

# Solar Intelligent Dehumidification System





## Overview

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Can solar energy drive liquid dehumidification with absorption refrigeration?

A novel hybrid system coupled liquid dehumidification with absorption refrigeration driven by solar energy is proposed. Traditional and advanced exergy and exergoeconomic analyses of the system are conducted to ascertain the degree of irreversibility and potential improvement for each component.

Are solar-driven dehumidification systems sustainable?

Solar-driven dehumidification systems, as a clean and sustainable technology, have attracted much attention. To expand its applications, it is necessary to improve its dehumidification efficiency and range. This study develops a solar-driven hybrid dehumidification system integrated with spectrum splitting technology.

Can a solar-driven dehumidification system improve exergy efficiency?

Compared to existing solar-driven or solar-assisted dehumidification systems, the proposed configuration can not only achieve a broad dehumidification range with ultra-dry air below 1 g/kg but also increase exergy efficiency by 100 % when producing air with a humidity ratio of 6 g/kg.

Should solar-powered humidifiers be used in HDh systems?

Emphasizing solar-powered humidifiers in HDH systems presents an innovative solution per the urgent demand for sustainable freshwater sources utilizing abundant energy resources.



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ABSTRACT: This study investigates a desalination system based on a humidification dehumidification process driven by - fi solar modules and proposes a solution within the ...



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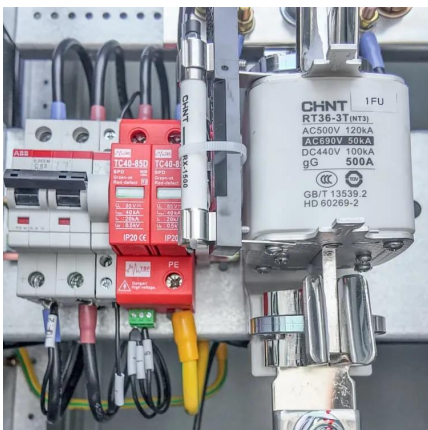
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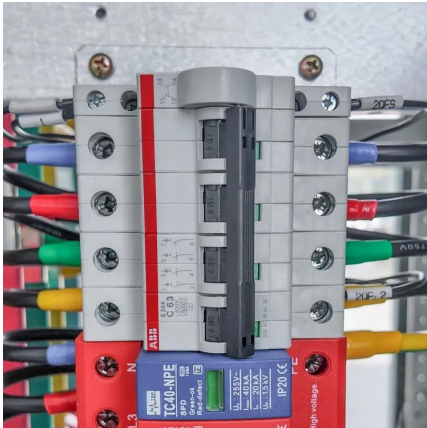
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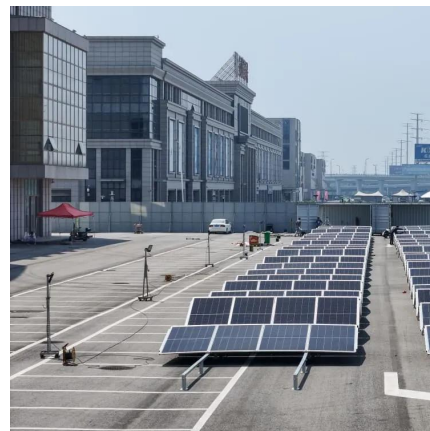


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