



The hybrid solar panel dedicated to glycoled water to water heat pumps: designed and manufactured in France, it draws its energy from the sun and the air to meet heating, domestic hot water and electricity needs

NEW : Ultra-resistant exchanger

SPRING4 425 TOPCon F



PHOTOVOLTAIC EFFICIENCY

High-efficiency TOPCon monocrystalline cells water-cooled

Exceptional minimum module guaranteed efficiency of **21.80%** and performance at 30 years of 87.40%



DUALSUN WARRANTY

French manufacturer

10 year product warranty from activation of warranties*

30 year linear performance warranty on photovoltaic efficiency

* Warranty activation conditions on dualsun.com

OPTIMIZED PERFORMANCE

Operates year-round, day and night. More efficient, discreet, and less noisy than an air heater.

Patented metal exchanger, ultra resistant to pressure.



QUALITY & SAFETY

- IEC 61215 & 61730 PV 60174698 0001
- SOLAR KEYMARK 011-7S3219 P

SUSTAINABLE. RELIABLE.

Maximum resistance to mechanical loads (wind, snow). **Compatibility** with the main manufacturers of fixing systems.



INDUSTRY OF THE FUTURE LABEL

Panel assembled in France (Ain)

DIN EN ISO 9001: 2015 certified factory

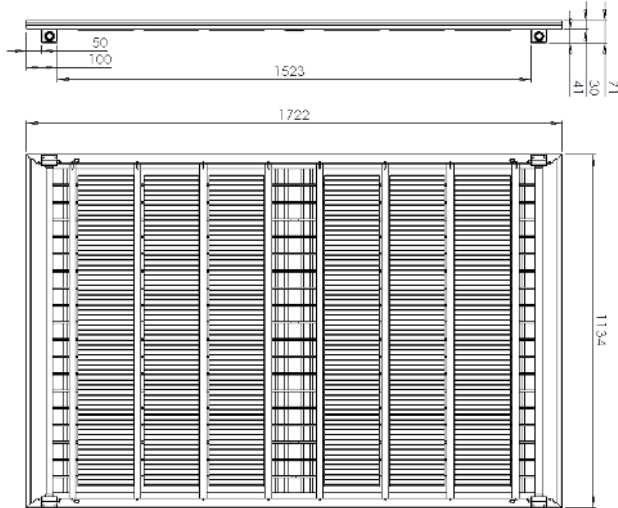
Industry of the Future label

PANEL COMPATIBLE FOR APPLICATIONS:

 Recyclable panel



Dimensions

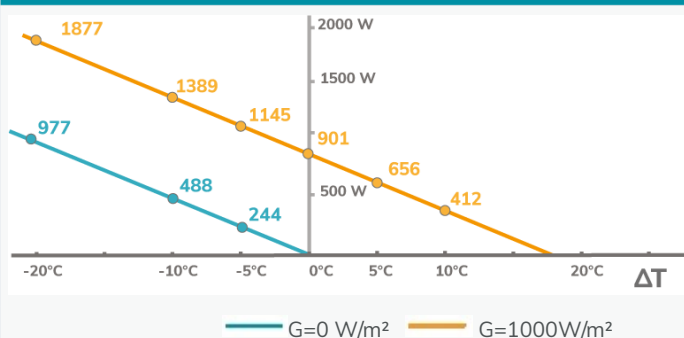


Physical characteristics

Dimensions (L x W x T)	1722 mm X 1134mm X 71mm
Frame thickness	30 mm
Empty / full weight	36,4 / 44,2 kg
Number of cells	108 1/2
Cell type	Monocrystalline N-Type TOPCon
Connectors	MC4 original EVO2
Cable length	1400/1400 mm
Maximum load	6600Pa (snow), 3600Pa (Wind)*
Frame / Backsheet	Black anodised aluminium / transparent
Collector	Black powder-coated aluminum

* In standard condition: 4 stirrups on the long side

Thermal power of the panel in Watt as a function of $(T_{\text{water}} - T_{\text{air}})$ for $G=0$ and $G=1000\text{W/m}^2$



Performances derived from the values a_0, a_1 (wind $u = 1.3$ m/s)

Photovoltaic characteristics

Nominal power	425 W
30-year linear power guarantee	87,4%
Output power tolerance	0/+3%
Module minimum guaranteed efficiency	21,8 %
Rated voltage (V_{mpp})	33.75 V
Rated current (I_{mpp})	12.6 A
Open circuit voltage (V_{oc})	39.35 V
Short-circuit current (I_{sc})	13,33 A
Voltage temperature coefficient (μV_{oc})	-0,26 %/°K
Current temperature coefficient (μI_{sc})	0,038 %/°K
Power temperature coefficient (μP_{mpp})	-0,31 %/°K
Maximum system voltage	1500 VDC
Maximum reverse current	30A
NMOT	45+/-2°C
Application class	II

* STC conditions (AM 1.5 - 1000 W/m² - 25°C)
Measurement tolerance: +/- 3%

Thermal characteristics

Thermal power	459 W _{th} /m ² *	901 W _{th} /pn
Collector area	1,95 m ²	
Heat exchanger volume	4,9 L	
Max operating pressure	6 bar	
Pressure drop	at 60 L/h : 6 0,6	
(Pa mmH2O)	at 100 L/h : 18 1,8	
Stagnation temperature	70°C	
Optical efficiency a_0	46,12 %**	
Coefficient a_1	25 W/K/m ² **	
Coefficient a_2	0 W/(m ² .K ²)**	

* Thermal power calculated with wind $u = 1.3$ m/s, $DT = 0$, $G = 1000$ W/m²

** The coefficients a_0, a_1 and a_2 result from EN 9806: 2017 certification tests for solar collectors without glazing carried out by KIWA for a wind speed $u = 1.3$ m/s: $a_0 = n_0 - c_6 * u'$; $a_1 = c_1 + c_3 * u'$; $u' = u - 3$

Find the installation instructions and mounting systems in our resource area:

