

VALANCE BF 144



High efficiency - **20.68%**



Better tolerance on micro cracks

Higher number of busbar makes PV panels less prone to loss in efficiency



By pass diodes and series parallel connections enable the panels to perform better in **partial shadow condition**



Effective area gain of 1% of cell active area by using cylindrical tabbing wire



With stand wind loads of up to **2.4 kPa** and snow loads of up to **5.4 kPa**



German Technology Manufacturing Facility

WARRANTIES

- 10-year limited product warranty*
- Limited power warranty*: 10 years at 97.5% of the minimal rated power output, 25 years at 83.1% of the minimal rated power output.
- Withstand wind loads of up to 2.4 kPa and snow loads of up to 5.4 kPa, confirming mechanical stability.

*in compliance with our Warranty Terms and Conditions

INTERNATIONAL & NATIONAL CERTIFICATIONS

- IEC 61215, IEC 61730-1, IEC 61730-2, IEC 61701-Salt Mist Corrosion Testing, IEC 62804 PID POLY/POLY PERC, IEC 62804 PID MONO/MONO PERC.



VALANCE BF 144

ELECTRICAL PERFORMANCE

Electrical parameters at Standard Test Conditions (STC)

Module type		BF 144 Series						
Power output	P _{max}	W	435	440	445	450	455	460
Power output tolerances	ΔP _{max}	Positive Tolerance Only						
Module efficiency	η _m	%	19.56	19.79	20.01	20.23	20.46	20.68
Voltage at P _{max}	V _{mp}	V	41.4	41.5	41.5	41.6	41.6	41.7
Current at P _{max}	I _{mp}	A	10.51	10.62	10.72	10.82	10.93	11.03
Open-circuit voltage	V _{oc}	V	48.7	48.8	48.9	49	49.1	49.2
Short-circuit current	I _{sc}	A	11.45	11.56	11.67	11.77	11.88	11.99

STC:1000W/m² irradiance, 25°C cell temperature, AM1.5g spectrum according to EN60904-3.

Bifacial Gain

5%	457	462	467	473	478	483
10%	479	484	490	495	501	506
15%	522	528	534	540	546	552

THERMAL CHARACTERISTICS

Nominal operating cell temperature	NOCT	°C	46+/-2
Temperature coefficient of P _{max}	γ	%/°C	-0.35
Temperature coefficient of V _{oc}	β _{Voc}	%/°C	-0.27
Temperature coefficient of I _{sc}	α _{Isc}	%/°C	0.065
Temperature coefficient of V _{mp}	β _{Vmp}	%/°C	-0.45

OPERATING CONDITIONS

Max. system voltage	1000 V _{DC}
Max. series fuse rating	20A
Limiting reverse current	20A
Operating temperature range	-40°C to 85°C
Max. static load, front (e.g., snow and wind)	5400Pa
Max. static load, back (e.g., wind)	2400Pa
Max. hailstone impact(diameter / velocity)	25mm / 23m/s

CONSTRUCTION MATERIALS

Front cover (material / thickness)	Low-iron Tempered Glass / 3.2mm
Cell (quantity / material / dimensions /number of bus bars)	72 / mono- PERC (144 Half Cut)
Encapsulate(material)	PID free ethylene vinyl acetate (EVA)
Frame (material / color / anodization color /edge sealing)	Anodized Aluminum Alloy / Silver / Clear / Silicone Or Tape
Junction box (protection degree)	IP67/68, split JB with Individual bypass diode
Cable (length / cross-sectional area)	400 mm length cable
Plug connector (type / protection degree)	MC4 or compatible

CAUTION: READ SAFETY AND INSTALLATION MANUAL BEFORE USING THE PRODUCT

Note :

- Soleos Solar Energy PVT. LTD. reserves the right to change the specification with prior notice:
- All measurements and warranty/guarantee applicability under standard test conditions (1000W/m², 25°C. AM 1.5), kindly refer our guarantee/warranty policy for further details.

Soleos Solar GmbH

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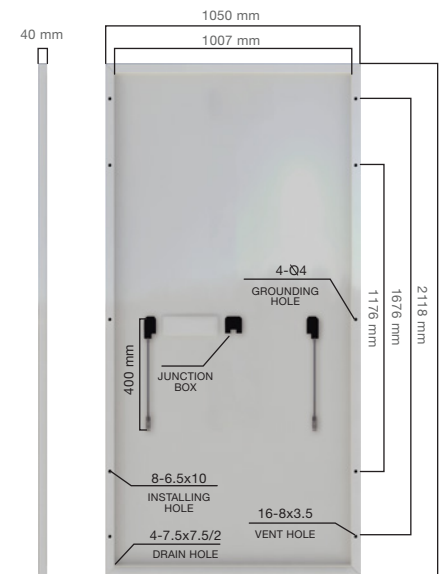
GENERAL CHARACTERISTICS

Dimensions (L / W / H)	2118 mm/ 1050 mm/ 35 mm
Weight	24 kg

PACKAGING SPECIFICATIONS

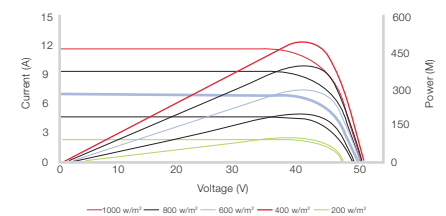
Number of modules per pallet	30
Number of pallets per 22'Vehicle	10
Packaging box dimensions(L / W / H)	2138 mm / 1085 mm /1070 mm
Box weight	800 kgs

BACK VIEW OF MODULE



SIDE VIEW

Typical I-V Curves⁴



⁴ Average relative efficiency reduction of 5% at 200 w/m² according to EN 60904-1

Performance warranty

