

ASTORIOS

per aspera ad astra

ULTRA BLACK PHOTOVOLTAIC MODULE

ASTR MB7-46SCF Series 420-445 Wp

SHINGLED PERC CELLS

445 Wp
MAXIMUM POWER OUTPUT

21.4 %
MAXIMUM MODULE EFFICIENCY



MORE YIELD

PV modules are positive tolerance current level sorted bringing to increase in energy yield and avoiding solar panel degradation due to mismatch



HOT SPOTS RISK REDUCTION

Sophisticated electrical design, cells sorting, cutting and soldering technology leads to low hot spot risk and temperature control



HIGH QUALITY GLASS

Additional yield and easy maintenance are provided by high transparent and self-cleaning glass



SHINGLING TECHNOLOGY

Adhesive bonded, innovative high-density shingled cells layout technology



MINIMIZING THE SHADING IMPACT

Better partial-shade tolerance and high effective power generation hours due to full parallel arrangement



PID RESISTANT

Selected encapsulants, precision in manufacturing quality control makes modules highly PID resistant and snail trails free



SAND, AMMONIA AND SALT MIST RESISTANCE

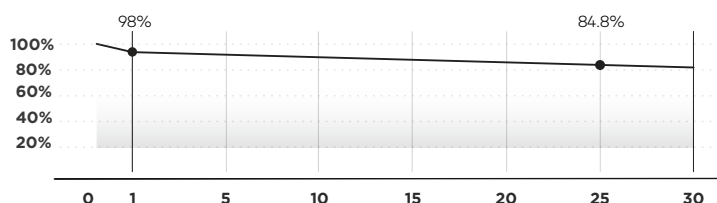
Sand blowing, ammonia and salt mist resistance tests have been passed by international standards to ensure operation in harsh conditions



SUPERIOR APPEARANCE

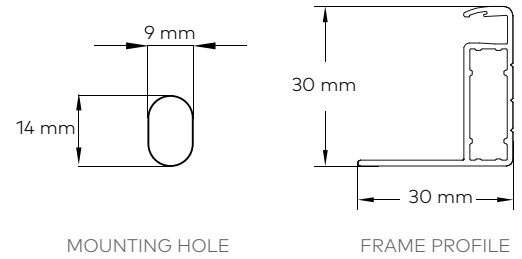
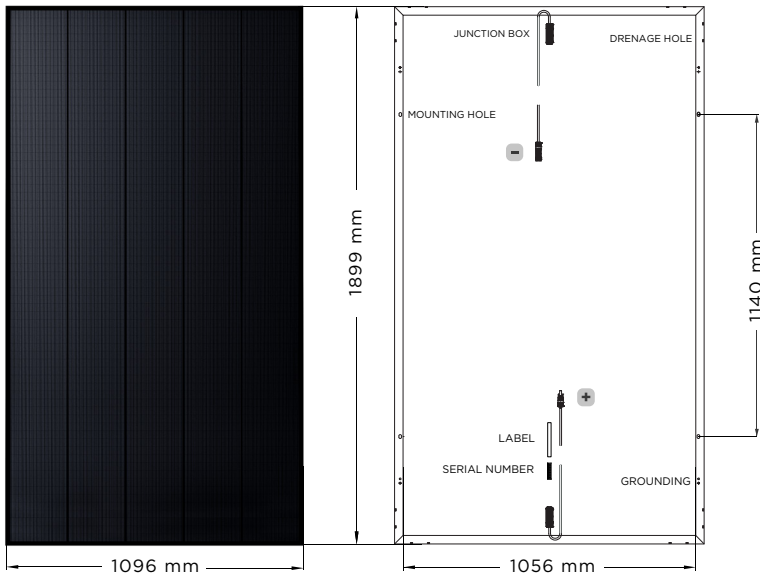
Uniform and solid layout, high tech look

PERFORMANCE



30 YEARS
Performance Guarantee

25 YEARS
Product Warranty



MATERIAL CHARACTERISTICS

Dimensions	1899 × 1096 × 30 mm
Weight	21.8 kg
Glass	3.2 mm AR coated tempered glass, low iron
Cells	Mono-crystalline, PERC Shingled
Cell layout	320 pcs (64x5)
Frame	Black color, Anodized aluminum alloy
Junction box	IP 68 rated, 2 bypass diodes
Output cable	4 mm ² , +300 mm/-1000 mm (Vertical), +250 mm/-150 mm (Horizontal)
Connector	Staubli MC4-Evo 2 / MC4 (Original)

PACKAGING INFORMATION

One pallet quantity	36 pcs
40 ft HC/HQ container	864 pcs

TEMPERATURE PARAMETERS

Temperature Coefficient of Pmax	-0.34 % / °C
Temperature Coefficient of Voc	-0.27 % / °C
Temperature Coefficient of Isc	+0.04 % / °C
Operating Temperature	-40°C to +85°C
Nominal Module Operating Temperature	42.3±2°C

MAXIMUM RATINGS

Max. System Voltage	1000/1500V DC (IEC)
Max. Series Fuse Rating	25A
Uplift load (wind)	2400 Pa*
Downforce load (snow)	5400 Pa*
Hail Resistance	Max. diameter 25 mm, impact speed 23 m/s

*For more information please refer to Instruction Manual

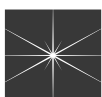
MODULE TYPE	MB7-46SCF 420 Wp		425 Wp		430 Wp		435 Wp		440 Wp		445 Wp	
ELECTRICAL CHARACTERISTICS	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum power (Pmax / Wp)	420	316	425	320	430	324	435	328	440	331	445	335
Open circuit voltage (Voc / V)	43.3	41.3	43.4	41.4	43.5	41.5	43.6	41.6	43.7	41.7	43.8	41.8
Short circuit current (Isc / A)	12.46	10.05	12.56	10.14	12.68	10.23	12.79	10.32	12.90	10.41	13.01	10.50
Maximum power voltage (Vmp / V)	35.9	34.2	36.0	34.3	36.1	34.4	36.2	34.5	36.3	34.6	36.4	34.7
Maximum power current (Imp / A)	11.71	9.24	11.81	9.32	11.92	9.41	12.02	9.49	12.13	9.57	12.23	9.66
Module efficiency at STC (ηm / %)	20.2		20.4		20.7		20.9		21.1		21.4	
Power tolerance (Pmax)	(0,+5) Wp											

STC: Irradiance of 1000 W/m² with spectrum AM 1.5 and a module temperature of 25°C

NMOT: Irradiance 800 W/m², ambient temperature 20°C and wind speed 1 m/s

CERTIFICATES

- IEC61215/61730, IEC62804(PID), IEC61701(Salt)
- IEC62716 (Ammonia), IEC60068-2-68(Sand)
- ISO 9001:2015 / quality management system
- ISO 14001:2015/environmental management system
- ISO 45001:2018/ occupation health safety management system
- ISO 50001:2011/energy management system
- IEC TS 62941-2016/PV industry quality management system



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I-V Curves

