

## Experimental study of a distillation unit by the use of a Scheffler solar Parabola

F. Ait Nouh<sup>(a,\*)</sup>, S. Saidi<sup>(b)</sup>, Y. Janah<sup>(a)</sup>, L. Mandi<sup>(a)</sup>, A. Kettab<sup>(c)</sup>

(a) Centre National d'Etudes et de Recherches sur l'Eau et l'Energie (CNEREE), Université Cadi Ayyad Marrakech, Maroc.

(b) Faculté des Sciences de Bizerte, Tunisie.

(c) Ecole Nationale Polytechnique Alger, Laboratoire de Recherches des Sciences de l'Eau- Alger- Algérie.

\*Corresponding author: faitnouh@yahoo.fr ; Tel. / Fax: +212 5 43 48 13

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### ABSTRACT/RESUME

**Abstract:** The present work is an experimental study of a solar desalination unit which operates on the principle of humidification-dehumidification using a Scheffler solar parabola. This unit is installed in the National Centre for Studies and Research on Water and Energy, University Cadi Ayyad Marrakesh, Morocco. The system comprises a primary reflector (10 m<sup>2</sup> area), secondary reflector, distillation still, condenser and Florentine flasks. In order to describe the studied system, The variations of the debit condensate, the solar radiation and the characteristic temperatures of the system are measured during the day. The gotten results show that this system is very profitable since that it permits to get a mass output of 97%. The average power and efficiency of the solar distillation system were found to be 2.39 kW and 29.67% respectively for an average beam radiation of 987 W/m<sup>2</sup>.

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