

What is deep dehumidification technology?

The review focuses on the deep dehumidification technology, which encompasses air compression dehumidification, liquid desiccant dehumidification, solid desiccant dehumidification, membrane dehumidification, and coupled dehumidification, with an emphasis on materials, components, and systems flow.

How can a cooled dehumidification unit improve the performance of a system?

Two liquid desiccants can also be mixed in suitable proportions to obtain a more cost-effective and efficient liquid desiccant. Internally cooled dehumidification units help to reduce the heat discharge and allow lower flow rates, which can improve the performance of the system.

Does a dehumidification system save energy?

HVAC system, equipped with desiccant dehumidification and a high-temperature chiller, is believed to possess a higher potential for energy conservation. A temperature increase of 1 °C in chilled water led to a 3 % rise in COP. 5.3. Economic analysis of dehumidification system

What are the applications of dehumidification technology?

As a result of these developments, the new dehumidification technologies directly impact numerous energy-related applications, namely, outdoor coolers, heat pumps, sorption chillers, atmospheric water harvesters, indoor humidity control, and energy storage. Energy Information Administration USEI. International Energy Outlook 2019.

How to reduce the size of a double-stage dehumidification system?

In order to reduce the size of the double-stage desiccant wheel system, Ge et al. suggested a dual-stage dehumidification system with a single desiccant wheel. Dividing the desiccant wheel region into four sections reduced the system length, but it also resulted in increased complexity in the air ducts. 3.4. Membrane dehumidification

How much energy does a dehumidifier use?

The dehumidification process involves the treatment of air to improve comfort and maintain desired indoor conditions. Air dehumidifiers account for a great amount of energy consumption in building sectors. On average, around 15 % of energy is consumed by dehumidification systems even higher in some regions.

Practical application: Conventional dehumidification and air-conditioning options are either expensive or inefficient for dried fruit storage buildings. The study provides a way ...

A survey of liquid desiccant cooling systems is presented, along with references to recent work and an assessment of the potential and future research necessary for successful large-scale ...

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