

ABSTRACT

In this study, double slope distillator has been modified by adding a heat storage material or Phase Change Material (PCM) in the form of paraffin at the base. In principle, the presence of paraffins will be a source of heat when the sun sets. In this study, distillator testing was tested on a laboratory scale using two bulbs whose energy emission was considered constant. The water used is a 33 ppt brine sample which is made by mixing bottled water with some salt. The test has been done by comparing the water production of distillator without paraffin and distillator with paraffin. The addition of paraffin on distillator increases water production of distillator by 19.03%. In this study also has been given variation of paraffin masses to observe its effect on water production. The addition of paraffin mass tends to decrease water production in tests with the same volume of brine. This study has also been observed that paraffin can be used several times in distillators even though water production tends to decrease.

Keyword : Solar desalination, heat storage material, Phase Change Materials, PCMs, paraffin, laboratorium scale, bulb, brine sample