

TROUBLESHOOTING

Trouble	Sunny day, no hot water	Water tank unable to load full	Water tank leakage	When taking bath, the water hot and cold from time to time	No hot water come down during the winter time
REASON	1. above the water heater have covered objects 2. got vacuum leakage or damage 3. solenoid valve or assistant tank can not automatic close and always fill water	1.no pressure from the water supply system 2.up water loading pipe leaking 3.water tank leaking	1.rubber seal break or installed improperly 2.water tank inner pipe crack	The cold water supply pressure not stable	1.pie line freezes 2.it is too cold 3.the pipe no warm keeping material
SOLUTION	1. check whether the tube can not get sunshine , move it . 2.change tube 3. check and repair valves	1.add a new micro pump. 2. change the up load pipe. 3. change water tank.	1.change the rubber seal or install it again to let the tank and. solar tube correctly 2.change the water tank.	Add an side storage water tank to store the cold water and make the water supply stable or change an auto-matic high. temperature valve.	1.ask the dealer put warm keeping material(charged) 2.every night after use the solar tank and earlier morning load the water to the tank again 3.use electric heating belt(from the dealer) 4.for the coldest days, open the hot water valve to let the hot water come down a little bit but continuously

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
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(Client) Sign to Approve

INSTALLATION MANUAL

www.enera-solar.com



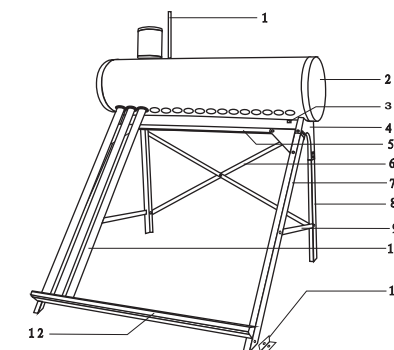
ENERA-S

Non-Pressure Thermosiphon with Serpentine

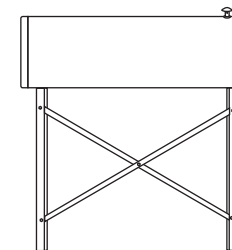
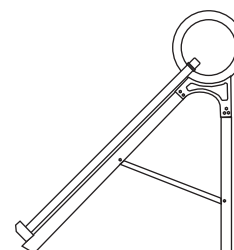
SYSTEM SPECIFICATIONS

Structure	All glass concentric dual tube structure
Glass material	Borosilicate glass
Out tube diameter and thickness	$\Phi 47 \pm 0.7 \text{ mm} / 1.5 \text{ mm}$; $\Phi 58 \pm 0.7 \text{ mm} / 1.6 / 2.0 / 2.3 \text{ mm}$
Inner tube diameter and thickness	$\Phi 37 \pm 0.7 \text{ mm}$; 1.5mm $\Phi 47 \pm 0.7 \text{ mm}$; 1.6mm
Length of tube	1500($\pm 5 \text{ mm}$); 1800($\pm 5 \text{ mm}$); 2100($\pm 5 \text{ mm}$)
Absorbing coating	structure Graded AL-N/AL Solar selective absorbing coating
performance	Method of deposition DC reactive sputtering
	Absorbing rate $> 93\%$
	Emittance $< 6\% (80^\circ \text{C})$
Vacuum degree	$P < 5 \times 10^{-3} \text{ Pa}$
Get the calories	9.6 MJ/M^2
Solar radiance exposure	$\leq 2.8 \text{ MJ/M}^2$
Average heat loss coefficient	$\leq 8.6 \text{ W/(M}^2 \cdot \text{K)}$
Life time	Over 15 years

STRUCTURE



1. Exhaust air hose pipe
2. Tank
3. Outlet
4. Support tank
5. Cross bar
6. Across rod
7. Frame
8. Support leg
9. Bottom rod
10. Vacuum tube
11. Anti-wind leg
12. Bottom support

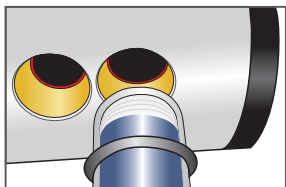


INTRODUCTION

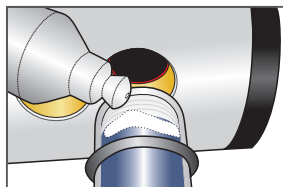
1. Before the install, please clean the inside of the water tank.
2. The system should be installed with full sunlight and fixed by steel rod, self-expanding screen or cement, with the frame standing on a hard surface.
3. The air hose must be open and installed with three pass. The down pass is dedicated for over drop water and must not be connected to any other pipe. Otherwise, the water tank will be damaged without the dedicated exhaust air hose for the pressure.
4. Both frames should be connected by strengthening rod and put the water tank on the frame. Pay attention so that the evacuated tube hole is in symmetry with the frame tail holes. Place the ABS plastic cover into the tail hole and tank bolts on to the frame seat of the tank, fixing it at a later stage.
5. Place anti-dirt seal on the evacuated solar collector tubes, following by a soapy water for lubrication. Plug the collector tubes into the water tank.
6. Adjust tank position and fix the bolts under the tank. Place the remaining collector tubes into the ABS tail support of tail holes.
7. Connect the down and up loading water pipes, ensure to select special composed pipe to reduce the heat loss and the pipe should be back up the warm material, if with electric heater back up system, you can put the cable into the warm keeping material of the pipe.
8. Fix down and up loading water pipes onto the building and the frame. At a north area, it can install a exhaust valve for the down and up loading pipes to empty the pipe and receive hot water immediately.
9. Evacuated solar collector tube can heat up to 270°C, and tubes may crack immediately. Pay close attention and if such problem arrises, follow the following steps.

A. Load the tube full before plug into the tank hole and then load the water to the tank fully

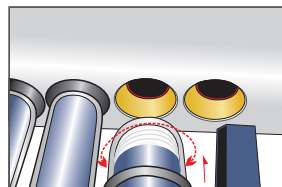
B. Cover the solar tubes after 3 hours to wait the temperature of the tube temperature dropdown and then load the water.



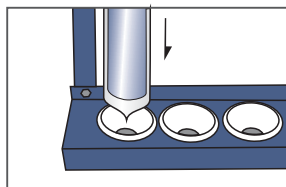
1. Slip over a dust ring in the vacuum tube .



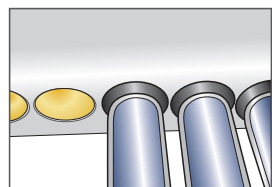
2. Use the detergent as a lubricant to put on the tube .



3. Put the right position of the tube hole to tank and force insert toward .



4. After inserted, let the vacuum tube pulled down at the end of frame support hole .

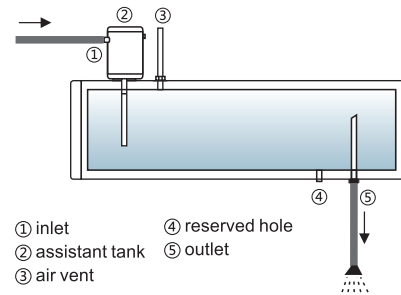


5. Cover the anti-rust seal .



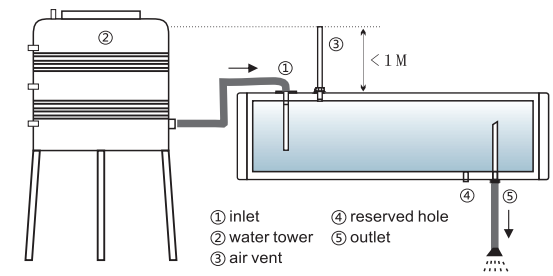
6. Air vent tube

INSTALLATION WITH ASSISTANT TANK MODEL



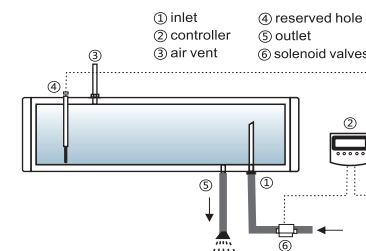
ENSURE EXHAUST PIPE IS UNOBSTRUCTED. PRESSURE RELIEF VALVE IS NEEDED ON THE INLET PIPE WHEN THE PRESSURE IS TOO HIGH.

INSTALLATION WITH WATER TANK TOWER



HEIGHT FROM THE SOLAR SYSTEM AIR VENT TO WATER LEVEL IN TOWER MUST BE AT LEAST 1 M. IF MORE, USE AN ASSISTANT TANK, A CONTROLLER OR A SPECIAL VALVE TO CONTROL FILLING THE WATER TO TANK. OTHERWISE, THE TANK WILL BE DAMAGED. ENSURE EXHAUST PIPE IS UNOBSTRUCTED.

INSTALLATION WITH ELECTRIC CONTROLLER MODEL



ENSURE EXHAUST PIPE IS UNOBSTRUCTED. TEMPERATURE SENSOR = 4, INSTALLED WITHOUT SEALING. CONTROLLER PLATE AND SOLENOID VALVE MUST BE INSTALLED IN ROOM.

Attention: How to identify the quality of the solar tubes

1. Check the color of the tube to be smooth
2. Check the button tip where the tube are vacuumed if it is well.
3. Check the button shining part, it can be an mirror, if it is dark, it mean less vacuum degree, if white, no vacuum
4. Put the solar tube under the sun after a few hour to feel the out side pipe, if good vacuum solar tube, you will feel cool and if it is hot, the solar tube is bad.

MAINTENANCE

① clean the vacuum solar collector tube

If in lots of dust and no rain area, the solar tubes and the reflecting plate will catch by the dirt to reduce the efficiency of the solar tubes and reflecting rate. So according to the dirt condition, the solar tubes should be clean in half year or one year. First by soap water to clean it and then washed by water for the solar tubes and the reflecting plate. If more rain, no need to clean.

② clean the incrustation scale

If the water quality are not good in some area or use the water directly from the ground with lots of impurity and it is easy to deposit scale in the tank and solar tubes and it will affect the efficiency of the solar water heater, it is according to the situation, every one or two year, the tank and the tube should be clean by professional workers or by select the anti-dirt magnesium alloy pipe to clean the dirt.

USER INSTRUCTURE

1. For the first time water loading, the vacuum tube must keep cool down.
2. When not use the product, please close the valve for hot water & cold water & the exhaust valve. If to load water to the storage tank, open the cold water valve and open the exhaust valve till the water down, when the storage tank is full, then you close the two valve.
3. If in cold winter time, you can use the bath lights or warm fan machine to keep the room temperature high.
4. To adjust the hot water temperature, should be according to the season, sunlight and water pressure to avoid hurt from the hot water.
5. In the serious area, please let the tank empty when not use in winter to avoid the pipe crackly freed.
6. In summer, after use the hot water, should load the water immediately or wait to the night, Otherwise the vacuum tube water will be dry up in high temperature. At the same time, when you load water, the solar tube will break.
7. In spring, summer, autumn, if need to load the water, please be careful about the tank to not be dry by these solar tube, should be at night.
8. Please avoid the solar water heater to be empty, for a long time, it will damage the rubber seal, and defect the performance of solar tube.
9. If use electric heater, please check the fuse position if it is ok and avoid the electric heater work without water.
10. During the storm with lightening, please don't use solar water heater and keep the tank full.
11. In summer, if hot water not much used or temperature too high, please take some shade to cover part of solar tube to reduce the heating.



Please try the hot water by your hand before bathing, to avoid injured the skin.