

# MHE full black solar panels

autarco

Autarco delivers a consistent full black solar panel ideal for the residential market where roof space is limited and an aesthetic finish is desired. The MHE series panels use halfcut monocrystalline PERC cells with advanced multi-wire technology to deliver higher efficiency without compromising on reliability. The ability to withstand mechanical loads of up to 6000 Pa, combined with superior resistance to sand, salt and ammonia delivers long lasting performance in even the harshest environments.

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Insured linear 25-year performance guarantee up to 83.1%  
12-year product warranty for materials and processing



Multiwire technology for superior reliability and performance



Halfcut PERC technology for reduced resistance loss and improved shade tolerance



PID resistant



Full black with enhanced cell colour consistency

## QUALITY CERTIFICATES

- ◆ IEC 61215, IEC 61730, C US, CNAS, IEC/TS 62941
- ◆ ISO 9001, ISO 14001, OHSAS 18001, CE

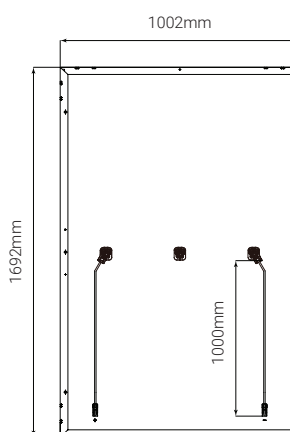


LLOYD'S  
Underwriters

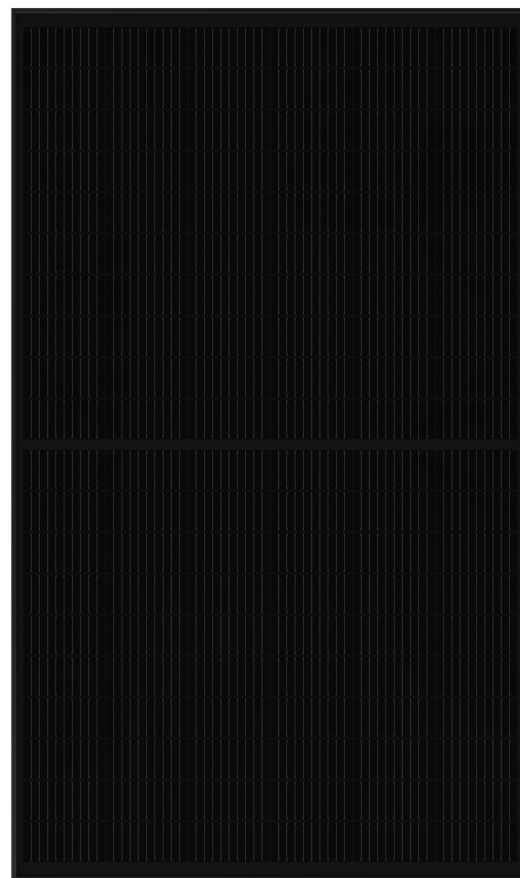
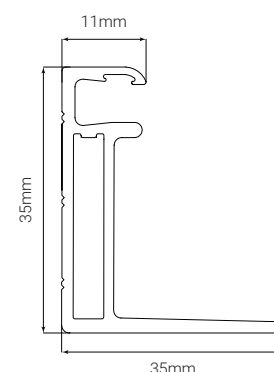
## CELLS AND CONSTRUCTION

<b>Cells</b>	120 cells (159 x 79.5 mm) in a 6 x 20 matrix connected in series
<b>Junction box</b>	IP rating: IP67 Cable length: 1000mm Connector: Staubli EVO2
<b>Diodes</b>	3 by-pass diodes
<b>Construction</b>	Front: 3.2mm glass Back: Backsheet (black) Encapsulant: EVA
<b>Frame</b>	Anodized aluminum (black)
<b>Weight</b>	19.1kg
<b>Dimensions</b>	1692 x 1002 x 35mm

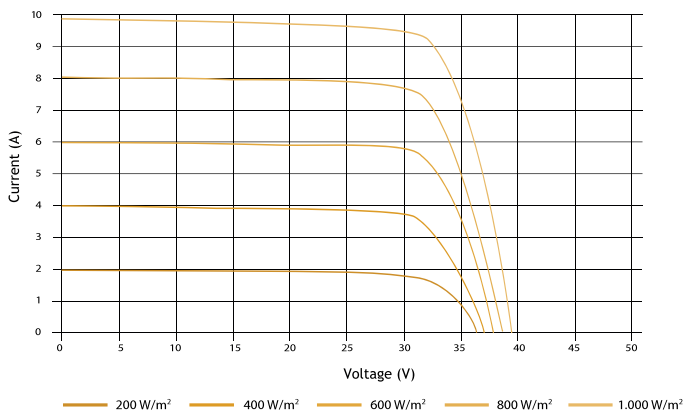
Solar panel



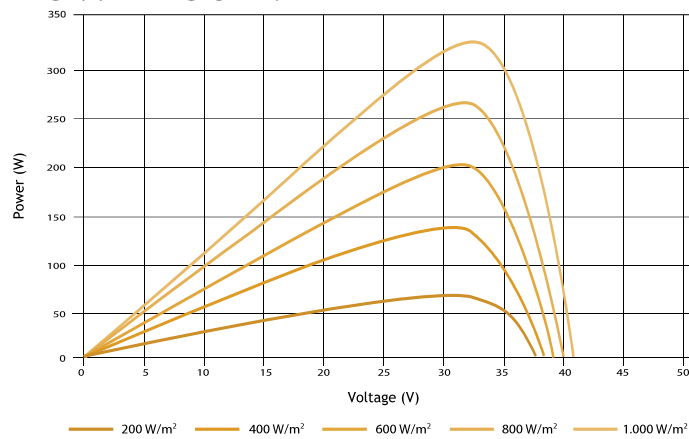
Frame cross section



## IV CURVE



## POWER CURVE



## ELECTRICAL CHARACTERISTICS

		S1.MHE320B	S1.MHE325B	S1.MHE330B
Power output (Wp) *	(Pmax)	320	325	330
Power output tolerance (W)	(ΔPmax)	0/+5W	0/+5W	0/+5W
Open circuit voltage (V)	(Voc)	40.72	41.03	41.32
Short circuit current (A)	(Isc)	9.98	10.06	10.14
Max. power voltage (V)	(Vmax)	33.68	33.93	34.17
Max. power current (A)	(Imax)	9.50	9.58	9.66
Module efficiency (%)	(η)	18.9	19.2	19.5
Maximum system voltage (V)		1000	1000	1000
Maximum series fuse rating (A)		20	20	20

\* Electrical values at standard test conditions (STC): irradiation 1000W/m<sup>2</sup>, air density AM1.5 and cell temperature 25°C

## TEMPERATURE CHARACTERISTICS

Isc (α)	+0.0353% / °C
Voc (β)	-0.2722% / °C
Pmax (γ)	-0.3438% / °C
Nominal operating cell temperature	44°C (+/- 2°C)

## OTHER CHARACTERISTICS

Operating temperature	-40°C to 85°C
Max. load (front / wind)	6000 (front) / 3600 Pa (back)
Passed hail test	45mm hail @ 30.7m/s
Fire performance	Class C (IEC) or Type 1 (UL)
Weight of packaging	631 kg
Standard packaging	31 pcs / pallet
Quantity per 40'HQ container	806 pcs

The specifications contained in this datasheet may deviate slightly from our actual products due to on-going product improvement and are subject to change at any time without prior notice.

