

## Experience gained through the implementation and operation of a solar humidification–dehumidification desalination plant

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### ABSTRACT

The proposed work aims at evaluating the experience gained by the design, implementation and operation of a pilot solar thermal desalination plant installed in the Geroskipou municipality, Cyprus, based on the humidification-dehumidification technology. The design of the plant enables the direct use of the heat produced by the solar thermal system in periods of low water demand. The working principle and the technological solutions adopted for the specific application are presented. The various technical problems encountered during the installation and operation of the unit are discussed. Finally, the critical parameters which affect the performance of the desalination unit and the techno-economical sustainability of the installation as a whole are analysed.

*Keywords:* Solar thermal desalination; Humidification–dehumidification; Autonomous systems

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