

Air-cooled battery pack





Overview

Can air cooled battery pack improve temperature uniformity?

An optimal design concept of air-cooled battery pack has been proposed. The cooling strategy to improve battery temperature uniformity has been studied. This paper describes a cooling strategy development method for an air cooled battery pack with lithium-ion pouch cells used in a hybrid electric vehicle (HEV).

What is a battery cooling system?

Accordingly, a cooling system is typically employed with the battery cells in the battery pack. A typical air cooled battery pack includes single or multiple strings of battery cells, a plurality of spaced apart battery cooling plates, cooling ducts, and control modules.

Do cooling strategies affect battery pack thermal behavior?

Analytical DOE studies are performed to examine the effects of cooling strategies including geometries of the cooling duct, cooling channel, cooling plate, and corrugation on battery pack thermal behavior and to identify the design concept of an air cooled battery pack to maximize its durability and its driving range. 1. Introduction.

Which structure has the best air-cooling effect in lithium-ion battery packs?

It is found that the square arrangement is the structure with the best air-cooling effect, and the cooling effect is best when the cold air inlet is at the top of the battery pack. We hope that this work can provide theoretical guidance for thermal management of lithium-ion battery packs. Export citation and abstract BibTeX RIS



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