



# JHPV TECH

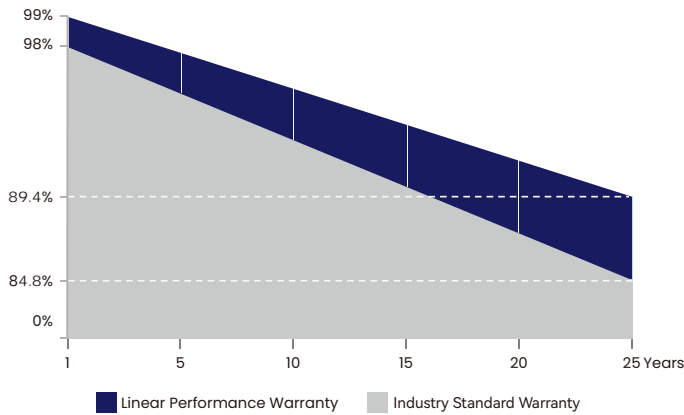
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## JH-M10MF120C2 440~460W

**22.8% Efficiency**

440~460W (182x169.2 mm Half-Cut Cell) 120 pcs

N-TYPE Full black monofacial



**15 Years**  
Material & Craft  
Quality  
Assurance

**30 Years**  
84.8% Output  
Power  
Guarantee

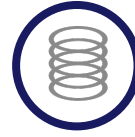
### KEY FEATURES HIGHLIGHTS



Mono MBB half cut  
Original European Parts



EU Standard  
European Quality  
Control



PID Resistance  
High stability and torsion  
free with Wave Shape

### PRODUCT CERTIFICATIONS



Production process  
reliability test  
electro-luminance  
inspection



AR coating  
tolerance and lower  
resistive loss



Excellent Durability  
resistant to salt mist, ammonia,  
dust and sand, snail trail.



Reduce BOS cost  
increase ROI  
Low temp coefficient  
(PMax) for higher output



Wide Applications  
Durability against Extreme  
Environmental Conditions



Lower Losses  
Multi Busbar Technology for  
better Light trapping

# JH-M10MF120C2 440~460W



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## Electrical parameters at Standard Test Conditions (STC\*) & Nominal Operating Cell Temperature (NOCT\*)

Module Type	440W / 323W	445W / 328W	450W / 333W	455W / 338W	460W / 341W
Test Environment	STC / NOCT	STC / NOCT	STC / NOCT	STC / NOCT	STC / NOCT
Power output tolerances P <sub>max</sub> (W)	(0,+5)	(0,+5)	(0,+5)	(0,+5)	(0,+5)
Module efficiency(%)	21.8	22.0	22.3	22.5	22.8
Voltage at P <sub>max</sub> V <sub>mpp</sub> (V)	36.59 / 34.25	36.80 / 34.45	37.03 / 34.67	37.29 / 34.91	37.55 / 35.15
Current at P <sub>max</sub> I <sub>mp</sub> (A)	11.89 / 9.57	11.96 / 9.63	12.02 / 9.67	12.07 / 9.71	12.12 / 9.75
Open-circuit voltage V <sub>oc</sub> (V)	43.18 / 40.76	43.46 / 41.02	43.72 / 41.27	44.06 / 41.59	44.31 / 41.83
Short-circuit current I <sub>sc</sub> (A)	12.53 / 10.12	12.58 / 10.16	12.64 / 10.21	12.68 / 10.24	12.73 / 10.29

\*STC: 1000 W·m<sup>-2</sup> irradiance, 25°C cell temperature, AM 1.5 spectrum according to EN 60904-

\*NOCT: open-circuit module operation temperature at 800 W·m<sup>-2</sup> irradiance, 20°C ambient temperature, 1 m·s<sup>-1</sup> wind speed.

3.

## GENERAL CHARACTERISTICS

Dimensions (L / W / H)	1762 mm / 1134mm / 30 mm
Weight	24.2 kg

## PACKAGING SPECIFICATIONS

Number of modules per pallet	36
Number of pallets per 40' container	26

## THERMAL CHARACTERISTICS

Nominal operating cell temperature	NOCT	°C	45 ± 2
Temperature coefficient of P <sub>max</sub>	γ	% / °C	-0.29
Temperature coefficient of V <sub>oc</sub>	β	% / °C	-0.25
Temperature coefficient of I <sub>sc</sub>	α	% / °C	0.045

\*NOCT: open-circuit module operation temperature at 800 W·m<sup>-2</sup> irradiance, 20°C ambient temperature, 1 m·s<sup>-1</sup> wind speed.

## OPERATING CONDITIONS

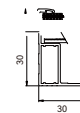
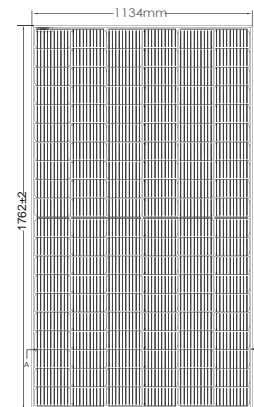
Max. system voltage	1500 Vdc
Max. series fuse rating*	25 A
Operating temperature range	- 40°C to 85°C
Max. static load, front (e.g., snow)	5400 Pa
Max. static load, back (e.g., wind)	2400 Pa
Max. hailstone impact (diameter/velocity)	25 mm / 23 m·s <sup>-1</sup>

\*DO NOT CONNECT FUSE IN COMBINER BOX WITH TWO OR MORE STRINGS IN PARALLEL CONNECTION.

## CONSTRUCTION MATERIALS

Cell ( material / quantity )	monocrystalline silicon / 6 x 20
Glass (material / thickness)	low-iron tempered glass / 3.2 mm
Frame (material)	anodized aluminum alloy
Junction box (type / protection degree)	3 bypass diodes / ≥ IP68
Cable (length / cross-sectional area)	± 300 mm or customized length / 4 mm <sup>2</sup>

## BACK VIEW (Units: mm)



SECTION A-A



Warning: Read the Installation and User Manual in it's entirety before handling, installing and operating Solar modules.



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▲ Due to continuous innovation, research and product improvement, the specifications in this product information sheet are subject to change without prior notice. The specifications may deviate slightly and are not guaranteed.