



Experimental validation of an optimized solar humidification-dehumidification desalination unit

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ABSTRACT

This paper presents experimental validation of a solar humidification-dehumidification (HD) desalination unit which has been constructed based on optimization results reported in previous paper. The unit designed and constructed for 10 L/h fresh water production and was tested during a 2 month period. The tests reveal that optimization before construction will result in better performance in practice. Productivity is the most important parameter which improved from 2% to 3.5% in previous experimental works to more than 4%. Moreover, experimental results are in agreement with theoretical ones.

Keywords: Desalination; Humidification; Dehumidification; Optimization; Mathematical programming

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