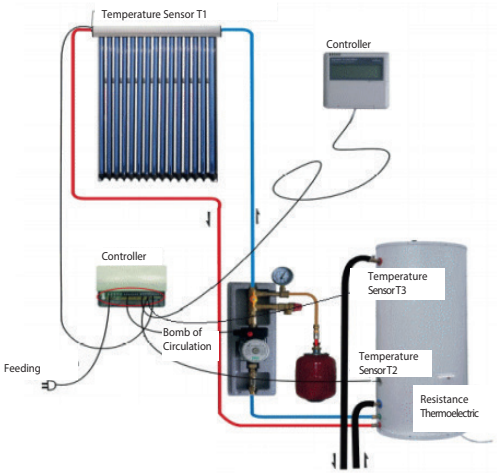
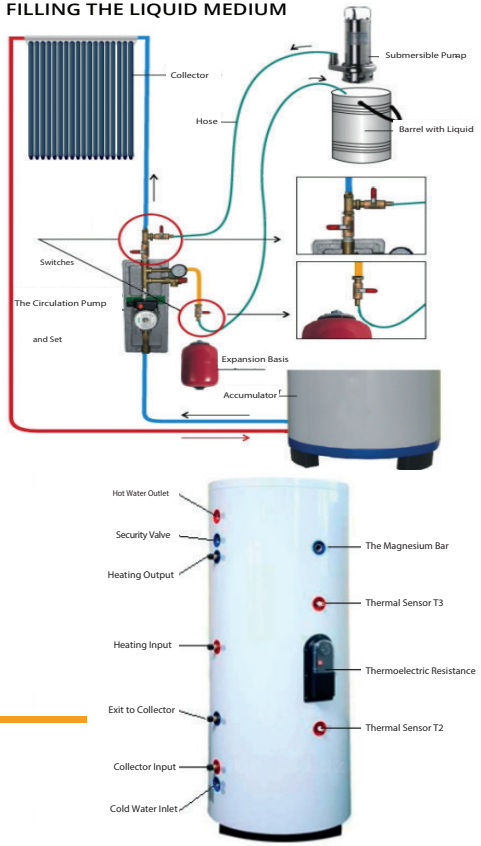
INSTALLATION CIRCUIT



FILLING THE LIQUID MEDIUM



MORE INFO & HELP

Email ENERA: info@enera-solar.com
Call ENERA: +34 634 799 310
F.A.Q: www.enera-solar.com/faq/
Manuals: www.enera-solar.com/download/
Warranty: www.enera-solar.com/warranty-terms/

WARRANTY

- The warranty of all installed equipment is 2 years
- This period is valid if the magnesium corrosion anode is replaced every 12 month
- In the long-term non-use of the solar heater, it is recommended to close the cold water supply to the system for more than 72 hours
- **The system must only be started when there is no sun**
- **That is, during the morning or the night**
- **Filling the tank during the day leads to its failure, the guarantee would NOT be valid**

WARRANTY CARD

System:
Installation Date:

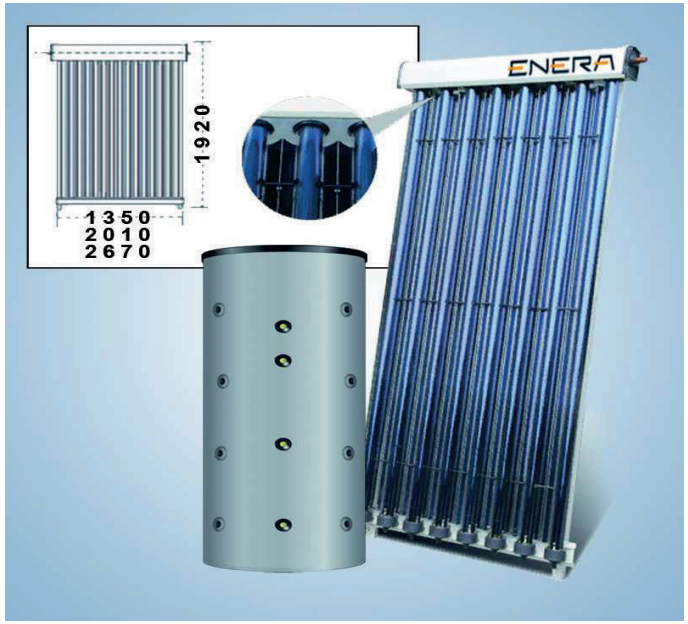
- STAMP -

ENERA
Partida el Planet 208 | 03590 Altea
www.enera-solar.com

(Client) Sign to Approve

INSTALLATION MANUAL

www.enera-solar.com



ENERA-X

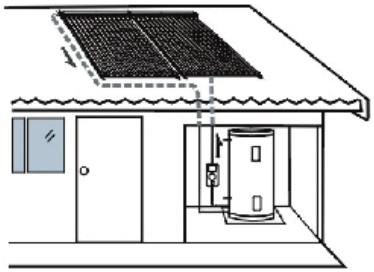
Forced Circulation Solar Water Heating Split System

INTRODUCTION

Please read all Installation instructionscarefully before beginning system design orinstallation. The configuration to the system mayhave to be customized to suit requirementsspecific to the installation. Please guarantee thatany design system fits the construction oflocal, and water quality standards.

Installation must be completed in accordance with thelocal rules and regulations.

Installation must be completed by professionalsqualified plumbing.



PRESSURE AND TEMPERATURE CONTROL

The Solar circuit must be designed for operationnormal at <500 Kpa (5 bar - 72.5 lbs / in.B) through useof a pressure limiting valve (pressure reducing)in the supply line of the cold water supply. Hesystem design should provide a valve for thepressure that allows release in no more than 800 Kpa (8bar - 116 lbs / in.B) and a buffer tank(expansion) for hot water from the heating circuitsolar energy or storage tank once thetemperature reaches 99°C. (210°F.) If the system stalls. I knowrecommends that the pressure valve lever and thetemperature (PTRV) are operated once every 6 monthsto ensure reliable operation. It is importantraise and lower the lever gently.

WATER QUALITY

The water in direct flow through the distributor head(manifold) must first meet the water requirementdrinkable and also in the following text: Total SolidsDissolved <600mg / liter or ppm Total hardness <200mg / liter orppm Chloride <250mg / liter or ppm Magnesium <10mg / liter orppm In "hard water" areas of the scale (> 200ppm), in the distributor line inside thepipe. In those field regions, awater softening device to ensure along-term effective collector operation, or use aclosed circuit for solar circulation. If aglycol / water solution shall meet the requirementsabove, and the glycol should be changed periodically toprevent glycol from becoming acid.

METALLIC CORROSION

Both copper and stainless steel are susceptible to corrosion when highchloride concentrations are present. The solar collector can be used fortemperature of the spa or pool water, but free chlorine levels should not exceed2 ppm, in addition to the warranty provided by the dealer when used for temperingof the pool or spa is 3 years, which is the standard for spa and heated pools.

PROTECTION AGAINST FREEZING

The freeze protection of the system must incorporate an electronic controller of thesolar energy, by using the "low temperature collector" configuration, whichturns the pump on if the manifold drops below a preset level (Ex.5 ° C / 41 ° F.). Alternatively a closed circuit filled with a water-glycol mixture can beused to provide freeze protection. Vacuum tubes are notsensitive to cold damage, the water inside the heat pipes are protectedagainst damage caused by freezing.

HAIL RESISTANCE

Glass vacuum tubes are surprisingly strong and capable of handling asignificant impact once installed. Stress and impact test on a modeldemonstrates that the tubes are capable of withstanding hail impact of up to 25mm / 1 "in diameter when installed at an angle of 40 ° or more. Vacuum tubes capacityto withstand the impact of hail is more influenced by the angle of impact and in order toInstalling the collectors at low angles does not reduce their impact resistance. However,even though as indicated, the impact by hail up to 20mm / 3/4 "in size does notcauses breakage. It is recommended that in areas prone to large hail (> 20mm./3/4 ") theSolar collector should be installed at an angle of 40 ° or more to provide aoptimal protection. As many in populated areas of the world fall within the margin30-70 ° ± in general from this point of view, it is a common installation of allmodes. If in the unlikely circumstance a tube is broken, it can be replacedeasily in minutes. The solar collector can still workproperly with one or more broken tubes, however it will result in areduction in heat production (depending on how many tubes are broken).

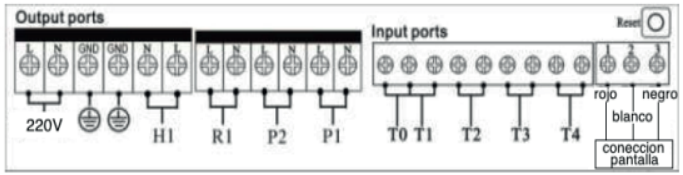
TUBE INSPECTION

Open the tube box (s), containing both vacuum tubes and heat pipes (HeatPipe). Make sure all vacuum tubes are intact and the bottom of each tubeis still silver in color. While if you have a tube with a light bottom, it is damaged and shouldbe replaced. Each vacuum tube contains a pair of metal fins for transferof heat. As soon as the vacuum tubes are removed from the box, please put on thetube the rubber caps, which are in the collector box. This will protect the tipglass at the bottom of the tube, which breaks if struck. Do not remove protection and / orexpose the tubes to sunlight until they are installed, otherwise the transfer ofheat from the inner tube will become very hot. The outer glass surface is notheats up.

HEAT PIPES (HEAT PIPE)

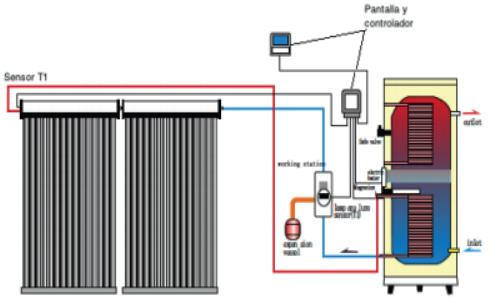
If the (copper) heat pipes are bent during delivery, don't worry as there is nothey are easily damaged. Just make sure they are relatively straight beforeinsert into the vacuum tube.

ELECTRICAL INSTALLATION



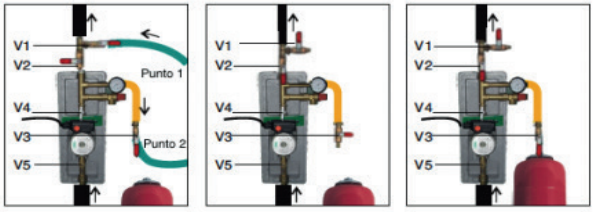
H1 — resistecia termoelectrica
P1 — la bomba de circulacion (captador- serpentin en acumulador)
T1 — termosensor T1
T2 — termosensor T2
T3 — termosensor T3

DIAGRAMA DE INSTALACION ESTANQUE ACS+CALEFACCION



BLEEDING THE AIR

Step 1: Open the valve V1, V3 and V4, close the V2, the filling pump connects at the point1 where the antifreeze liquid is introduced, until the flow of liquid returns throughpoint 2. Let the pump circulate for approx. 2 (up to 5) minutes. until everything is exhaustedthe air in the pipe.
Step 2: Close valve V3, then close V1 and turn off the pump.
Step 3: Connect the expansion vessel to valve V3 and open the valve, then openvalve V2, which should be open forever. Commissioning of the stationwork, observing the balance between the valve (V5) to see if there is any air in theinside the pipe. If there is air inside the pipe, fill with the liquidantifreeze the system, again following the steps given above until theexhaust all air from the system.



ISOLATION

The plumbing and manifold pipes must be insulated. The foam of theInsulation should be checked annually for damages. To protect thestabilized pipe insulation foam that is exposed to sunlight(UV rays), a metal sheath must be installed, otherwise rapid deteriorationit can happen.