



ROOF PV SYSTEM

PV MOUNTING SYSTEMS

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XIAMEN HUGE ENERGY STOCK CO.,LTD

Solar PV Mounting System Manufacturer

Solar Energy Solutions Provider

Introduction

Specializing in anodization and customization, Xiamen Huge Energy offers a variety of pitched roof mounting brackets with reliable and stable quality to ensure over 25 years service life. We keep on innovating solar mounting brackets that enable quick and simple installation and save material costs.

Benefits

- Great Flexibility
- Simple Installation
- Excellent Compatibility
- Engineered to High Standards

Features

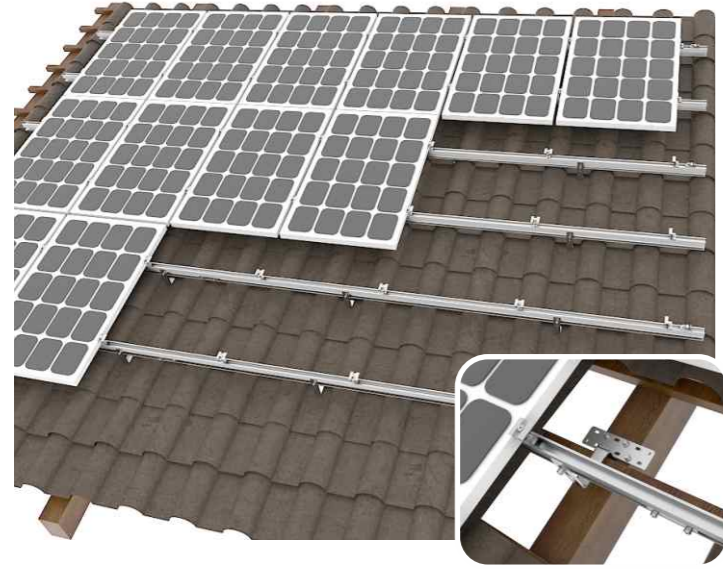
Installation Site: Pitched / Flat Roof
 Building Height: Up to 20 Meters
 PV Module: Framed or Frameless
 Module Orientation: Landscape or Portrait
 Main Material: AL6005-T5 (Anodized)
 Service Life: 25 Years
 Warranty: 12 Years
 Standard:
 According to Customers' Requirements

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Tile Roof Mount

Roof hooks are applied to many different tiles such as pantile, Roman tile, slate, clay tile, etc. Adjustable hooks can be adjusted horizontally and vertically.



Features

- Simple and Fast Installation
- Made of SUS 304 Stainless Steel
- No Drilling nor Welding on Rooftop



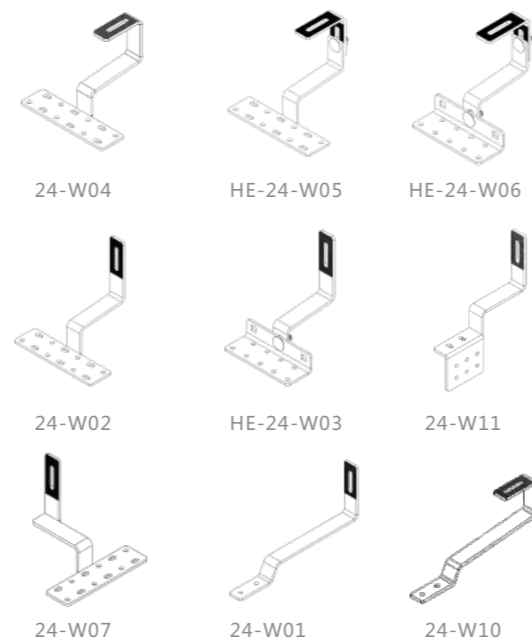
Roof Hook Kit HE-24-W02 Rail 11-R2 Rail Splice Kit HE-15-R2 Mid Clamp Kit HE-17-IC19XX End Clamp Kit HE-18-EC35XX Grounding Clip 26-R12 Grounding Lug HE-26-XJ20-D1

Bill of Materials and QTY for 1MW Project

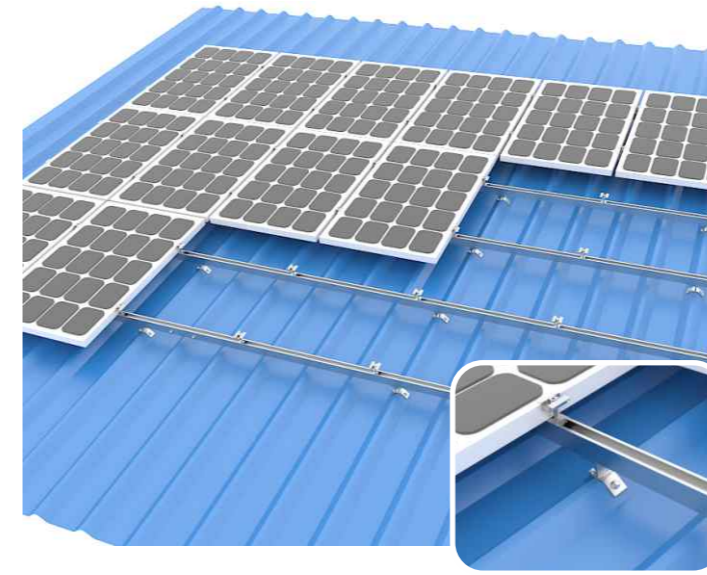
No.	Product	QTY 350W 1986*992*35 mm	QTY 450W 2108*1048*35 mm	QTY 540W 2279*1134*35 mm
1	Rail	5,880 Meters	4,835 Meters	4,352 Meters
2	Rail Splice Kit	1,146	894	746
3	End Clamp	1,154	902	754
4	Mid Clamp	5,158	4,024	3,358
5	Roof Hook	7,452	6,260	5,596
6	Grounding Clip (Optional)	2,579	2,012	1,679
7	Grounding Lug (Optional)	572	446	372

*Notes: QTYs listed above is based on GCL solar modules and layout 1PX10 and they may vary depending on different modules and layouts.

Tile Roof Mount Series

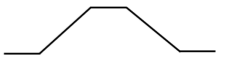


24-W04 HE-24-W05 HE-24-W06
24-W02 HE-24-W03 24-W11
24-W07 24-W01 24-W10



Trapezoidal Metal Roof Mount

Different types of clamps are offered to fasten different trapezoidal ribs. Customization is also available.



Trapezoidal Rib

Features

- Waterproof EPDM Rubber Intergration
- Cost-Effective and Fast Installation
- Customizable



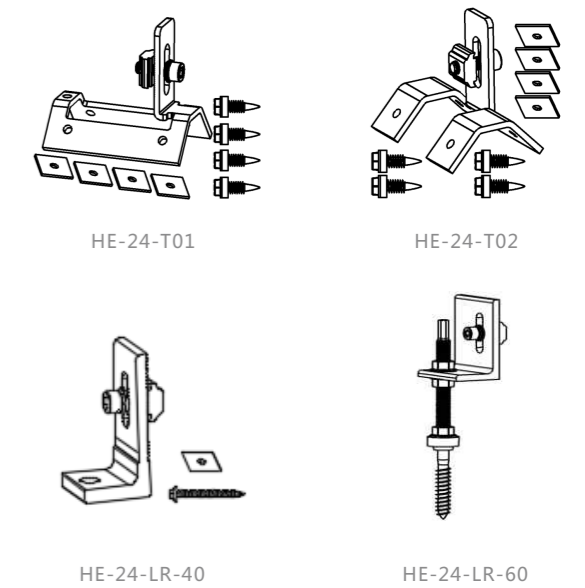
Trapezoidal Clamp HE-24-JC Rail 11-R12 Rail Splice Kit HE-15-R6 Mid Clamp Kit HE-17-IC19XX End Clamp Kit HE-18-EC35XX Grounding Clip 26-R12 Grounding Lug HE-26-XJ20-D1

Bill of Materials and QTY for 1MW Project

No.	Product	QTY 350W 1986*992*35 mm	QTY 450W 2108*1048*35 mm	QTY 540W 2279*1134*35 mm
1	Rail	5,880 Meters	4,835 Meters	4,352 Meters
2	Rail Splice Kit	1,146	894	746
3	End Clamp	1,154	902	754
4	Mid Clamp	5,158	4,024	3,358
5	Trapezoidal Clamp	7,452	6,260	5,596
6	Grounding Clip (Optional)	2,579	2,012	1,679
7	Grounding Lug (Optional)	572	446	372

*Notes: QTYs listed above is based on GCL solar modules and layout 1PX10 and they may vary depending on different modules and layouts.

Trapezoidal Metal Roof Mount Series



HE-24-T01 HE-24-T02
HE-24-LR-40 HE-24-LR-60

Klip Lok Metal Roof Mount

Klip-lok clamps serve as a foundation of PV systems for non-penetrating metal roofs. Customization is also available.



Features

- Simple and Fast Installation
- Non-Penetrative Solution
- Customizable



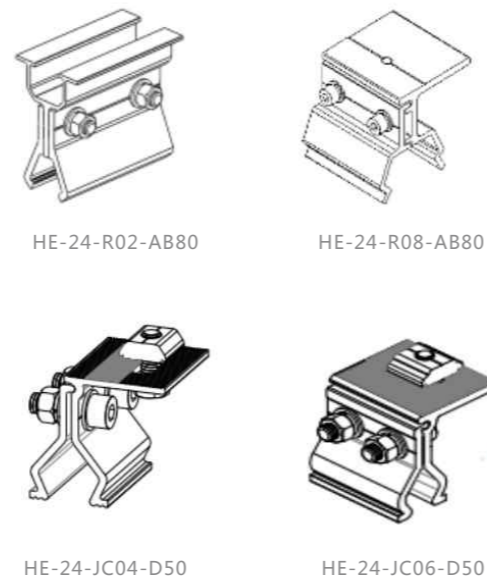
Klip-Lok Clamp HE-24-JC
Rail 11-R12
Rail Splice Kit HE-15-R6
Mid Clamp Kit HE-17-IC19XX
End Clamp Kit HE-18-EC35XX
Grounding Clip 26-R12
Grounding Lug HE-26-XJ20-D1

Bill of Materials and QTY for 1MW Project

No.	Product	QTY 350W 1986*992*35 mm	QTY 450W 2108*1048*35 mm	QTY 540W 2279*1134*35 mm
1	Rail	5,880 Meters	4,835 Meters	4,352 Meters
2	Rail Splice Kit	1,146	894	746
3	End Clamp	1,154	902	754
4	Mid Clamp	5,158	4,024	3,358
5	Klip-Lok Clamp	7,452	6,260	5,596
6	Grounding Clip (Optional)	2,579	2,012	1,679
7	Grounding Lug (Optional)	572	446	372

*Notes: QTYs listed above is based on GCL solar modules and layout 1PX10 and they may vary depending on different modules and layouts.

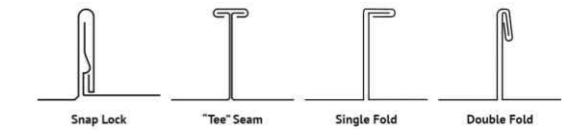
Klip Lok Metal Roof Mount Series



HE-24-R02-AB80 **HE-24-R08-AB80**
HE-24-JC04-D50 **HE-24-JC06-D50**

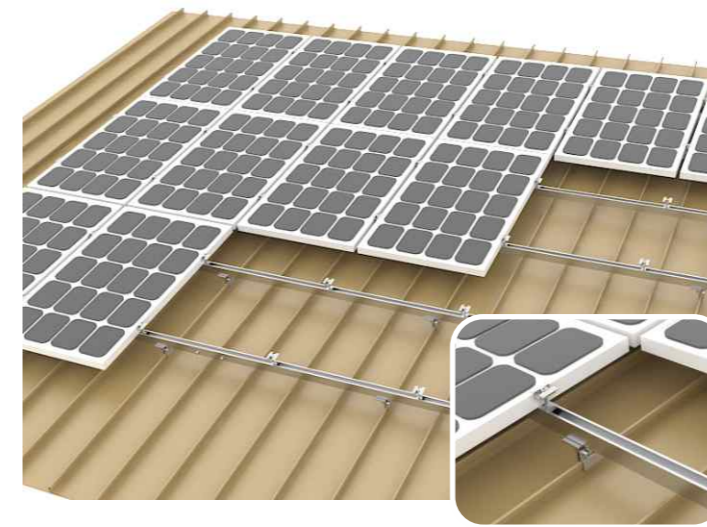
Standing Seam Roof Mount

Standing seam clamps serve as a foundation of PV systems for non-penetrating metal roofs. Customization is also available.



Features

- Simple and Fast Installation
- Non-Penetrative Solution
- Customizable



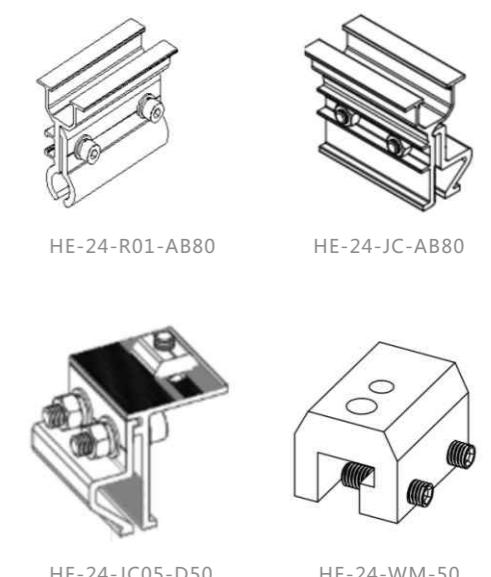
Trapezoidal Clamp HE-24-JC
Rail 11-R12
Rail Splice Kit HE-15-R6
Mid Clamp Kit HE-17-IC19XX
End Clamp Kit HE-18-EC35XX
Grounding Clip 26-R12
Grounding Lug HE-26-XJ20-D1

Bill of Materials and QTY for 1MW Project

No.	Product	QTY 350W 1986*992*35 mm	QTY 450W 2108*1048*35 mm	QTY 540W 2279*1134*35 mm
1	Rail	5,880 Meters	4,835 Meters	4,352 Meters
2	Rail Splice Kit	1,146	894	746
3	End Clamp	1,154	902	754
4	Mid Clamp	5,158	4,024	3,358
5	Standing Seam Clamp	7,452	6,260	5,596
6	Grounding Clip (Optional)	2,579	2,012	1,679
7	Grounding Lug (Optional)	572	446	372

*Notes: QTYs listed above is based on GCL solar modules and layout 1PX10 and they may vary depending on different modules and layouts.

Standing Seam Roof Mount Series

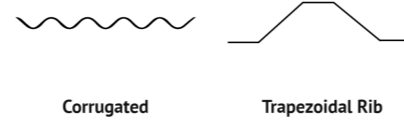


HE-24-R01-AB80 **HE-24-JC-AB80**
HE-24-JC05-D50 **HE-24-WM-50**



L Bracket and Hanger Bolt Kit

L bracket kit and hanger bolt kit are applied in most corrugated or trapezoidal metal roofs.



Features

- Wide Range of Selections
- Waterproof EPDM Rubber Intergration
- Pre-Assembled to Save Installation Time



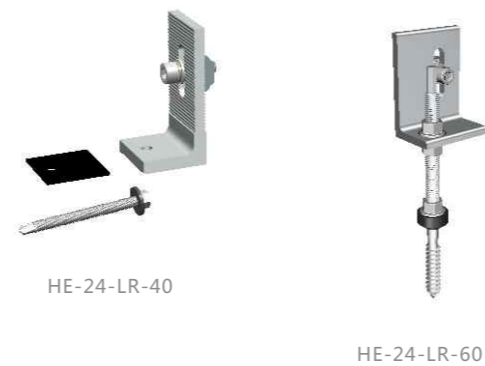
Hanger Bolt Kit HE-24-LR-60 Rail 11-R2 Rail Splice Kit HE-15-R2 Mid Clamp Kit HE-17-IC19XX End Clamp Kit HE-18-EC35XX Grounding Clip 26-R12 Grounding Lug HE-26-XJ20-D1

Bill of Materials and QTY for 1MW Project

No.	Product	QTY 350W 1986*992*35 mm	QTY 450W 2108*1048*35 mm	QTY 540W 2279*1134*35 mm
1	Rail	5,880 Meters	4,835 Meters	4,352 Meters
2	Rail Splice Kit	1,146	894	746
3	End Clamp	1,154	902	754
4	Mid Clamp	5,158	4,024	3,358
5	Hanger Bolt Kit	7,452	6,260	5,596
6	Grounding Clip (Optional)	2,579	2,012	1,679
7	Grounding Lug (Optional)	572	446	372

*Notes: QTYs listed above is based on GCL solar modules and layout 1PX10 and they may vary depending on different modules and layouts.

Corrugated & Trapezoidal Series



HE-24-LR-40

HE-24-LR-60



Adjustable Tilt Mount

Adjustable tilt mounting brackets can be fixed or adjustable tilt, meeting project specific adjustments to optimize solar output.

Features

- Wide Range of Tilt Angles
- Waterproof EPDM Rubber Intergration
- Pre-Assembled to Save Installation Time



Front Leg and Rear Leg Kit Rail 11-R2 Rail Splice Kit HE-15-R2 Mid Clamp Kit HE-17-IC19XX End Clamp Kit HE-18-EC35XX Grounding Clip 26-R12 Grounding Lug HE-26-XJ20-D1

Bill of Materials and QTY for 1MW Project

No.	Product	QTY 350W 1986*992*35 mm	QTY 450W 2108*1048*35 mm	QTY 540W 2279*1134*35 mm
1	Rail	5,880 Meters	4,835 Meters	4,352 Meters
2	Rail Splice Kit	1,146	894	746
3	End Clamp	1,154	902	754
4	Mid Clamp	5,158	4,024	3,358
5	Front Leg Kit	7,452	6,260	5,596
5	Rear Leg Kit	7,452	6,260	5,596
6	Grounding Clip (Optional)	2,579	2,012	1,679
7	Grounding Lug (Optional)	572	446	372

*Notes: QTYs listed above is based on GCL solar modules and layout 1PX10 and they may vary depending on different modules and layouts.

Adjustable Tilt Mount Series



HE-16-WD-40-X

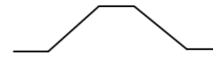
HE-24-KT-XX

Mini Rail Mount

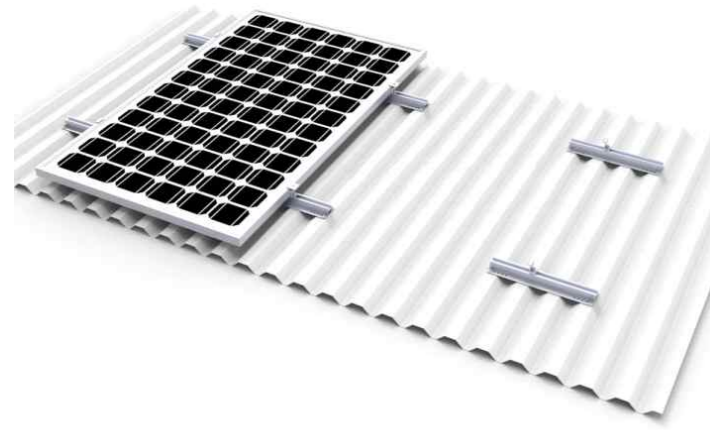
Mini rail kits are mainly applied to trapezoidal metal roof, saving costs while ensuring strong structure. Customization is also available.

Features

- Cost Saving
- Simple and Fast Installation
- Pre-Assembled to Save Installation Time



Trapezoidal Rib



Mini Rail
11-R14

Mid Clamp Kit
HE-17-IC19XX

End Clamp Kit
HE-18-EC35XX

Grounding Clip
26-R12

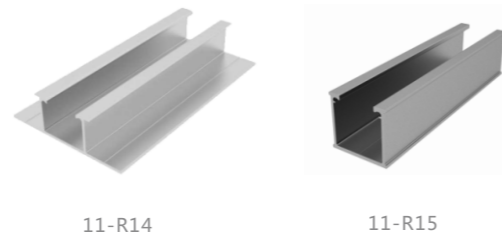
Grounding Lug
HE-26-XJ20-D1

Bill of Materials and QTY for 1MW Project

No.	Product	QTY 350W 1986*992*35 mm	QTY 450W 2108*1048*35 mm	QTY 540W 2279*1134*35 mm
1	Mini Rail Kit	6412	4926	4112
2	End Clamp	1,154	902	754
3	Mid Clamp	5,158	4,024	3,358
4	Grounding Clip (Optional)	2,579	2,012	1,679
5	Grounding Lug (Optional)	572	446	372

*Notes: QTYs listed above is based on GCL solar modules and layout 1PX10 and they may vary depending on different modules and layouts.

Mini Rail Series



11-R14

11-R15

Rail

Roofing: Metal Roof, Tile Roof, Shingle Roof and Slate Roof

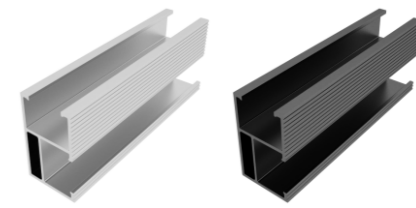
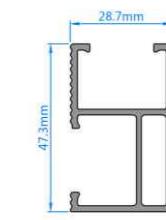
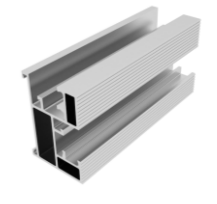
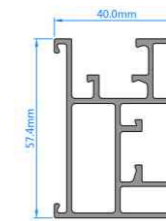
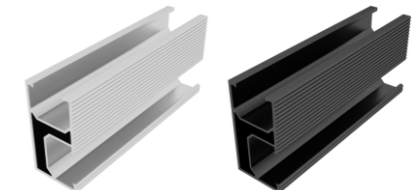
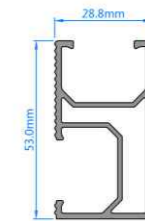
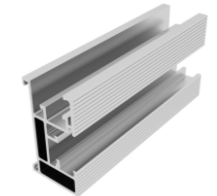
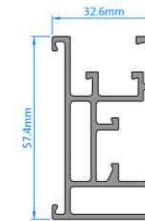
Rails are designed for various roof types including metal roof, tile roof, etc. Rails, with mid clamps and end clamps assembled on them, ensure solar modules arranged neatly and in order.

Material: AL6005-T5 Aluminum Alloy
Surface Finish: Anodizing ($\geq 10\mu\text{m}$)
Warranty: 12 Years

Features

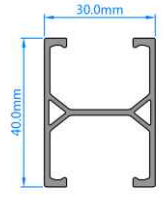


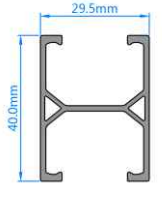

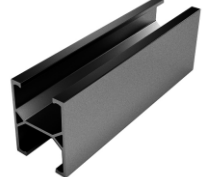
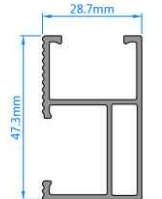


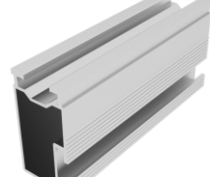


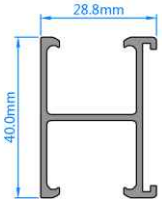


- * Universal and flexible
- * High quality, high strength and low cost
- * Enable simple, fast and cost-effective installation

Part No.	Width	Height	Thickness	Weight
11-R1	32.6mm 1.284"	57.4mm 2.260"	1.6mm 0.063"	1.139 kg/m 0.766 lb/ft
11-R2	28.8mm 1.134"	53.0mm 2.087"	1.7mm 0.067"	0.815 kg/m 0.548 lb/ft
11-R4	40.0mm 1.575"	57.4mm 2.260"	1.6mm 0.063"	1.253 kg/m 0.842 lb/ft
11-R5	28.7mm 1.130"	47.3mm 1.863"	1.6mm 0.063"	0.705 kg/m 0.474 lb/ft

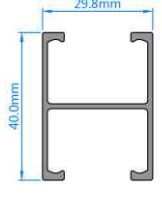


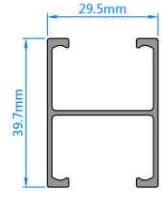


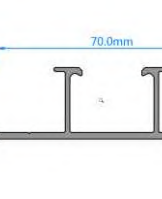
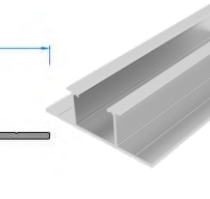
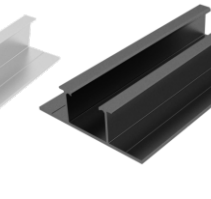
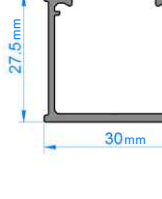
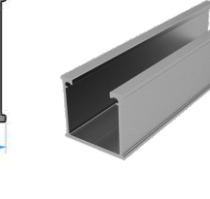
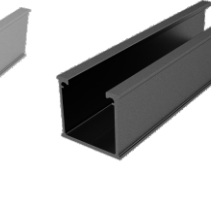


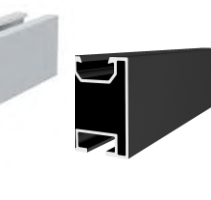


* Tolerances for the above parameters are $\pm 3\%$.

Part No.	Width	Height	Thickness	Weight
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11-R6	30.0mm 1.182"	40.0mm 1.575"	1.5mm 0.060"	0.572 kg/m 0.385 lb/ft			
11-R7	29.5mm 1.162"	40.0mm 1.575"	1.3mm 0.052"	0.492 kg/m 0.331 lb/ft			
11-R8	28.7mm 1.130"	47.3mm 1.863"	1.3mm 0.052"	0.648 kg/m 0.436 lb/ft			
11-R9	30.0mm 1.182"	55.0mm 2.166"	1.4mm 0.056"	0.860 kg/m 0.578 lb/ft			
11-R10	28.8mm 1.134"	40.0mm 1.575"	1.6mm 0.063"	0.556 kg/m 0.374 lb/ft			
11-R11	28.8mm 1.134"	40.0mm 1.575"	1.5mm 0.060"	0.532 kg/m 0.358 lb/ft			

Part No.	Width	Height	Thickness	Weight
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11-R12	29.8mm 1.174"	40.0mm 1.575"	1.3mm 0.052"	0.490 kg/m 0.330 lb/ft			
11-R13	29.5mm 1.162"	39.7mm 1.563"	1.2mm 0.048"	0.456 kg/m 0.307 lb/ft			
11-R14	70.0mm 2.756"	21.6mm 0.851"	1.4mm 0.056"	0.588 kg 0.396 lb			
11-R15	30.0mm 1.181"	27.5mm 1.083"	1.3mm 0.052"	0.342 kg/m 0.230 lb/ft			
11-R16	30.0mm 1.181"	40.0mm 1.575"	1.2mm 0.048"	0.623 kg/m 0.419 lb/ft			

* Tolerances for the above parameters are ±3%.

Rail Splice Kit

Roofing: Metal Roof, Tile Roof, Shingle Roof and Slate Roof

Rail splice kit is designed to connect rails, allowing multiple lengths of rail to be secured during installation.




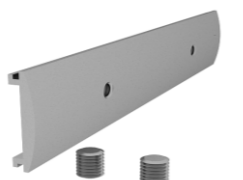
Material: AL6005-T5 Aluminum Alloy
 SUS304 Stainless Steel

Surface Finish: Anodizing ($\geq 10\mu\text{m}$)

Warranty: 12 Years

Features

- * Eliminate transportation and handling difficulty of long rails
- * Allow expansion and contraction of materials
- * Flexible installation

Part No.	Components	Material	QTY	Width	Height	Length	Rails
HE-15-R1	Rail Splice P/N: 15-R1	AL6005-T5	1pc	9.8mm 0.39"	53.8mm 2.12"		11-R1 11-R4
	Self Drilling Screws M6.3*32 P/N: 36-Z6.3-32	SUS304	2pcs			120mm 4.72" 150mm 5.91"	
HE-15-R2	Rail Splice P/N: 15-R2	AL6005-T5	1pc	9.0mm 0.35"	23.0mm 0.91"	200mm 7.87"	11-R2 11-R5
	Inner Hexagon Bolt M8*20 P/N: 36-F8-20	SUS304	2pcs			Customized	11-R6 11-R7 11-R8 11-R12 11-R13
HE-15-R6	Rail Splice P/N: 15-R6	AL6005-T5	1pc	26.4mm 1.04"	18.7mm 0.74"		11-R6 11-R7
	Self Drilling Screws M6.3*20 P/N: 36-Z6.3-20	SUS304	4pcs			120mm 4.72" 150mm 5.91"	11-R8 11-R12 11-R13
HE-15-R10	Rail Splice P/N: 15-R10	AL6005-T5	1pc	8.1mm 0.32"	39.6mm 1.56"		11-R10 11-R11
	Inner Hexagon Continuous Thread Stud M8*10 P/N: 36-W8-10	SUS304	2pcs			120mm 4.72" 150mm 5.91"	

* Tolerances for the above parameters are $\pm 3\%$.

Module Clamp Kit

Roofing: Metal Roof, Tile Roof, Shingle Roof and Slate Roof

Module clamp kits are designed for fastening solar modules onto rails without drilling or cutting.

Material: AL6005-T5 Aluminum Alloy
 SUS304 Stainless Steel
 EPDM Rubber Mat

Surface Finish: Anodizing ($\geq 10\mu\text{m}$)

Warranty: 12 Years

Features

- * Pre-assembled to save installation time
- * Excellent stability and reliability
- * Simple and fast installation

Part No.	PV Module Thickness	Clamp Length	
HE-17-IC1940-D40 HE-17-IC1940-D45 HE-17-IC1940-D50 HE-17-IC1940-D55 HE-17-IC1960-D55	30mm (1.18") 35mm (1.38") 40mm (1.57") 45mm (1.77") 45mm (1.77")	40mm (1.57") 40mm (1.57") 40mm (1.57") 40mm (1.57") 60mm (2.36")	
HE-18-EC3040-D25 HE-18-EC3540-D25 HE-18-EC4040-D25 HE-18-EC4540-D25 HE-18-EC4560-D25	30mm (1.18") 35mm (1.38") 40mm (1.57") 45mm (1.77") 45mm (1.77")	40mm (1.57") 40mm (1.57") 40mm (1.57") 40mm (1.57") 60mm (2.36")	
HE-18-KT60-C	25mm (0.98") 30mm (1.18") 40mm (1.57") 45mm (1.77") 50mm (1.97")	60mm (2.36")	
HE-17-AY1940-Y40 HE-17-AY1940-Y45 HE-17-AY1940-Y50	30mm (1.18") 35mm (1.38") 40mm (1.57")	40mm (1.57") 40mm (1.57") 40mm (1.57")	
HE-18-AY3540-Y45	35mm (1.38")	40mm (1.57")	
HE-17-BC-120	5-8mm (0.20-0.31")	120mm (4.72")	
HE-18-BC-120	5-8mm (0.20-0.31")	120mm (4.72")	

* Tolerances for the above parameters are $\pm 3\%$.

Roof Hook

Roofing: Tile Roof, Shingle Roof and Slate Roof

Roof hooks serve as a foundation for PV mounting systems for tile, shingle or slate roofs and are mounted directly on roof battens and rafters.

Material: SUS304 Stainless Steel




Surface Finish: Shot Peening (Customizable)

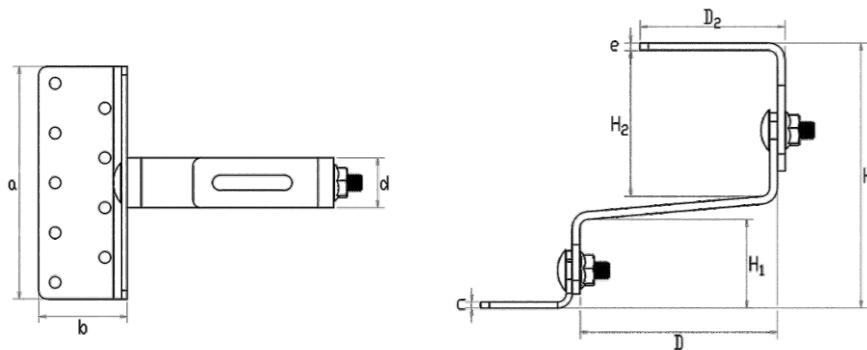
Warranty: 12 Years

Features









- * Excellent waterproof
- * Flexible installation
- * No Drilling nor welding on rooftop



Part No.	Picture	Roofing	Base Plate Dimensions			Total Height (approx.)	Bracket						Net Weight
			a	b	c		H	d	e	H ₁	H ₂	D	
24-W01		Flat Tile Plain Tile	30mm 1.18"	80mm 3.15"	5mm 0.2"	166mm 6.54"	30mm 1.18"	5mm 0.2"	29mm 1.14"	116mm 4.57"	206mm 8.11"	/	0.422kg 0.93lb
24-W09		Slate Tile Shingle Tile	30mm 1.18"	200mm 3.15"	5mm 0.2"	75mm 6.54"	30mm 1.18"	5mm 0.2"	/	66mm 2.6"	/	80mm 3.15"	0.34kg 0.93lb
24-W10		Flat Tile Plain Tile	30mm 1.18"	80mm 3.15"	5mm 0.2"	120mm 4.72"	30mm 1.18"	5mm 0.2"	29mm 1.14"	66mm 2.6"	206mm 8.11"	80mm 3.15"	0.45kg 0.99lb



* Tolerances for the above parameters are ±10%.

Part No.	Picture	Base Plate Dimensions			Total Height (approx.)	Bracket						Net Weight
		a	b	c		H	d	e	H ₁	H ₂	D	
24-W04		180mm 7.09"	50mm 1.97"	4mm 0.16"	135mm 5.31"	30mm 1.18"	5mm 0.2"	46mm 1.81"	72mm 2.83"	100mm 3.94"	80mm 3.15"	0.536kg 1.18lb
HE-24-W05		180mm 7.09"	50mm 1.97"	4mm 0.16"	130-167mm 5.12-6.57"	30mm 1.18"	5mm 0.2"	46mm 1.81"	66-103mm 2.60-4.06"	100mm 3.94"	85mm 3.35"	0.599kg 1.32lb
HE-24-W06		140mm 5.51"	53mm 2.09"	4mm 0.16"	127-174mm 5.00-6.85"	30mm 1.18"	5mm 0.2"	42-52mm 1.65-2.05"	66-103mm 2.60-4.06"	100mm 3.94"	85mm 3.35"	0.698kg 1.54lb
24-W02		180mm 7.09"	50mm 1.97"	4mm 0.16"	174mm 6.85"	30mm 1.18"	5mm 0.2"	46mm 1.81"	116mm 4.57"	100mm 3.94"	/	0.487kg 1.07lb
HE-24-W03		140mm 5.51"	53mm 2.09"	4mm 0.16"	170-180mm 6.69-7.09"	30mm 1.18"	5mm 0.2"	46-52mm 1.65-2.05"	116mm 4.57"	100mm 3.94"	/	0.586kg 1.29lb
24-W11		75mm 2.95"	88mm 3.46"	4mm 0.16"	246mm 9.69"	30mm 1.18"	5mm 0.2"	46mm 1.81"	116mm 4.57"	115mm 4.53"	/	0.513kg 1.13lb
24-W07		180mm 7.09"	50mm 1.97"	4mm 0.16"	170mm 5.31"	30mm 1.18"	5mm 0.2"	46mm 1.81"	120mm 4.72"	100mm 3.94"	/	0.494kg 1.09lb
HE-24-W08		140mm 5.51"	53mm 2.09"	4mm 0.16"	168-176mm 6.61-6.93"	30mm 1.18"	5mm 0.2"	42-52mm 1.81"	120mm 4.72"	100mm 3.94"	/	0.591kg 1.3lb

*Remark: For Roofing - Clay Tile, Pantile, Roman Tile, Spanish Tile, Curved Tile, Interlocking Tile, Barrel Tile, S Tile

Trapezoidal Metal Roof Clamp

Roofing: Trapezoidal Metal Roof

Trapezoidal clamp kits are designed to fasten onto trapezoidal ribs as a foundation for PV mounting systems.

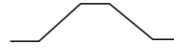
Material: SUS304 Stainless Steel
AL6005-T5 Aluminum Alloy
EPDM Rubber Pad

Surface Finish: Anodizing ($\geq 10\mu\text{m}$)

Warranty: 12 Years

Features

- * Suitable for trapezoidal metal roof
- * Waterproof with rubber pads
- * Simple and fast installation



Trapezoidal Rib

Part No.	HE-24-T01	HE-24-T02	HE-24-T04-40
Part No.	HE-24-T05-60	HE-24-T06-60	HE-24-T06-60-T1
Part No.	HE-24-T06-60-02	HE-24-T06-60-03	HE-24-L3-50

* Tolerances for the above parameters are $\pm 3\%$.

Klip-Lok Clamp

Roofing: Concealed Metal Roof

Klip-lok clamps serve as a foundation of PV mounting systems for non-penetrating metal roofs. They come in various designs to fit all roof styles without drilling or cutting.

Material: AL6005-T5 Aluminum Alloy
SUS304 Stainless Steel

Surface Finish: Anodizing ($\geq 10\mu\text{m}$)

Warranty: 12 Years

Features

- * Wide range of solutions
- * Simple and fast installation
- * No Drilling nor welding on roof



HE-24-R02	HE-24-JC04	HE-24-JC04C	HE-24-JC16
HE-24-JC09	HE-24-JC07	HE-24-R08	HE-24-R01
HE-24-JC08	HE-24-R10		

* Tolerances for the above parameters are $\pm 3\%$.

Standing Seam Clamp

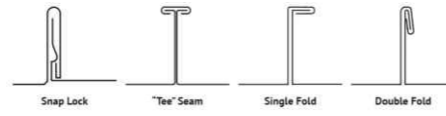
Roofing: Standing Seam Metal Roof

Standing seam clamps serve as a foundation for PV mounting systems for non-penetrating metal roofs. They come in various designs to fit all roof styles without drilling or cutting.

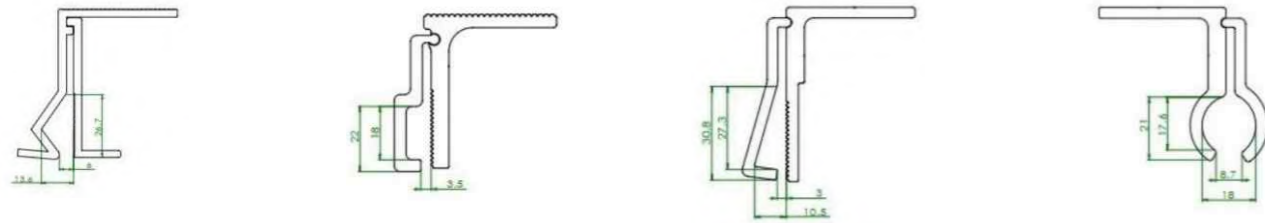
Material: AL6005-T5 Aluminum Alloy
SUS304 Stainless Steel
Surface Finish: Anodizing ($\geq 10\mu\text{m}$)
Warranty: 12 Years

Features

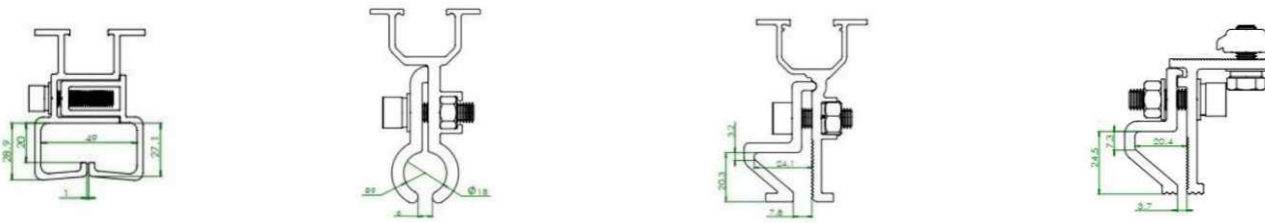
- * Wide range of solutions
- * Simple and fast installation
- * No Drilling nor welding on roof



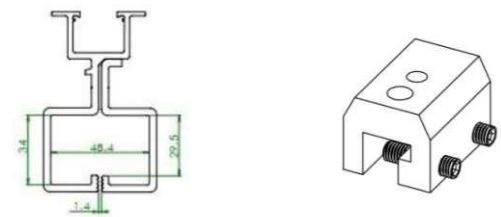
HE-24-JC11 HE-24-JC12 HE-24-JC13 HE-24-JC14



HE-24-JC15 HE-24-R01 HE-24-JC01 HE-24-JC05



HE-24-JC02 HE-24-WM-50



* Tolerances for the above parameters are $\pm 3\%$.

L Bracket Kit and Hanger Bolt Kit

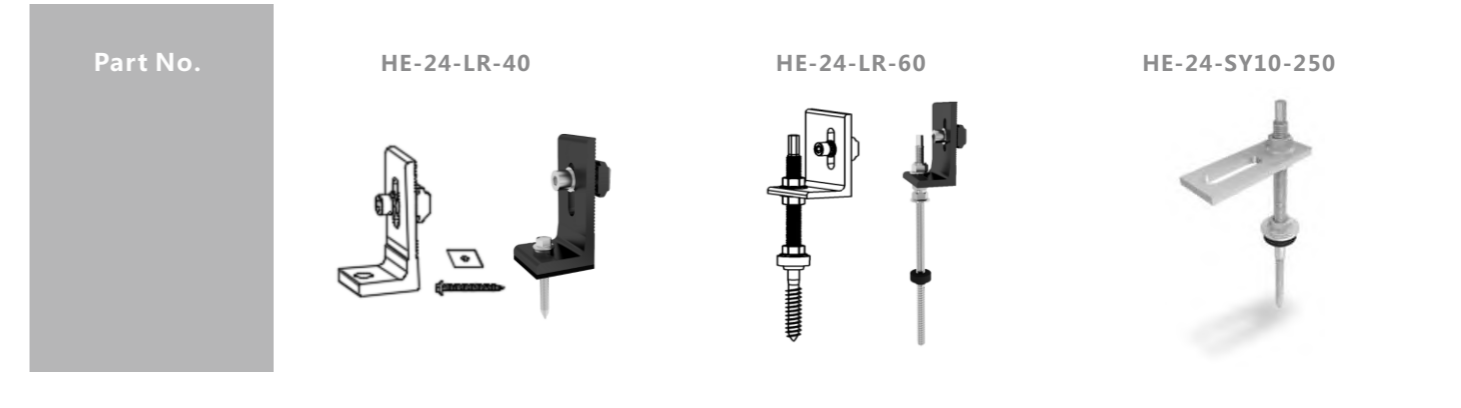
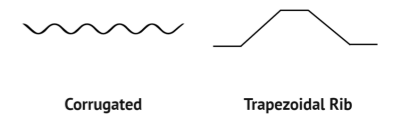
Roofing: Corrugated / Trapezoidal Metal Roof and Corrugated Fiber Cement Roof






L bracket kit and hanger bolt kit are applied in most corrugated or trapezoidal metal roofs. They are used to screw into steel purlins or wooden rafters.

Material: AL6005-T5 Aluminum Alloy
SUS304 Stainless Steel
EPDM Rubber Pad
Surface Finish: Anodizing ($\geq 10\mu\text{m}$)
Warranty: 12 Years

Features

- * Wide range of solutions
- * Waterproof with rubber pads
- * Pre-assembled to save installation time



Part Number	Description	Picture	Material	Specifications
15-SY10-90	Hanger Bolt Adapter Plate for M10 Bolt		SUS304 Shot Speening	90 x 40 x 6 mm 3.54 x 1.57 x 0.24" 153g (0.34lb / 5.40oz)
HE-36-SY10-200	Hanger Bolt Kit M10 x 200mm		SUS304 + EPDM	Hanger Bolt M10 x 200mm 0.125kg
HE-36-SY10-250	Hanger Bolt Kit M10 x 250mm		SUS304 + EPDM	Hanger Bolt M10 x 250mm 0.145kg
HE-36-SY10-300	Hanger Bolt Kit M10 x 300mm		SUS304 + EPDM	Hanger Bolt M10 x 300mm 0.170kg
HE-36-SY12-250	Hanger Bolt Kit M12 x 250mm		SUS304 + EPDM	Hanger Bolt M12 x 250mm 0.217kg

* Tolerances for the above parameters are $\pm 3\%$.

Adjustable Tilt Mount

Roofing: Metal Roof and Concrete Roof

Adjustable tilt mounting brackets can be fixed or adjustable tilt, meeting project specific adjustments to optimize solar output. They are pre-assembled to save installation time and cost.

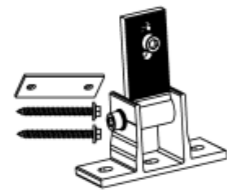
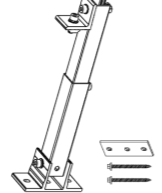
Material: AL6005-T5 Aluminum Alloy
 SUS304 Stainless Steel
 EPDM Rubber Pad

Surface Finish: Anodizing ($\geq 10\mu\text{m}$)

Warranty: 12 Years

Features

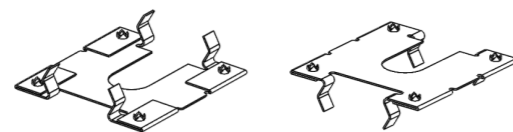
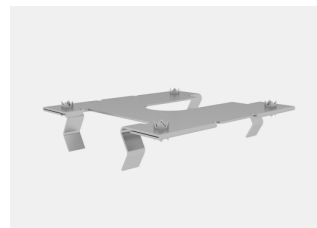
- * Flexible Applications
- * Pre-assembled to save installation time
- * Adjustable to get max efficiencies in different applications

Part No.	HE-16-WD-40-X	HE-24-KT-XX		
				
Total Weight	346g / 0.76lb	589g / 1.30lb (Both Tubes 200mm)	758g / 1.67lb (Both Tubes 350mm)	1.095kg / 2.41lb (Both Tubes 650mm)
Adjustable Angle	180°	10~15°	15-30°	30-60°

Grounding System

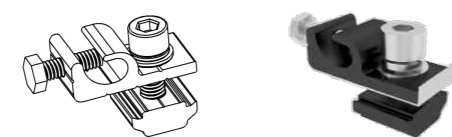
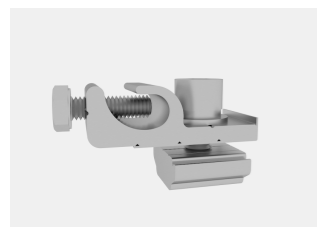
Roofing: Metal Roof, Tile Roof, Shingle Roof and Slate Roof

Grounding Clip



Part No.	Dimensions	Material	Fixing Method
26-R12	32 x 30 x 7.7 mm 1.26 x 1.18 x 0.30"	SUS304	Insert between solar module clamp and rail

Grounding Lug



Part No.	Material	Fixing Method
HE-26-XJ20-D1	AL6005-T5 SUS304	Fix into rails

* Tolerances for the above parameters are $\pm 3\%$.

Accessories, Screws and Small Parts

Roofing: All Roofs

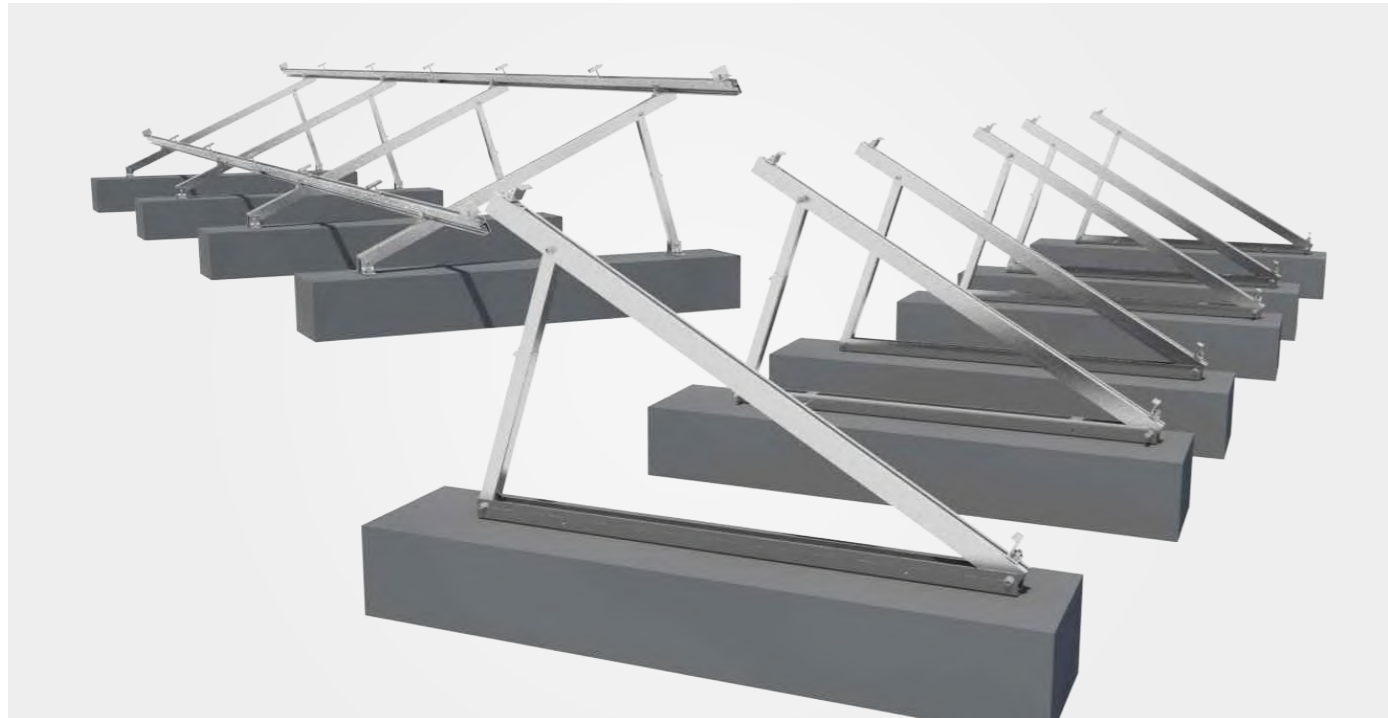
Product	Part Number	Material	Surface Finish	Specifications	Application
Rail Fastener	HE-19-BM40-NS25	AL6005-T5 SUS304	Anodizing	Comes with M8 Flange Nut (P/N: 36-NS8)	To fasten 2# Rail (P/N: 11-R2) or 8# Rail (P/N: 11-R8)
	HE-19-BM40-D25	AL6005-T5 SUS304	Anodizing	Comes with D Slot Nut (P/N: 20-DK-20)	
Slot Nut	20-DK-20			20 x 23 x 9 mm 0.79 x 0.91 x 0.35 " 13.3g (0.47oz)	
	20-EK-20	AL6005-T5	Anodizing	20.0 x 20.2 x 15.3 mm 0.79 x 0.80 x 0.60 " 10.1g (0.36oz)	
	20-JK-20			20.0 x 19.6 x 7.5 mm 0.79 x 0.77 x 0.30 " 7.0g (0.25oz)	
L Bracket	24-LR-40	AL6005-T5	Anodizing	40 x 40 x 80 x T7 mm 1.57 x 1.57 x 3.15 x T0.28 " 74g (2.61oz)	
	24-LR-60			60 x 40 x 80 x T7 mm 2.36 x 1.57 x 3.15 x T0.28 " 130g (4.59oz)	
Adapter	15-SY10-90	SUS304	Shot Peening	90 x 40 x 6 mm 3.54 x 1.57 x 0.24"	Hanger Bolt Kit

* Tolerances for the above parameters are $\pm 3\%$.

Product	Part Number	Material	Specifications	Application
Rail End Cap	25-R1-B1	PA66	Color: Black	Fit into the right end of 1# Rail (P/N: 11-R1)
	25-R1-B2			Fit into the left end of 1# Rail (P/N: 11-R1)
	25-R2-B			Fit into both ends of 2# Rail (P/N: 11-R2)
Cable Clip	26-XK-01	SUS304	10 x 18 x 11 mm 0.39 x 0.71 x 0.43 " 2.3g (0.08oz)	
Rubber Pad	25-XJ-01	EPDM self-adhesive, UV-resistant	110 x 41 x 2 mm 4.33 x 1.61 x 0.08 "	Adjustable tilt brackets P/N: HE-16-WD-40-X P/N: HE-24-KT-04
	25-XJ-02			L Bracket P/N: HE-24-LR-40
	25-XJ-04			Trapezoidal Clamps P/N: HE-24-T01 P/N: HE-24-T02
Wood Screw	36-M6.3-80	Steel	M8 x 80 mm	
* For non-boarded roofs, we recommend at least 80 mm, for roofs with boarding and counter-battens, at least 120 mm.				
T-Head Bolt Assembly	HE-36-TX8-25-01	SUS304	M8 x 25 mm	To fasten 9# Rail (P/N: 11-R9) To fasten 16# Rail (P/N: 11-R16)
T-Head Bolt	36-TX8-25	SUS304	M8 x 25 mm	To fasten 9# Rail (P/N: 11-R9) To fasten 16# Rail (P/N: 11-R16)

* Tolerances for the above parameters are ±3%.

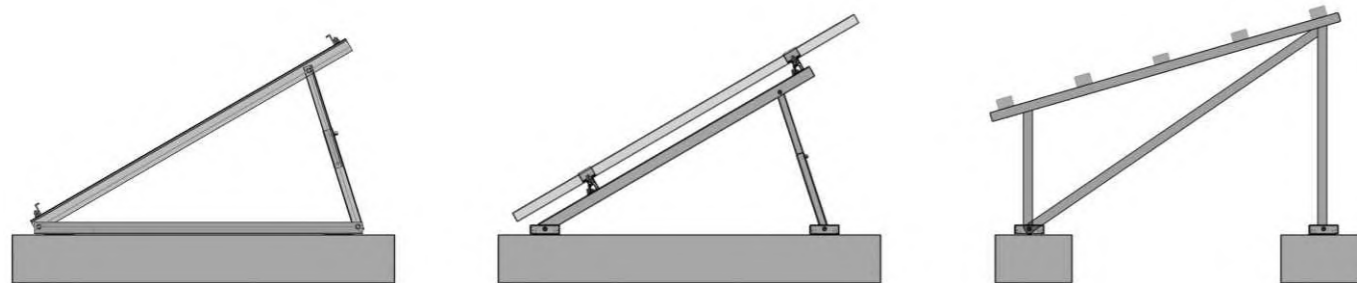
Product	Part Number	Material	Specifications
Slot Nut	36-F8-20	SUS304	M8 x 20 mm
	36-F8-25		M8 x 25 mm
	36-F8-30		M8 x 30 mm
	36-F8-40		M8 x 40 mm
	36-F8-45		M8 x 45 mm
	36-F8-50		M8 x 50 mm
Flange Nut	36-F8-55	SUS304	M8 x 55 mm
	20-JK-60		M8 x 60 mm
	36-NS8		M8 Flange Nut
Inner Hexagon Continuous Thread Stud	36-NS10	SUS304	M10 Flange Nut
	36-W8-10		M8 x 10 mm



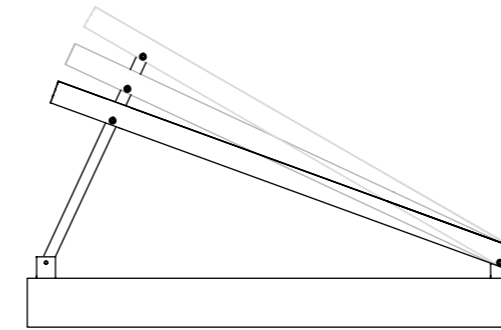
TiltUp Vento System

Flexible Application Options on Flat Roof

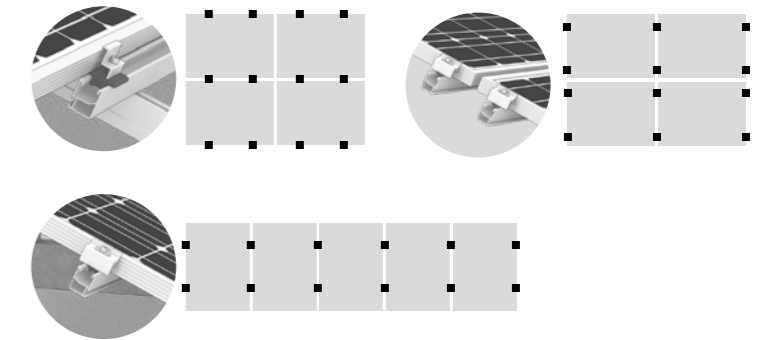
- * Different elevation angles
- * Few components, many different module arrangements and suitable for larger modules
- * Flexible application options on the roof: ballasted with concrete foundation or direct connection with concrete anchors possible



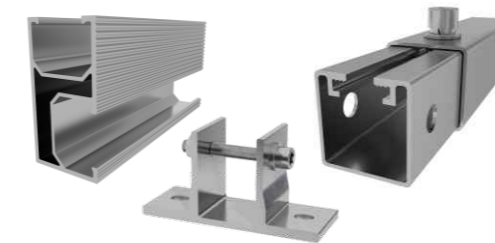
Features



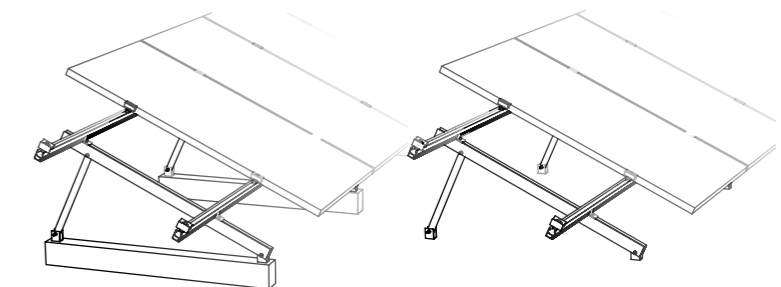
- Different elevation angles**
- * All module arrangements in different elevation angles



- Different module layouts**
- * Portrait/landscape possible
 - * Clamping on the short or long side



- Few components**
- * Refined system with well thought-out connections
 - * Enables systemic storage and flexible application possibilities



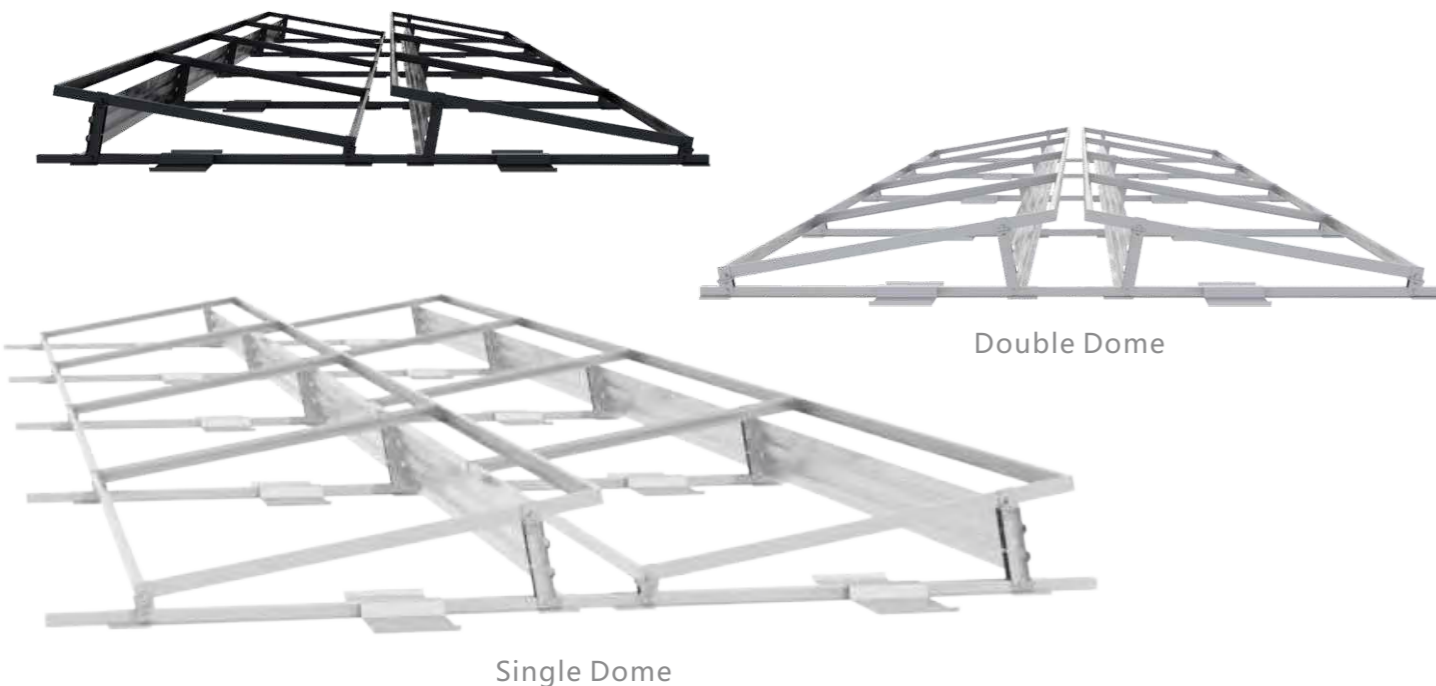
- Various roof connections**
- * Ballasted with concrete foundation: for almost every flat roof
 - * Direct connection with concrete anchors possible



Ballast PV System

Flat Roof All-Rounder-Solutions for All Roof Coverings

- * 80 % pre-assembled and 50 % faster to install thanks to improved components
- * Support pad with flexible function to absorb tolerances and protect the roof cover
- * Secure anchoring with fixed connection for roofs $\leq 10^\circ$ and low load reserves



Components



Mounting Rail
Material: AL6005-T5



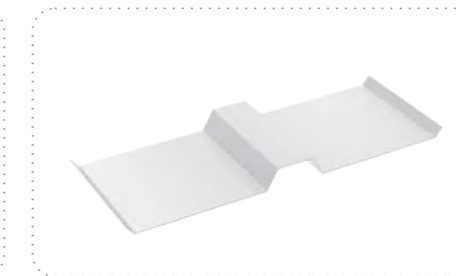
Front Module Support Kit
Material: AL6005-T5
Stainless Steel A2-70



Rear Module Support Kit
Material: AL6005-T5
Stainless Steel A2-70



Support Pad
Material: EPDM



Ballast Plate
Material: aluminium



Windbreaker (Deflector)
Material: aluminium

Technical data

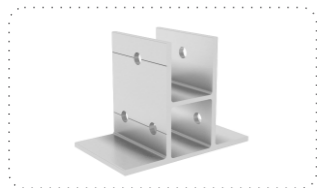
	Double Dome	Single Dome
Scope of application	Flat roofs $\leq 5^\circ$ with single ply membrane or bituminous roof covering, also on concrete, gravelled or green roofs; also trapezoidal sheet metal roofs with continuous mounting rails	
Fastening type/roof fixture	Ballasted; No roof penetration	
Technical specifications	* Thermal separation after max. 12m (trapezoidal sheet metal 8.7m) * Minimum clearance to roof edge 600mm	
Inclination angle	10°	
Material	* Mounting rails, support kits, windbreakers, module clamps, rail connectors, ballast plates: Aluminium Alloy AL6005-T5 * Building protection mat: EPDM * Windbreaker: Aluminium * Small parts: Stainless steel A2-70	



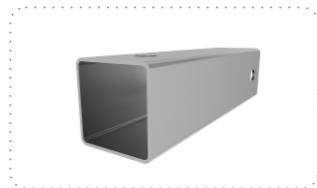
Ballast PV System

Flat Roof Solution with Rails

- * Pre-assembly
- * Easy and fast installation
- * Few parts count, Light weight design



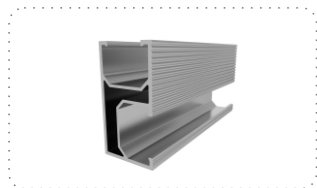
Base



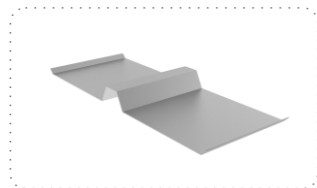
Base Rail



Bracing



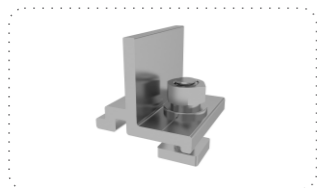
Rail



Ballast Plate



Windbreaker (Deflector)



Rail Fastener



Mid Clamp



End Clamp