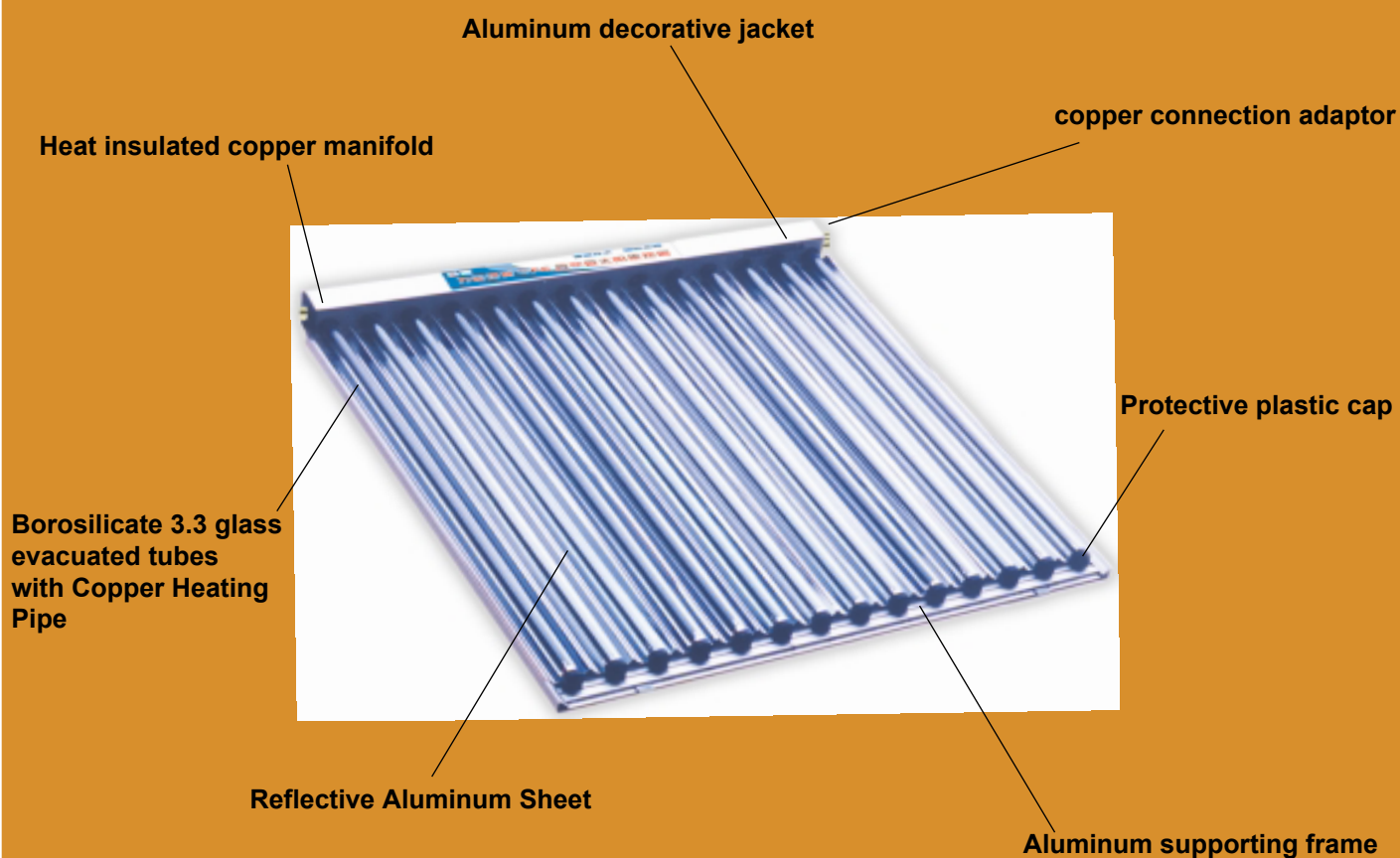


THE INNOVATIVE VALUE IN SOLAR WATER HEATING TECHNOLOGY



Solarnet Model No.	Width mm	Length mm	Depth mm	Gross Area m ²	Net Aperture m ²	Dry Weight, kg	Fluid Capacity litres	Design Flow Rate l/h	Pressure Drop at 60 l/h (h.m ²) mmwg	Heating Pipe Length mm	Max Flow Rate l/h	Maximum Operating Press bar	Std. Header Width, mm	Standstill Temperature C
FRC/HP 6	650	1700	100	1.1	0.98	18	0.4	84	1	1550	1450	10	650	295
FRC/HP 12	1250	1700	100	2.1	1.88	35	0.8	168	2	1550	1450	10	1250	295
FRC/HP 15	1350	1700	100	2.3	2.00	43	0.9	210	2	1550	1450	10	1350	295

CPC/HP (6 or 12): optional with CURVED PARABOLIC REFLECTOR

ENGINEERING SPECIFICATIONS

The following shall be the specifications for the collectors.
Collectors shall be of the evacuated tubes type with copper heating pipes filled with fluid for latent heat transfer.

GENERAL

The collector is mainly composed of an aluminum frame, supporting a solar reflector, as well as evacuated tubes and copper tube for manifold and heating pipes inside the evacuated tubes.

The solar reflector is flat aluminum sheet for FRC model, and curved parabolic reflector for CPC model (optional).

The water flows through copper manifold in order to be heated by heating pipes inside the evacuated tubes.

Low pressure loss allows several collectors tube connected in series or in parallel.

EVACUATED TUBES

The evacuated tube is a product with improved geometry and performance. Two concentric glass tubes are closed on one side, forming a hemisphere, fused and hermetically sealed with each other on the other side (evacuated insulation).

To absorb solar energy, the internally glass tube is coated with a highly selecting layer on its outer side. The coating is hence protected in the evacuated space. The used aluminum nitrite sputter coating is characterized by extremely low emissions and excellent absorption.

Evacuated tubes dimensions and characteristics are as follows:

- Length: 1500 mm
- Outer tube diameter: 47 mm
- Inner tube diameter: 37 mm
- Glass thickness (Inner tube): 1.6 mm
- Glass thickness (Outer tube): 1.8 mm

Minimum characteristics should be as following:

- Glass material: Borosilicate glass 3.3
- Coating material: AL-N-AL
- Coating position: Outer surface of Inner tube.
- Deposition method: DC reactive sputtering.
- Absorption ratio $\geq 91\%$
- Reflection ratio $\leq 7\%$
- Coefficient of average heat loss $\leq 0.75\text{w/m}^2 \text{ C}$.
- Maximum pressure: 0.6 Mpa

Specifications subject to change without notice.

COPPER TUBE MANIFOLD & HEATING PIPES

The manifold consist of one 1 3/8" copper pipe. The inlet and outlet of manifold are 7/8" male threads, copper male adaptors 1/2" diameter are brazed along the manifold. Using a copper phosphorous brazing alloy with no less than 15% silver content.

The Heating Pipes are fixed by female nut to the male adaptors.

0.2mm copper heat conducting plate are folded to the copper heating pipe increasing the thermal heat transfer.

The heating pipes with their conducting plate are introduced inside the evacuated tube, while the manifold is wrapped with heat insulation inside a well shaped aluminum sheet protecting insulation from rain and light.

ALUMINUM FRAME & CASING

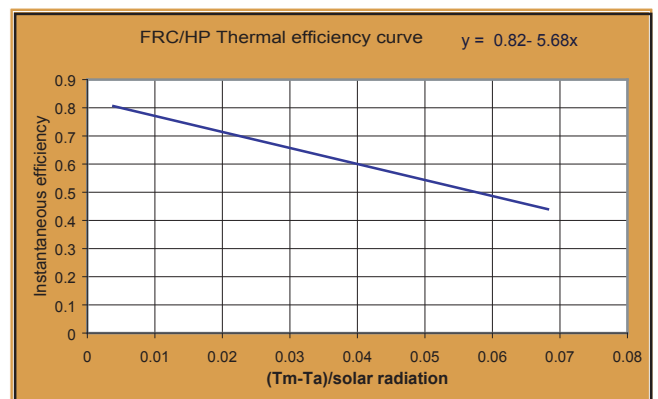
Copper manifold casing consists of 0.7mm minimum thick aluminum sheet rolled on manifold tubes insulation and lasered holes openings to be connected to evacuated tubes.

Aluminum extruded profile of various dimensions and shapes support the manifold and the evacuated tubes with special plastic support at the lower part of the collector, to protect evacuated glass tubes bottom side.

Reflector is fixed between bottom aluminum frame and evacuated tubes in order to reflect incident light on the hidden part of the tubes.

FRC/HP panels use flat reflecting aluminum sheet, minimum thickness 0.6mm.

CPC/HP panels use curved parabolic brilliant aluminum sheets, minimum thickness 0.4mm.



MANUFACTURED BY:



The sunny life!

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