

# Water Filter Operating on Solar System

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**Abstract:** *In this paper, we highlight the effects of contaminated water on humans as well as the crisis of water supply and distribution of potable water in many areas of developing countries. While water is the most important substance on earth and a primary human need, contaminated water can cause and spread diseases. It is, therefore, necessary to ensure that water is purified and decontaminated for daily use at a low cost. The design of solar-powered water purification systems is thus regarded as an important means of producing clean water. Solar energy poses no polluting effect and has become a dependable energy source for usage. The design of a solar-powered water purification system is based totally on the thermal method by using the thermal heating system principle which converts sunlight rays into heat. The most vital aspect is the absorption of heat to induce evaporation of water. Research shows that flat plate collectors produce heat at relatively low temperatures (27°C to 60°C) and are commonly used to heat liquids. A solar-powered water purification system consists of a solar collector that absorbs sunlight to ensure vaporisation, which is the first stage of purifying and a filter that removes contaminants. Four different concepts have been developed. A detailed description of the components and the operation of the systems constitute the main contribution of this paper.*

**Keywords:** Water filter