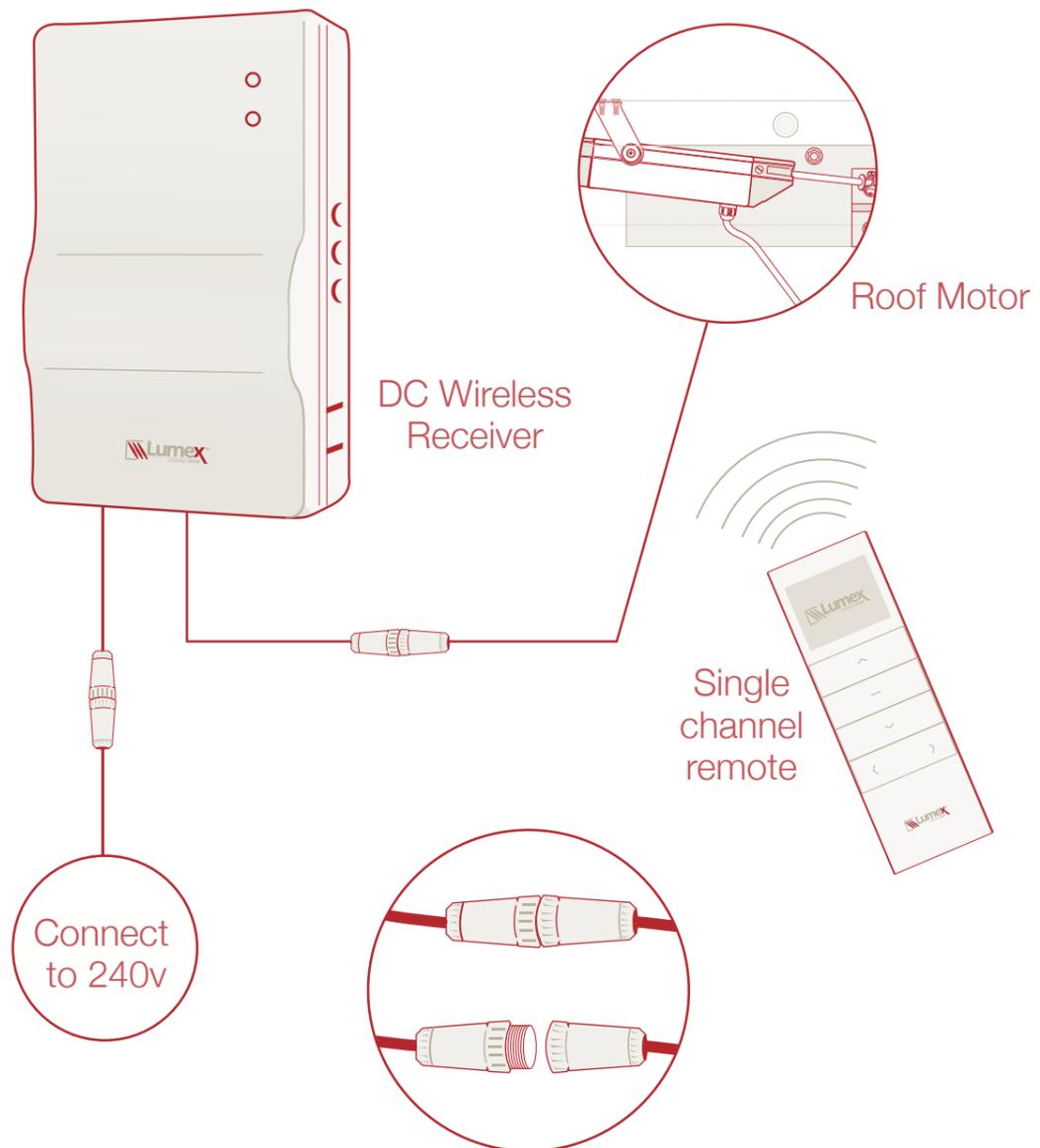
Continue steps 13 & 14 until all blades are in place.

## Wiring Diagram

### STEP 15 -

Motor Installaion

Assign a qualified electrician, to wire the motor and switch.



### STEP 16 -

Motor Installaion

Test the operation of the roof including its drainage, and adjust if required.

Lumex Opening Roof

## Lumex Opening Roof Warranty

### Warranty

We warrant the Lumex Opening Roof (Product of CW Systems) to be free from defects in material or workmanship for 2 years.

This warranty is for the benefit of the original purchaser and is not transferable.

This warranty does not cover any situation arising where damage to the Lumex Opening Roof has occurred through failure to follow prescribed instructions with respect to measurement, installation, cleaning or maintenance, nor does it cover unauthorised repairs, accidents, alterations, misuse, abuse, acts of God, or normal wear and tear.

This warranty solely covers the replacement of parts; all installation and ancillary costs are the sole responsibility of the dealer.

Warranty claims must be accompanied by proof of purchase, as well as details regarding the nature of the problem, location of the product etc.

All other warranties both expressed and implied are explicitly disclaimed. This warranty excludes all liability for consequential or incidental damages for any causes whatsoever.

This warranty is exclusive and in lieu of all other Obligations, Liabilities or warranties. In no events shall CW Systems be liable or responsible for incidental or consequential damages, or for any other direct or indirect damage, loss, cost, expense or fee.

Lumex Opening Roof

## Claiming Under Warranty

When claiming under this Warranty to CW Systems, you must submit a completed Repair Request form through your original retailer, AND you must substantiate your claim with proof of the error or defect.

The customer must submit the form within a period of one calendar month of first detecting the defect.

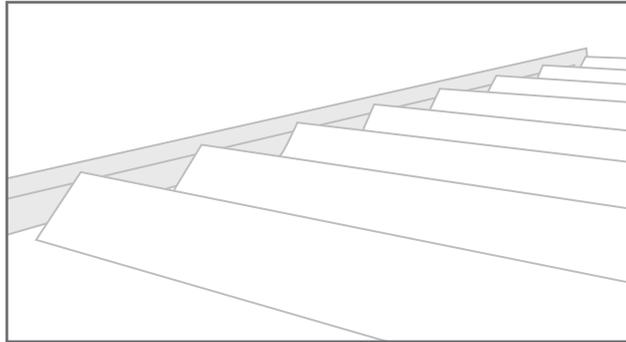
A photograph is worth a thousand words and is the quickest and easiest way of providing proof of your claim. Please ensure you have a photograph of the entire window / shutter and also a close up/ detailed photograph of the problem, sufficient to identify the problem. If the problem exists on more than one Blade or part, you must supply a photograph for each case.

A Repair is considered to be any order that relates to a previous order, whether making a warranty claim, re-ordering or just requiring a roof part or blade for the same job.

The Repair Request form will be assessed by CW Systems and if accepted as a defect of material or labour, will be processed and sent onto the factory of manufacture for re-supply.

### Your repair cannot be accepted if:

- The Repair Request form is not filled out correctly or in its entirety, including measurements, details of the cause and effect and the original order information.
- You are making a claim and have not supplied the relevant photographs.
- The job had not been paid for in full in accordance with the purchase order.
- The repaired shutters will be supplied to the original retailer for the purchaser's use.
- The Warranty Certificate has not been previously submitted within the stated time.



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