BUHLE POWER

Principle of water cooling system for solar container battery container

Overview

What is a composite cooling system for energy storage containers?

Fig. 1 (a) shows the schematic diagram of the proposed composite cooling system for energy storage containers. The liquid cooling system conveys the low temperature coolant to the cold plate of the battery through the water pump to absorb the heat of the energy storage battery during the charging/discharging process.

How does a battery cooling system work?

Cold plates or coolant channels absorb this heat. The coolant, warmed by the battery cells, is circulated through the system by the pump. The heated coolant passes through the heat exchanger or radiator, where the heat is released into the air with the help of fans. The now-cooled liquid returns to the battery modules to repeat the process.

What are the temperature control requirements for container energy storage batteries?

In view of the temperature control requirements for charging/discharging of container energy storage batteries, the outdoor temperature of 45 °C and the water inlet temperature of 18 °C were selected as the rated/standard operating condition points.

What is a container energy storage system?

Containerized energy storage systems play an important role in the transmission, distribution and utilization of energy such as thermal, wind and solar power [3, 4]. Lithium batteries are widely used in container energy storage systems because of their high energy density, long service life and large output power [5, 6].

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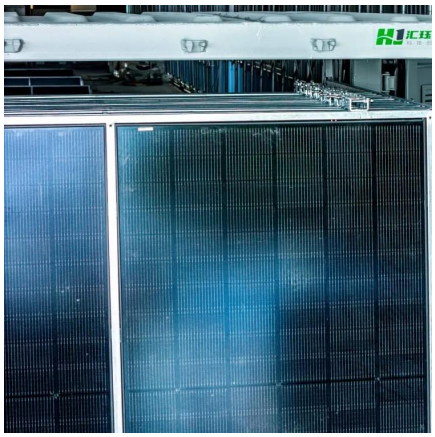

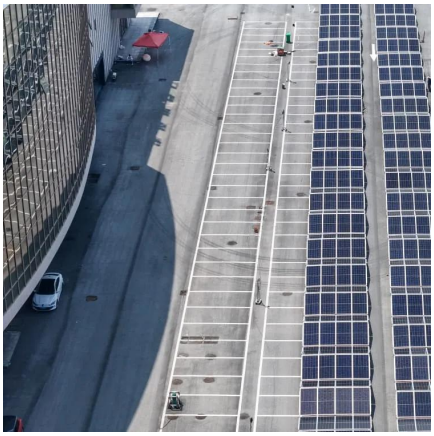

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