

Home Solar Kit

A unique solution for your domestic power supply

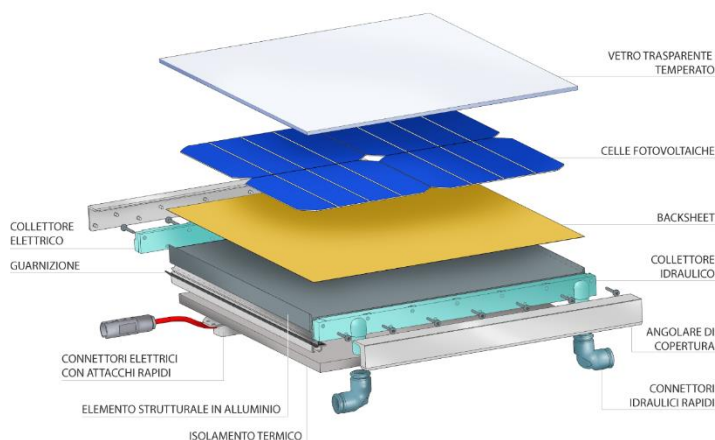
<https://sic.solar/kit-solare>

Our Domestic Solar Kit

The Home Solar Kit is the first and only 2-in-1 combined system, the unique solar kit with simultaneous electric and thermal function using less than the half of the space. The high-efficient RA hybrid panels allow the double production of thermal and electric power from a single main solar source. Thank to this innovative technology, the Home Solar Kit produces electricity and hot water for domestic use; therefore it won't be necessary to install 2 different solar systems, each one with one function, using the whole terrace and doubling the costs, but the only thing to do is to choice our Home Solar Kit with hybrid technology, in order to produced immediately thermal energy for hot water and electric power at the same time.

Durable RA hybrid panels with a greater production efficiency

The RA panel – for which SIC is the only one owner of international license – is a special hybrid panel, photovoltaic and thermal together. It is the results of over 30 years of research and experimentation. The hybrid panel is able to convert the energy of the sun to produce at the same time and in the same space, both electricity and thermal energy. This happens thank the innovative cooling technology of the panels, a high-tech solution that allows to the Kit to achieve electric power increasing the performance up to 35% compared to a traditional system. At the same time, the cooling system saves the life of cells, avoiding their overheating and their rapid wear. Furthermore, the same liquid that flows inside the aluminium frame, after having captured the overheat, is directed through the puffer to warm up the stock of domestic hot water: in only one step we have optimized the function of solar panels, saved on the energy waste and obtained thermal power for the production of hot water.



In conclusion, the benefits granted by the cooling system projected by SIC are various:

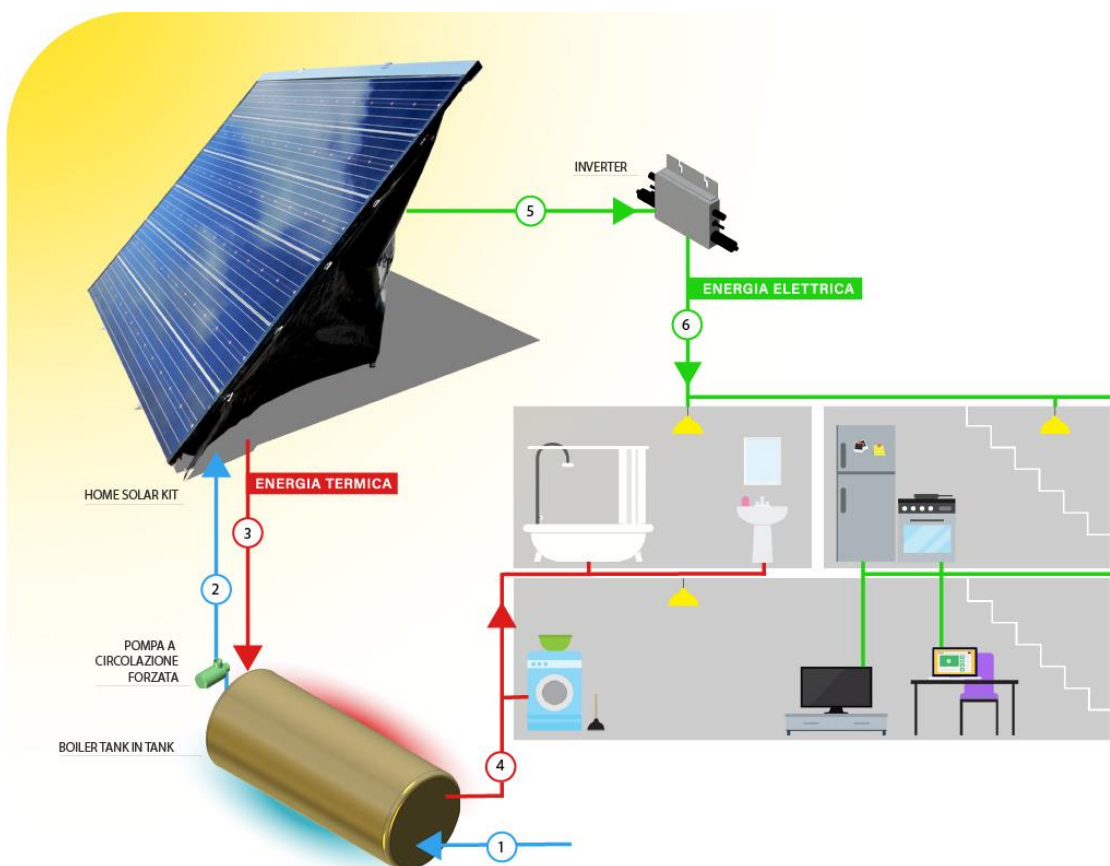
- More working life of solar panels
- Electric performance increased up to 35%
- Thermal performance triplicated
- Patented and guaranteed product for 10 years

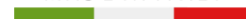
The role of the forced circulation pump

Big part of Solar kit for the production of domestic hot water are realized with natural circulation system: in order to work properly they need to arrive at high temperatures, heating up the water that flows in the panels' coils to the point of achieving the puffer on the top of system, just using the convective movement. This is the reason of a substantial loss of thermal efficiency, as the water is not enough hot is not able to achieve the puffer. Furthermore, the placement of the water tank on the top of the panels is not so smart, very bulky and eye-catching, and exposed to thermal dissipation and every kind of bad weathering. To get around the problem, Home Solar Kit has been designed integrating a forced circulation pump, a smart pump powered directly by the panels that moves the hot water through the puffer as soon the water have the optimal temperature. Last but not least, the puffer is now not on the top but on the bottom and behind the panels, hidden and protected by the insulation sheet.

In conclusion, we have 4 reasons that explain the benefits due the integration of forced circulation pump:

1. the forced circulation pump increased the efficiency of the heat-exchange pushing towards the buffer even a part of thermal energy not detected by traditional natural circulation system.
2. It contributes to maintain an optimal level of panel's overheating
3. It allows the installation of the puffer on the back of the kit, for a more linear system.
4. The loss of thermal energy due the weathering is significantly limited as the puffer is now protected by the structure and the cover sheet.





The innovative technology of the puffer “tank in tank”

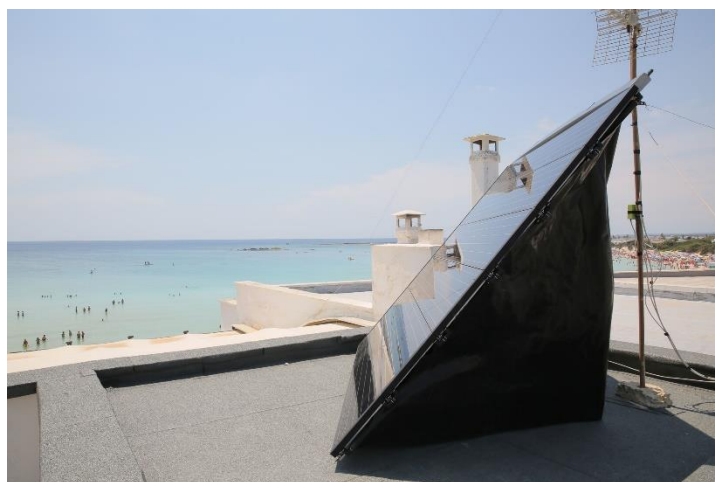
In order to maximize further each feature, Home Solar Kit has one of the most innovative puffer tank in tank, perfect for the production of hot water for domestic use. On the contrary of what happens in the classic puffer with internal coil, a boiler with double chamber tank in tank guarantees a thermal exchange more efficient and uniform through the structure organized in chambers. In addition, the thermal efficiency of the puffer is even increased by the presence of the cover sheet on the back of the kit, keeping the puffer inside a micro-environment that almost nullifies the natural thermal dispersion typical of night hours and winter period.

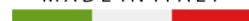
Structure in stainless steel AISI 316 easy to assembly

A solar kit in galvanized steel can never guarantee the main strength and durable life of a structure realized in stainless steel. The main frame of the Home Solar Kit is realized in Stainless Steel AISI 316, a material that has the typical mechanic resistance of steels but, contemporarily, an excellent durability in the time and a great resistance to the erosion of atmospheric agents. The supporting structure of the kit has been designed and realized to allow everyone a quick installation: the whole system is projected to be assembled by 2 people without any kind of specific experience or technical background, using the items included in the packaging and following step by step the manual of installation. In few hours and easily, it will be possible to install and put in function the Home Solar Kit.

The only one with a functional and linear aesthetic

Positioning the puffer on the back of the panels, hidden out of sight and protected by the insulating cover, the visual impact is considerably better than the traditional thermal kit. Even the expansion vessel is designed to be completely integrated in the structure, almost invisible. The result is a system with an exterior aspect very clean, elegant and linear, perfect for any kind of terrace and building.





An eco-friendly and sure investment

The whole system of the Home Solar Panel, each item that composed it, works in favour of the environment: choosing the renewable energy of the sun for the supply of electricity and hot water for the proper family is an ethic choose. Furthermore, the technology born at the beginning in a eco-friendly way, produced and assembled in accordance with the most strict and recent international environment regulations: the RA panels realized in SIC have all the certifications to obtain every kind of tax cut, starting save money since the first day of use.

Comparison with other kit

	Home Solar Kit	Other standard Kit
Hot water	Yes	Yes
Electric energy	800W / 1400W	No
Area on the surface	2,9 sqm	3,5 sqm
Cooling system	Yes	No
Puffer	High efficient tank in tank – 200 lt	Classic coil
Therma maximization	Yes	No
Stainless Steel Structure AISI 316	Yes	No
Installation	All included	Expert technician required
Made in Italy	Yes	?
Working life	30 years	20 years
Environment Certifications	Yes	?

For the all above-mentioned points, if we compare it with other standard systems, the Home Solar Kit has a lot positive aspects:

- It is a kit with double function thermal-electrical
- The volume of the whole kit is extremely reduced
- The solar kit produces up to 35% more electrical energy than traditional photovoltaic systems
- This kit optimizes the production of domestic hot water
- It is a kit durable in time, with a life expectancy of 30 years, 10 years more than current average
- It is possible to achieve the complete daily energetical needs*

*The electrical power produced is enough to satisfy the daily energetical need required by usual electrical appliances (fridge, microwave, several display and other).

Moreover, the RA Panel is certified in compliance with all most recent regulations, besides the quality assurance certificates and warranty of SIC:

- Solar Keymark EN12975-2
- Certification IEC 61215
- Certification IEC 61730-2
- Warranty of 10 years for RA Panels and 2 years for the kit system