

DUALSUN *Spring*

A revolutionary hybrid solar panel

that produces simultaneously electricity and hot water.



Electricity

Dimensions of a standard photovoltaic panel (60 6-inch cells)

High-efficiency monocrystalline cells, cooled by water circulation on backside of panel

PV-like dimensions with a 45 mm frame

Nominal PV power : 280 Wp

Hot water

Ultra-thin heat exchanger, completely integrated into panel (patented design)

Excellent heat transfer between photovoltaic frontside and water circulation on backside

Stagnation temperature: 80 °C

Thermal power output : 570 W/m² *

* Performances measured during Solar Keymark certification.



25-year PV power warranty. 10-year product warranty

Certified IEC 61215 & 61730 and Solar Keymark

Manufactured & assembled in France



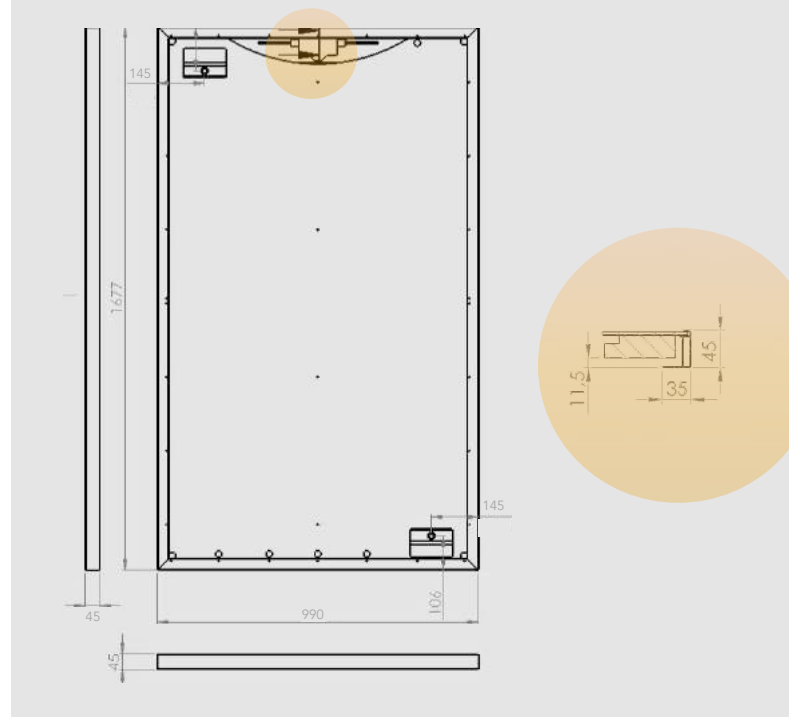
TECHNICAL DATA

GENERAL DATA

Length	1677 mm
Width	990 mm
Frame width	45 mm
Weight empty / filled	28 kg / 33 kg
Frame color / backsheet	Black / Black

ELECTRICAL DATA

Number of cells per module	60
Cell type (dimensions)	Monocrystalline (156 mm * 156 mm, 6 inches)
Nominal power (P_{mpp})	280 Wp
Module efficiency	17.20 %
Power tolerance	0/+3 %
Rated voltage (V_{mpp})	31.95 V
Rated current (I_{mpp})	8.77 A
Open circuit voltage (V_{oc})	38.88 V
Short circuit current (I_{sc})	9.30 A
Maximum system voltage	1000 V DC
Reverse current load	15 A
NOCT	46.9 °C
Connectors	Genuine MC4
Application class	Class A
Voltage (μVoc)	-0.345 %/°C
Current (μIsc)	0.047 %/°C
Efficiency loss	0.467 %/°C



THERMAL DATA

Gross area	1.654 m ²
Volume of heat transfer liquid	5 L
Maximum temperature	80 °C
Maximum operating pressure	1.2 bar
Pressure loss per panel	4000 Pa at 200 liters/hour
Hydraulic input/output	15mm fitting
Optical efficiency α_0	47.2 % *
Heat loss coefficient α_1	9.1 W/K/m ² *
Heat loss coefficient α_2	0 W/(m ² .K ²) *

* The α_0 , α_1 et α_2 coefficients are the measured values from testing during EN 12975 certification at the TÜV Rheinland for unglazed collectors : $n_0 = 0.475$; $c_1 = 7.411$; $c_2 = 0$; $c_3 = 1.7$; $c_4 = 0.437$; $c_6 = 0.003$; $K_d = 1$ with a **wind speed of 1m/s**.

Power output as a function of the temperature of the water in the panel (by application)

Power values are calculated using the α_0 , α_1 coefficients and the panel surface (1.654m²) in STC conditions (Text = 25°C, G = 1000 W/m²).

