

Energy storage composite temperature control system





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.

What is composite thermal management system?

In summary, the proposed and developed composite thermal management system can provide a simple, lightweight, low-cost and reliable solution to avoid the weakness of high cost, complex structure and instability with liquid-cooled energy storage packs.

What is the energy saving rate of composite temperature control system?

In Hohhot, the ACCOP of conventional air-cooled air conditioning is 4.1, while the proposed composite temperature control system reaches 5.1, and the energy saving rate is close to 25 %. Even if the proposed composite temperature control system is adopted in Guangzhou, the energy saving rate is still more than 5 %. Fig. 5.

Can a composite thermal management system improve battery performance?

A low-cost and reliable composite thermal management solution was proposed. “J” types has better thermal performance for battery packs. Experimental and simulative results showed that the system has promising application for massive energy storage.



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