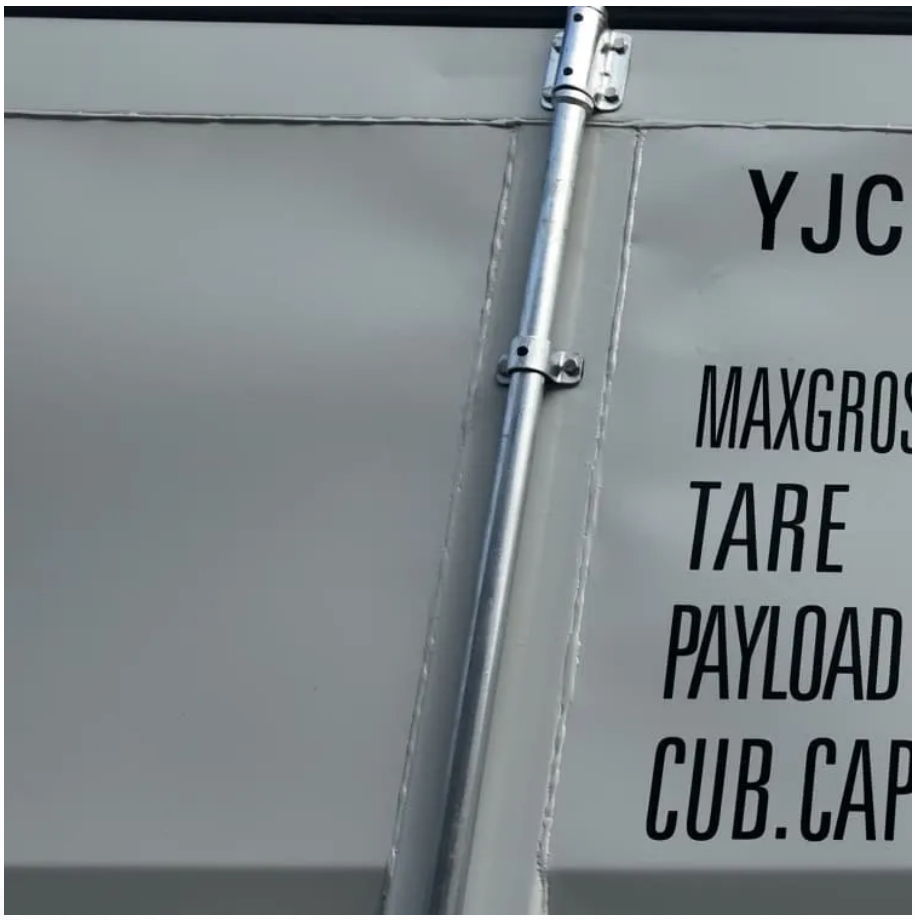
WALMER ENERGY

Tsshingwali Mobile Energy Storage Container Three-Phase



Overview

Can phase change material modules be used for mobile thermal energy storage?

Modular design of phase change material modules for mobile thermal energy storage. CFD modelling-based design and validation of a 400 MJ-scale novel M−TES device. Closed-loop hot air flow of up to 400 °C utilized achieving a full charge in 10 h. 97 % discharging efficiency with a mean rate and temperature of 10 kW and 195 °C.

What is the capacity of a mobile thermal energy storage device?

Conclusions This paper presents a model-based design study on a modular mobile thermal energy storage device with a capacity of approximately 400 MJ, utilizing composite phase change material modules.

Can a mobile thermal energy storage device address off-site industrial waste heat recovery?

Closed-loop hot air flow of up to 400 °C utilized achieving a full charge in 10 h. 97 % discharging efficiency with a mean rate and temperature of 10 kW and 195 °C. This study concerns with a modelling led-design of a novel mobile thermal energy storage (M−TES) device aimed to address off-site industrial waste heat recovery and reuse in the UK.

Can biological phase-change materials be used in chilled thermal energy systems?

Fragnito et al. explored the performance of heat exchangers with biological phase-change materials in chilled thermal energy systems through research experiments and numerical modelling, revealing that the design limits the thermal storage potential of the phase-change materials.

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