

ASTORIOS

per aspera ad astra

ULTRA BLACK PHOTOVOLTAIC MODULE

ASTR MB7-44SCF Series 400-425 Wp

SHINGLED PERC CELLS

425 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

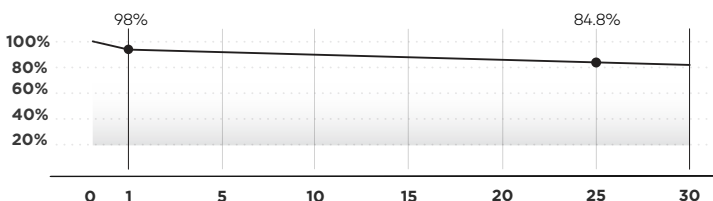
Sand blowing, ammonia and salt mist resistance tests have been passed by international standards to ensure operation in harsh conditions



SUPERIOR APPEARANCE

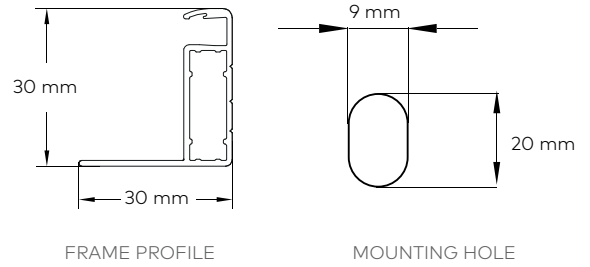
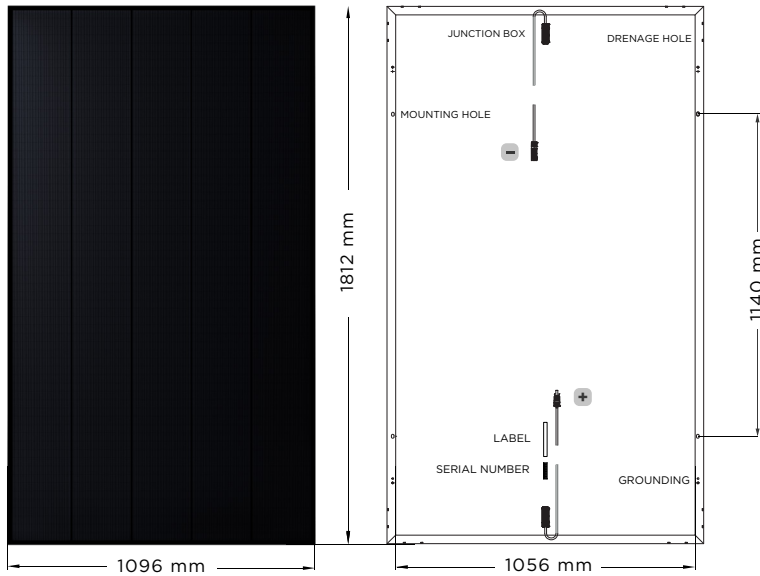
Uniform and solid layout, high tech look
Ultra black color, no front connectors

PERFORMANCE



30 YEARS
Performance Guarantee

25 YEARS
Product Warranty



MATERIAL CHARACTERISTICS

| | |
|--------------|--|
| Dimensions | 1812x1096x30 mm (1.986 m ²) |
| Weight | 20.8 kg |
| Glass | 3.2 mm AR coated tempered glass, low iron |
| Cells | Mono-crystalline, PERC Shingled |
| Cell layout | 305 pcs (61x5) |
| Frame | Black color, Anodized aluminum alloy |
| Junction box | IP 68 rated, 2 bypass diodes |
| Output cable | 4 mm ² , +300 mm/-1000 mm (Vertical), +220 mm/-180 mm (Horizontal) |
| Connector | Staubli MC4-Evo 2 / MC4 (Original) |

PACKAGING INFORMATION

| | |
|-----------------------|---------|
| One pallet quantity | 36 pcs |
| 40 ft HC/HQ container | 924 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

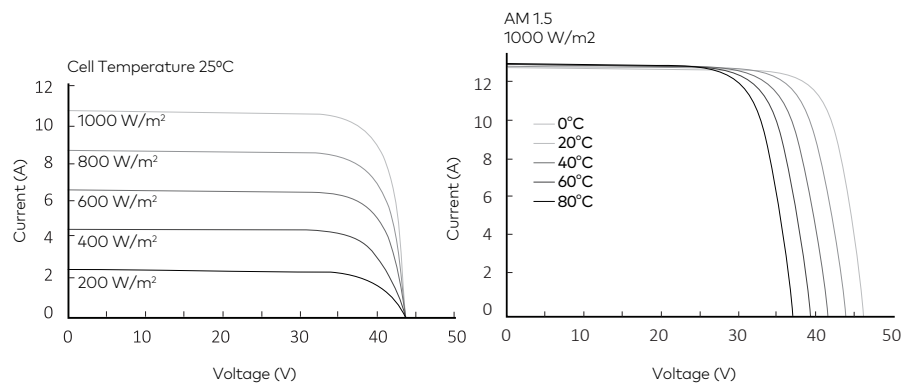
| | |
|-------------------------|--|
| Max. System Voltage | 1500V DC (IEC) |
| Max. Series Fuse Rating | 25A |
| Uplift load (wind) | 2400 Pa* |
| Downforce load (snow) | 5400 Pa* |
| Hail Resistance | Max. diameter 25mm, impact speed 23m/s |

*For more information please refer to Instruction Manual

| MODULE TYPE | MB7-44SCF | 400 Wp | 405 Wp | 410 Wp | 415 Wp | 420 Wp | 425 Wp | | | | | |
|-----------------------------------|-----------|--------|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|
| ELECTRICAL CHARACTERISTICS | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT | STC | NMOT |
| Maximum power (Pmax / Wp) | 400 | 301 | 405 | 305 | 410 | 309 | 415 | 312 | 420 | 316 | 425 | 320 |
| Open circuit voltage (Voc / V) | 41.2 | 39.3 | 41.3 | 39.4 | 41.4 | 39.5 | 41.5 | 39.6 | 41.6 | 39.7 | 41.7 | 39.8 |
| Short circuit current (Isc / A) | 12.41 | 10.00 | 12.53 | 10.09 | 12.65 | 10.19 | 12.80 | 10.31 | 12.92 | 10.41 | 13.03 | 10.50 |
| Maximum power voltage (Vmp / V) | 34.2 | 32.6 | 34.3 | 32.7 | 34.4 | 32.8 | 34.4 | 32.8 | 34.5 | 32.9 | 34.6 | 33.0 |
| Maximum power current (Imp / A) | 11.71 | 9.24 | 11.82 | 9.33 | 11.93 | 9.41 | 12.08 | 9.53 | 12.19 | 9.62 | 12.30 | 9.70 |
| Module efficiency at STC (ηm / %) | 20.1 | | 20.4 | | 20.6 | | 20.9 | | 21.1 | | 21.4 | |
| Power tolerance (Pmax) | (0,+5) Wp | | | | | | | | | | | |

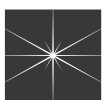
STC: Irradiance of 1000 W/m² with spectrum AM 1.5 and a module temperature of 25°C
 NMOT: Irradiance 800 W/m², ambient temperature 20°C and wind speed 1 m/s

I-V Curves



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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