VSUN
Innovative & Smart

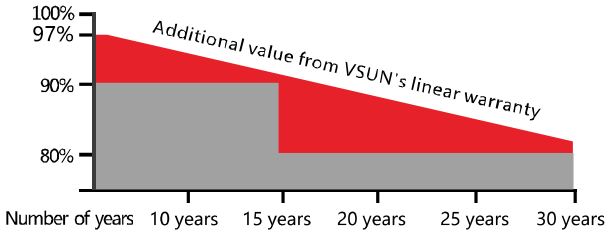
VSUN450-144BMH-DG

450W
Highest power output

20.24%
Module efficiency

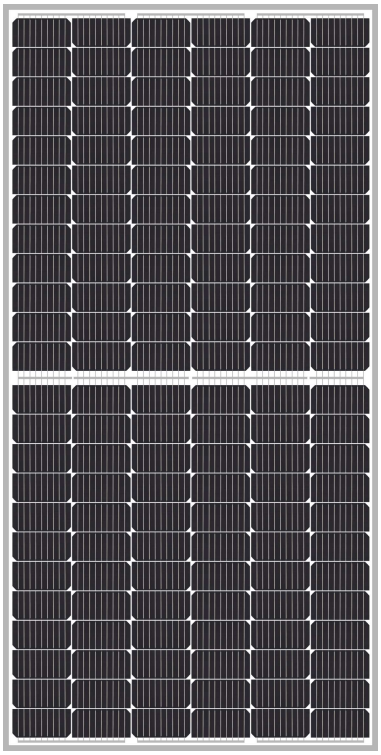
12years
Material & Workmanship warranty

30years
Linear power output warranty



Munich RE

VSUN450-144BMH-DG VSUN445-144BMH-DG
VSUN440-144BMH-DG VSUN435-144BMH-DG



- 166mm mono-PERC cell
- MBB technology
- Half-cell technology
- Positive tolerance offer
- Lower risk of micro-crack
- More reliable with double glass design
- Certified for salt/ammonia corrosion resistance
- Load certificates: wind to 2400Pa and snow to 5400Pa
- Lower LCOE and BOS

VSUN, a BNEF Tier-1 PV module manufacturer invested by Fuji Solar, has been committed to providing greener, cleaner and more intelligent renewable energy solutions. VSUN is dedicated to bringing reliable, customized and high-efficient products into various markets and customers worldwide

Engineered in Japan
www.vsun-solar.com

Electrical Characteristics at Standard Test Conditions(STC)

Module Type	VSUN450-144BMH-DG	VSUN445-144BMH-DG	VSUN440-144BMH-DG	VSUN435-144BMH-DG
Maximum Power - Pmax (W)	450	445	440	435
Open Circuit Voltage - Voc (V)	49.5	49.3	49.1	48.9
Short Circuit Current - Isc (A)	11.36	11.32	11.28	11.24
Maximum Power Voltage - Vmpp (V)	41.7	41.4	41.1	40.8
Maximum Power Current - Impp (A)	10.8	10.75	10.71	10.67
Module Efficiency	20.24%	20.01%	19.79%	19.56%

Standard Test Conditions (STC): irradiance 1,000 W/m²; AM 1,5; module temperature 25°C. Pmax Sorting : 0~5W. Measuring Tolerance: ±3%.

Remark: Electrical data do not refer to a single module and they are not part of the offer. They only serve for comparison among different module types.

Electrical Characteristics with different rear side power gain(reference to 445 front)

Pmax (W)	Voc (V)	Isc (A)	Vmpp (V)	Impp (A)	Pmax gain
467	49.30	11.89	41.40	11.29	5%
490	49.30	12.45	41.40	11.83	10%
533	49.40	13.58	41.30	12.90	20%
555	49.40	14.15	41.30	13.44	25%

Temperature Characteristics

NOCT	45°C(±2°C)
Voltage Temperature Coefficient	-0.26%/°C
Current Temperature Coefficient	+0.054%/°C
Power Temperature Coefficient	-0.32%/°C

Maximum Ratings

Maximum System Voltage [V]	1000/1500
Series Fuse Rating [A]	20
Bifaciality	70%±5%

Material Characteristics

Dimensions	2122×1048×35mm (L×W×H)
Weight	27.8kg
Frame	Silver anodized aluminum profile
Front Glass	High transparency,Antireflection coated,Semi-toughened safety glass,2.0mm
Cell Encapsulation	EVA or POE
Back Glass	Glazed & Semi-toughened safety glass,2.0mm
Cells	12×12 pieces bifacial monocrystalline solar cells series strings
Junction Box	IP68, 3 diodes
Cable&Connector	Potrait: 500 mm (cable length can be customized) , 1×4 mm 2 , compatible with MC4

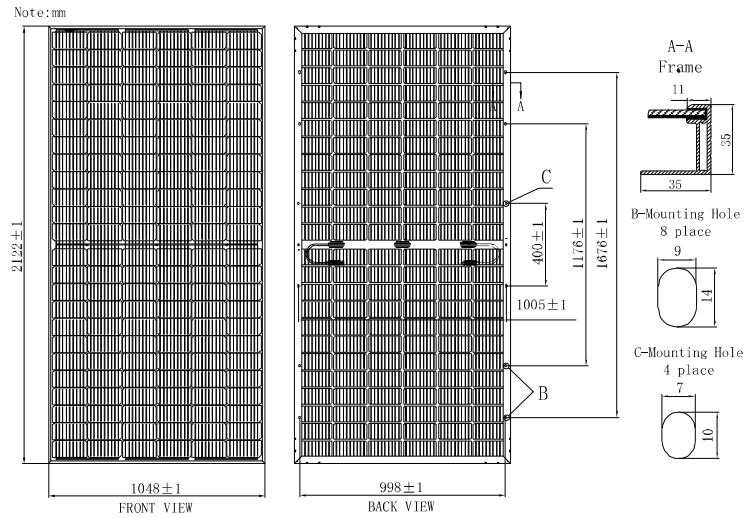
Packaging

Dimensions(L×W×H)	2170×1105×1170mm
Container 20'	150
Container 40'	330
Container 40'HC	660

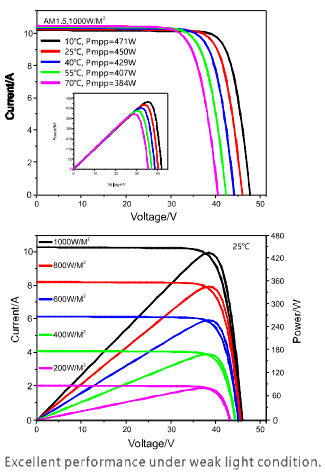
System Design

Temperature Range	-40 °C to + 85 °C
Withstanding Hail	Maximum diameter of 25 mm with impact speed of 23 m/s
Maximum Surface Load	5,400 Pa
Application class	Class A

Dimensions



IV-Curves



Excellent performance under weak light condition.