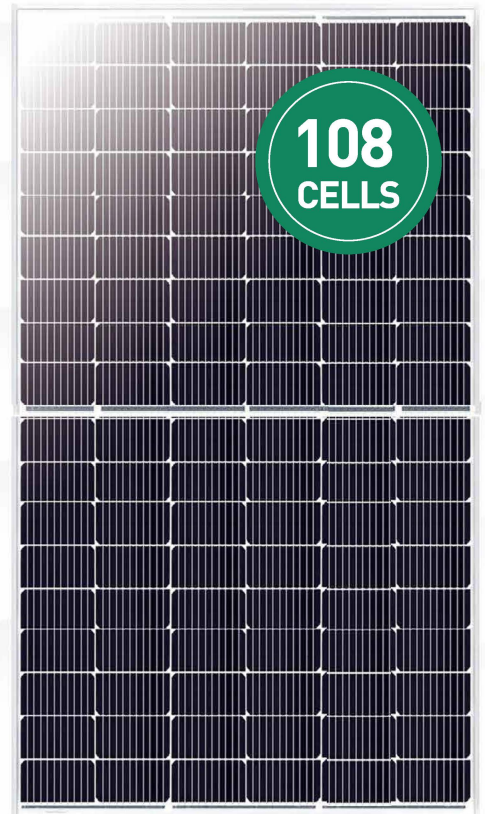


TWINPLUS MODULE SERIES

HIGH EFFICIENCY MONO-PERC M6-10B-R

395-415W



OUTSTANDING PRODUCT PERFORMANCE

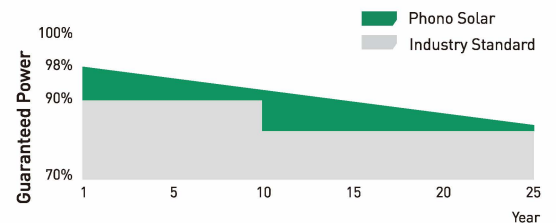
- Competitive high-temperature performance with ameliorated temperature coefficient
- Minimized power loss in cell connection
- Better performance under shading effect
- Decreased nominal operating cell temperature to $45 \pm 2^{\circ}\text{C}$
- Higher power generation with multi-busbar and half-cut technology

TRUSTWORTHY QUALITY AND RELIABILITY

- Guaranteed 0~+5W positive tolerance secures reliable power output
- 5400Pa maximum snow load, 2400Pa maximum wind load
- Optimized electrical design lowers hot spot risk and operating current

PID RESISTANT

- Industry-leading cell processing technology and electrical design ensure solid PID resistance



12-year Product Warranty | 25-year Linear Performance Warranty

MANAGEMENT SYSTEM CERTIFICATES

IEC 61215, IEC 61730

ISO 9001:2015 / Quality management system

ISO 14001:2015 / Standards for environmental management system

ISO 45001:2018 / International standards for occupational health & safety



Bloomberg Tier¹
NEW ENERGY FINANCE



ELECTRICAL TYPICAL VALUES

Model	1000V	PS395M6-18/VH		PS400M6-18/VH		PS405M6-18/VH		PS410M6-18/VH		PS415M6-18/VH	
	1500V	PS395M6H-18/VH		PS400M6H-18/VH		PS405M6H-18/VH		PS410M6H-18/VH		PS415M6H-18/VH	
Testing Condition	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	
Rated Power (Pmpp)	395	294	400	298	405	301	410	305	415	309	
Rated Current (Impp)	12.88	10.41	12.97	10.48	13.06	10.55	13.15	10.63	13.24	10.70	
Rated Voltage (Vmpp)	30.67	28.24	30.85	28.40	31.02	28.55	31.18	28.71	31.35	28.86	
Short Circuit Current (Isc)	13.42	10.84	13.52	10.92	13.62	11.00	13.72	11.09	13.82	11.17	
Open Circuit Voltage (Voc)	36.67	34.62	36.87	34.81	37.05	34.98	37.23	35.15	37.42	35.32	
Module Efficiency (%)	20.23		20.48		20.74		21.00		21.25		

STC(Standard Testing Conditions):Irradiance 1000W/m², AM 1.5, Cell Temperature 25°C

NOCT (Nominal Operation Cell Temperature): Irradiance 800W/m², Ambient Temperature 20°C, Spectra at AM1.5, Wind at 1m/S

MECHANICAL CHARACTERISTICS

Cell Type	Monocrystalline 182mm x 91mm
Dimension (L× W × H)	Length: 1722mm (67.80 inch)
	Width: 1134mm (44.65 inch)
	Height: 30mm (1.18 inch)
Weight	22.0kg (45.80 lbs)
Front Glass	3.2mm Toughened Glass
Frame	Anodized Aluminium Alloy
Cable (Including Connector)	4mm ² (IEC), (+):450mm,(-):250mm or Customized Length
Junction Box	IP 68 Rated

TEMPERATURE RATINGS

Voltage Temperature Coefficient	-0.28%/°C
Current Temperature Coefficient	+0.05%/°C
Power Temperature Coefficient	-0.35%/°C
Tolerance	0~+5w
NOCT	45±2°C

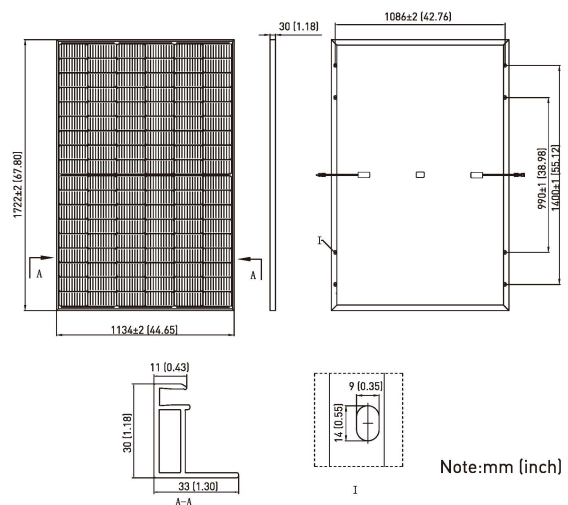
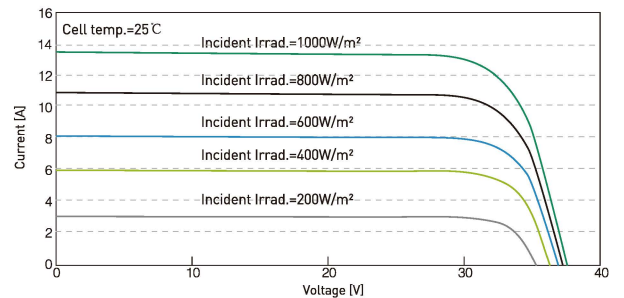
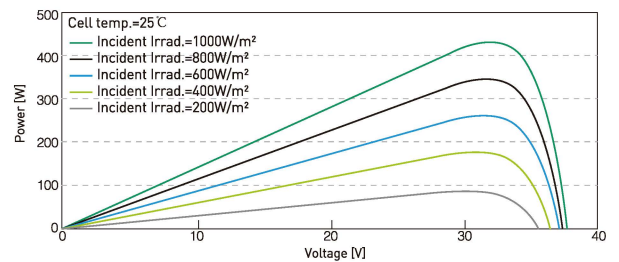
ABSOLUTE MAXIMUM RATING

Operating Temperature	From -40 to +85°C
Hail Diameter @ 80km/h	Up to 25mm
Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Maximum Series Fuse Rating	25A
PV Module Classification	II
Fire Rating (IEC 61730)	C
Maximum System Voltage	DC 1000V/1500V

PACKING CONFIGURATION

Container	20' GP	40' HQ
Pieces/Container	216	936

ELECTRICAL CHARACTERISTICS



S5-GC(25-40)K

Solis Three Phase Inverters



360 degree

Model:

400V: S5-GC25K S5-GC30K S5-GC33K S5-GC36K S5-GC40K



Efficient

- ▶ Max. efficiency 98.7%
- ▶ String current up to **16A**
- ▶ 3/4 MPPT design, supports multiple orientation system design
- ▶ Night time PID recovery function, increases overall system yield (optional)
- ▶ Wide voltage range and low startup voltage



Safe

- ▶ IP66
- ▶ AFCI protection, proactively reduces fire risk
- ▶ Globally recognised branded componentry for longer life
- ▶ Intelligent redundant fan-cooling



Smart

- ▶ Supports export power control
- ▶ Intelligent string monitoring, smart I-V curve scan
- ▶ Supports RS485, WiFi, GPRS
- ▶ Scan to register on SolisCloud, supports remote upgrade and control



Economic

- ▶ Supports GPRS/WiFi communication with less wiring and reduced installation costs
- ▶ > 150% DC/AC ratio
- ▶ Supports high power modules for lower installation costs
- ▶ Supports aluminium wire access to reduce cost

Datasheet

Model Name	S5-GC25K	S5-GC30K	S5-GC33K	S5-GC36K	S5-GC40K
Input DC					
Recommended max. PV power	37.5 kW	45 kW	49.5 kW	54 kW	60 kW
Max. input voltage	1100 V				
Rated voltage	600 V				
Start-up voltage	180 V				
MPPT voltage range	200-1000 V				
Max. input current	32 A / 32 A / 32 A			4*32 A	
Max. short circuit current	50 A / 50 A / 50 A			4*50 A	
MPPT number/Max. input strings number	3/6			4/8	
Output AC					
Rated output power	25 kW	30 kW	33 kW	36 kW	40 kW
Max. apparent output power	27.5 kVA	33 kVA	36.3 kVA	39.6 kVA	44 kVA
Max. output power	27.5 kW	33 kW	36.3 kW	39.6 kW	44 kW
Rated grid voltage	3/N/PE, 220 V / 380 V, 230 V / 400 V				
Rated grid frequency	50 Hz / 60 Hz				
Rated grid output current	38.0 A / 36.1 A	45.6 A / 43.3 A	50.1 A / 47.6 A	54.7 A / 52.0 A	60.8 A / 57.7 A
Max. output current	41.8 A	50.2 A	55.1 A	60.2 A	66.9 A
Power Factor	>0.99 (0.8 leading - 0.8 lagging)				
THDi	<3%				
Efficiency					
Max. efficiency	98.5%		98.6%		98.7%
EU efficiency	98.1%		98.2%		98.3%
Protection					
DC reverse-polarity protection	Yes				
Short circuit protection	Yes				
Output over current protection	Yes				
Surge protection	DC Type II / AC Type II				
Grid monitoring	Yes				
Anti-islanding protection	Yes				
Temperature protection	Yes				
Strings monitoring	Yes				
I/V Curve scanning	Yes				
Integrated PID recovery	Optional				
Integrated AFCI (DC arc-fault circuit protection)	Yes ⁽¹⁾				
Integrated DC switch	Optional				
General Data					
Dimensions (W*H*D)	647*629*252 mm				
Weight	37 kg				
Topology	Transformerless				
Self consumption (night)	<1 W				
Operating ambient temperature range	-25 ~ +60°C				
Relative humidity	0-100%				
Ingress protection	IP66				
Cooling concept	Intelligent redundant fan-cooling				
Max. operation altitude	4000 m				
Grid connection standard	G98 or G99, VDE-AR-N 4105 / VDE V 0124, EN 50549-1, VDE 0126 / UTE C 15 / VFR:2019, RD 1699 / RD 244 / UNE 206006 / UNE 206007-1, CEI 0-21, C10/11, NRS 097-2-1, TOR, EIFS 2018.2, IEC 62116, IEC 61727, IEC60068, IEC 61683, EN 50530				
Safety/EMC standard	IEC/EN 62109-1/-2, IEC/EN 61000-6-1/-2/-3/-4				
Features					
DC connection	MC4 connector				
AC connection	OT terminal				
Display	LCD				
Communication	RS485, Optional: Wi-Fi, GPRS				

(1) Activation required.

S5-GR3P(3-20)K

Solis Three Phase Inverters



360 degree

Model:

S5-GR3P3K S5-GR3P4K S5-GR3P5K S5-GR3P6K S5-GR3P8K S5-GR3P9K S5-GR3P10K
S5-GR3P12K S5-GR3P13K S5-GR3P15K S5-GR3P17K S5-GR3P20K



Efficient

- ▶ Max. efficiency 98.7%
- ▶ String current up to **16A**
- ▶ Wide voltage range and low startup voltage



Safe

- ▶ IP66
- ▶ AFCI protection, proactively reduces fire risk
- ▶ Automatic voltage stabilization technology in weak grid conditions



Smart

- ▶ Supports export power control
- ▶ Supports RS485, WiFi, GPRS
- ▶ Scan to register on SolisCloud, supports remote upgrade and control



Economic

- ▶ Compact design, simple installation and maintenance
- ▶ > 150% DC/AC ratio
- ▶ Supports high power modules for lower installation costs

Datasheet

Model Name	S5-GR3P3K	S5-GR3P4K	S5-GR3P5K	S5-GR3P6K	S5-GR3P8K	S5-GR3P9K	S5-GR3P10K	S5-GR3P12K	S5-GR3P13K	S5-GR3P15K	S5-GR3P17K	S5-GR3P20K
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Input DC

Recommended max. PV power	4.5 kW	6 kW	7.5 kW	9 kW	12 kW	13.5 kW	15 kW	18 kW	19.5 kW	22.5 kW	25.5 kW	30 kW
Max. input voltage	1100 V											
Rated voltage	600 V											
Start-up voltage	180 V											
MPPT voltage range	160-1000 V											
Max. input current	16 A / 16 A						32 A / 32 A					
Max. short circuit current	25 A / 25 A						50 A / 50 A					
MPPT number/Max. input strings number	2/2						2/4					

Output AC

Rated output power	3 kW	4 kW	5 kW	6 kW	8 kW	9 kW	10 kW	12 kW	13 kW	15 kW	17 kW	20 kW
Max. apparent output power	3.3 kVA	4.4 kVA	5.5 kVA	6.6 kVA	8.8 kVA	9.9 kVA	11 kVA	13.2 kVA	14.3 kVA	16.5 kVA	18.7 kVA	22 kVA
Max. output power	3.3 kW	4.4 kW	5.5 kW	6.6 kW	8.8 kW	9.9 kW	11 kW	13.2 kW	14.3 kW	16.5 kW	18.7 kW	22 kW
Rated grid voltage	3/N/PE, 220 V / 380 V, 230 V / 400 V											
Rated grid frequency	50 Hz / 60 Hz											
Rated grid output current	4.6 A / 4.3 A	6.1 A / 5.8 A	7.6 A / 7.2 A	9.1 A / 8.7 A	12.2 A / 11.5 A	13.7 A / 13.0 A	15.2 A / 14.4 A	18.2 A / 17.3 A	19.8 A / 18.8 A	22.8 A / 21.7 A	25.8 A / 24.6 A	30.4 A / 28.9 A
Max. output current	4.7 A	6.4 A	7.9 A	9.5 A	12.7 A	14.3 A	15.9 A	19.1 A	20.7 A	23.8 A	27 A	31.8 A
Power Factor	>0.99 (0.8 leading - 0.8 lagging)											
THDi	<2%											

Efficiency

Max. efficiency	98.3%			98.5%			98.6%			98.7%		
EU efficiency	97.9%			98.1%			98.2%			98.2%		

Protection

DC reverse-polarity protection	Yes
Short circuit protection	Yes
Output over current protection	Yes
Surge protection	Yes
Grid monitoring	Yes
Anti-islanding protection	Yes
Temperature protection	Yes
Integrated AFCI (DC arc-fault circuit protection)	Yes ⁽¹⁾
Integrated DC switch	Optional

General Data

Dimensions (W*H*D)	310*563*219 mm			
Weight	17.3 kg	18 kg	18.9 kg	20.3 kg
Topology	Transformerless			
Self consumption (night)	<1 W			
Operating ambient temperature range	-25 ~ +60°C			
Relative humidity	0-100%			
Ingress protection	IP66			
Cooling concept	Natural convection		Intelligent redundant fan-cooling	
Max. operation altitude	4000 m			
Grid connection standard	G98 or G99, VDE-AR-N 4105 / VDE V 0124, EN 50549-1, VDE 0126 / UTE C 15 / VFR:2019, RD 1699 / RD 244 / UNE 206006 / UNE 206007-1, CEI 0-21, C10/11, NRS 097-2-1, TOR, EIFS 2018.2, IEC 62116, IEC 61727, IEC 60068, IEC 61683, EN 50530			
Safety/EMC standard	IEC/EN 62109-1/-2, IEC/EN 61000-6-1/-2/-3/-4			

Features

DC connection	MC4 connector
AC connection	Quick connection plug
Display	LCD
Communication	RS485, Optional: Wi-Fi, GPRS

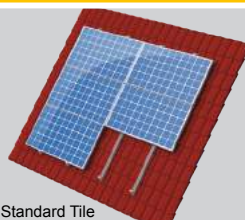
(1) Activation required.

Datasheet

Roof Hooks - Tiles



Pitched Roof - Clamp - Standard Tile



Pitched Roof - Clamp - Standard Tile

Specifications

- Our pitched roof system has different fixation methods to different types of tiled roofs.
- There are roof hooks for standard tiles, plain tiles and slates.
- Standard hooks for portrait, and twist hooks for landscape panel mounting.
- Due to height adjustability in de roof hook, profiles can be mounted in a straight line.
- All roof hooks are made of stainless steel.
- Pre-mounted with hamerhead bolt and surration nut.
- Side mounting for easy and fast installation.
- Special screws with special tip for strong fixation.

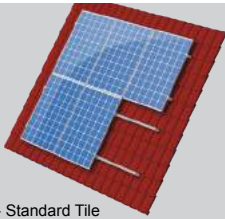
Article overview

Standard roof	
USP	High flexibility standard due to 3-way adjustability
Article number	747844
Description	Stainless steel roof hook - adjustable side
Strength	855 N
Adjustability top	27 mm
Adjustability bottom	13 mm
Adjustability width	50 mm
Min. batten distance	65 mm
Article number	747845
Description	Stainless steel roof hook - adjustable side twist
Strength	855 N
Adjustability top	27 mm
Adjustability bottom	13 mm
Adjustability width	50 mm
Min. batten distance	65 mm
Slate roof	
USP	Specially designed for specific roof measurements
Article number	747872
Description	Stainless steel roof hook - slate side
Strength	335 N
Adjustability	21 mm
Min. batten distance	88 mm
Article number	747873
Description	Stainless steel roof hook - slate side twist
Strength	335 N
Adjustability	21 mm
Min. batten distance	88 mm
Article number	747878
Description	Flashing set slate hook, consists of: 1x flashing 365 x 365 mm, 1x bag with foam and 2 wooden shims, 3x hall hook

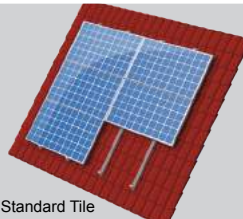


Datasheet

Roof Hooks - Tiles



Pitched Roof - Clamp - Standard Tile



Pitched Roof - Clamp - Standard Tile

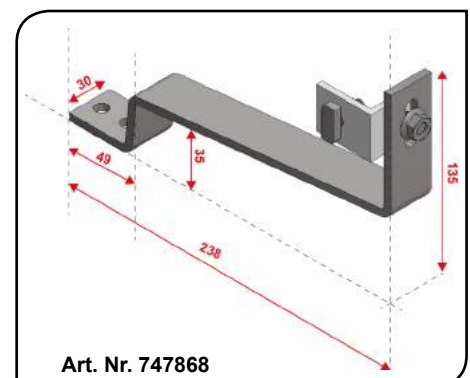
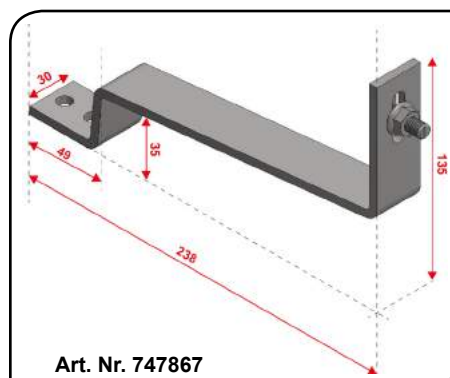
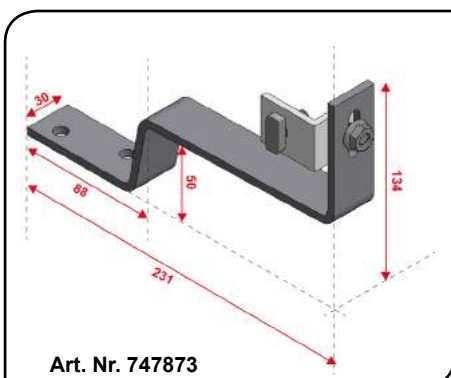
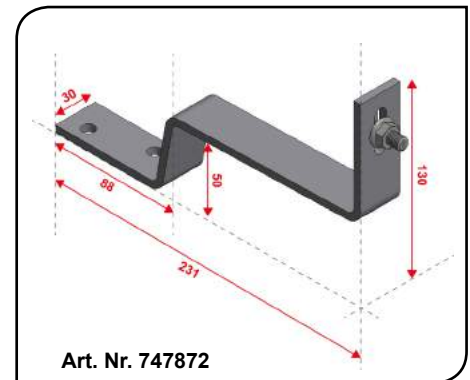
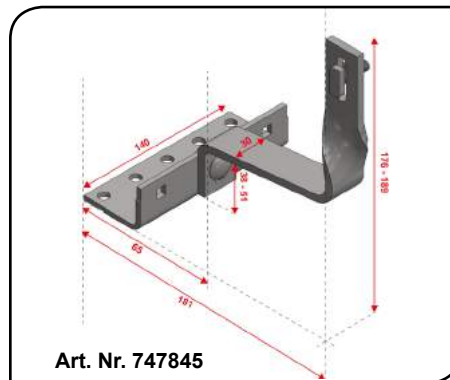
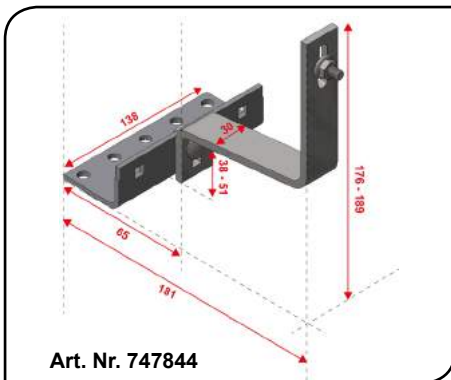
Article overview

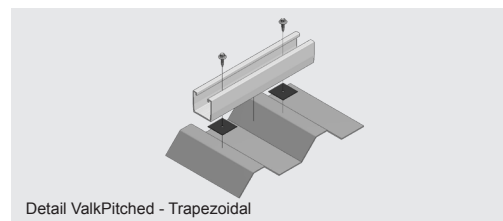
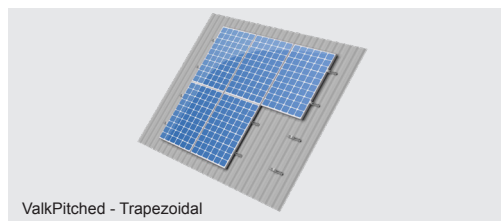
Plain tile roof		
USP	Compact 'foot' for small batten distance	
Article number	747867	
Description	Stainless steel roof hook - plain tile side	
Strength	290 N	
Adjustability	21 mm	
Min. batten distance	46 mm	
Article number	747868	
Description	Stainless steel roof hook - plain tile side twist	
Strength	290 N	
Adjustability	21 mm	
Min. batten distance	46 mm	

Fixation material

Torx-screw		
USP	Special tip and thread for easy and strong fixation	
Article number	773360	
Description	Stainless steel torx-screw T30	
Measurements	5,5 x 58 (thread: 36 mm)	

Measurements





Datasheet ValkPitched - Trapezoidal

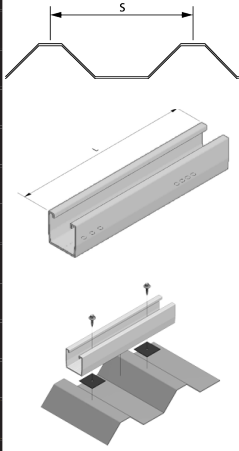
- Technische specificaties**
- Mounting system for pitched roofs fitted with trapezoidal or corrugated plates in steel or aluminum.
 - Fixation by use of thin sheet screw or rivet.
 - Minimum crown width in case rivets are used: 25 mm.
 - Watertight seal by neoprene ring on the thin sheet screw and rubber plates.
 - Profiles equipped with pre-punched hole pattern and pre-pasted EPDM rubber.
 - Panels can be installed in both portrait and landscape configuration.

- ValkPitched - Trapezoidal vs competitive systems**
- Universal mid- and end-panel clamps (H 28-50 mm).
 - Thanks to the wide underside, profiles have a large bearing surface on the thin sheet material.
 - Very fast mounting.
 - Low costs due to minimal material requirement.

- Project calculation**
- With the help of the ValkPVplanner, projects can easily be calculated in accordance with the applicable standards and Eurocodes.

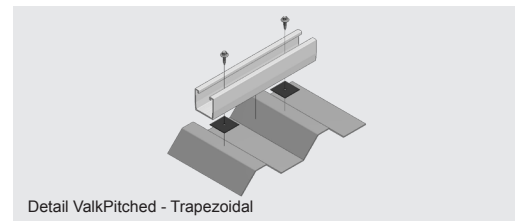
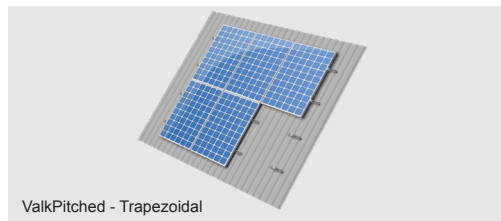
Article numbers

Profile lengths for portrait mounting		
Article numbers	Description	CtC (S)
Material type	EN AW 6060 (AlMgSi 0.5)	
7269240*	Alu. trapezoidal profile L = 240 mm	110 - 150 mm
7269280*	Alu. trapezoidal profile L = 280 mm	150 - 190 mm
7269320*	Alu. trapezoidal profile L = 320 mm	190 - 230 mm
7269360*	Alu. trapezoidal profile L = 360 mm	230 - 270 mm
7269400*	Alu. trapezoidal profile L = 400 mm	270 - 310 mm
7269440*	Alu. trapezoidal profile L = 440 mm	310 - 350 mm
7269480*	Alu. trapezoidal profile L = 480 mm	340 - 400 mm
7269610*	Alu. trapezoidal profile L = 610 mm	480 - 520 mm
701807000	Alu. trapezoidal profile L = 7000 mm	
Profile lengths for landscape mounting		
7269120*	Alu. trapezoidal profile L = 120 mm EPDM incl.	
7269240*	Alu. trapezium profiel L = 240 mm incl. EPDM	
Fixation material		
779223	Alu. rivet	see overleaf for more specifications
773225	SS thin sheet screw	see overleaf for more specifications
779220	Rubber plate	see overleaf for more specifications



* Note: the trapezoidal profiles are standard covered with EPDM rubber on the underside for a watertight seal.

CONTACT DETAILS | DEVELOPER AND PRODUCER OF SOLAR MOUNTING SYSTEMS



Datasheet ValkPitched - Trapezoidal

Specification table fixation material

Aluminium rivet		
Article number	779223	
Description	Aluminium rivet with EPDM washer	
Size	6.3 x 23.4 mm	
Rivet	Ø 6.3 +/- 0.1 mm	
Head	Ø 14.4 +/- 0.3 mm	
Pin tail	Ø 3.9 mm x ≥ 25.4 mm	
Washer	EPDM	
Drill hole	6.5 mm incl. alu. profile	
Clamp range	3.2 - 9.5 mm	
Plate thickness	Steel 0.4 - 1.25 mm en Aluminium 0.5 - 1.5 mm	
Thin sheet screw		
Article number	773225	
Description	SS thin sheet screw with EPDM (E16) washer	
Size	6.0 x 25 mm	
Material	Bimetal (Stainless steel A2 / hardened steel)	
Plate thickness	Steel 0.4 - 1.25 mm and Aluminium 0.5 - 1.5 mm	
Advice max. torque	Steel plate	> 0.8 mm = 3 Nm
	Steel plate	< 0.8 mm = 1 Nm
	Aluminium plate	> 0.8 mm = 1 Nm
	Aluminium plate	< 0.8 mm = 0.5 Nm
Processing speed from 1600 to 1800 rev / min until the sheet is penetrated. Then tighten the screw at a slow speed.		
Rubber plate		
Article number	779220	
Description	Rubber plate for trapezoidal profile	
Size	40 x 40 x 1 mm	
Material	EPDM 70 shore	
Central hole	Ø 5 mm	

Tools

Rivet pliers (example)		
Brand	Masterfix	
Type	MFX 260 - Rivet pliers with long legs for heavy use	
Capacity	Ø 3.0 - 6.4 mm stainless steel	
Body	ABS with steel parts	
Handle	Steel	
Length	500 mm	
Attachments	Nose pieces Ø 3.0- 6.4 mm	1 Collecting cup for the towing pin

CONTACT DETAILS | DEVELOPER AND PRODUCER OF SOLAR MOUNTING SYSTEMS

Van der Valk Solar Systems + International

Zwartendijk 73 - 2681 LP Monster, The Netherlands
+31 174 25 49 99
sales@valksolarsystems.com

Valk Solar Systems UK + IE

+44 1304 89 76 58
sales@valksolarsystems.co.uk

Valk Solar Systems Ibérica

+34 699 326 544
ventas@valksolarsystems.es

Valk Solar Systems Nordics

+46 7 24 41 60 82
sales@valksolarsystems.se