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# **EnergyPal**

## **Solar Panel Guide Specification Data Sheet**

**Enecom S.r.l.**

**HFsp 90**

**HFsp 90**

Also available on the web at  
[EnergyPal.com/enecom-s-r-l-solar-panels/hfsp-90](http://EnergyPal.com/enecom-s-r-l-solar-panels/hfsp-90)



# PHOTOVOLTAIC MODULES

LIGHT

THIN

FLEXIBLE



**STANDARD**  
*Series*



CELLS



Monocrystalline

SHAPE



Standard & Squared

POWER



From 45W to 140W



**STRIPE**  
*Series*



CELLS



Monocrystalline

SHAPE



Striped

POWER



45W and 70W



**SUNPOWER**  
*Series*



CELLS



Monocrystalline  
SUNPOWER

SHAPE



Standard

POWER



90W and 120W



**POLY**  
*Series*



CELLS



Polycrystalline

SHAPE



Standard

POWER



130W

# Tech Specs

## HF Standard

## HF Poly

	HF 45	HF 70	HF 100	HF 110	HF 140	HFPY 130
Peak power, Pmax (Wp)	45	70	100	110	140	130
Tolerance (%)	5	5	5	5	5	5
Open circuit voltage, Voc (V)	20,2	20,17	22,73	25,26	20,17	19,7
Short circuit current, Isc (A)	2,82	4,46	5,63	5,63	8,92	8,5
Voltage at Pmax, Vmp (V)	16,63	17,02	19,04	21,16	17,02	16,39
Current at Pmax, Imp (A)	2,64	4,205	5,29	5,29	8,41	8,01
Short circuit current temp. coeff. $\alpha$ (%/°C)	0,07	0,05	0,07	0,07	0,05	0,05
Open circuit voltage temp. coeff. $\beta$ (%/°C)	-0,36	-0,35	-0,36	-0,36	-0,35	-0,35
Maximum power temp. coefficient (%/°C)	-0,43	-0,43	-0,43	-0,43	-0,43	-0,43
Fill factor (FF) (%)	78,6	79,4	78,6	78,6	79,4	79,4
Operating temperature (°C)	-40 a 85	-40 a 85	-40 a 85	-40 a 85	-40 a 85	-40 a 85
NOCT (°C)	49,6	47,5	49,6	49,6	47,5	47,5
Module material	UV resistant transparent polymer					
Size (bxh) (mm)	604 x 536	728x660	1231x536	1358x536	1352 x 660	1352x660
Thickness (mm)	1,7	1,7	1,7	1,7	1,7	1,7
Weight (kg)	0,8	1,2	1,6	1,8	2,1	2,1
Maximum system voltage (V)	600	600	600	600	600	600
Cells	Monocrystalline 5 Inches	Monocrystalline 6 Inches	Monocrystalline 5 Inches	Monocrystalline 5 Inches	Monocrystalline 5 Inches	Polycrystalline 6 Inches
Terminal ends	Cable with MC4 connection					
Bypass diode (A)	12	12	12	12	12	12

## HF Stripe

## HF Sunpower

	HF 45	HF 70	HFsp 90	HFsp 120
Peak power, Pmax (Wp)	45	70	90	120
Tolerance (%)	5	5	5	5
Open circuit voltage, Voc (V)	20,2	20,17	18,85	24,24
Short circuit current, Isc (A)	2,82	4,46	6,2	6,2
Voltage at Pmax, Vmp (V)	16,63	17,02	16,08	20,67
Current at Pmax, Imp (A)	2,64	4,205	5,83	5,83
Short circuit current temp. coeff. $\alpha$ (%/°C)	0,07	0,05	0,04	0,04
Open circuit voltage temp. coeff. $\beta$ (%/°C)	-0,36	-0,35	-0,26	-0,26
Maximum power temp. coefficient (%/°C)	-0,43	-0,43	-0,39	-0,39
Fill factor (FF) (%)	78,6	79,4	80,3	80,3
Operating temperature (°C)	-40 a 85	-40 a 85	-40 a 85	-40 a 85
NOCT (°C)	49,6	47,5	49,6	49,6
Module material	UV resistant transparent polymer			
Size (bxh) (mm)	1120x282	1370 x 344	977x536	1231x536
Thickness (mm)	1,7	1,7	1,7	1,7
Weight (kg)	0,8	1,2	1,4	1,6
Maximum system voltage (V)	600	600	600	600
Cells	Monocrystalline 5 Inches	Monocrystalline 6 Inches	Sunpower 5 Inches	Sunpower 5 Inches
Terminal ends	Cable with MC4 connection			
Bypass diode (A)	12	12	12	12

## High tech specs



**Ultralight**  
2KG/SQM



**Polymeric Plastic**  
NO GLASS



**Ultrathin**  
1,7 MM



**Waterproof**  
IP65



**Flexible**  
20% DL

Molte opzioni di customizzazione possibili

Shape



Power



Connections



Colours

