



VDS-S144/FNH

**390-410W**

144-CELL HALF CUT MONOCRYSTALLINE SOLAR MOUDLE

Artikel-Nr.: 410-4.2022-C40-350

**20.4%**

Module Efficiency

**410W**

Highest Power Output

**12 YEARS**

Material & Workmanship Warranty

**25 YEARS**

Linear Power Warranty

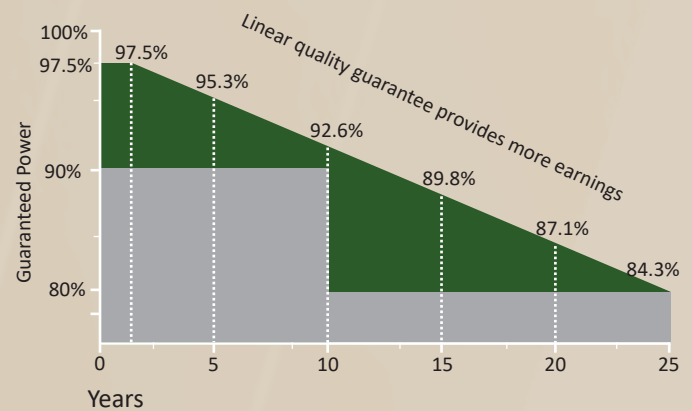
**-2.5%** First year power degradation

**-0.55%** Annual degradation

## PRODUCT ADVANTAGES

- High Efficiency**  
Module efficiency leading in industry, up to 20.4%
- High Reliability**  
Passed 3\*IEC standard test
- Low Hot-spot Risk**  
1/2 current, reducing the hot spot temperature
- Excellent loading capability**  
2400Pa wind loads, 5400Pa snow loads, 8000Pa extra support
- Low NMOT**  
As low as 43°C, improving the power generation efficiency
- Half Cell, MBB PERC Technology**  
More reliable soldering technology, reduce possibility of hot spot

## PRODUCT GUARANTEE



- Standard linear power guarantee
- VDS linear power guarantee

## Certifications of Product and Manufacturer



## ELECTRICAL CHARACTERISTICS

STC	390	395	400	405	410
Maximum Power at STC (Pmax)	390W	395W	400W	405W	410W
Optimum Operating Voltage (Vmp)	41.4V	41.6V	41.8V	42.0V	42.2V
Optimum Operating Current (Imp)	9.43A	9.50A	9.57A	9.65A	9.72A
Open Circuit Voltage (Voc)	48.6V	48.8V	49.0V	49.2V	49.4V
Short Circuit Current (Isc)	10.03A	10.10A	10.17A	10.24A	10.31A
Module Efficiency	19.4%	19.6%	19.9%	20.1%	20.4%
Operating Module Temperature	-40°C to +85°C				
Maximum System Voltage	1500V DC (IEC)				
Maximum Series Fuse rating	20A				
Power Tolerance	0~+5W				

**STC: Irradiance 1000 W/m<sup>2</sup>, module temperature 25°C, AM=1.5; Measuring tolerance: ± 3%.**

NMOT	390	395	400	405	410
Maximum Power at NMOT (Pmax)	293.8W	297.3W	300.8W	304.6W	308.1W
Optimum Operating Voltage (Vmp)	38.1V	38.3V	38.5V	38.7V	38.8V
Optimum Operating Current (Imp)	7.71A	7.76A	7.82A	7.88A	7.93A
Open Circuit Voltage (Voc)	45.5V	45.7V	45.9V	46.1V	46.3V
Short Circuit Current (Isc)	8.10A	8.16A	8.21A	8.27A	8.33A

**NMOT: Irradiance 800 W/m<sup>2</sup>, ambient temperature 20°C, AM=1.5, wind speed 1 m/s.**

## TEMPERATURE CHARACTERISTICS

Nominal Module Operating Temperature (NMOT)	42±2°C
Temperature Coefficient of Pmax	-0.34%/°C
Temperature Coefficient of Voc	-0.25%/°C
Temperature Coefficient of Isc	0.040%/°C

## MECHANICAL CHARACTERISTICS

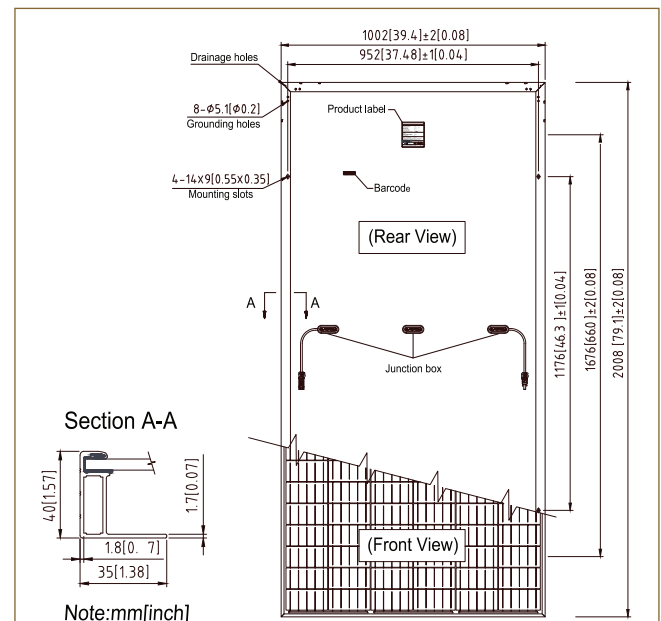
Solar Cell	Monocrystalline 158.75 mm
No. of Cells	144 (6 × 24)
Dimensions	2008 × 1002 × 40 mm
Weight	23 kgs
Front Glass	3.2 mm tempered glass with AR coating
Frame	Anodized Aluminium Alloy
Junction Box	IP68 rated (3 bypass diodes)
Output Cables	4.0 mm <sup>2</sup> , cable length 350 mm or customized length
Connectors	MC4 compatible

## PACKING CONFIGURATION

Container	20' GP	40' HC
Pieces per pallet	26	27+27+5
Pallets per container	10	11
Pieces per container	260	649

## COMPANY PROFILE

VDS-Power is a German-based company with strong expertise in providing Photovoltaic solution globally. Our management team has been focused in European market for more than 10 years. We have satisfied customers in Germany, Spain, Italy, Bulgarian and many other European countries. Through direct access to production, we control the quality of photovoltaic modules by monitoring and documents the manufacturing processes from material procurement to final testing. With a warehouse in Rotterdam we ensures fast delivery within EU. This enables us to quickly meet the needs of different purchase quantities. We attach great importance to a reliable partnership and cooperation with our customers. We value reliability, commitment, security and transparency.



Current-Voltage & Power-Voltage Curve (410)

