



THERMODYNAMIC SOLAR PANELS

HIGH ENERGY
OUTPUT

OUR INNOVATIVE TECHNOLOGY

The thermodynamic solar systems for obtaining domestic hot water or heating are based on a heat pump system supported by solar energy harvesting. These systems are capable of harvesting both solar and environmental energy in order to heat water. Thanks to the high efficiency of the solar energy harvesting technology of our systems they optimise the heating of water per unit of electricity consumed. Therefore they heat water with lower electricity consumption than conventional energy systems.

How are solar panels different?

- > Obtain hot water under any atmospheric condition, functioning at night time as well as in wet or windy weather
- > Without glass or electrical components
- > Ventilation and de-icing unnecessary
- > No need for maintenance or cleaning
- > Cleanliness does not affect the output of the panel



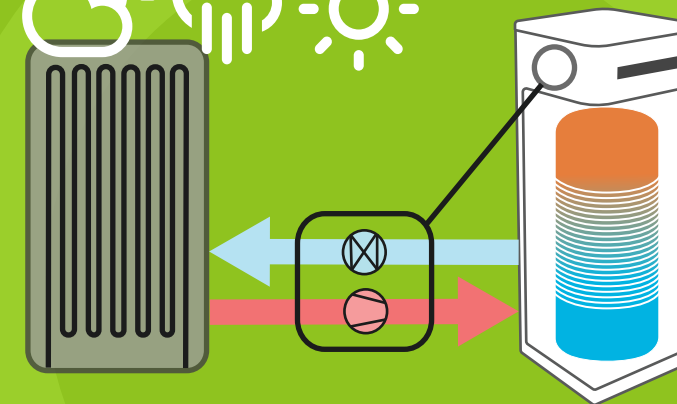
THERMODYNAMIC SOLAR TECHNOLOGY

How does it work?

A refrigerant fluid at low temperature circulates in the interior of the thermodynamic panel. The fluid captures the incidental solar radiation in the panel as well as other environmental energy. The thermodynamic cycle condenser transfers this heat to the water to heat it. The ecological refrigerant R134-A or R407C, which enters the panel at a negative temperature, runs through the closed circuit situated in the interior of the panel. The difference in temperature provoked by external agents such as the sun, rain or the wind guarantees the gasification of the fluid.

The compressor takes in the heated gas and reduces its volume, raising its temperature and transmitting it to the water circuit through a heat exchanger, managing to obtain domestic hot water up to a temperature of 65°C.

At high pressure and after having transferred a large part of its heat to the condenser, the refrigerant fluid arrives at the expansion valve again in liquid phase. Here the pressure is reduced which means the fluid is in condition to enter into the panels once again. The valve regulates the exit of the fluid on the basis of its temperature. Like this, the refrigerant will be sent again, in the form of micro drops, through the dehydrated copper piping to the panels, where it will be compressed once again, and the cycle will be repeated until the desired water temperature is reached.



Advantages:

- > Easy installation, low weight only 6.2 kg
- > High quality rust-proof materials that ensure a long and reliable life-span
- > Architectural integration: up to 12 colours available to adapt to your required location
- > Reduced dimensions 1.7 x 0.8 x 0.025 m

ARCHITECTURAL INTEGRATION

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