

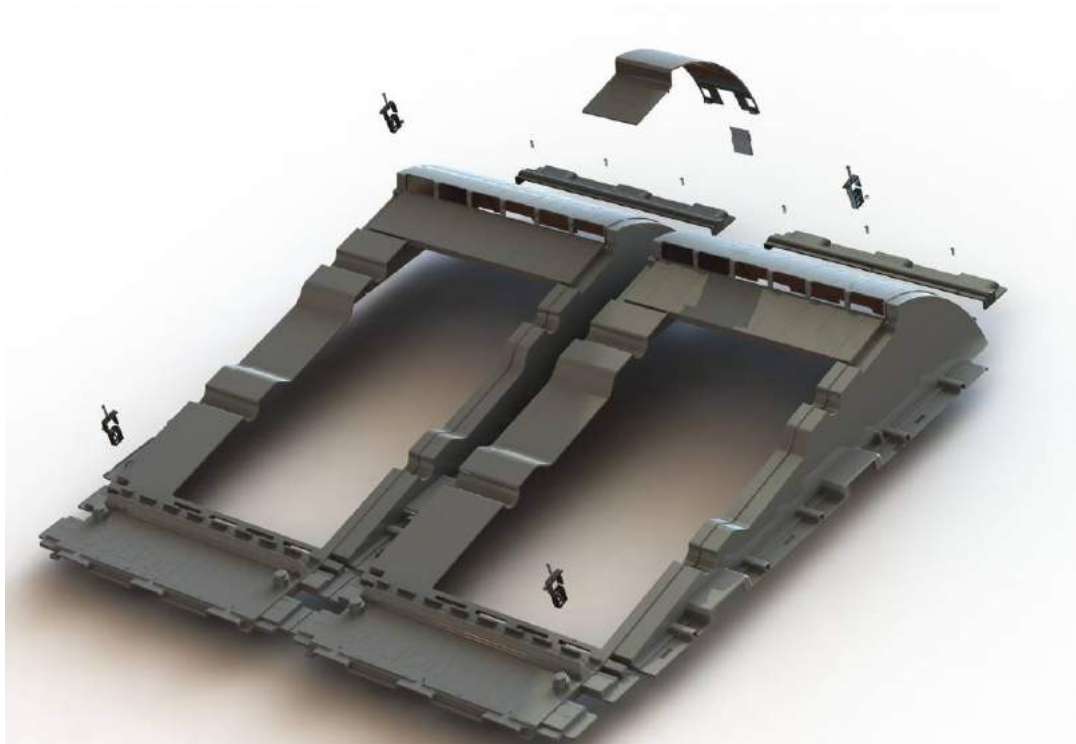
Universal SunMount[®] Installation Manual

For use with any Crystalline PV Panels with dimensions

Length - X-direction: Any length

Width - Y-direction: 960 – 1060mm

Thickness: 30 - 50mm



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The installer is solely responsible for:

- Complying with all the European and national building codes, including any code which may supersede this installation manual.
- Ensuring that all the products purchased from Solion and other suppliers are appropriate for the particular installation and there are no issues of compatibility with the other building materials.
- Use only Solion's parts and authorised distributors parts as specified by the installation manual of Solion. Substitution of parts may void the warranty given below.
- Ensure that all Solion parts and authorised distributors parts as specified by the installation manual are in good condition when they arrive to site before the installation.
- Ensuring that the roof is flat free from peaks, troughs and crusts bigger or deeper than 5cm and the building structure can support the array under all appropriate code level loading conditions.
- Ensuring correct and appropriate values are used to determine the design loads used for the specific installation. Parameters, such as wind speed, static loading, snow loading, exposure and topographic factors should be confirmed with the local building official or a licensed professional engineer.

Solion's Limited Product Guarantee

Solion will guarantee the buyer at the original installation site that any of the Universal SunMount components purchased from Solion shall be free from structural defects in material and performance as referenced in the Solion installation manual, for a period of 20 years.

This guarantee applies from the date when the installation of the Product at the Site is complete. Buyer may transfer this guarantee to subsequent owners, or if the Buyer is a contractor to the property owner.

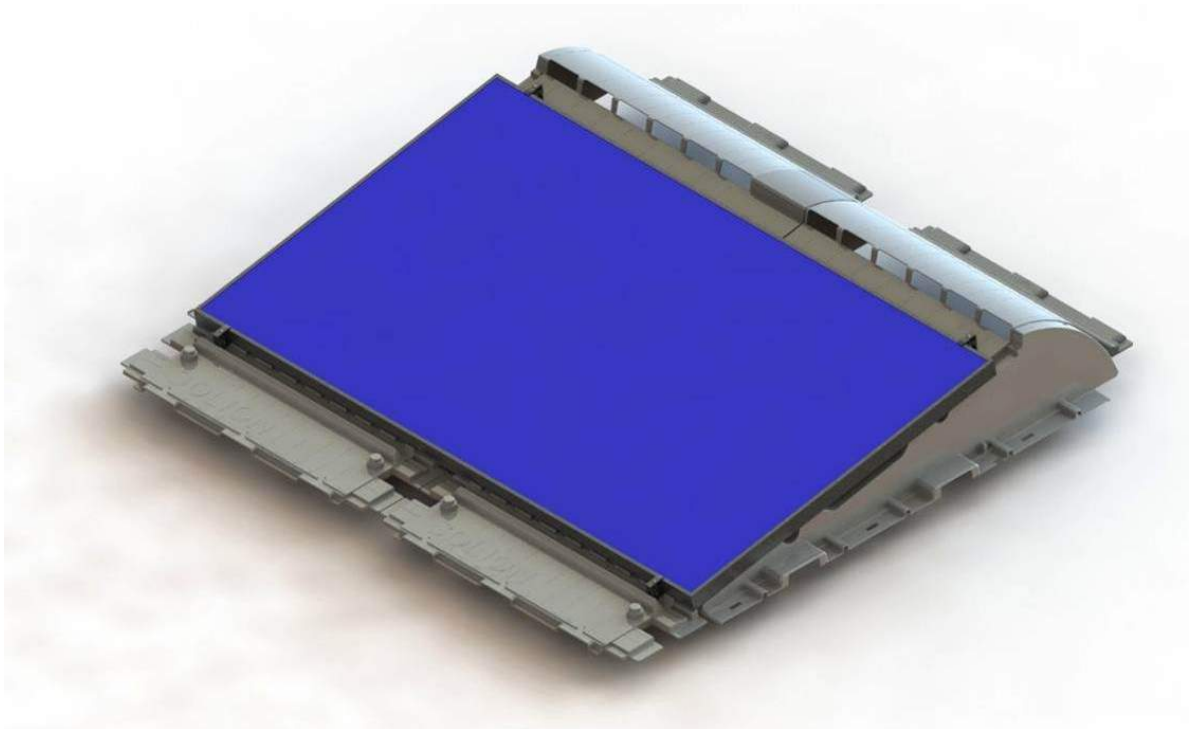
In this guarantee, the term "Buyer" refers to the original buyer and any subsequent transferee of which Solion has advance notice and a proof of purchase is required.

This Limited Guarantee shall be void if

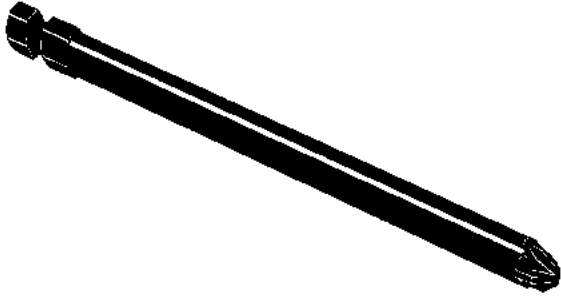
- (1) Installation of the Product is not performed in accordance with Solion installation manual instructions.
- (2) If the Product has been modified, repaired, or reworked in a manner not previously authorized by Solion in writing.
- (3) The Product is installed in an environment for which it was not designed, each as determined by Solion sole discretion.

This Limited Guarantee covers only the Product, and not PV modules, electrical components and or wiring used in connection with the Product or any other materials not provided by Solion. This Guarantee does not cover damage to the Product that occurs during its shipment, storage, and installation or from force majeure acts including natural disasters like storm, hurricane flood, or fire, earthquake, or criminal acts. If, within the Guarantee Period, the Product shall be proven in Solion sole discretion to be defective, then Solion shall repair or replace the defective Product, or any part thereof, at Solion option. Any such repair or replacement does not cause the beginning of new guarantee terms, nor shall the Guarantee Period of this Limited Guarantee be extended. Solion aggregate liability under this Limited Guarantee shall not exceed the original Purchase Price of the Product. Buyer shall bear all costs of shipment or transportation related to the repair or replacement of the defective product. Such repair or replacement shall be Buyer's sole remedy under this Limited Guarantee and shall fulfil all of Solion obligations with respect to this Limited Guarantee

Content	Page
1- Required tools for installation	3
2- Universal SunMount features	4
3- Important Notes before starting the mechanical Installation	5
3.1- Edge distance between PV array and roof edges	5
3.2- Ballasting the SunMount	6-7
4- Mechanical installation steps	8-19
5- SunMount and array dimensions	20
6- Table 1: The PV panel length selector	21-23
7- Table 2: Clamp size and number of spacer vs PV panel thicknesses	24
8- Product specification summary	25



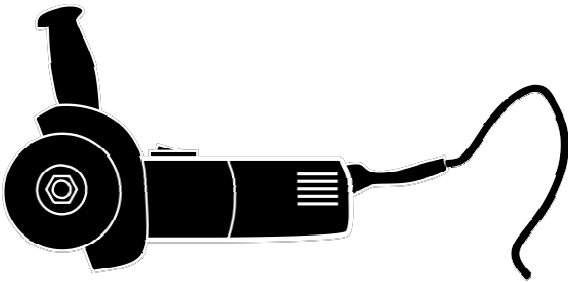
1- Required tools for installation



Pozi Drive 2



Drill



Right angle grinder fitted with a diamond cutting disk or any other saw blade or rotary saw blade cutter, to cut SunMount module to the right



Gloves for handling SunMount which could develop sharp corners

Please use the following suggested torque settings for the screws:

1- Front to back interlock, M6 x 16mm, use a max torque of 1 N/m.

2- For the bottom screw of the clamps, M6 x 20mm, use a max torque of 1 N/m.

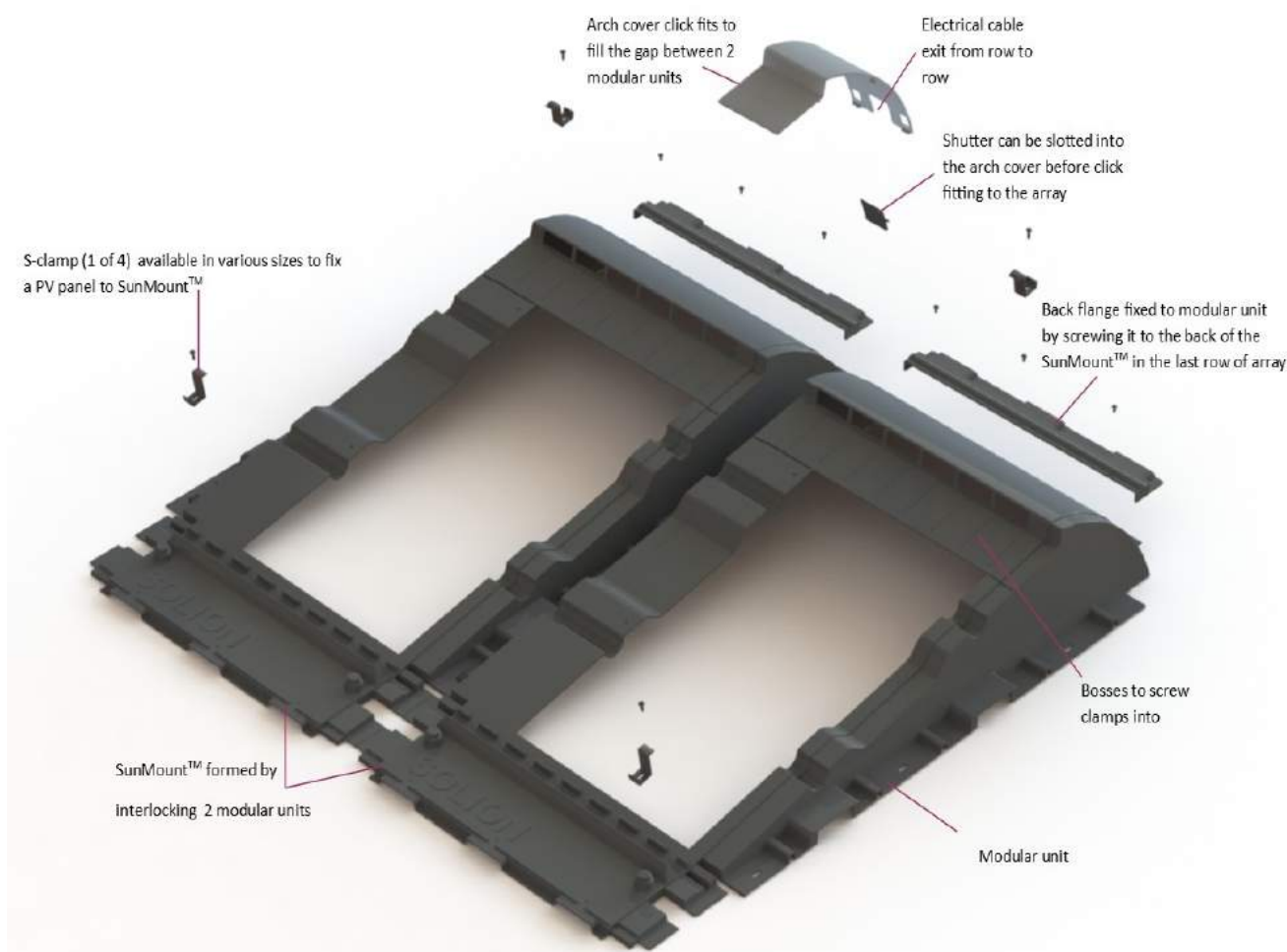
2- The Universal SunMount (USM) features

The Universal SunMount fits most of the PV panel sizes sold in the market today. It can fit any PV panel length as long as the width of the PV panel is in between 960 – 1060mm.

An S-shape clamp with a spacer has been designed with different heights to accommodate PV panel's thicknesses of 30 – 50mm. Please refer to table 2, page 24 for Clamps + spacer VS PV panel thickness.

The Universal SunMount is a unique design comprising a modular unit, where one SunMount is made out of two interlocked modular units. Extra single modular units can be added as required to suit the length of the number of PV panel used in one row.

Figure 1 shows the Universal SunMount modular unit and its most important features.



3- Important Notes before starting the mechanical Installation:

3.1 – Edge distance between PV array and roof edges.

As you plan the PV installation on a roof, always leave a gap between the PV array and all roof edges and its corners (please measure the distance from the inside edge of the parapet wall), in accordance with *the Euro code 1, part 1-4: General Actions-Wind action and the UK National Annex of the Euro code 1*, as in the two equations and the figure below

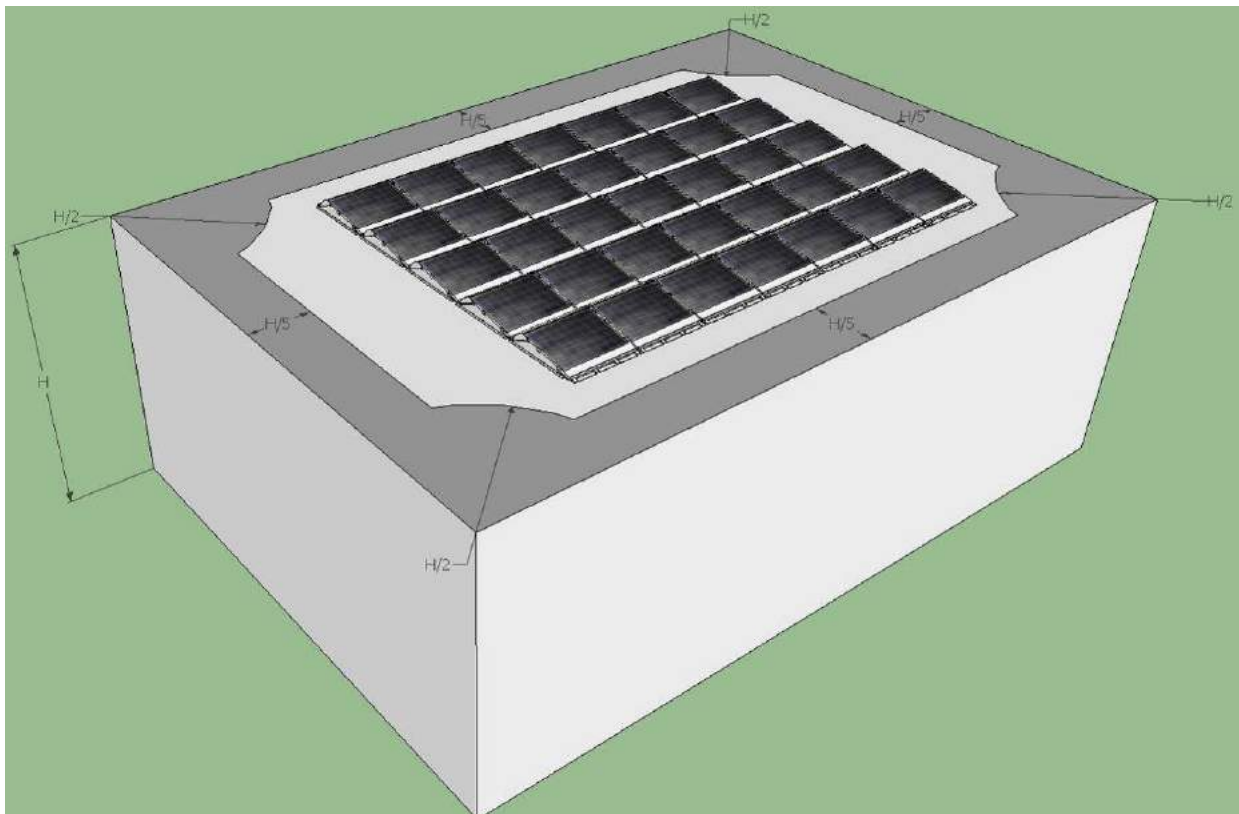
$$\text{PV array distance from all roof edges} = (2 \times H)/10 = H/5$$

$$\text{PV array distance from all corners} = (2 \times H)/4 = H/2$$

H is the height of the building including a parapet wall.

In case of parapet wall on the roof, the edge distance is taken between the PV array and the inner wall of the parapet.

Please note that in the drawing below, the distance between roof edges and line of the white area is the minimum recommended distance between PV array and roof edges & corners. The bigger the distances between the array and roof edges/corners, the lower the wind loading forces.

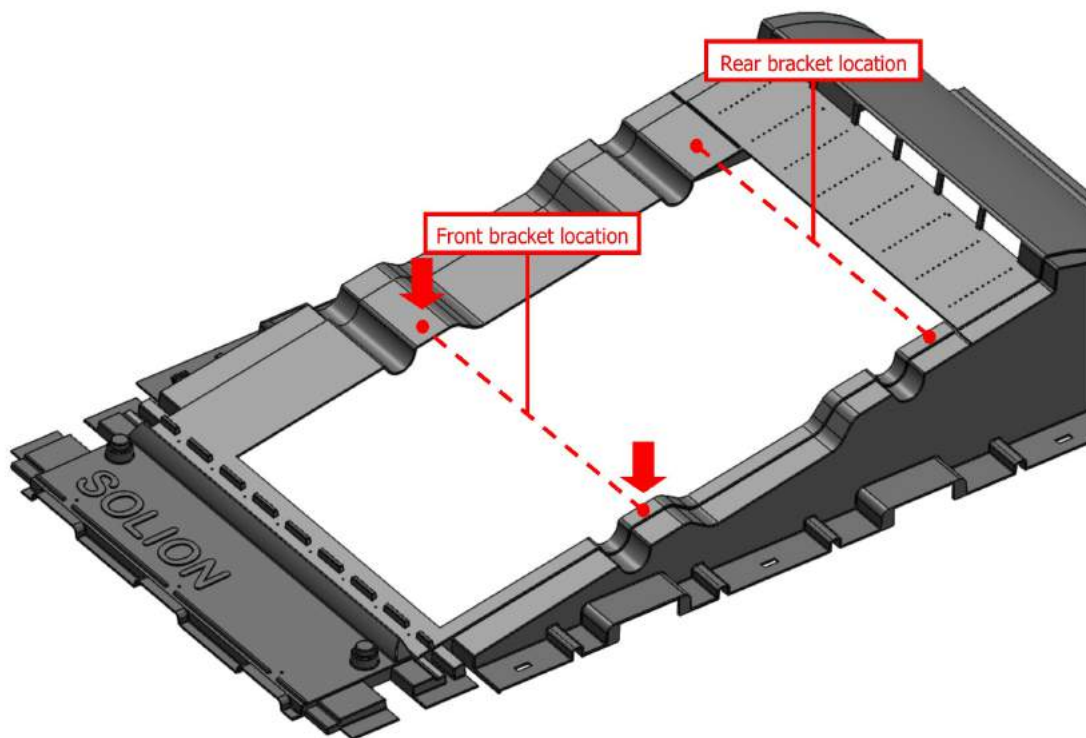


3.2 – Ballasting the SunMount

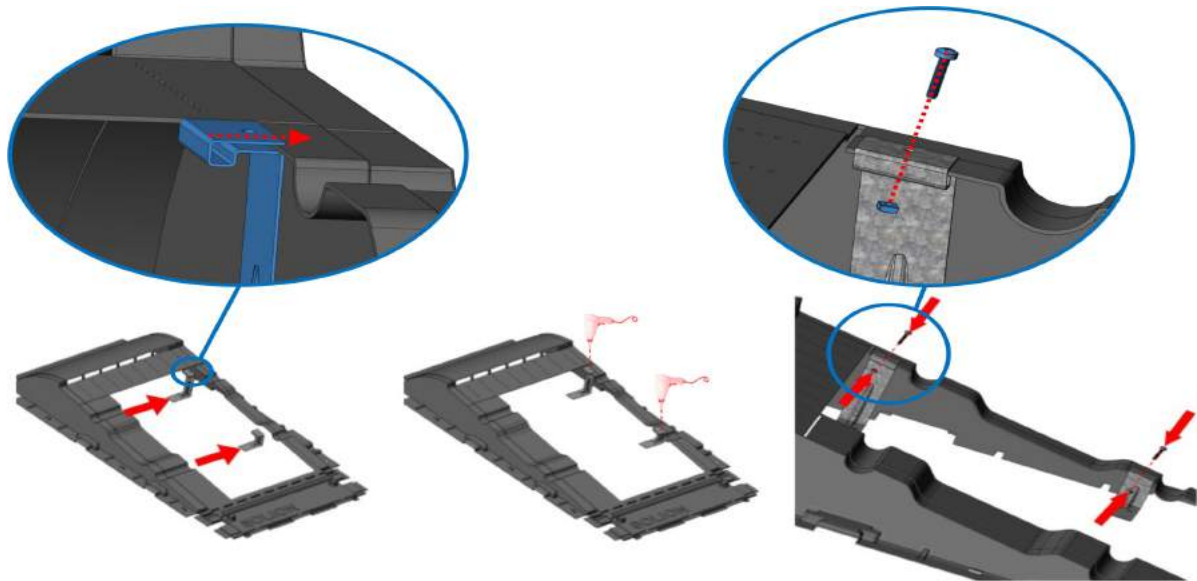
Before starting the installation procedure, please determine the amount of ballast required for your particular installation.

The Universal SunMount has an internal ballasting system. The ballast is mostly applied to the outer units forming the edge of the PV array. Please attach the ballast before placing the PV panels on the SunMount (i.e. before step 15 in the mechanical installation steps of the next section).

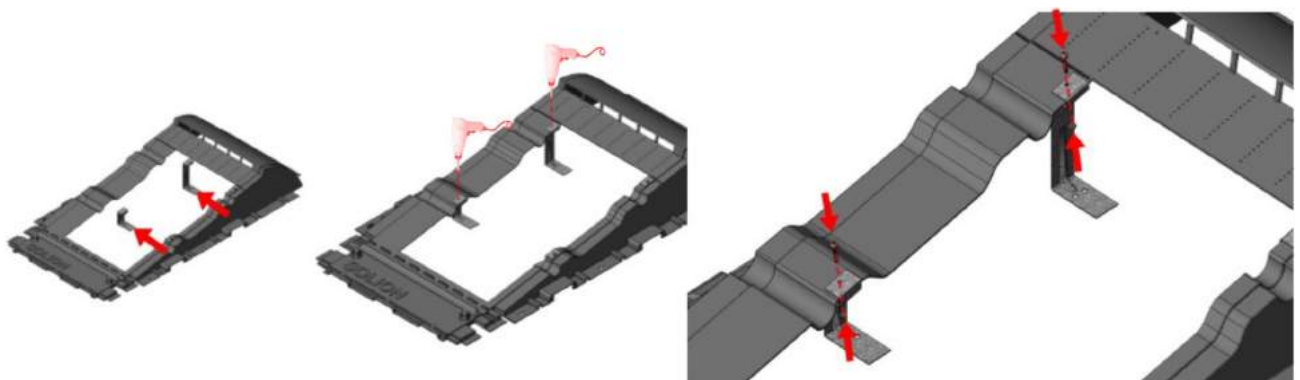
The internal ballast, front or back ballast, consists of 2 brackets attached to the opposite side walls of the SunMount by a screw and a nut. Two stainless steel cable ties are then inserted into the slots of the bracket feet and tied around the concert slabs. Please see the drawings and explanations below of how to attach the ballast to the SunMount:



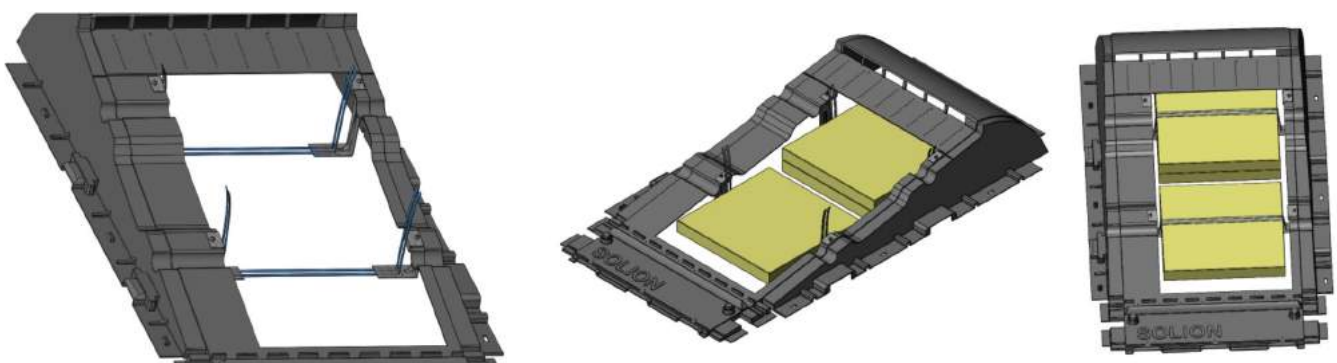
Once the array is complete and before placing the PV panels on the SunMount, place the ballast brackets (depending on whether you are using a back or front ballast or both) on the red point locations as shown in the drawing above.



Slot the metal bracket onto the lip RHS side wall, drill a hole in the plastic wall (using 6.1mm drill bit) through the top hole of metal bracket and use the 6mm screw with the nut to fix the bracket to the side wall as shown in the figure above.



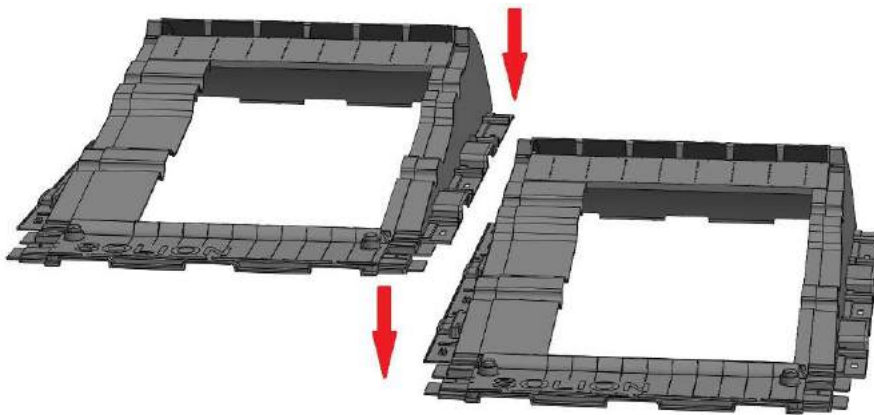
Fix the LHS brackets as above.



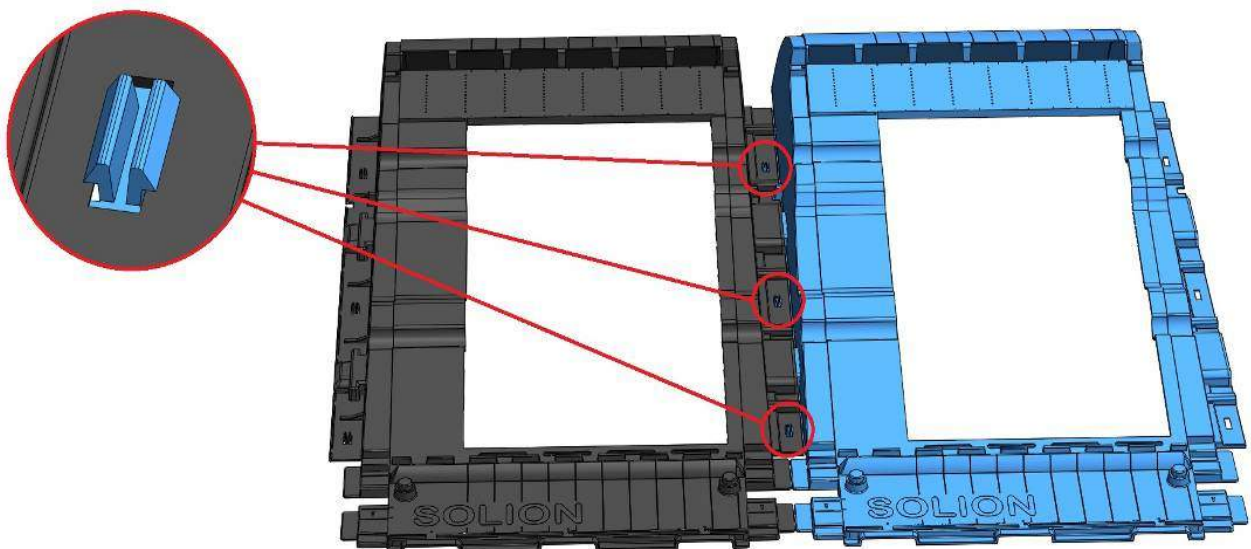
Place two stainless steel cable ties through the slots of the RHS bracket's feet and then into the slots of the LHS bracket. Place the concert slabs over the cable ties (use either 450 x 450 x 50mm or 500 x 500 x 50mm concert slab dimensions). Finally tie the cable tie tightly over the concert slabs. You can use a maximum of 2 concert slabs of 50mm thick for the back ballast and 1 concert slabs of 50mm thick for the front ballast per 1 USM unit.

4- Mechanical installation steps

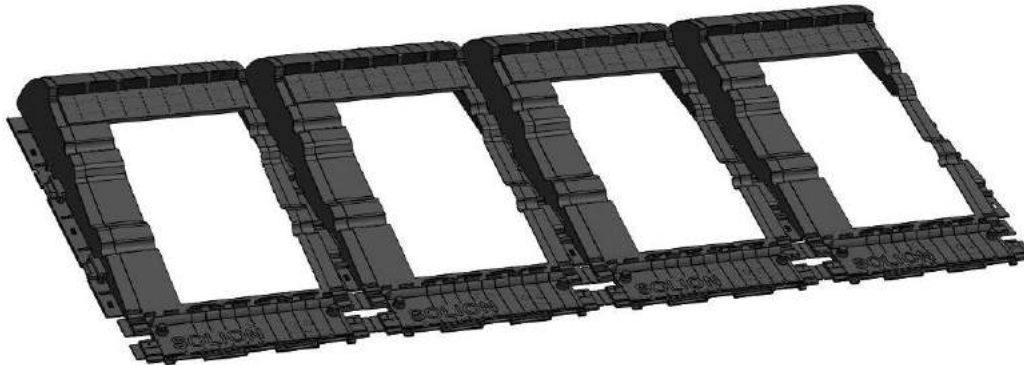
1. From table 1, select your PV panel size to establish how many modular units are required to make a row length. The table will also establish, whether the total length of the PV panels used will
 - **match exactly** the length of the SunMount row, in which case **NO** cutting action will be required,
 - **Over-hang or under-hang** the row length, in which case, one modular unit will be required to be cut to adjust the length (see step 5, page 9).
2. Starting from right to left, place first one modular unit and then another unit to its left as shown in figure below



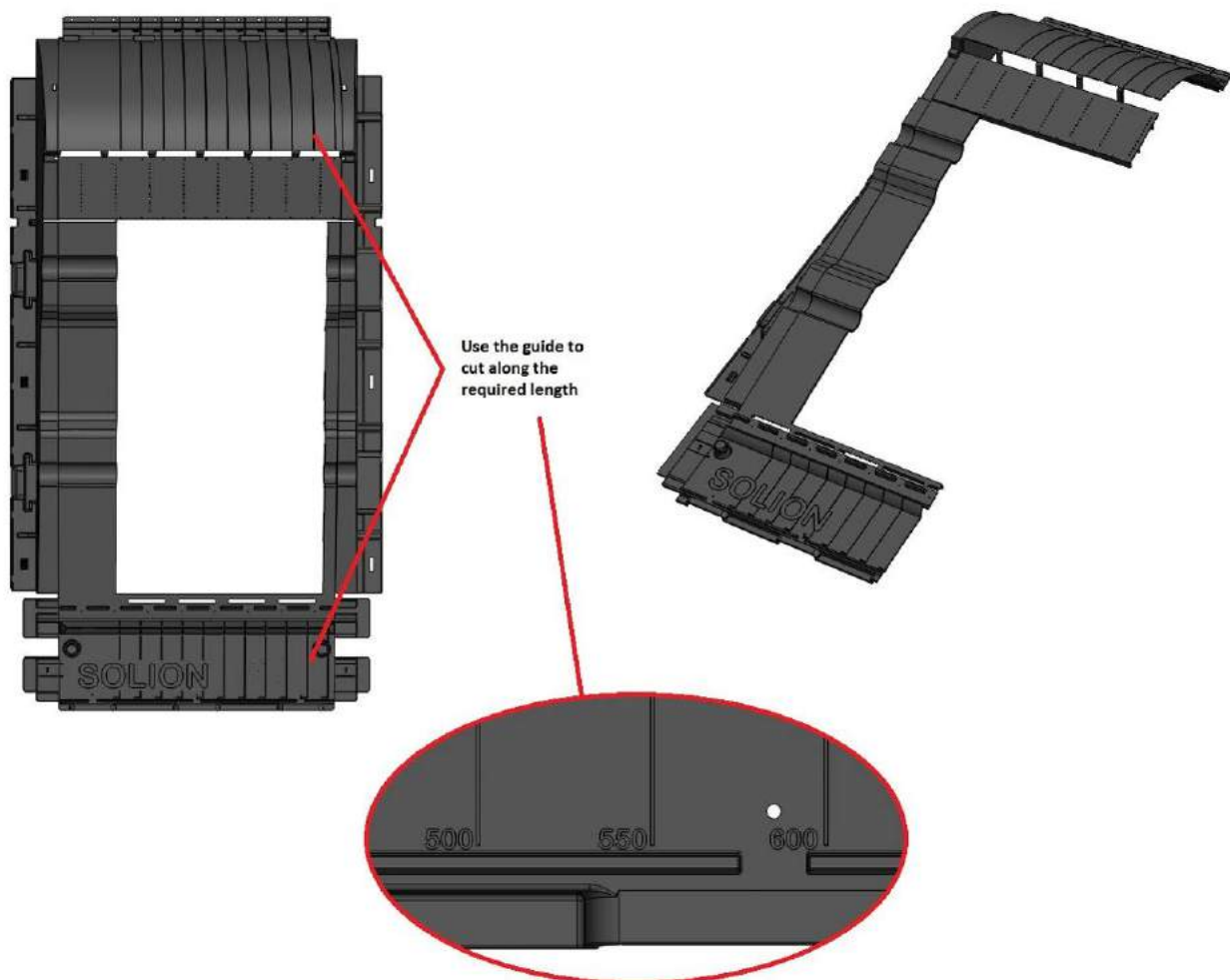
3. Interlock the two units along its flanges, using the three latches as shown in the figure below



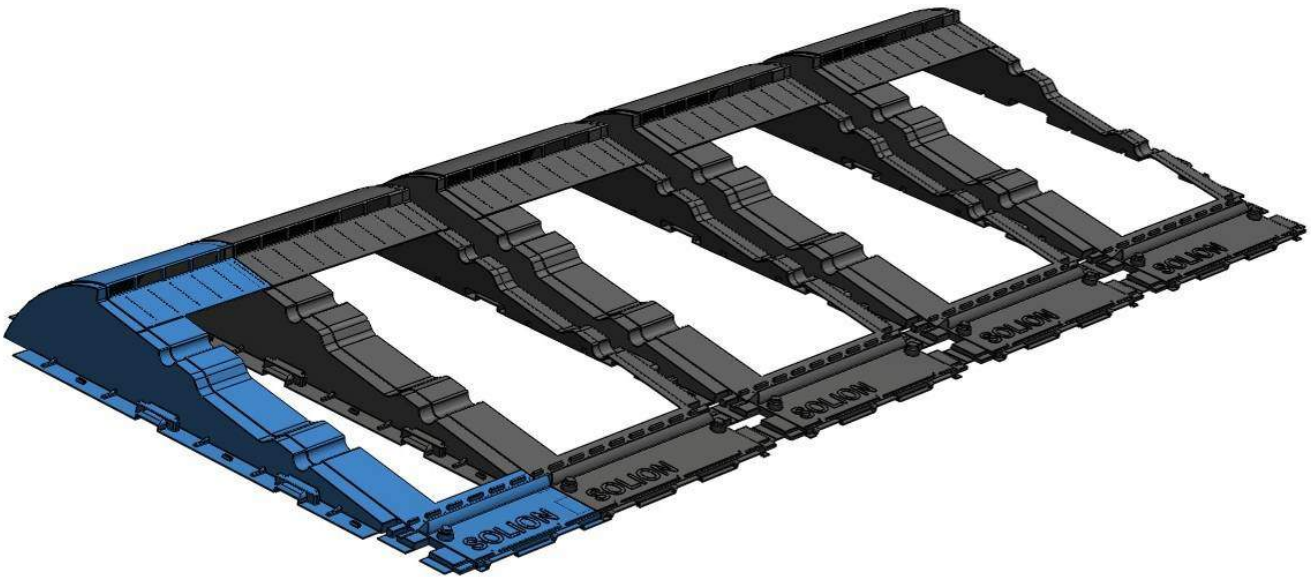
- Repeat steps 2 & 3 to interlock the required number of units which make up the row length as determined in step 1 and as shown in the figure below



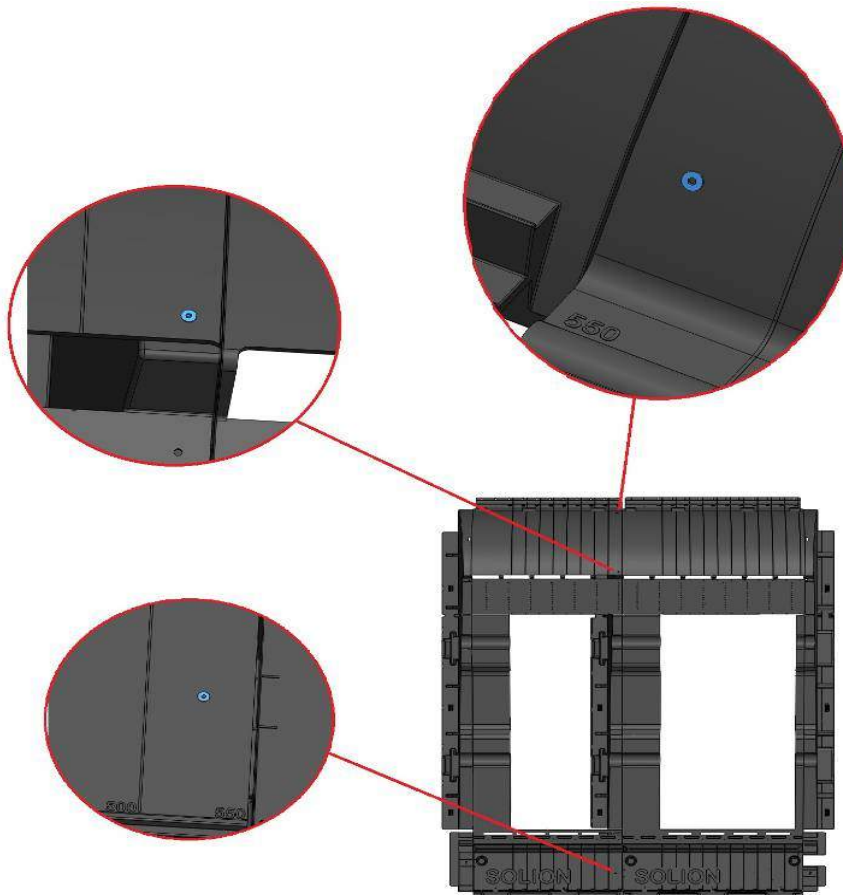
- If the PV panels length **over or under hang**, as determined from step 1, then table 1 will show the required length to be cut for **one modular unit only**. The guide lines on the SunMount will aid the cutting operation to be simple and accurate as shown in the figure below. **Please note that if a cut unit is required, it should NOT BE INSTALLED AS THE LAST UNIT IN THE ROW – See figure in step 8.**



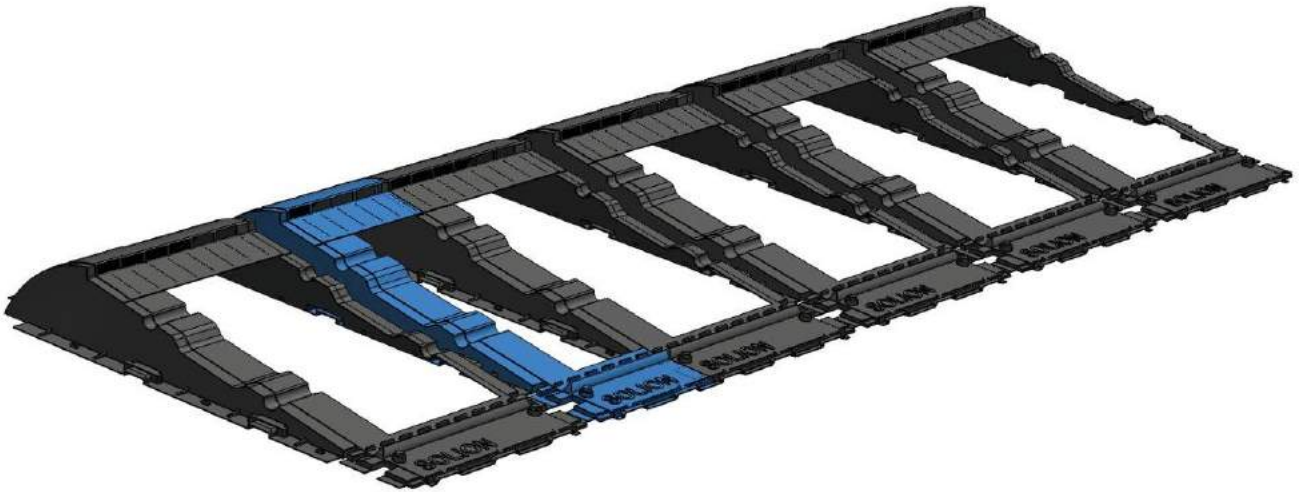
6. Place the cut unit on the wall of the RHS SunMount as shown below.



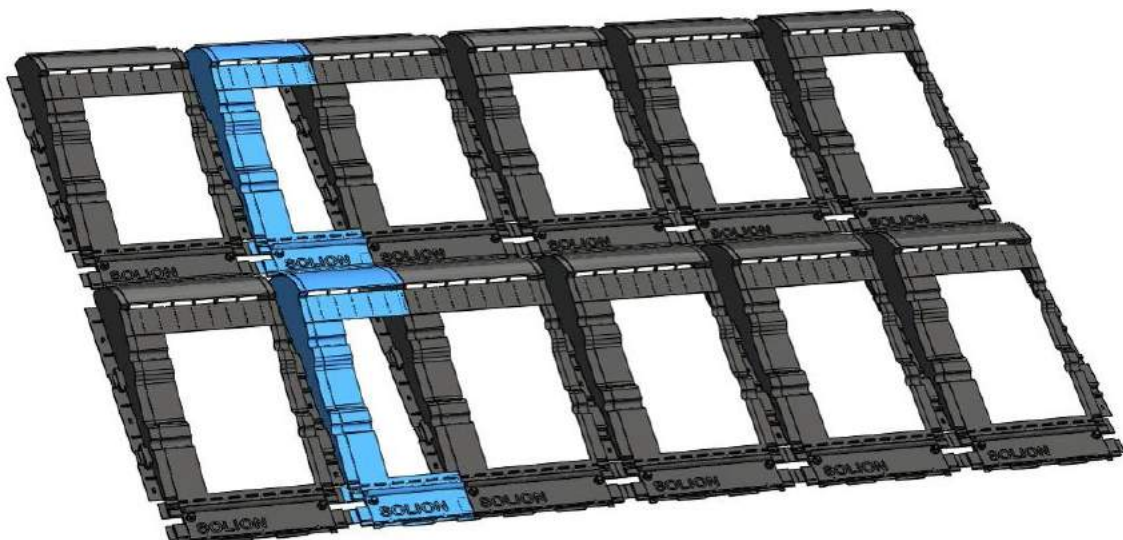
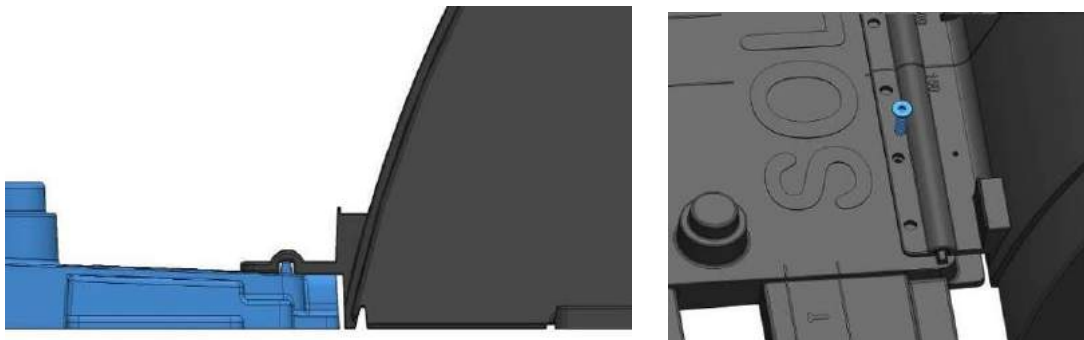
7. Screw the cut units in three places to adjacent RHS unit, using the M6 x 16 mm flat head screw (use a max torque of 1 N/m), as shown in the figure below. ***Please make sure to use low torque setting on the drill to stop once the screw is fully engage into the material.***



- Place the last unit on the LHS side of the row as in step 2 and interlock as in step 3. The row length now has the exact length of the PV panels' length.



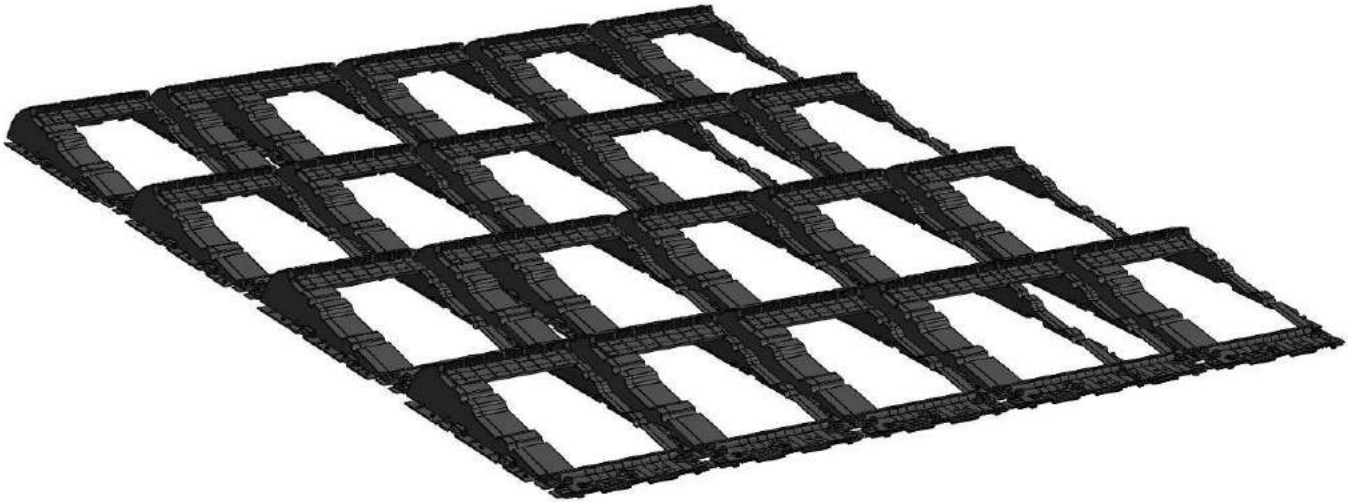
- To form a second row, overlap the back flange of each unit on the front nose of the last row, screw them together with M6 x 16 mm screws (use a max torque of 1 N/m), as shown in the figures below and repeat steps 2 to 8 as before to complete the second row. ***Please make sure to use low torque setting on the drill to stop once the screw is fully engage into the material.***



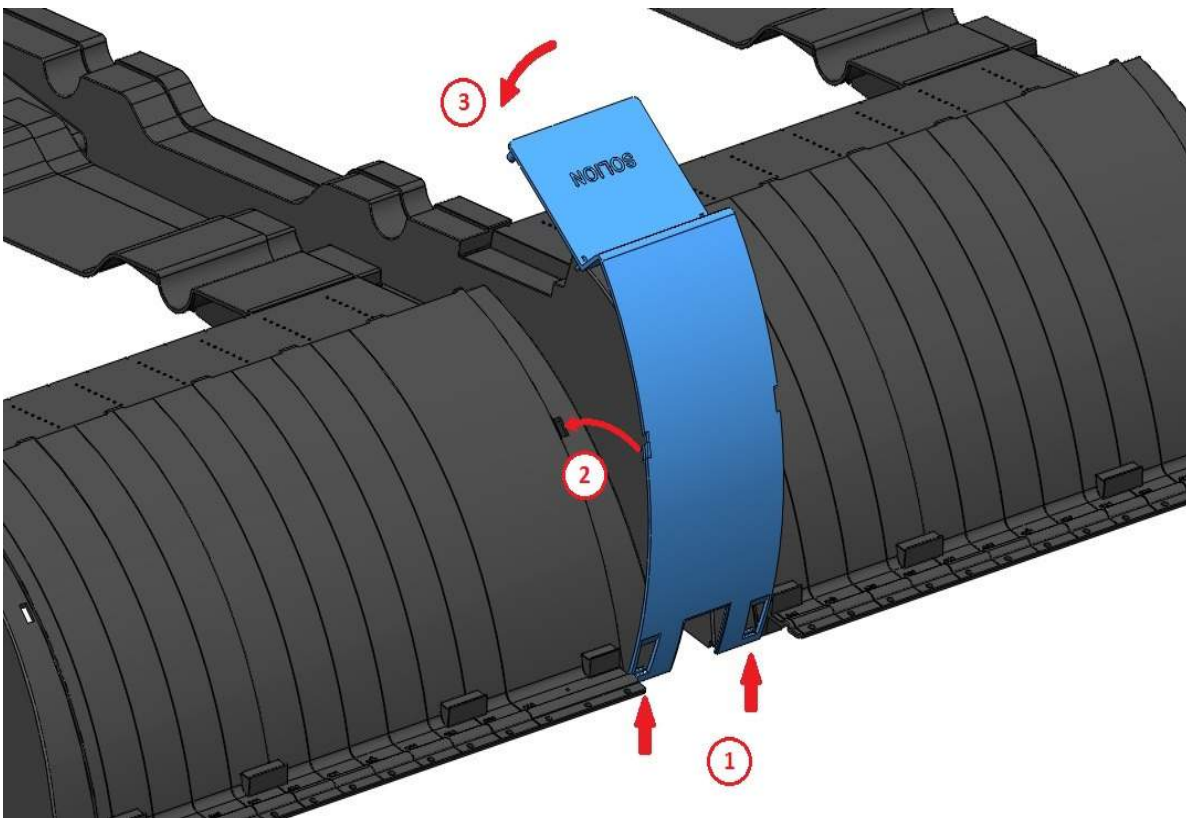
10. In the special case when the modular unit is cut into two equal halves if the LHS cut unit is less than half the width of a unit, then the remaining RHS can be trimmed *and used in the next row as in the two figures below*



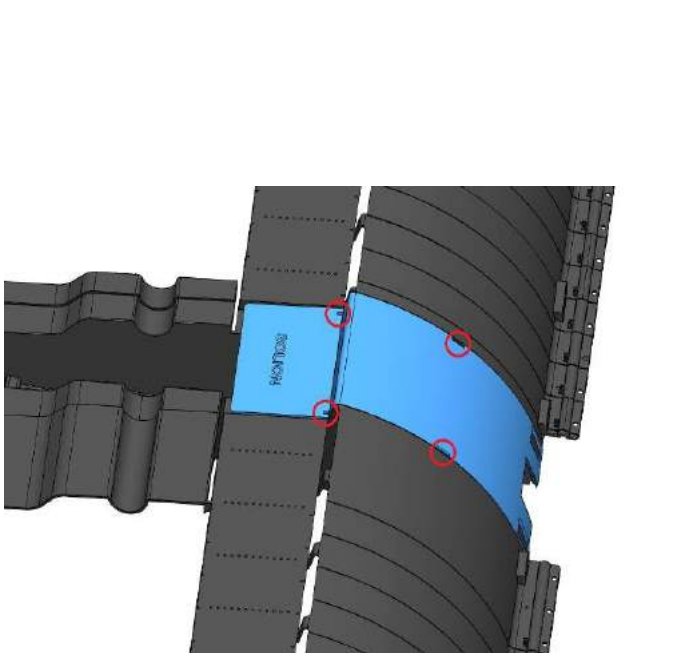
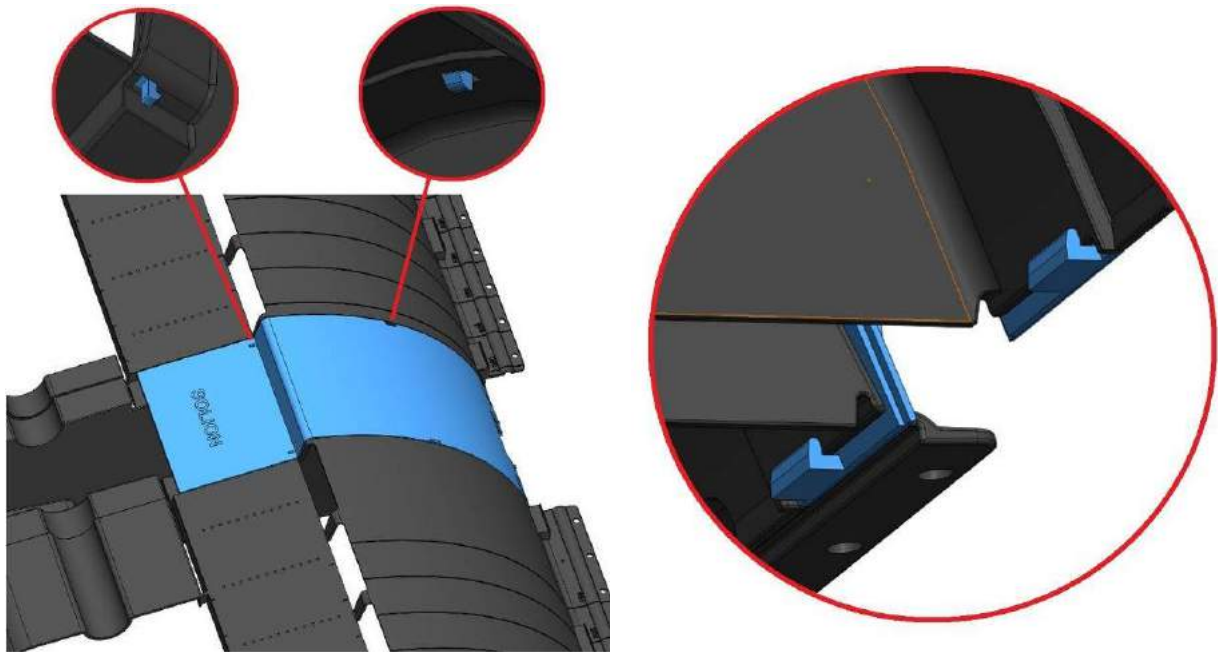
11. Repeat steps 2-10 until the array shape is complete, as shown in the figure below



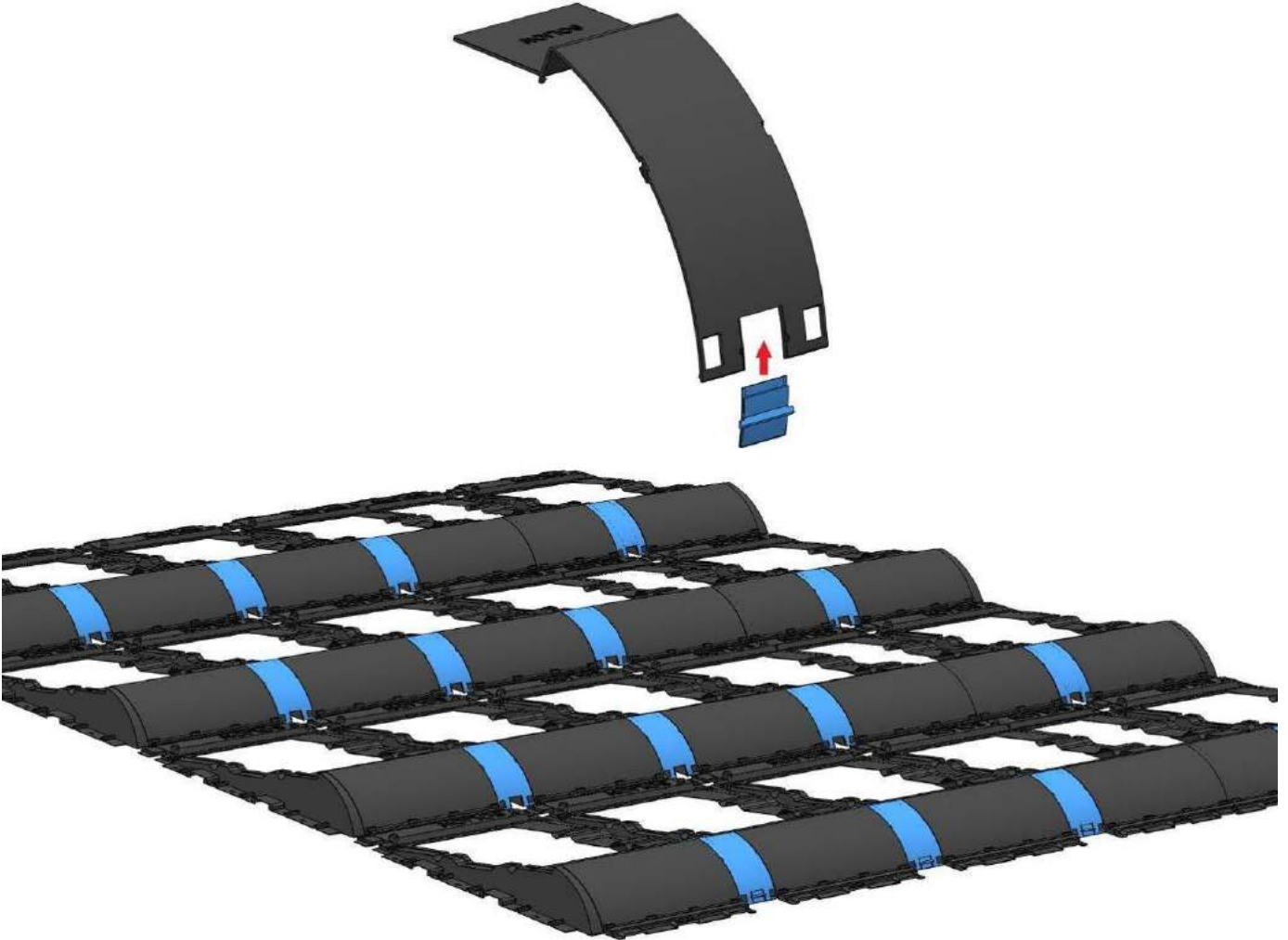
12. Attach the cover strip to cover the gap between the adjacent SunMount modular units, as shown in the figure below



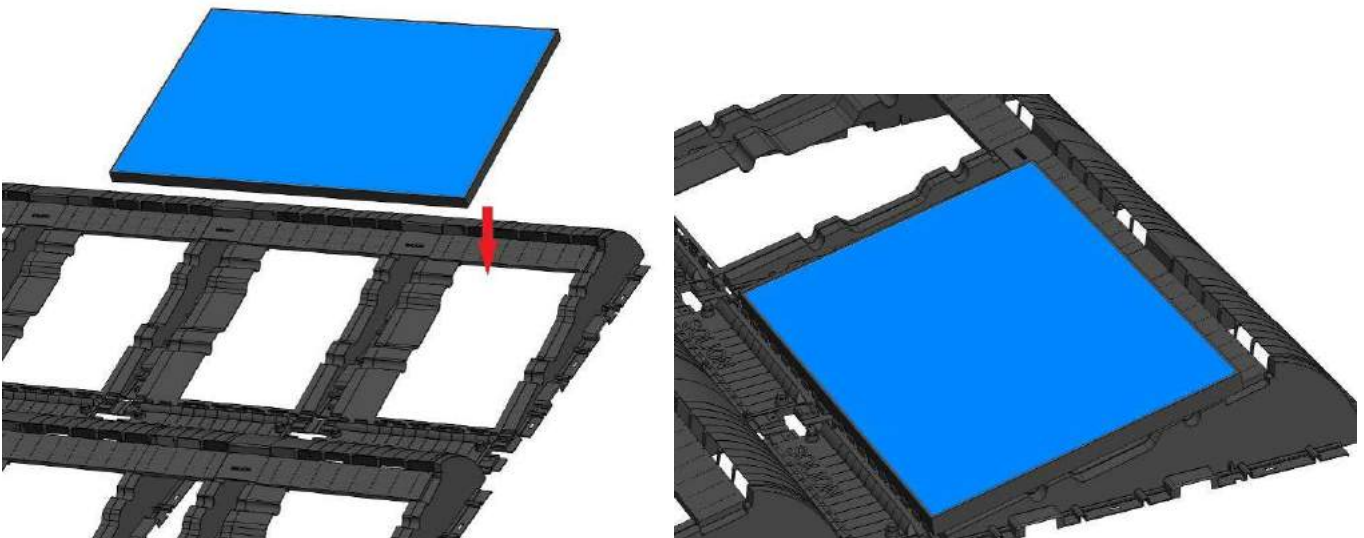
13. The curved strip can be attached to the SunMount by first attaching the U-clip to the bottom arch beneath the SunMount as shown in the circular figure below. Once the U-clip is engaged, click fit the middle latches of the strips into the slots located at the back curve of the SunMount and finally clip the latches at the top of the SunMount as shown in the figures below. Please note that the gap at the bottom of the curved strip can be used to pass PV electrical cables from one row to the next.



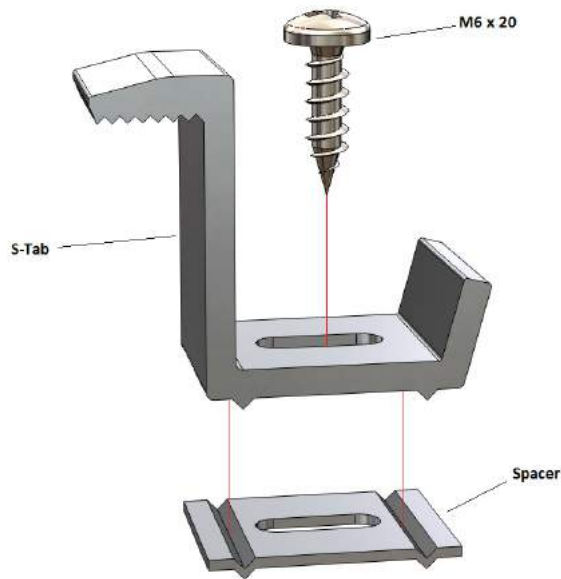
14. For the back row of the array **only**, a shutter can be slotted into the curved strip before click fitting it into the SunMount as shown into the figures below



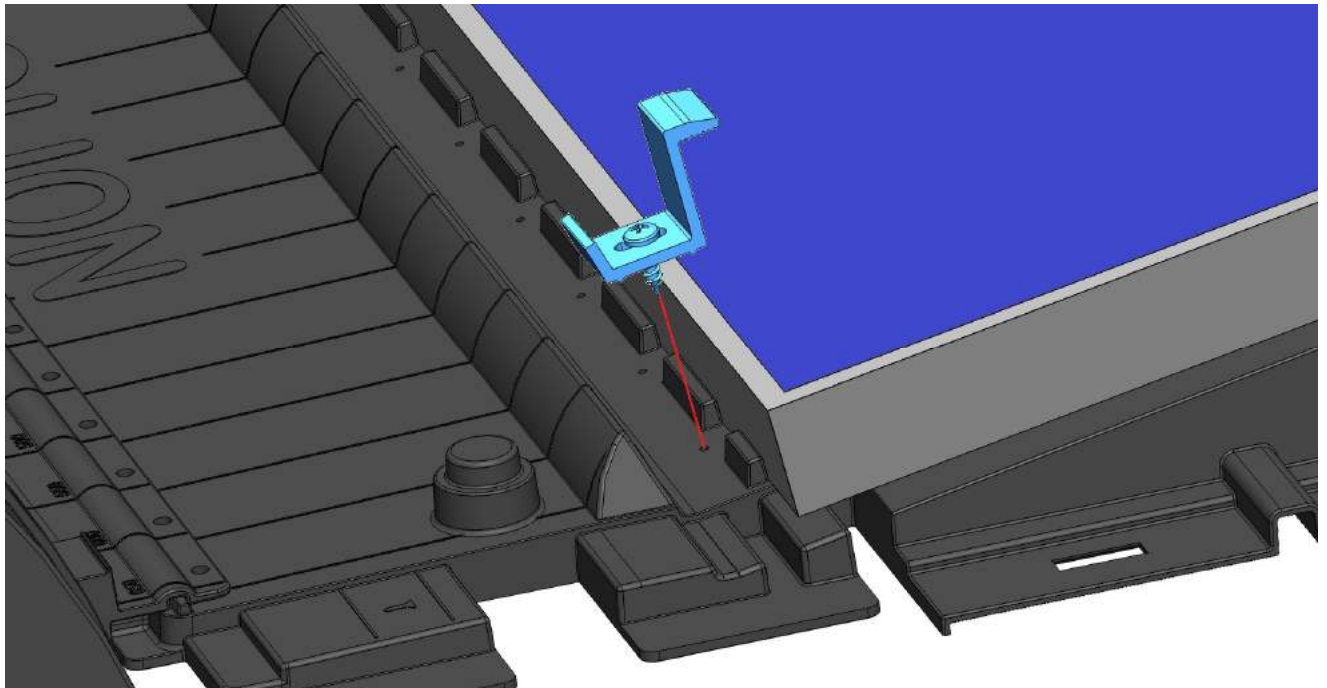
15. Place the PV panels on the SunMount as shown in the figures below

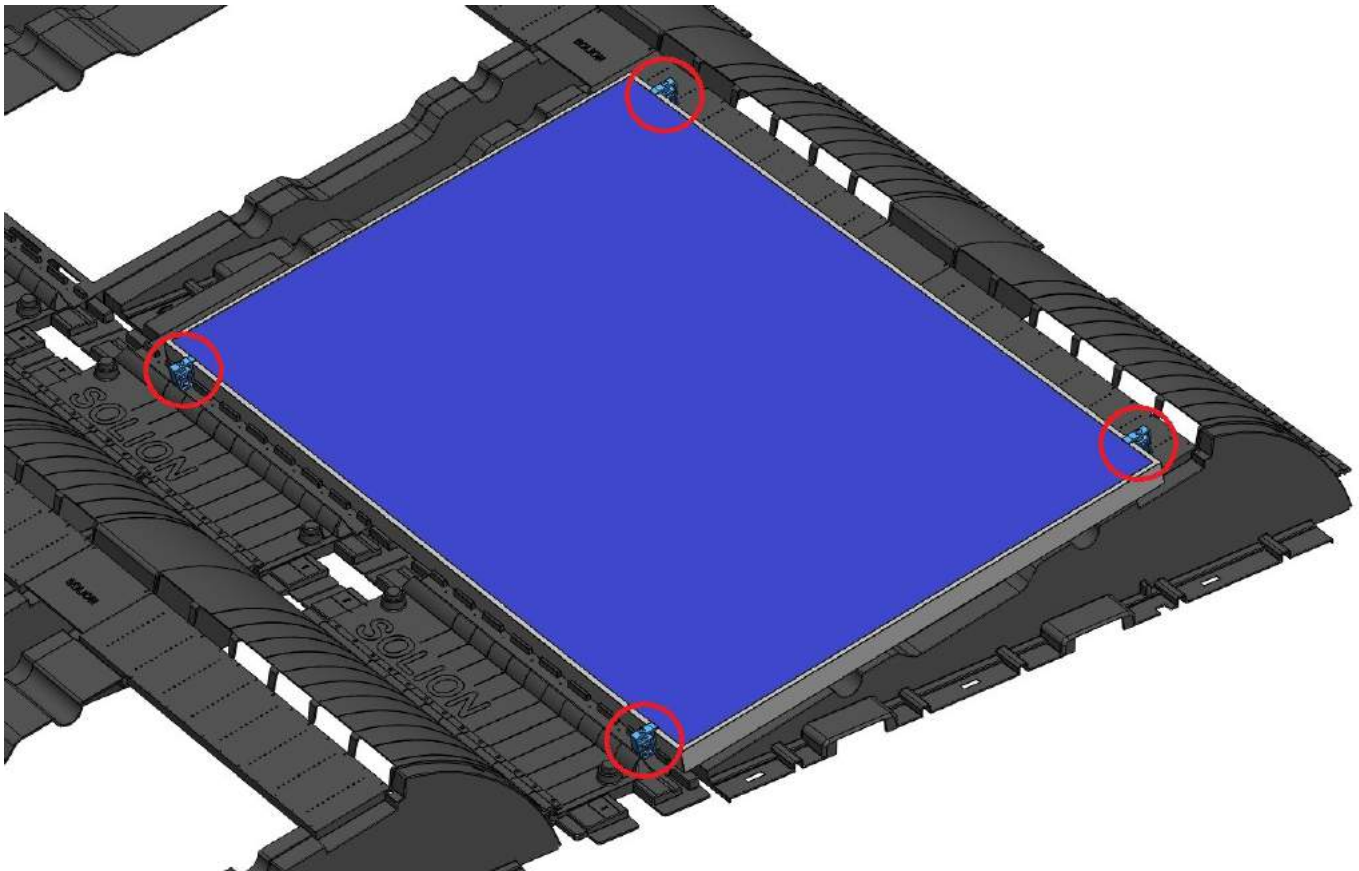


16. The S- shape fixing clamp fits 4 different PV panel thicknesses sizes, they are 30, 35, 38, 40, 45 & 50mm. A spacer, as shown in the figure below, can be used to fit different PV panel thicknesses in between these sizes quoted above. Please table 2 for the use of number of clamp and spacer vs. PV panel thicknesses. Please use a max torque of 1 N/m for the M6 x 20mm self-tapping screw.



17. Place four clamps for each PV panel to secure to the SunMount as shown in the figures below

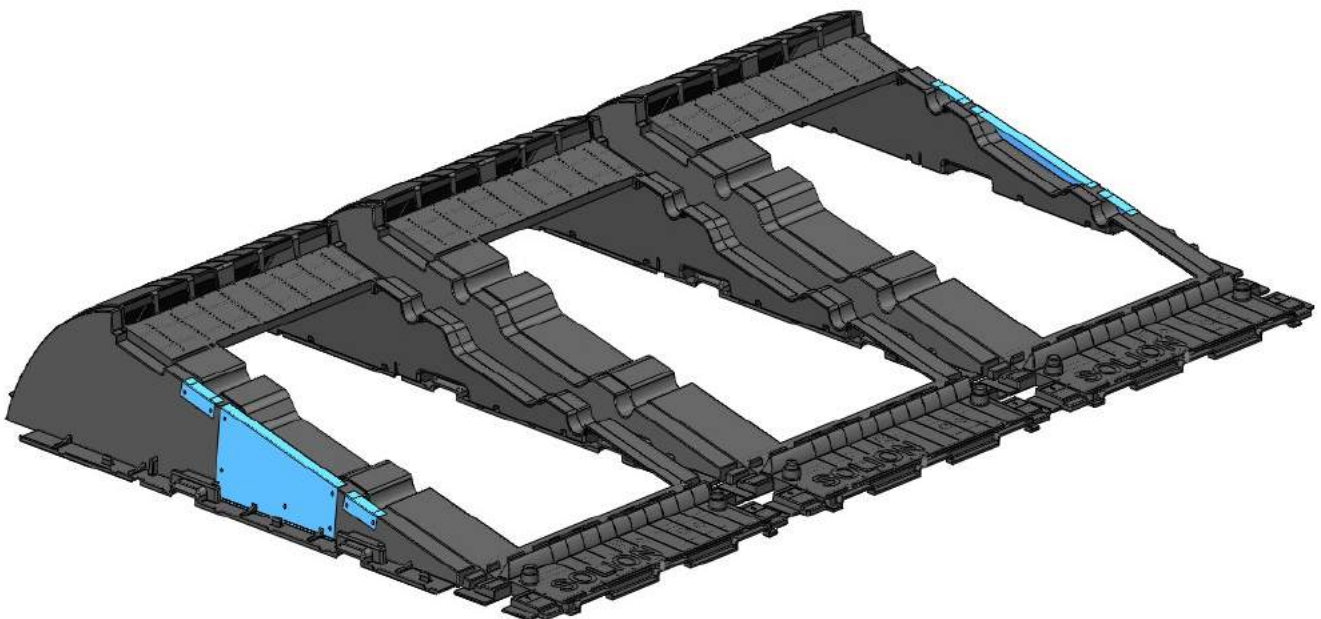
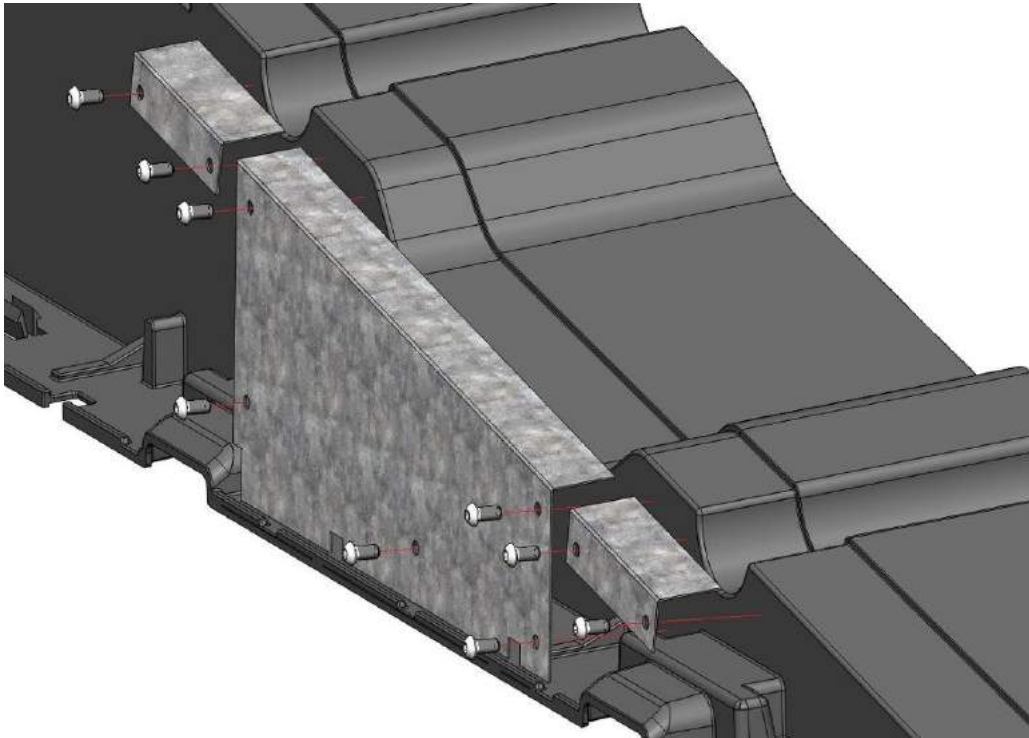




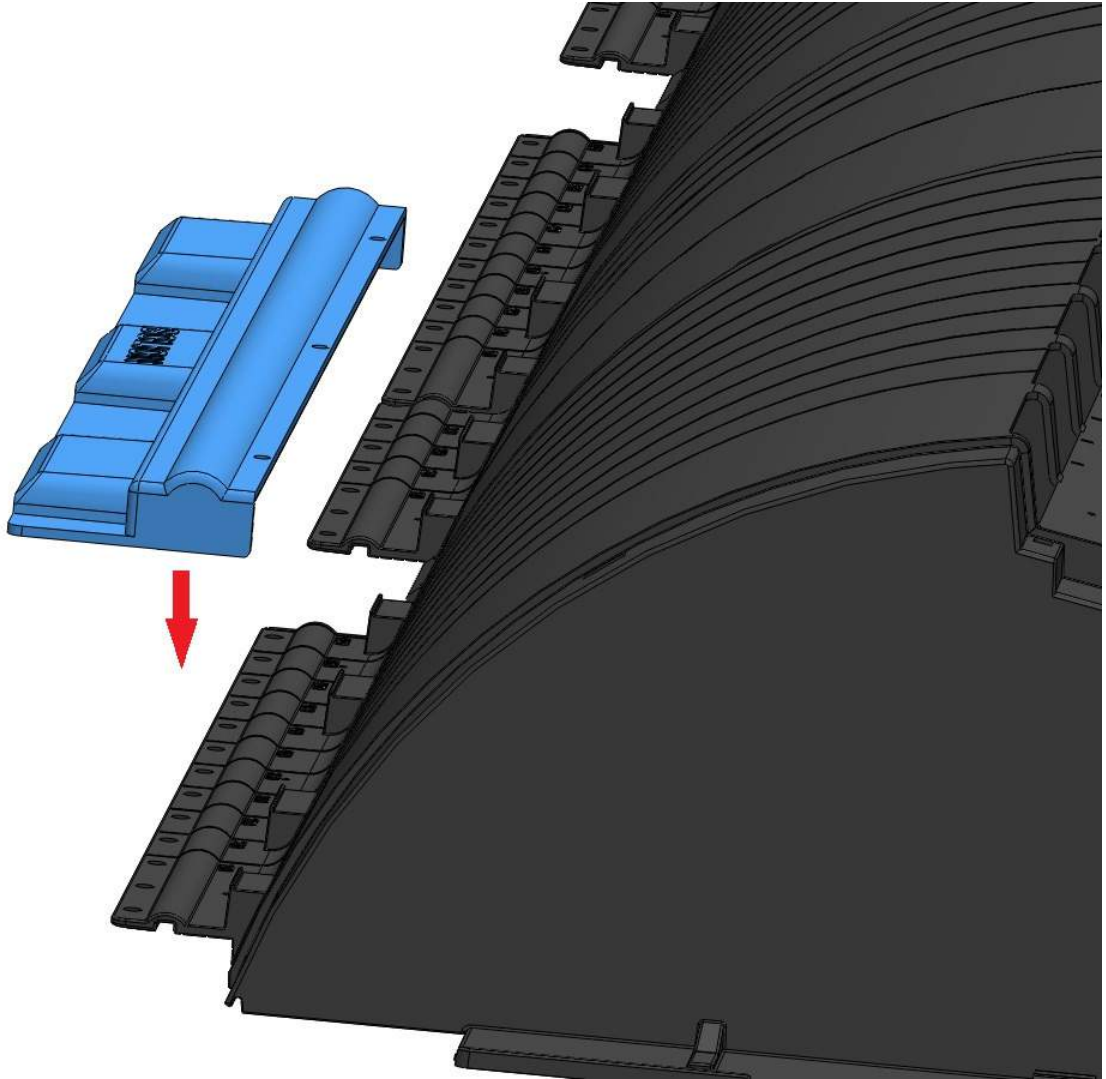
18. Repeat step 17 until all the PV panels are installed and fixed on the SunMount array as shown in the figure below



19. For the LHS & RHS edge SunMount units of the array only, attach the side cover strip and the cable hole strip (only for unused cables holes) as in the two figures below. Use the M6 x 11 mm screws to attach the cover strips

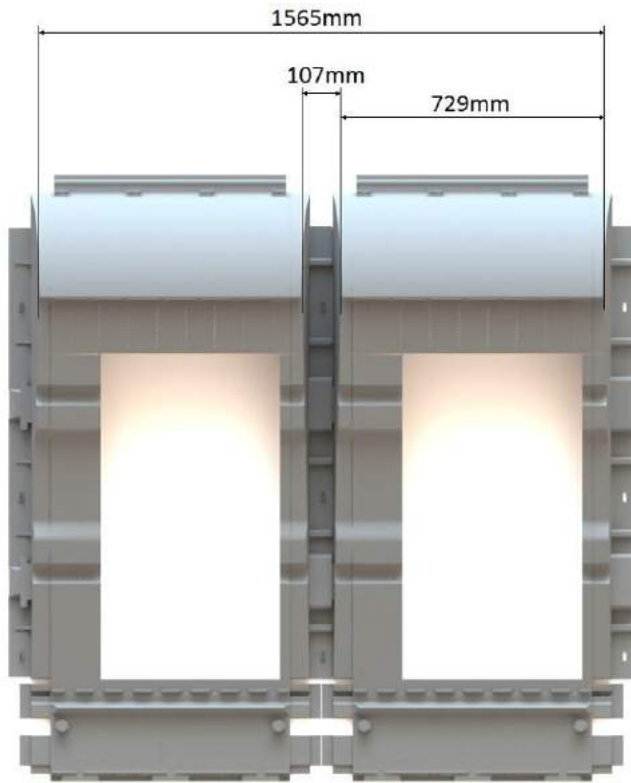


20. For the **back row** of the array only, place the back flanges over the back of the SunMount and screw it down to the SunMount using the M6 x 12.5mm screws as in the figure below. **Please note, the back flange can be cut to the required length to fit a cut modular unit and then screwed as mentioned above.**

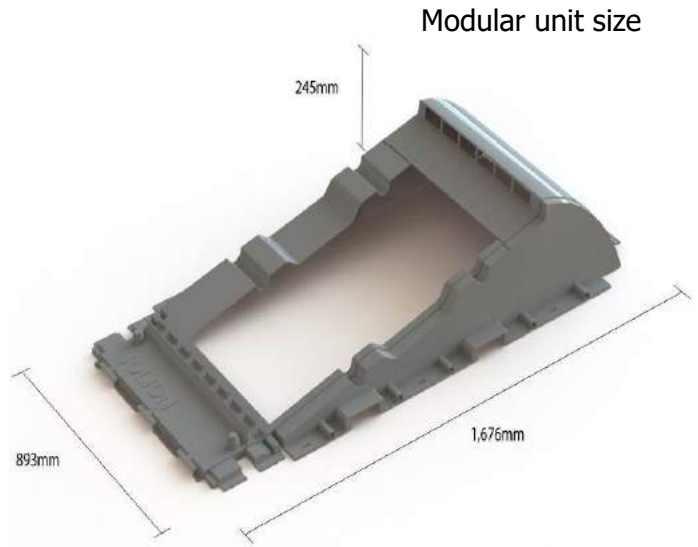


This complete the instruction for the Mechanical Part of the Installation

SunMount and array dimensions



Full unit size



Modular unit size

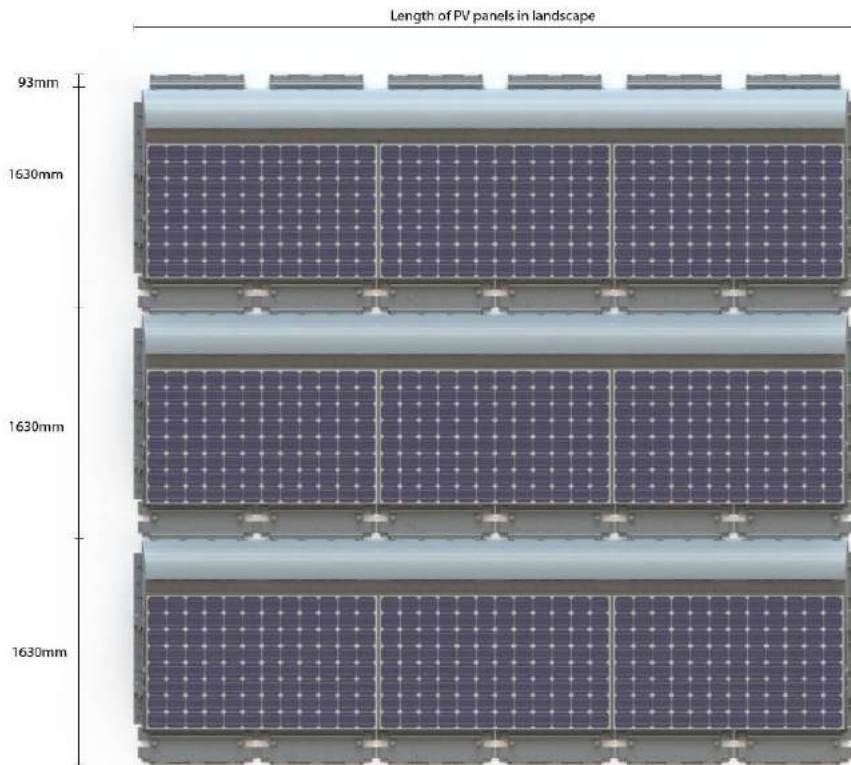


Table 1: The PV panel length selector

Select the PV panel size to be used from Table 1 to establish **how many modular units are required to make a row length**. The table will also establish if the total length of the number of the PV panels used will **match exactly** or **over/under hang**

- **match exactly** the length of the row, in which case **NO** cutting action will be required,
- **Over-hang or under-hang** the row length, in which case, **one modular unit only** will be required to be cut to adjust the length.
-

The figure below explains the different parameters seen in table 1

Panel Length (mm)	Number of Panels in Row		
	1	2	3
1300	2 570	4 200	5 -170
1310	2 580	4 220	5 -140
1320	2 590	4 240	5 -110
1330	2 600	4 260	5 -80
1340	2 -225	4 280	5 -50
1350	2 -215	4 300	5 -20
1360	2 -205	4 320	5 10
1370	2 -195	4 340	5 40
1380	2 -185	4 360	5 70

Number of Universal SunMount Units

Amount of Overhang in mm, Negative Numbers Indicate Underhang

Colour	300	Red = Requires Cut
Code	-185	Green = Good Fit

The **colour red** means one modular unit only will be **required to be cut** by the stated length number highlighted in red in the table.

If the **colour is green** then **No cutting action** is required even if there is an overhang or under hang.

Example: The PV panel length is 1680mm and 12 PV panels to be used to make up the row. How many SunMount units are required and will one unit require cutting?

Solution

The intersection of the panel length column at 1680 with the number of panel row of 12, are the numbers "25 **225**" as shown in table 1.

Number 25 signifies the number of the SunMount modular units required to make this row length.

Number 225 signifies one SunMount modular unit needs to be cut by 225mm from the LHS as in step 5 of the mechanical installation steps.

Panel Length	Number of Panels in Row																							
	1	2	3	4	5	6	7	8	9	10	11	12												
1300	2	570	4	200	5	-170	7	295	8	-75	10	390	11	20	13	485	15	115	16	580	18	210	19	-160
1310	2	580	4	220	5	-140	7	335	8	-25	10	450	11	90	13	565	15	205	16	-155	18	320	19	-40
1320	2	590	4	240	5	-110	7	375	8	25	10	510	12	160	13	-190	15	295	16	-55	18	430	19	80
1330	2	600	4	260	5	-80	7	415	8	75	10	570	12	230	13	-110	15	385	16	45	18	540	20	200
1340	2	-225	4	280	5	-50	7	455	9	125	10	-205	12	300	13	-30	15	475	17	145	18	-185	20	320
1350	2	-215	4	300	5	-20	7	495	9	175	10	-145	12	370	13	50	15	565	17	245	18	-75	20	440
1360	2	-205	4	320	5	10	7	535	9	225	10	-85	12	440	14	130	15	-180	17	345	18	35	20	560
1370	2	-195	4	340	5	40	7	575	9	275	10	-25	12	510	14	210	15	-90	17	445	19	145	20	-155
1380	2	-185	4	360	5	70	7	-220	9	325	10	35	12	580	14	290	15	0	17	545	19	255	20	-35
1390	2	-175	4	380	5	100	7	-180	9	375	10	95	12	-185	14	370	15	90	17	-190	19	365	20	85
1400	2	-165	4	400	6	130	7	-140	9	425	11	155	12	-115	14	450	16	180	17	-90	19	475	21	205
1410	2	-155	4	420	6	160	7	-100	9	475	11	215	12	-45	14	530	16	270	17	10	19	585	21	325
1420	2	-145	4	440	6	190	7	-60	9	525	11	275	12	25	14	-225	16	360	18	110	19	-140	21	445
1430	2	-135	4	460	6	220	7	-20	9	575	11	335	12	95	14	-145	16	450	18	210	19	-30	21	565
1440	2	-125	4	480	6	250	7	20	9	-210	11	395	13	165	14	-65	16	540	18	310	19	80	21	-150
1450	2	-115	4	500	6	280	7	60	9	-160	11	455	13	235	14	15	16	-205	18	410	20	190	21	-30
1460	2	-105	4	520	6	310	7	100	9	-110	11	515	13	305	14	95	16	-115	18	510	20	300	21	90
1470	2	-95	4	540	6	340	8	140	9	-60	11	575	13	375	15	175	16	-25	18	-225	20	410	22	210
1480	2	-85	4	560	6	370	8	180	9	-10	11	-200	13	445	15	255	16	65	18	-125	20	520	22	330
1490	2	-75	4	580	6	400	8	220	9	40	11	-140	13	515	15	335	17	155	18	-25	20	-205	22	450
1500	2	-65	4	600	6	430	8	260	9	90	11	-80	13	585	15	415	17	245	18	75	20	-95	22	570
1510	2	-55	4	-215	6	460	8	300	10	140	11	-20	13	-180	15	495	17	335	19	175	20	15	22	-145
1520	2	-45	4	-195	6	490	8	340	10	190	11	40	13	-110	15	575	17	425	19	275	21	125	22	-25
1530	2	-35	4	-175	6	520	8	380	10	240	12	100	13	-40	15	-180	17	515	19	375	21	235	22	95
1540	2	-25	4	-155	6	550	8	420	10	290	12	160	13	30	15	-100	17	-230	19	475	21	345	23	215
1550	2	-15	4	-135	6	580	8	460	10	340	12	220	14	100	15	-20	17	-140	19	575	21	455	23	335
1560	2	-5	4	-115	6	-225	8	500	10	390	12	280	14	170	15	60	17	-50	19	-160	21	565	23	455
1570	2	5	4	-95	6	-195	8	540	10	440	12	340	14	240	16	140	17	40	19	-60	21	-160	23	575
1580	2	15	4	-75	6	-165	8	580	10	490	12	400	14	310	16	220	18	130	19	40	21	-50	23	-140
1590	2	25	4	-55	6	-135	8	-215	10	540	12	460	14	380	16	300	18	220	20	140	21	60	23	-20
1600	2	35	4	-35	6	-105	8	-175	10	590	12	520	14	450	16	380	18	310	20	240	22	170	23	100
1610	2	45	4	-15	6	-75	8	-135	10	-195	12	580	14	520	16	460	18	400	20	340	22	280	24	220
1620	2	55	4	5	6	-45	8	-95	10	-145	12	-195	14	590	16	540	18	490	20	440	22	390	24	340
1630	2	65	4	25	6	-15	8	-55	10	-95	12	-135	14	-175	16	-215	18	580	20	540	22	500	24	460
1640	2	75	4	45	6	15	8	-15	10	-45	12	-75	14	-105	16	-135	18	-165	20	-195	22	-225	24	580
1650	2	85	4	65	6	45	8	25	10	5	12	-15	14	-35	16	-55	18	-75	20	-95	22	-115	24	-135
1660	2	95	4	85	6	75	8	65	10	55	12	45	14	35	16	25	18	15	20	5	22	-5	24	-15
1670	3	105	5	105	7	105	9	105	11	105	13	105	15	105	17	105	19	105	21	105	23	105	25	105
1680	3	115	5	125	7	135	9	145	11	155	13	165	15	175	17	185	19	195	21	205	23	215	25	225
1690	3	125	5	145	7	165	9	185	11	205	13	225	15	245	17	265	19	285	21	305	23	325	25	345
1700	3	135	5	165	7	195	9	225	11	255	13	285	15	315	17	345	19	375	21	405	23	435	25	465
1710	3	145	5	185	7	225	9	265	11	305	13	345	15	385	17	425	19	465	21	505	23	545	25	585
1720	3	155	5	205	7	255	9	305	11	355	13	405	15	455	17	505	19	555	21	-230	23	-180	25	-130
1730	3	165	5	225	7	285	9	345	11	405	13	465	15	525	17	585	19	-190	21	-130	23	-70	25	-10
1740	3	175	5	245	7	315	9	385	11	455	13	525	15	595	17	-170	19	-100	21	-30	23	40	26	110
1750	3	185	5	265	7	345	9	425	11	505	13	585	15	-170	17	-90	19	-10	21	70	24	150	26	230
1760	3	195	5	285	7	375	9	465	11	555	13	-190	15	-100	17	-10	19	80	22	170	24	260	26	350
1770	3	205	5	305	7	405	9	505	11	-230	13	-130	15	-30	17	70	20	170	22	270	24	370	26	470
1780	3	215	5	325	7	435	9	545	11	-180	13	-70	15	40	18	150	20	260	22	370	24	480	26	590
1790	3	225	5	345	7	465	9	585	11	-130	13	-10	16	110	18	230	20	350	22	470	24	590	26	-125
1800	3	235	5	365	7	495	9	-210	11	-80	13	50	16	180	18	310	20	440	22	570	24	-135	26	-5
1810	3	245	5	385	7	525	9	-170	11	-30	14	110	16	250	18	390	20	530	22	-165	24	-25	27	115
1820	3	255	5	405	7	555	9	-130	11	20	14	170	16	320	18	470	20	-215	22	-65	24	85	27	235
1830	3	265	5	425	7	585	9	-90	11	70	14	230	16	390	18	550	20	-125	22	35	25	195	27	355
1840	3	275	5	445	7	-220	9	-50	12	120	14	290	16	460	18	-205	20	-35	23	135	25	305	27	475
1850	3	285	5	465	7	-190	9	-10	12	170	14	350	16	530	18	-125	20	55	23	235	25	415	27	595
1860	3	295	5	485	7	-160	9	30	12	220	14	410	16	600	18	-45	21	145	23	335	25	525	27	-120
1870	3	305	5	505	7	-130	9	70	12	270	14	470	16	-165	18	35	21	235	23	435	25	-200	27	0
1880	3	315	5	525	7	-100	10	110	12	320	14	530	16	-95	19	115	21	325	23	535	25	-90	28	120
1890	3	325	5	545	7	-70	10	150	12	370	14	590	16	-25	19	195	21	415	23	-200	25	20	28	240
1900	3	335	5	565	7	-40	10	190	12	420	14	-185	16	45	19	275	21	505	23	-100	26	130	28	360
1910	3	345	5	585	7	-10	10	230	12	470	14	-125	17	115	19	355	21	595	23	0	26	240	28	480
1920	3	355	5	-230	7	20	10	270	12	520	14	-65	17	185	19	435	21	-150	23	100	26	350	28	600
1930	3	365	5	-210	7	50	10	310	12	570	14	-5	17	255	19	515	21	-60	24	200	26	460	28	-115
1940	3	375	5	-190	7	80	10	350	12	-215	14	55</												

Panel Length	Number of Panels in Row																							
	13	14	15	16	17	18	19	20	21	22	23	24												
1300	21	305	22	-65	24	400	25	30	27	495	29	125	30	590	32	220	33	-150	35	315	36	-55	38	410
1310	21	435	22	75	24	550	26	190	27	-170	29	305	30	-55	32	420	33	60	35	535	37	175	38	-185
1320	21	565	23	215	24	-135	26	350	27	0	29	485	31	135	32	-215	34	270	35	-80	37	405	38	55
1330	21	-140	23	355	24	15	26	510	28	170	29	-170	31	325	32	-15	34	480	36	140	37	-200	39	295
1340	21	-10	23	495	25	165	26	-165	28	340	29	10	31	515	33	185	34	-145	36	360	37	30	39	535
1350	22	120	23	-200	25	315	26	-5	28	510	30	190	31	-130	33	385	34	65	36	580	38	260	39	-60
1360	22	250	23	-60	25	465	27	155	28	-155	30	370	31	60	33	585	35	275	36	-35	38	490	40	180
1370	22	380	23	80	25	-220	27	315	28	15	30	550	32	250	33	-50	35	485	37	185	38	-115	40	420
1380	22	510	24	220	25	-70	27	475	29	185	30	-105	32	440	34	150	35	-140	37	405	39	115	40	-175
1390	22	-195	24	360	25	80	27	-200	29	355	30	75	32	-205	34	350	35	70	37	-210	39	345	40	65
1400	22	-65	24	500	26	230	27	-40	29	525	31	255	32	-15	34	550	36	280	37	10	39	575	41	305
1410	22	65	24	-195	26	380	28	120	29	-140	31	435	33	175	34	-85	36	490	38	230	39	-30	41	545
1420	23	195	24	-55	26	530	28	280	29	30	31	-220	33	365	35	115	36	-135	38	450	40	200	41	-50
1430	23	325	24	85	26	-155	28	440	30	200	31	-40	33	555	35	315	36	75	38	-165	40	430	42	190
1440	23	455	25	225	26	-5	28	600	30	370	32	140	33	-90	35	515	37	285	38	55	40	-175	42	430
1450	23	585	25	365	27	145	28	-75	30	540	32	320	33	100	35	-120	37	495	39	275	40	55	42	-165
1460	23	-120	25	505	27	295	28	85	30	-125	32	500	34	290	35	80	37	-130	39	495	41	285	42	75
1470	23	10	25	-190	27	445	29	245	30	45	32	-155	34	480	36	280	37	80	39	-120	41	515	43	315
1480	24	140	25	-50	27	595	29	405	31	215	32	25	34	-165	36	480	38	290	39	100	41	-90	43	555
1490	24	270	25	90	27	-90	29	565	31	385	33	205	34	25	36	-155	38	500	40	320	42	140	43	-40
1500	24	400	26	230	27	60	29	-110	31	555	33	385	35	215	36	45	38	-125	40	540	42	370	44	200
1510	24	530	26	370	28	210	29	50	31	-110	33	565	35	405	37	245	38	85	40	-75	42	600	44	440
1520	24	-175	26	510	28	360	30	210	31	60	33	-90	35	595	37	445	39	295	41	145	42	-5	44	-155
1530	24	-45	26	-185	28	510	30	370	32	230	33	90	35	-50	37	-190	39	505	41	365	43	225	44	85
1540	24	85	26	-45	28	-175	30	530	32	400	34	270	36	140	37	10	39	-120	41	585	43	455	45	325
1550	25	215	26	95	28	-25	30	-145	32	570	34	450	36	330	38	210	39	90	41	-30	43	-150	45	565
1560	25	345	27	235	29	125	30	15	32	-95	34	-205	36	520	38	410	40	300	42	190	43	80	45	-30
1570	25	475	27	375	29	275	31	175	32	75	34	-25	36	-125	38	-225	40	510	42	410	44	310	46	210
1580	25	-230	27	515	29	425	31	335	33	245	35	155	36	65	38	-25	40	-115	42	-205	44	540	46	450
1590	25	-100	27	-180	29	575	31	495	33	415	35	335	37	255	39	175	40	95	42	15	44	-65	46	-145
1600	25	30	27	-40	29	-110	31	-180	33	585	35	515	37	445	39	375	41	305	43	235	45	165	46	95
1610	26	160	27	100	29	40	31	-20	33	-80	35	-140	37	-200	39	575	41	515	43	455	45	395	47	335
1620	26	290	28	240	30	190	32	140	33	90	35	40	37	-10	39	-60	41	-110	43	-160	45	-210	47	575
1630	26	420	28	380	30	340	32	300	34	260	36	220	38	180	40	140	41	100	43	60	45	20	47	-20
1640	26	550	28	520	30	490	32	460	34	430	36	400	38	370	40	340	42	310	44	280	46	250	48	220
1650	26	-155	28	-175	30	-195	32	-215	34	600	36	580	38	560	40	540	42	520	44	500	46	480	48	460
1660	26	-25	28	-35	30	-45	32	-55	34	-65	36	-75	38	-85	40	-95	42	-105	44	-115	46	-125	48	-135
1670	27	105	29	105	31	105	33	105	35	105	37	105	39	105	41	105	43	105	45	105	47	105	49	105
1680	27	235	29	245	31	255	33	265	35	275	37	285	39	295	41	305	43	315	45	325	47	335	49	345
1690	27	365	29	385	31	405	33	425	35	445	37	465	39	485	41	505	43	525	45	545	47	565	49	585
1700	27	495	29	525	31	555	33	585	35	-220	37	-190	39	-160	41	-130	43	-100	45	-70	47	-40	49	-10
1710	27	-210	29	-170	31	-130	33	-90	35	-50	37	-10	39	30	41	70	44	110	46	150	48	190	50	230
1720	27	-80	29	-30	31	20	33	70	36	120	38	170	40	220	42	270	44	320	46	370	48	420	50	470
1730	27	50	30	110	32	170	34	230	36	290	38	350	40	410	42	470	44	530	46	590	48	-185	50	-125
1740	28	180	30	250	32	320	34	390	36	460	38	530	40	600	42	-165	44	-95	46	-25	48	45	51	115
1750	28	310	30	390	32	470	34	550	36	-205	38	-125	40	-45	42	35	45	115	47	195	49	275	51	355
1760	28	440	30	530	32	-215	34	-125	36	-35	38	55	41	145	43	235	45	325	47	415	49	505	51	595
1770	28	570	30	-165	32	-65	34	35	37	135	39	235	41	335	43	435	45	535	47	-200	49	-100	51	0
1780	28	-135	30	-25	32	85	35	195	37	305	39	415	41	525	43	-200	45	-90	47	20	50	130	52	240
1790	28	-5	31	115	33	235	35	355	37	475	39	595	41	-120	43	0	46	120	48	240	50	360	52	480
1800	29	125	31	255	33	385	35	515	37	-190	39	-60	41	70	44	200	46	330	48	460	50	590	52	-115
1810	29	255	31	395	33	535	35	-160	37	-20	40	120	42	260	44	400	46	540	48	-155	50	-15	53	125
1820	29	385	31	535	33	-150	35	0	38	150	40	300	42	450	44	600	46	-85	48	65	51	215	53	365
1830	29	515	31	-160	33	0	36	160	38	320	40	480	42	-195	44	-35	47	125	49	285	51	445	53	-230
1840	29	-190	31	-20	34	150	36	320	38	490	40	-175	42	-5	45	165	47	335	49	505	51	-160	53	10
1850	29	-60	32	120	34	300	36	480	38	-175	40	5	43	185	45	365	47	545	49	-110	51	70	54	250
1860	29	70	32	260	34	450	36	-195	38	-5	41	185	43	375	45	565	47	-80	50	110	52	300	54	490
1870	30	200	32	400	34	600	36	-35	39	165	41	365	43	565	45	-70	48	130	50	330	52	530	54	-105
1880	30	330	32	540	34	-85	37	125	39	335	41	545	43	-80	46	130	48	340	50	550	52	-75	55	135
1890	30	460	32	-155	34	65	37	285	39	505	41	-110	44	110	46	330	48	550	50	-65	53	155	55	375
1900	30	590	32	-15	35	215	37	445	39	-160	41	70	44	300	46	530	48	-75	51	155	53	385	55	-220
1910	30	-115	33	125	35	365	37	-230	39	10	42	250	44	490	46	-105	49	135	51	375	53	-220	55	20
1920	30	15	33	265	35	515	37	-70	40	180	42	430	44	-155	46	95	49	345	51	595	53	10	56	260

Table 2: Clamp and spacers number VS PV Panel Thicknesses

PV Panel Thickness (mm)	Clamp Size (mm)	Number of Spacers
30	30	0
31	30	0
32	30	1
33	30	2
34	30	2
35	35	0
36	35	0
37	35	1
38	38	0
39	38	0
40	40	0
41	40	0
42	40	1
43	40	2
44	40	2
45	45	0
46	45	0
47	45	1
48	45	2
49	45	2
50	50	0

Product Specifications

Compatible PV panel dimensions:

X-direction:	Any PV panel length
Y-direction:	960 – 1060 mm
Depth :	30 – 50mm

Average modular unit area:	1.497 m ²
Average full SunMount area (2 units interlock):	2.80 m ²
Average weight of full SunMount:	9.53 kg
Average roof loading with PV module:	10 kg/m ²
SunMount tilt angle:	10 ⁰ for best ratio of power generation to surface area exploitation for European climate.
Maximum certified wind speed uplift resistance:	110 mph
SunMount Material:	Recycled Polypropylene UV stabilised.
Product life guarantee:	20 years.
Transport:	50 USM units (minimum 6.25kW _p) per double size pallet
PV cable connection:	Easy cabling connection/disconnection can be carried out from the top and placed in recesses with covering strips.
Aesthetics:	Flush modules give an integrated appearance.
Interlocking method: Overlapping	Left to right interlock by latches and with of front to back.