



# SOLAR THERMAL ENERGY (THERMOSIPHONE)

## **PREGUNTAS FRECUENTES**

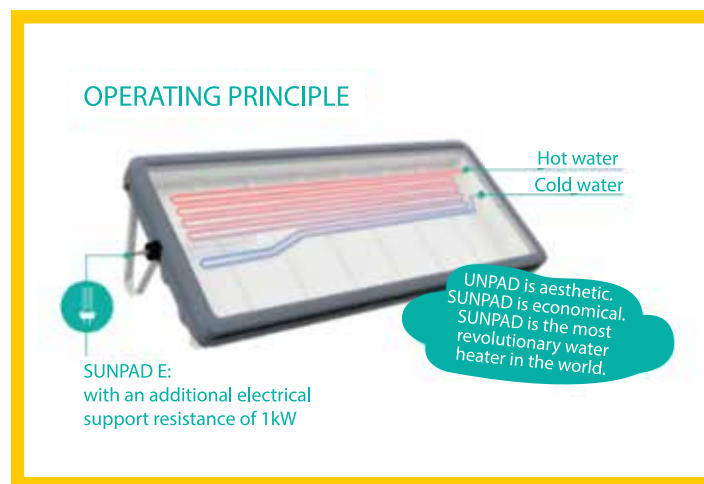
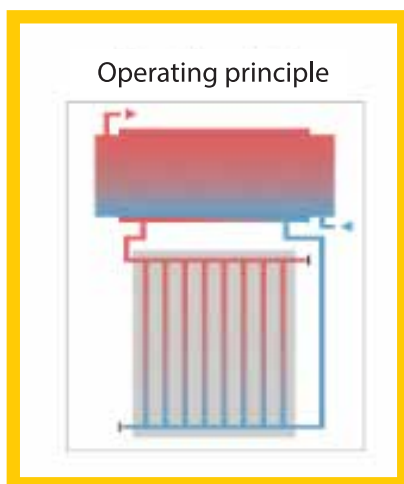
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## WHAT IS SOLAR THERMAL ENERGY?

- It is the one that takes advantage of solar radiation to produce hot water or heating.
  - There are two types of thermosyphonic plates:
    - Open circuit: The hot water we consume passes directly through the plate. (SUNPAD
    - Closed circuit: A fluid passes through the plate that captures heat and transfers it to the water in the tank through an interior coil.

## WHAT COMPONENTS DOES AN INSTALLATION NEED?

- The thermosiphon system is also known as a compact system, so the only requirement is to connect the cold water pipe and the hot water pipe to the plate.
- Additionally, accessories can be installed to improve the installation. (safety kit).



## WHERE CAN AN INSTALLATION BE SET UP?

- In any home that has a useful surface to install the solar panel, and it must be oriented towards the south.
- The weight of a plate is approximately 95 kg when empty.



## **HOW MUCH CAPACITY DOES MV PLATE TANK HAVE TO HAVE?**

- There are different sizes of deposits depending on the number of people per home. An indicative figure may be 50 liters/person/day:
  - 150 liter tank: 1-3 people
  - 200 liter tank: 3-4 people
  - 300 liter tank: 5-6 more people

## **DO THE PLATES HEAT UP WITH CLOUDS OR RAIN?**

- On a cloudy day with an outside temperature of 20o, a solar collector can easily reach 40o, taking advantage of the thermal energy of the air.
- With rain the plates are cleaned, with clouds the plates heat less than with the sun, although they always contribute something.

## **WHAT IF IT'S CLOUDY FOR SEVERAL DAYS IN A ROW?**

- Since we cannot guarantee that the sun will rise every day, DHW systems always need an auxiliary (or backup) power source to complete the work of solar energy. In the case of several cloudy days we would have hot water thanks to said backup heater.



## **AND WHAT HAPPENS AT NIGHT? WON'T I HAVE HOT WATER?**

- Yes of course! The water stays hot because the tank is thermally insulated. Let's say the system is capable of storing heat overnight.

## **WHAT POWER SUPPORT IS NORMALLY USED?**

- The most used are electricity and gas for domestic hot water.
- The heater in the home is usually used as support. On some occasions (depending on the installation) it will be advisable to move it.

## **AND IF I CAN'T REMOVE THE HEATER, WHY PUT A PLATE?**

- Even in the coldest months, the sun will provide a good part of the necessary energy and the rest will be provided by the heater, so consumption will be significantly reduced.
- The sun will provide approximately 85% of the energy you need to heat water each year.

## **HOW LONG DOES IT TAKE TO INSTALL A PLATE?**

- If there is already pre-installation of the hot and cold water pipes in the home, the installation is carried out in 1 day.
- If you have to install the pipes, the work will be done between 1 and 2 days.

## **WHY ARE THERE CHEAPER PLATES AND MORE EXPENSIVE PLATES?**

- Anything exposed to the sun gets hot. Also the solar panels. We can say that with sun, all the plates are good.
- The main difference between one plate and another is the ability to retain heat (insulation), and this is what will determine its efficiency.
  - There are also differences in the construction materials (structure, tank, etc.) that will provide a longer useful life of the plate.

## **WHAT USEFUL LIFE DO SOLAR THERMAL PANELS HAVE?**

- By carrying out periodic maintenance every 2 years, the plates have useful lives of up to 25 years. Generally the manufacturers warranty is 5 years.

## **I HAVE HEARD THAT IN SUMMER THE WATER COMES OUT SO HOT THAT IT CAN BURN YOU. IT'S TRUE?**

- Not true, if the installation is well designed.

- In summer the sun shines more hours and more strongly and, on the other hand, we use

less hot water. This causes overheating of the accumulated water.

- As a complement to the installation of the plate, it is always advisable to mount a security kit consisting of:

An adjustable mixer that mixes cold water to achieve a temperature in the hot water taps of 35-60°C.

Two stopcocks that allow the plate to be isolated (important for maintenance).



## **AM I REQUIRED BY LAW TO INSTALL SOLAR ENERGY IN MY HOME?**

- Since 2006, Spanish regulations (Technical Building Code) require the installation of solar panels for hot water in all new buildings and rehabilitation of existing buildings.



## **IS THERE AID OR SUBSIDIES FOR THE INSTALLATION OF THESE SYSTEMS?**

- Every year a call for aid for the installation of solar panels is opened. It is true that the amounts are increasingly smaller and, as it is a mature technology, these aids will tend to disappear .
- In addition, some City Councils offer discounts on taxes for installing solar panels.

## **IS IT WORTH DOING THE INSTALLATION IF WE DO NOT HAVE A SUBSIDY?**

- Yeah! Solar panels have dropped in price considerably, and are today economically competitive without the need for subsidies.
- With solar energy we can save approximately 85% of the conventional energy that we currently consume
- We can consider an average time of 5 years to recover the investment.
- It must be taken into account that the price of electricity and gas is increasing, so the investment recovery times will be increasingly shorter.

## HOW MUCH DOES A THERMOSYPHONIC SOLAR THERMAL ENERGY SYSTEM COST?

- SUNPAD 150: 1.690€\*
- Thermosyphonic 150: From 1.274€\*
- Thermosyphonic 200: From 1.386€\*
- Thermosyphonic 300: From 1.952€\*

Price for 12-month financing without interest  
(4.99% opening)

\*PRICE WITHOUT INSTALLATION