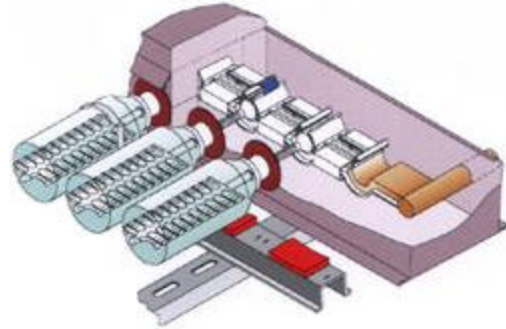
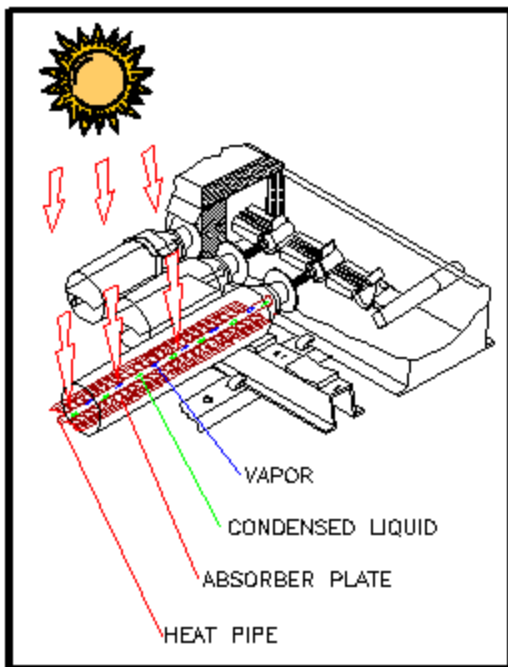


How Does an Evacuated Heat Pipe Solar Collector Works?



Thermomax Evacuated Heat Pipe Solar Collectors (tubes) operate differently than the other collectors available on the market. These solar collectors consist of a heat pipe inside a vacuum-sealed tube, as shown.



- Each tube contains a sealed cooper pipe (heat pipe).
- The pipe is then attached to a black copper fin that fills the tube (absorber plate).
- Protruding from the top of each tube is a metal tip attached to the sealed pipe (condenser).
- These tubes are mounted, the metal tips up, into a heat exchanger (manifold).
- As the sun shines on the black surface of the fin, the liquid inside the heat pipe is heated.
- Hot vapor rises to the top of the pipe.
- Water, or glycol, flows through the manifold and picks up the heat from the tubes.
- The heated liquid circulates through another heat exchanger and gives off its heat to water that is stored in a solar storage tank.
- The system is simple to install and easy to expand.

A heat pipe acts like a high conductance thermal conductor. Due to its thermal-physical properties, its heat transfer rate is thousand's times greater than that of the best solid heat conductor of the same dimensions. The basic heat pipe is a closed container consisting of a capillary wick structure and a small amount of vaporizable fluid. The heat pipe employs an evaporating-condensing cycle, which accepts heat from an external source, uses this heat to evaporate the liquid (latent heat) and then releases latent heat by reverse transformation (condensation) at a heat sink region. This process is repeated continuously by a return feed mechanism of the condensed fluid back to the heat zone.

For more information, please visit www.thermomax.com