



French manufacturer of solar panels

SPRING hybrid solar panel (PVT)[®]
designed and manufactured in France
(certified Made in France), produces both
electricity and hot water

SPRING[®] 315 Black



PHOTOVOLTAIC FRONT FACE

- High performance monocrystalline cells cooled by water circulation
- Positive classification -0/+5 Wp
- Anti-reflective glass ensuring high performance even in diffused light

THERMAL REAR FACE

Hot water production thanks to an ultra-thin patented heat exchanger completely integrated into the panel

DualBoost[®] : Photovoltaic efficiency boost by cooling cells



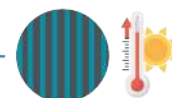
WARRANTY

Product and labor warranty* 10 years
25-year linear power output warranty

* Refer to the DualSun warranty conditions



DualQuickfit



QUALITY & SAFETY

- CE marking
- IEC 61215 & 61730 n°16429 Rev.2
- SOLAR KEYMARK n°16458 + n°16459 Rev.2
- CEC listed / UL 1703 n°702139 / ICC-SRCC n°10002099

DUALQUICKFIT[®]

Patented Plug & Play hydraulic connection system for faster and more reliable installation of the SPRING[®] panel



INDUSTRY OF THE FUTURE LABEL

Engineered in France :

R&D center in Marseille

Made in France (certificate FR-IMF-2019-198):

DIN EN ISO 9001: 2015 certified factory

COMPATIBLE PANEL FOR APPLICATIONS:

DHW



HP

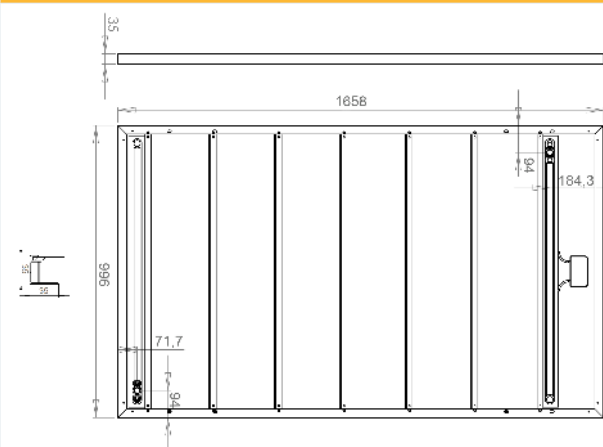


POOL



Recyclable panel

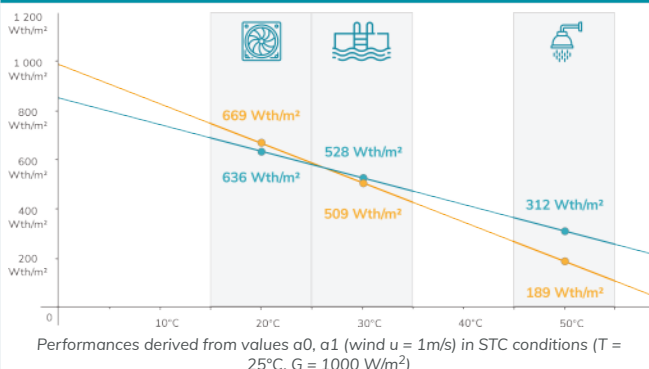
Dimensions



Physical characteristics

Length	1658 mm	
Width	996 mm	
Thickness	35 mm	
	Non insulated	Insulated
Empty / full weight	25,3 / 30,3 kg	26,1 / 31,1 kg
Number of cells	60	
Cell type	PERC Monocrystalline	
Connectors	MC4 / MC4 compatible	
Cable length	900 mm	
Maximum load	5400 Pa (snow) / 2400 Pa (wind)	
Frame / Backsheet	Black anodised aluminium / Black	

Thermal power output as a function of the temperature of the water in the panel and by application



Photovoltaic characteristics

Nominal power	315 W
Output power tolerance	0 / +5W
Module efficiency	19,08 %
Rated voltage (V_{mpp})	32,85 V
Rated current (I_{mpp})	9,59 A
Open circuit voltage (V_{oc})	40,12 V
Short-circuit current (I_{sc})	10,12 A
Voltage temperature coefficient (μV_{oc})	-0,29 %/°K
Current temperature coefficient (μI_{sc})	0,05 %/°K
Power temperature coefficient (μP_{mpp})	-0,36 %/°K
Maximum system voltage	1000 VDC
Maximum reverse current	20 A
NMOT	45 +/- 2°C
Application class	Class II

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

Thermal characteristics

Thermal power	629 W _{th} /m ² *	
Heat exchanger area	1,635 m ²	
Heat exchanger volume	5 L	
Max operating pressure	1,5 bar	
Pressure drop	Portrait	Landscape
(Pa mmH2O)	at 60 L/h 186 19	441 45
	at 100 L/h 461 47	961 98
Hydraulic inlet / outlet	DualQuickfit® fitting	
	Non insulated	Insulated
Stagnation temperature	70°C	75,6°C
Optical efficiency a_0	58,9 %**	58,2 %**
Coefficient a_1	16,0 W/K/m ² **	10,8 W/K/m ² **
Coefficient a_2	0 W/(m ² .K ²)**	0 W/(m ² .K ²)**

* Thermal power calculated with wind $u = 0 \text{ m/s}$, $DT = 0$, $G = 1000 \text{ W/m}^2$

** 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 $u = 1 \text{ m/s}$: $a_0 = n_0 - c_6 \cdot u'$; $a_1 = c_1 + c_3 \cdot u'$; $u' = u - 3$

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

