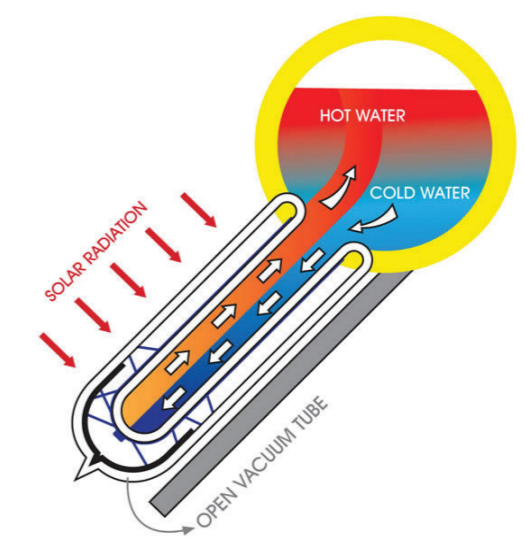
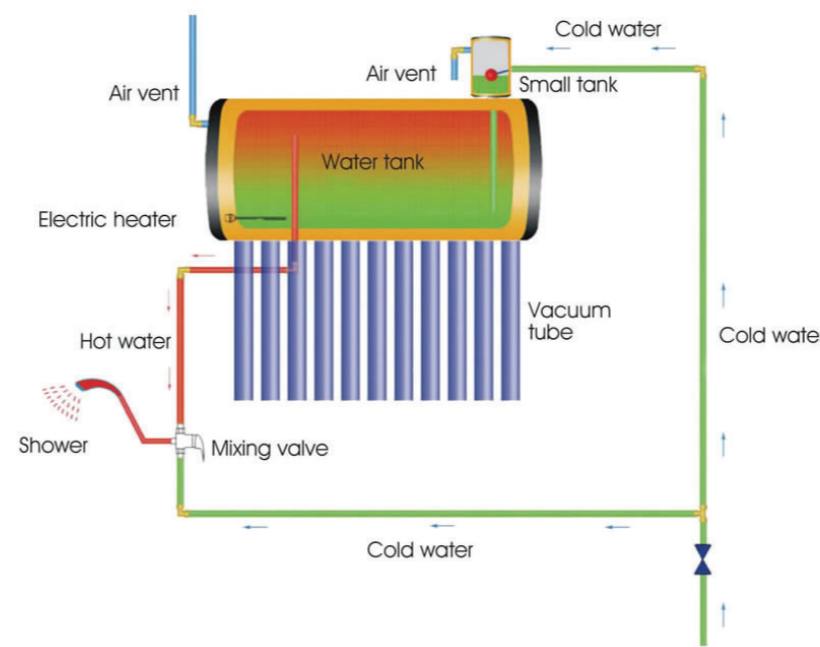


Solar Water Heater

The Working Principle of the Solar Water Heater

- The solar collector consists of open vacuum tubes which absorb the solar energy from the sun rays, converting it into heat energy. When in contact with the cold water the energy produced heats up the water inside the vacuum tubes.
- As the water inside the tubes heats up, its density decreases and the hot water rises into the hot water storage tank. Due to its greater density, the cold water in the tank will flow down into the tube.
- The whole process is repeated and the hot water will circulate continuously until its temperature inside the hot water tank reaches that of the water inside the vacuum tube.
- This natural phenomenon is known as thermosiphon process.



Photovoltaic Panel

The Working Principle of the Photovoltaic Panel

The word Photovoltaic is a combination of the Greek word for Light and the name of the physicist Alessandro Volta. It identifies the direct conversion of sunlight into energy by means of solar cells. The conversion process is based on the photoelectric effect discovered by Alexander Bequerel in 1839.

Semi-conductive materials exhibit a photoelectric effect that causes them to absorb photons of light and release electrons. Through the manipulation of small amounts of different compounds, the electrical behaviour of semi-conductive materials can be adjusted to be electrically stable with either a slight positive (p-type) or negative (n-type) charge.

