

ABSTRACT

Sea water distillation is the process of evaporation of sea water with a source of solar heat that causes the salt content in the water to decrease then to become fresh water. Distillation is the easiest and most affordable method to get clean water, especially for people who lack clean water reserves. In this research the distillator will be added Phase Change Material (PCM) in the form of paraffin, the addition of paraffin serves as a source of heat when sunlight begins to disappear. The type of paraffin used in this study is paraffin wax, where paraffin wax has a melting point at 64 ° C. Distillators are used as many as 2 pieces with conditions without paraffin and paraffin. Seawater used in this study will be replaced with a salt water solution made from a mixture of distilled water with a number of salts to produce a concentration of 33 ppt. Distillator with the addition of paraffin do not always produce more distillates compared to distillators without paraffin. The addition of 1000 g of paraffin will increase the distillate productivity while the addition of 500 g of paraffin and 1500 g almost all reduce productivity. In addition, in this study it is also known that the specific productivity produced in the two distillators is still very low if the heat source used is sunlight. The highest specific productivity was 5.38 l / m³ for distillers without paraffin and 4.89 l / m³ for paraffin distillators with the addition of paraffin by 500 g..

Keyword: Distillation, sea water, clean water, Phase Change Material, sun, paraffin, specific productivity