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STUDYING OF PERFORMANCE ENHANCEMENT FOR CLASSIC SOLAR STILL USING SOLAR CONCENTRATOR BY FRESNELLENS TECHNIQUE WITH HOT WATER PRODUCTION

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ABSTRACT

In this study, Fresnel lens has been used with two axes tracking to improve the desalination system and increase its production, where it has been specified the main components of the solar concentrator, using a Fresnel lens and specified the main components of the classical solar still. The theoretical calculations for Thermal energy have been accomplished, the energy extracted from solar radiation using the solar concentrator, as well as the energy extracted by classic solar still, without using the concentrator, the production amount of distilled water extracted under standard condition of 1000 w/$m^2$and ambient temperature (25 ^oC), without using concentrator was (4.7liter / day) and the distilled water with using concentrator was (7.14liter / day),in addition to get amount of hot water wash (52.98 liter/ day) at temperature (42.52^oC).

KEYWORDS: Solar Energy**,** Classic Solar Still, Solar Concentrator, Fresnel lens