Analisis Perbandingan Performansi Kolektor Surya Tipe Plat Datar dan Tabung Hampa untuk Pemanas Air (*Comparative Performance Analysis of Flat Plate Solar Collector and Evacuated Tube Solar Collector Types for Water Heater*).

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ABSTRACT

Solar collector is an instrument that serves to collect solar radiation and turn it into a useful energy. The objective of this study is to compare the performance between the types of flat plate solar collector and evacuated tube solar collector, and also to determine the effect of flowrate on the performance of a collector. Testing of solar collectors is done by using a variety of different flowrate 10 g/s, 15 g/s, and 20 g/s. The result show that the type of evacuated tube solar collector has a better performance than the flat plate solar collector types, the temperature differences is 2,2 ^{o}C and collector efficiency difference is 39,8 %. While the using of different flowrate can effect the performance that produced by a collector. The best performance of the flate plate solar collector is by using a flowrate of 20 g/s with an average efficiency generated 47,73 %, and the best performance of evacuated tube solar collector is shown by using a flowrate 20 g/s with an average efficiency generated amounted to 84,80 %.

Keywords **:** *Flat Plate Solar Collector, Evacuated Tube Solar Collector, Flowrate, Performance.*