BLINK SOLAR

Deodorizing lithium solar air conditioner

Overview

What is a hybrid liquid desiccant air conditioning system?

Desiccant systems are frequently paired with sensible cooling systems to cool both the desiccant and the air, creating a hybrid liquid desiccant air conditioning system (LDAS). The Vapor Compression Refrigeration (VCR) system is compared with the LDAS in Table 2. Table 2.

Does a direct contact evaporative cooling liquid desiccant system save energy?

Kim et al. investigated the potential of savings in energy with a direct contact evaporative cooling liquid desiccant system. A reduction of 51 % in cooling energy compared to a conventional variable air volume system was predicted. This was attributed to the water-side free cooling of the liquid desiccant solution in the absorber. Fig. 19.

When was solar-driven desiccant air conditioning invented?

One of the earliest experimental studies on solar-driven desiccant air conditioning systems was carried out by Lof in 1955 with tetra ethylene glycol solution. Since then, many early researchers have made significant efforts to develop and study desiccant-based systems for air conditioning applications [, , ,].

What is the dehumidification principle of a solid desiccant air conditioning system?

The dehumidification principle of an ideal solid desiccant air conditioning system is illustrated in Fig. 8 which primarily comprises of dehumidifier unit, regeneration unit, sensible heat exchanger, and cooling unit. The moist air enters the dehumidifier section where moisture is adsorbed by the desiccant material producing hot and dry air.

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Solar-Powered, Liquid-Desiccant Air Conditioner for Low ...

heat and mass exchanger horsepower heating, ventilating, and air conditioning liquid-desiccant air conditioner kilowatt kilowatt-hour pound lithium chloride million British ...

Study on performance optimization of a liquid desiccant air

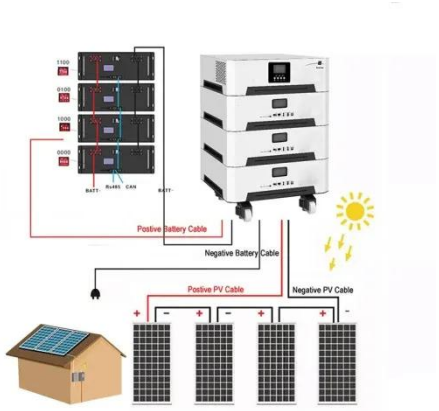
Compared to conventional condensation dehumidification systems, a solar liquid desiccant air conditioning system (SLDAC) offers distinct advantages, enabling independent ...

Lithium Battery Industry-Liquid Desiccant Air Conditioner ...

The air treatment process of the Liquid Desiccant Air conditioner system as follow: In cooling and dehumidifying section, fresh air A0 (36?, 60%) is cooled and dehumidified to A1 (15?, 40%).

Improving air conditioning efficiency using solar-assisted ...

This study presents a solar-assisted liquid desiccant air conditioning system (SRLDAC) incorporating internally cooled and heated liquid desiccant technology as a pre ...



Renewable Energy Application for Solar Air Conditioning

The utilization of renewable energy sources like solar energy is being given a serious consideration to meet the power requirements of the air-conditioning sector as energy ...

Evolution of solar driven desiccant systems for energy-efficient air

Desiccant air conditioning systems promise to be a cost-effective, low-grade energy-driven, sustainable system demonstrating huge potential as an alternate method for indoor ...

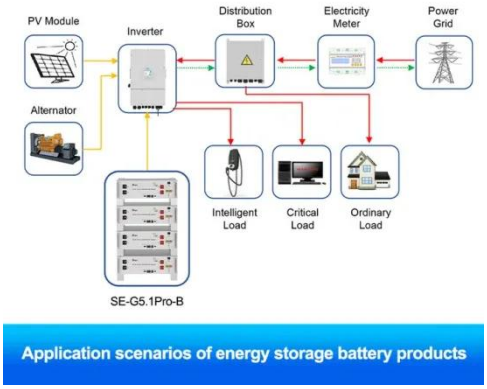
Simulation study of solar-powered liquid desiccant

radiant air

In order to foster clean, low-carbon, and efficient e nergy utilization, as well as to enhance the energy-saving operatio n and indoor air quality of buildings, a solar-powered ...

Assessment of Solar and Desiccant-Assisted Building Air-Conditioning

In this paper, the operational decoupled cooling and ventilation strategies of a desiccant-integrated and solar energy-regenerated air conditioning system are assessed, ...



Performance Prediction and Experimental Analysis of a ...

Abstract: In a liquid desiccant air conditioner developed at Materials & Energy Research Centre (MERC), dehumidification of the outside air is achieved through a packed ...

Liquid Dessicant Solar Air-Conditioner

Abstract The objective of this project is

to investigate an energy efficient air conditioner to be able to compete with conventional vapour compression systems. Liquid ...

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