

Application of plate heat exchanger in air energy storage field

Heat exchangers are essential in various industrial applications, transferring heat between two or more fluids without mixing them. Heat exchangers heat or cool fluids, ...

Evaluating the performance of the optimized MMC with a chevron-type plate heat exchanger, (a commonly used plate heat exchangers) indicated that the MMC for three differing chevron ...

Heat exchangers are essential devices used in many industries to transfer heat from one medium to another. They play a vital role in processes requiring heating or cooling by enabling efficient ...

It offers a comprehensive overview of the effect of these factors on the performance of plate heat exchangers. Furthermore, the review examines an analysis of ...

R T I C L E I N F O B S T R A C T Keywords: Energy storage Cryogenics Heat exchanger Heat transfer Modeling Optimization The cryogenic industry has experienced remarkable expansion ...

Firstly, the basic requirements for energy efficiency evaluation of heat exchanger grading are discussed. Subsequently, the expression of the EEI is revised to ...

This paper presents a focused investigation into the performance optimization of heat exchangers used in thermal energy storage systems, drawing on both experimental ...

In order to effectively use solar energy for water heating, it is necessary to have a steel frame, collection box frame, insulation, heat exchanger pipes, absorber plate, and glass ...

In this paper, the heat exchanger structure and HTF parameters of a plate-type latent heat thermal energy storage (LHTES) heat exchanger were investigated through ...

The Latent Heat Thermal Energy Storage (LHTES) system has been developed as a dispatchable solution for storing and releasing thermal energy. LHTES units use phase ...

Heat exchangers are utilized in a broad range of real-world applications across various industries due to their ability to efficiently transfer heat between fluids. In HVAC and ...

Abstract This work experimentally and numerically investigates the thermal performance of a vertical shell-and-tube heat exchanger, filled with a biological phase change ...

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A plate heat exchanger is a key component of heating systems, responsible for efficient heat transfer between two media of different temperatures. Its construction is based on ...

Download Citation | On May 1, 2025, Muhammad Umer and others published Heat transfer investigation in a solid-gas counterflow heat exchanger for thermochemical energy storage ...

In this paper, a prototype of a plate-type phase-change heat exchanger (PPCHE) is designed, and the influence of geometric parameters on the performance of the PPCHE is studied.

The prevalent numerical models for simulating axially finned heat exchangers with phase change materials (PCMs) and water as the heat transfer fluid rely on computational ...

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