

**COMPARISON ANALYSIS OF TRICKLE SOLAR WATER HEATER
FLAT AND TRIANGLE PROFILE TYPE**

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ABSTRACT

Solar energy is the greatest energy on earth. One of the uses of solar energy is with a solar water heater system. In general, the solar water heater that is widely used is still of the conventional type, namely to circulate the working fluid in the solar collector, it still uses a pump that draws from electrical energy which is mostly sourced from fossil energy. To reduce the use of electricity sourced from fossil energy, many trickle solar water heaters have been developed that use flat and triangular profiles. This study aims to determine the effect of 2 LPM and 4 LPM fluid flow rates on the performance of trickle solar water heaters with flat and triangular profile types. Analysis of the data used in this study is to make direct observations and calculate the results of observations using several equations. The results showed that the efficiency obtained was 10.49% with a value (Q_{air}) of 99.96 W. The highest temperature that could be achieved was 40.6°C and the highest intensity of solar radiation that occurred was 1351.1 W/m².

Keywords: *solar water heater, energy, fluida, trickle solar water heater, fossil*