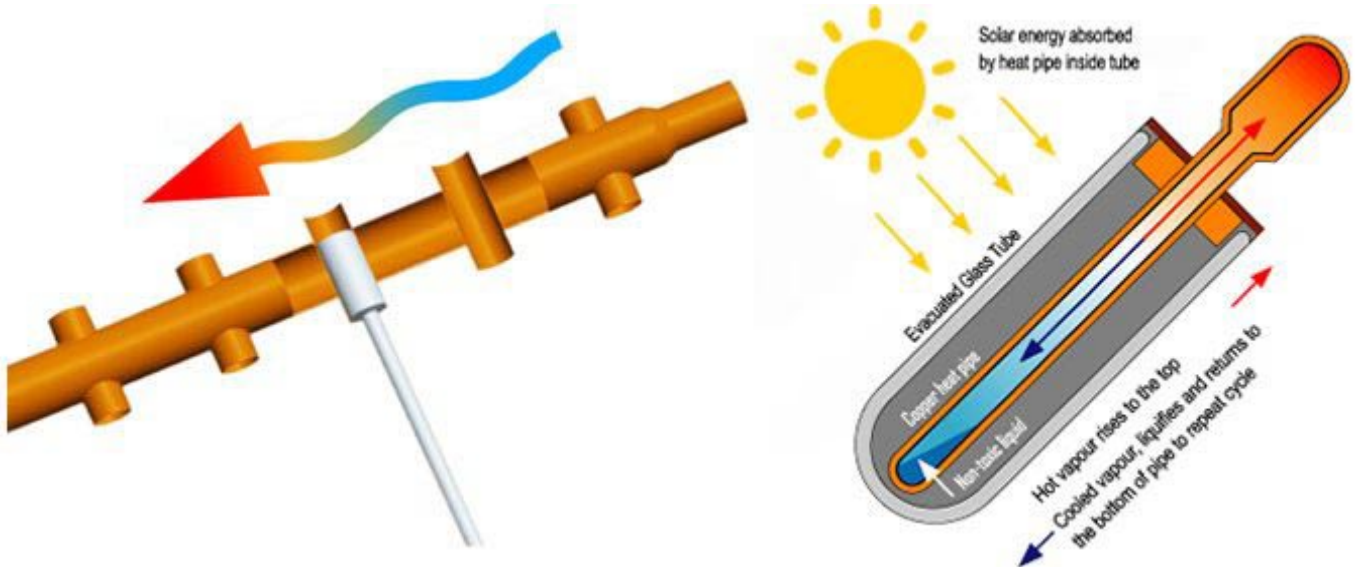


Heat-pipe Collector

As a key component of the heat-pipe collector, heat-pipe plays a very important role in this solar collecting system. The heat-pipe is composed of heat-energy absorption unit and condenser unit, and is hollow with the space inside evacuated. Under the vacuum circumstance, the air pressure inside heat-pipe is very low, thus the medium can be evaporated easily when absorbing certain energy. This vapour rapidly rises to the condenser zone and transfers heat, then becomes the liquid and returns to the bottom of the heat pipe since the heat is lost. This process repeats again and again, so the solar energy is transferred continuously.

On AAA EcoEnergy heat-pipe collector, the condenser zone of the heat-pipe is inserted to the copper sleeves which are distributed on the water pipe averagely. After the solar energy is absorbed by the vacuum tubes, it is transferred to the heat-pipe through the aluminum fin. Heated by the energy, the medium in the heat-pipe is working and transferring the heat energy to the condenser zone. When water or other medium in the water pipe flows across the copper sleeves, they would bring the energy and be heated.

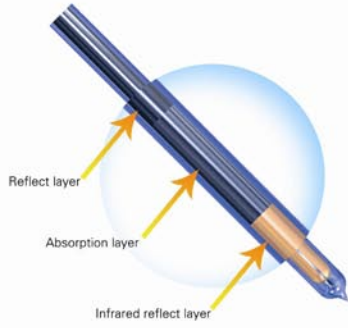
The heated water or other medium makes water in the tank hotter and hotter by walking across the coils in the tank.



The characteristic of Heat Pipe Collector

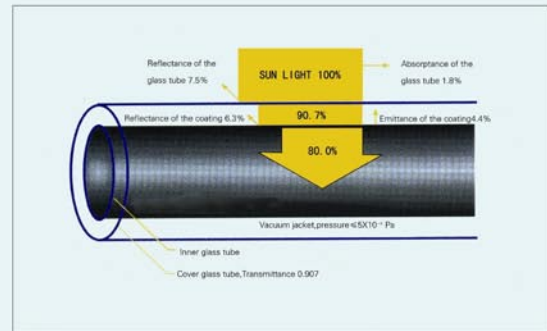
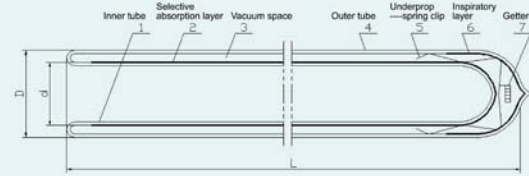
- 1) The water is heated by the heat pipe rapidly.
- 2) There is no water in the vacuum tube, therefore tube will not freeze in the winter.
- 3) It can be combined with existing radiator heating system.
- 4) Hard water will reduce life expectancy, water softener recommended.
- 5) It will still work in the event of occasional tube breakage.
- 6) Aesthetic pleasant solar panel.

Products Vacuum tube



The Advantages of AAA EcoEnergy Vacuum Tubes

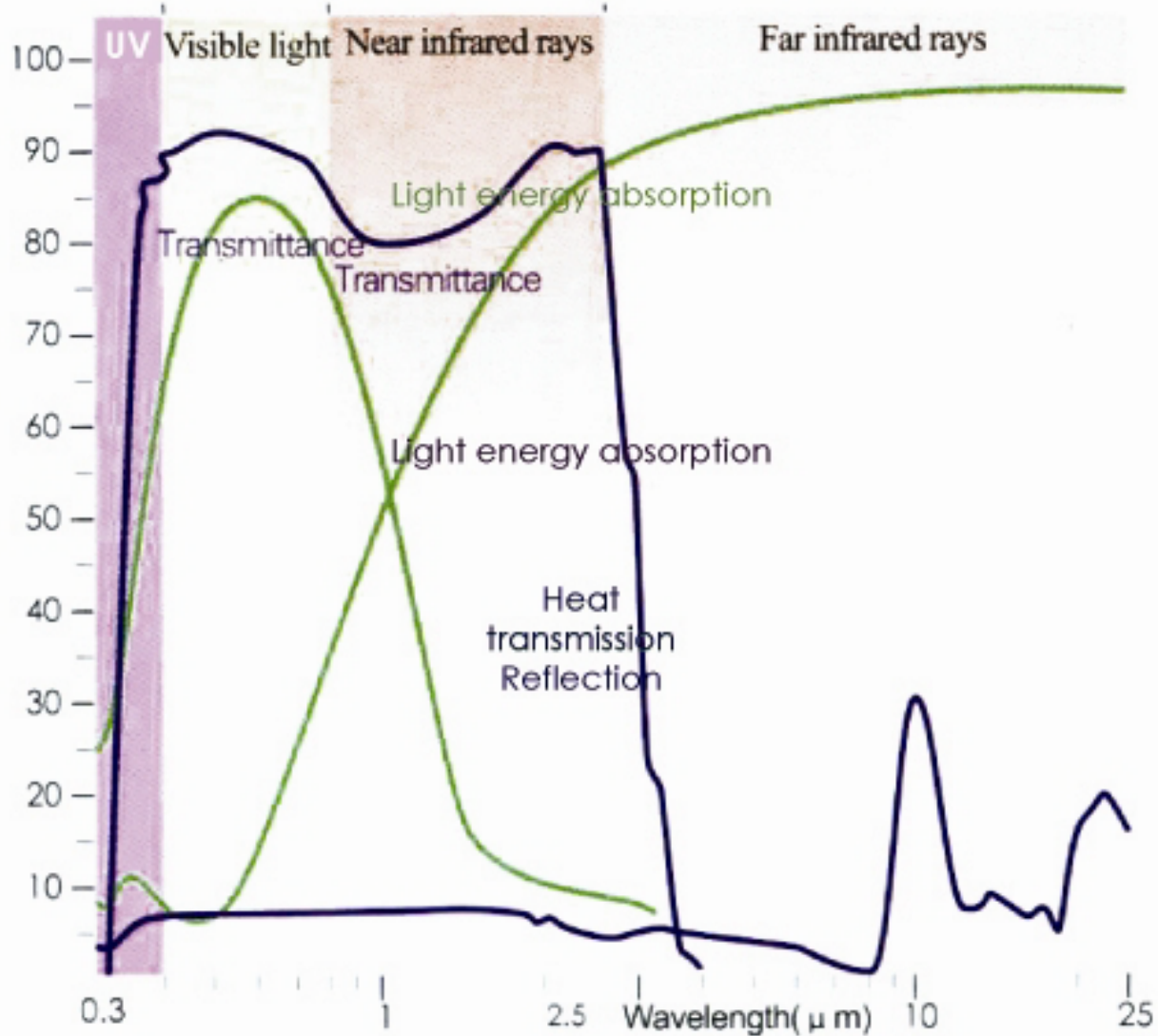
- ◆ High efficient temperature raised : Adopting the advanced coating technology ,light converted into heat is 10% higher than the normal vacuum tube .
- ◆ Endure the coldest temperature : Adopting the advanced vacuum technology ,the vacuum degree can ammount 5×10^{-4} Pa convection heat emission ,at the same time the infrared reflector layer reduces the radiant emission ,enable the tubes can work well in the coldest temperature area.
- ◆ Function stable : It has long longevity ,Going through 36 working procedures ensure the coating stabilization and withstand attenuation.



Vacuum tubes working theory

Canadian Design

Eco solar vacuum tube is a breakthrough in high light energy absorption and low heat transmission.



Light absorption / heat transmission comparison between 3-target vacuum tube and flat surface solar panel.

— Eco solar vacuum tube

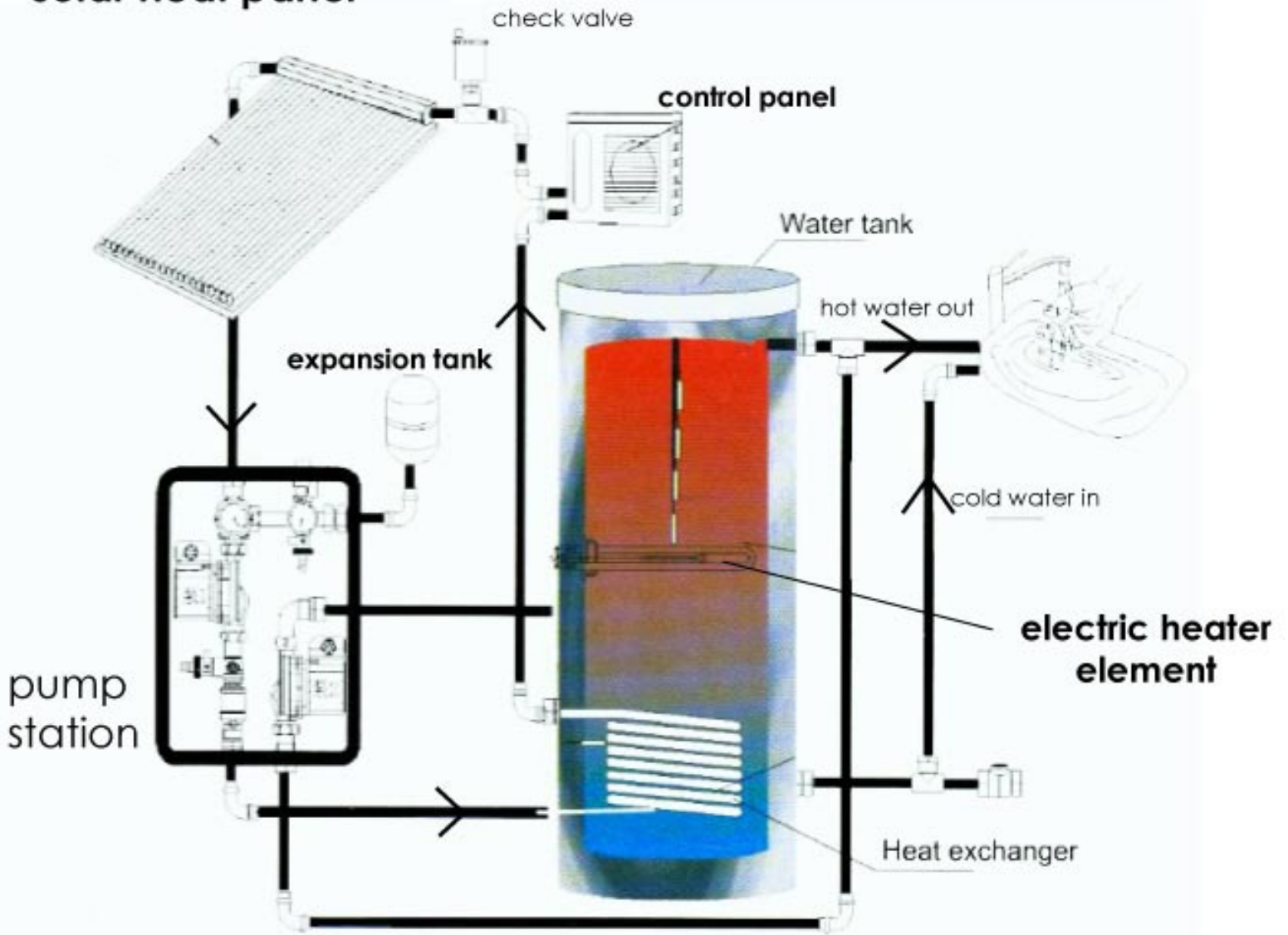
— conventional flat surface solar panel.

Canadian designed vacuum tube absorbs infra-red rays (long wave length light) and far-infra-red rays (invisible light) into the core and convert light waves to heat wave. Heat energy is then trapped by stainless steel coating (poor conductor of heat).



Cut-away-view of 3-traget vacuum tube showing each layer.

3-targat vacuum tube solar heat panel



SCHEMATIC OF REMOTE SOLAR PANEL / TANK SYSTEM