

# ASTORIOS

per aspera ad astra



## HETEROJUNCTION BIFACIAL, DOUBLE GLASS PHOTOVOLTAIC MODULE

ASTR 80HCHD/12 Series 420-440 Wp

**440Wp**

MAXIMUM POWER OUTPUT

**22.7%**

MAXIMUM MODULE EFFICIENCY



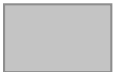
### NEGLECTIBLE LID IMPACT

HJT is subject to minimal LID due to the absence of boron-oxygen complexes and superior surface passivation, enhancing stability and efficiency under sunlight exposure



### 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

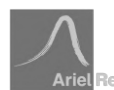
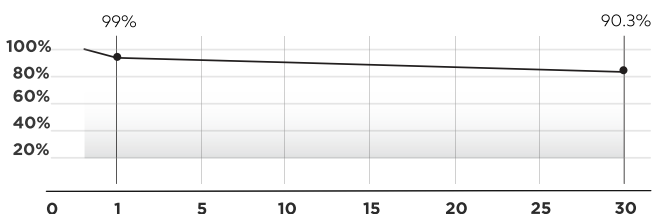
Sand blowing, ammonia and salt mist resistance tests have been passed by international standards to ensure operation in harsh conditions



### SUPERIOR SAFETY AND RELIABILITY

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

## PERFORMANCE



### REINSURANCE COVERAGE

Reinsured for 30 years of performance guarantee by Ariel Re (Syndicate 1910 at Lloyd's)

**30 YEARS**

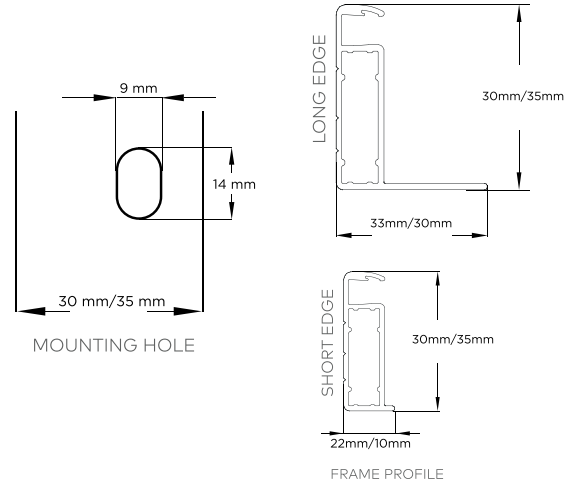
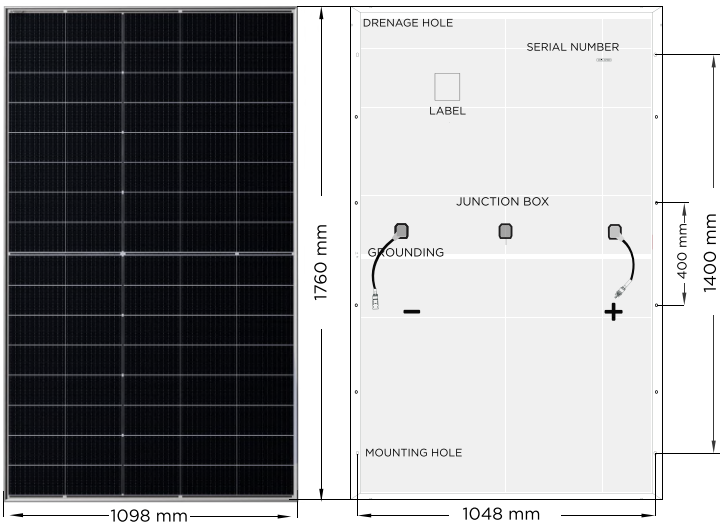
Performance Guarantee

**20 YEARS**

Product Warranty

# ASTORIOS

per aspera ad astra



## MATERIAL CHARACTERISTICS

Dimensions	1760 × 1098 × 30 mm (35 mm optional)
Weight	23.8kg (24.1kg optional)
Number of cells	80 pcs (5x16)
Glass front/rear	2mm, High transparency, AR coated
Cell layout	HJT Mono 18BB/20BB (210 mm)
Frame	Silver color (Black optional), anodized aluminum alloy
Junction box	IP68 Rated, 3 bypass diodes
Connector type	Staubli MC4-Evo 2 / MC4 (Original)
Cable	4 mm <sup>2</sup> , 300 mm

## TEMPERATURE PARAMETERS

Temperature Coefficient of Pmax	-0.243 % / °C
Temperature Coefficient of Voc	-0.223 % / °C
Temperature Coefficient of Isc	+0.026 % / °C
Operating Temperature	- 40°C to + 85°C
Normal Operating Cell Temperature (NOCT)	43±2°C

## PACKAGING INFORMATION

One pallet quantity	36 pcs (31 pcs optional)
40 ft HC/HQ container	900 pcs (806 pcs optional)

## MAXIMUM RATINGS

Max. System Voltage	1500V DC - (H)
Max. Series Fuse Rating	35A
Uplift load (wind)	2400 Pa*
Downforce (snow)	5400 Pa*

\*For more information please refer to Instruction Manual

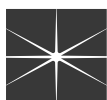
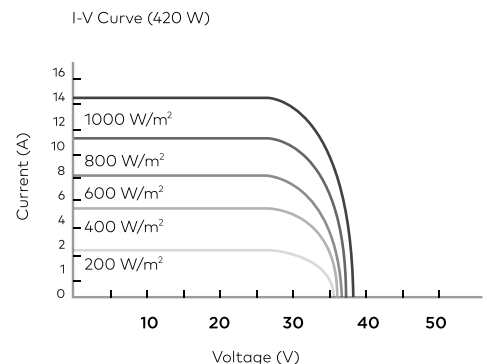
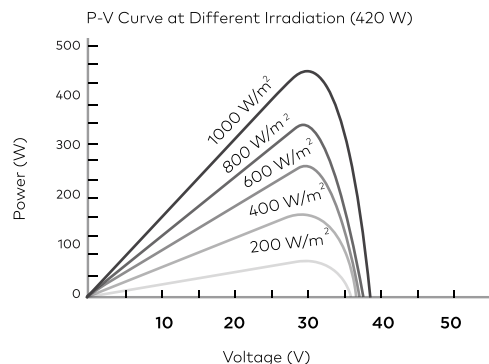
MODULE TYPE 80HCHD/12	420 Wp		425 Wp		430 Wp		435 Wp		440 Wp	
	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT	STC	NMOT
<b>ELECTRICAL CHARACTERISTICS</b>										
Maximum power (Pmax/Wp)	420	321	425	325	430	329	435	333	440	337
Open circuit voltage (Voc / V)	30.12	28.81	30.38	29.07	30.64	29.32	30.90	29.57	31.16	29.84
Short circuit current (Isc / A)	17.43	14.10	17.49	14.15	17.55	14.20	17.61	14.25	17.67	14.30
Maximum power voltage (Vmp / V)	25.25	23.87	25.46	24.07	25.67	24.26	25.88	24.45	26.09	24.65
Maximum power current (Imp / A)	16.64	13.45	16.70	13.49	16.76	13.55	16.81	13.62	16.87	13.68
Module efficiency at STC (ηm / %)	21.80		22.00		22.30		22.50		22.70	
Power tolerance (Pmax)					0-+3%					

NMOT: Irradiance 800 W/m<sup>2</sup>, ambient temperature 20°C and wind speed 1 m/s

STC: Irradiance of 1000 W/m<sup>2</sup> with spectrum AM 1.5 and a module temperature of 25°C

## CERTIFICATES

IEC62716 (Ammonia)  
IEC60068-2-68 (Sand)  
IEC61215 / 61730 / 61701



ASTORIOS Holding Inc.  
16192 Coastal Highway, Lewes,  
Delaware 19958, USA  
info@astorios.com

V2402DSEN  
ALL RIGHTS RESERVED  
DATA IS SUBJECT TO CHANGE WITHOUT NOTICE