

ASTORIOS

per aspera ad astra

BIFACIAL, DOUBLE GLASS PHOTOVOLTAIC MODULE

ASTR 144HCD-US Series 530-555 Wp

HALF CUT PERC CELLS

555 Wp
MAXIMUM POWER OUTPUT

21.48%
MAXIMUM MODULE EFFICIENCY

ASSEMBLED IN THE USA



MORE YIELD

PV modules are positive tolerance current lever 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



MULTI BUSBAR TECHNOLOGY

Better light absorption and current collection for better power output



MINIMIZING THE SHADING IMPACT

Better partial-shade tolerance due to separated half panel string wiring



PID RESISTANT

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



SAND, AMMONIA AND SALT MIST RESISTANCE

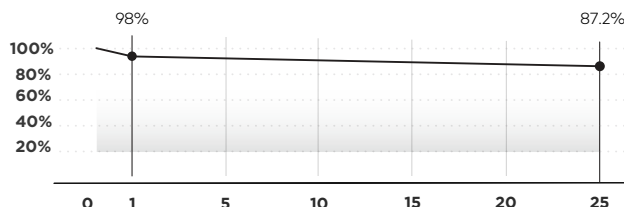
Sand blowing, ammonia and salt mist resistance tests have been passed by international standards to ensure operation in harsh conditions



SUPERIOR SAFETY AND RELIABILITY

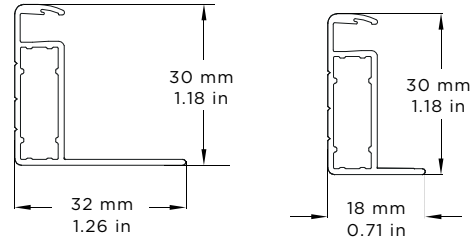
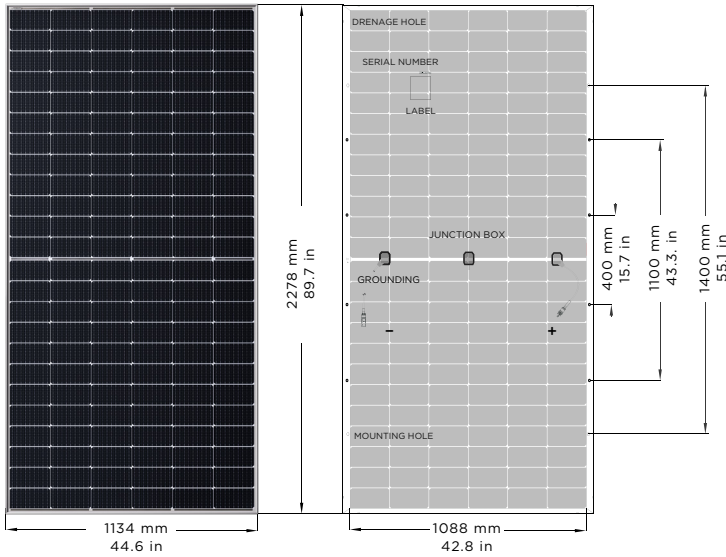
Tested to avoid microcracks and welding cracks, can withstand high pressure loads, passed multi-step quality control

PERFORMANCE



25 YEARS
EXTENDED WARRANTY

TERMS AND CONDITIONS APPLY



TEMPERATURE PARAMETERS

Temperature Coefficient of Pmax	-0.35 % / °C
Temperature Coefficient of Voc	-0.29% / °C
Temperature Coefficient of Isc	+0.05 % / °C
Operating Temperature	-40°F to +185°F / -40°C to +85°C
Nominal Module Operating Temperature (NMOT)	44±2°C

MAXIMUM RATINGS

Max. System Voltage	1500V DC
Max. Series Fuse Rating	30 A
Uplift load (wind)	2400 Pa*
Downforce load (snow)	5400 Pa*

*For more information please refer to Instruction Manual

PACKAGING INFORMATION

One pallet quantity	36 pcs
40 ft HC/HQ container	720 pcs

MATERIAL CHARACTERISTICS

Dimensions	89.7 x 44.6 x 1.2 in / 2278 x 1134 x 30 mm
Weight	70.55 lbs / 32.0 kg
Glass front/back	2mm, High transparency, AR coated
Number of cells	144 pcs (6x24)
Frame	Silver color, Anodized aluminum alloy
Junction box	IP68 Rated, 3 bypass diodes
Connector type	Staubli MC4 / MC4 compatible
Cable	13.78 in / 350 mm, 4 mm ²

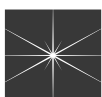
MODULE TYPE 144HCD-US	530 Wp		535 Wp		540 Wp		545 Wp		550 Wp		555 Wp	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
Maximum power (Pmax / Wp)	530	396.40	535	399.90	540	403.60	545	406.80	550	410.80	555	414.60
Open circuit voltage (Voc / V)	49.40	46.20	49.60	46.30	49.80	46.50	50.00	46.70	50.20	46.90	50.40	47.10
Short circuit current (Isc / A)	13.65	11.02	13.71	11.07	13.77	11.12	13.83	11.17	13.89	11.22	13.95	11.27
Maximum power voltage (Vmp / V)	41.10	38.20	41.30	38.40	41.50	38.50	41.70	38.90	41.90	38.90	42.10	39.10
Maximum power current (Imp / A)	12.91	10.38	12.96	10.42	13.02	10.47	13.07	10.49	13.13	10.56	13.19	10.61
Module efficiency at STC (ηm / %)	20.51		20.70		20.89		21.09		21.28		21.48	
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

ELECTRICAL CHARACTERISTICS WITH 25% REAR SIDE POWER GAIN	530 Wp	535 Wp	540 Wp	545 Wp	550 Wp	555 Wp
Front maximum power (Pmax / Wp)	530	535	540	545	550	555
Total maximum power (Pmax / Wp)	663	669	675	681	688	694
Total open circuit voltage (Voc / V)	49.50	49.70	49.90	50.10	50.30	50.50
Total short circuit current (Isc / A)	17.02	17.10	17.17	17.25	17.32	17.39
Total maximum power voltage (Vmp / V)	41.20	41.40	41.60	41.80	42.00	42.20
Total maximum power current (Imp / A)	16.08	16.15	16.23	16.30	16.37	16.44

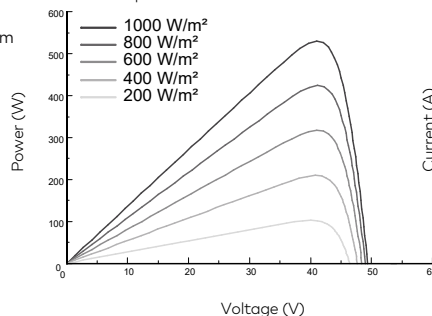
CERTIFICATES

ISO 14001: Environmental Management System
 ISO 9001: Quality Management System
 ISO 45001: Occupational Health and Safety Management System
 IEC 61215 / IEC 61730 / IEC 61701 / IEC 62716
 UL 61730



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P-V Curves at Different Irradiation (530W)
 Cell Temperature 25°C



I-V Curves (530 W)
 Cell Temperature 25°C

