

ABSTRACT
SOLAR WATER HEATER MODELING SYSTEM

Men need hot water for consumption bathing, washing and so on for others daily uses. In order to produce hot water, sometimes they use electric water heater or solar water heater. The following system of solar water heater are thermosyphon system, forced circulation system and drainback system.

Thermosyphon system is simpler than others and has good efficiency, forced circulation system is used to protect the water from freezing but has low efficiency. Because the disadvantages of forced circulation system, we can change it with drainback system. Drainback system uses compressed air to return the circulation water to the storage tank.

Thermosyphon system consists of a storage tank that located minimal 25 cm above the collector and water will circulate through natural convection, whenever the solar energy in the collector adds energy to the water in the collector leg and flow due to the density gradient. Thus, the hot water in the collector will pass through the storage tank and water in the storage tank that has normal temperature will flow to the collector and vice versa.