Rancang Bangun Alat Desalinasi Menggunakan Energi Matahari (*Design and Construct Sea Water Desalination Instrument Using Solar Energy*).

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ABSTRACT

Water is the main source of the most important needs in human being, it is especially for the clean and healthy fresh water. About 16.42 million of Indonesian society population is the people who live in coastal area. The purposes of this research are to design and build a desalination of sea water, and to know its performance an instrument for energy generated, efficiency and the resulting freshwater product. Desalination is a method which used to get the clean water through distillation sea water process, from the salt water into clean water. During the distillation process, the heat transfer, evaporation and condensation are occurs. The testing had been conducted for 3 days started at 09.00 WIB until 15.00 WIB. The result of this research showed that the average of useful energy is generated per second by desalination instrument at the first day is 13.36 Joule, 17.91 Joule for the second day, and 4.68 Joule for the third day. The eficiency average of the instrument during sunny is 8.24%, and 3.06% during cloudy or rainy. An amount of fresh water that was resulted from the desalination instrument test process is 120 ml for the first day, 161 ml for the second day, and 42 ml for the third day.

Keywords **:** *Desalination, Sea Water, Fresh Water, Process, Energy.*