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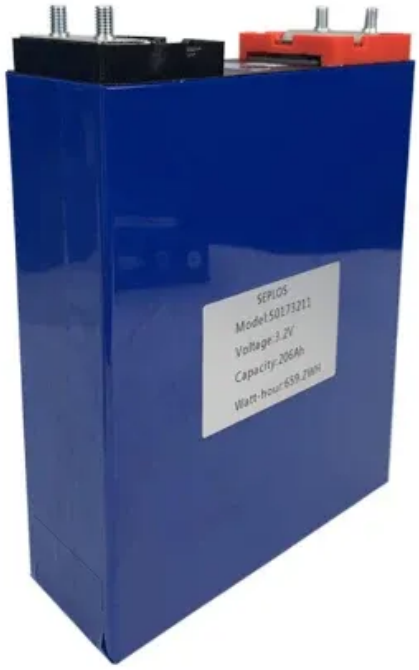
Solar air conditioning at sea



Overview

What is seawater air conditioning?

The process of seawater air conditioning consists of extracting seawater from the ocean, using it for district cooling and returning the seawater to the ocean. Fig. 1 presents the basic configuration of a SWAC system.

Is sea water air conditioning a cost effective alternative?

Sea water air conditioning (SWAC): a cost effective alternative [Online]. Available Energy modelling of district cooling system for new urban development Renewable energy in district heating and cooling: case studies Review of district heating and cooling systems for a sustainable future.

What are the benefits of seawater air conditioning systems?

The Seawater Air Condition Systems taps into a significant and highly valuable natural energy resource that is available at some coastal locations. The benefits of a seawater air conditioning system include: Costs are nearly independent of future energy price increases. No evaporative water consumption.

Is deep seawater air conditioning economically viable?

Deep seawater air conditioning requires long pipelines to reach the deep seawater and are only economically viable for cooling purposes at low to mid latitude locations. Typical applications and operational temperature profiles of shallow and deep seawater air conditioning are presented in Table 1 [, ,].

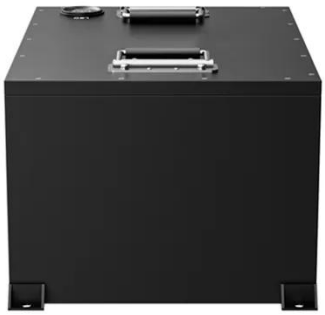
What is shallow seawater air conditioning?

Shallow seawater air conditioning is mainly applied for cooling and/or heating of buildings in locations in mid to high latitudes. Although the application of shallow seawater are not so common in western countries, seawater is generally used in Asian cities by the coast in water-cooled refrigeration systems [11].

What are the components of a seawater air conditioning system?

The main components of a seawater air conditioning system are the seawater supply system, the heat exchanger or cooling station and the fresh water distribution system. These basic components can be optimized for each specific location, climate and building.

Solar air conditioning at sea



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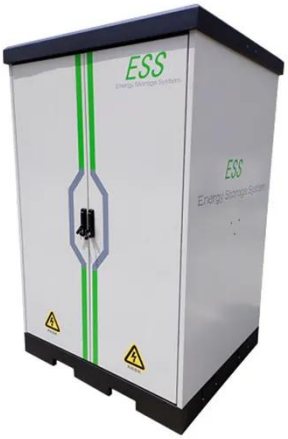

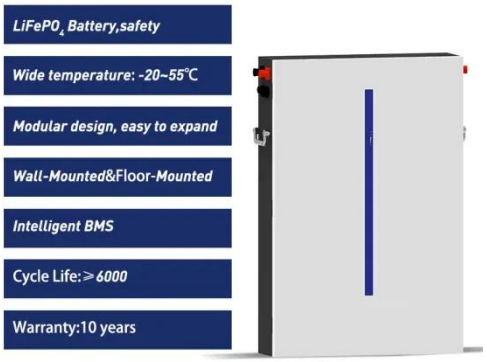

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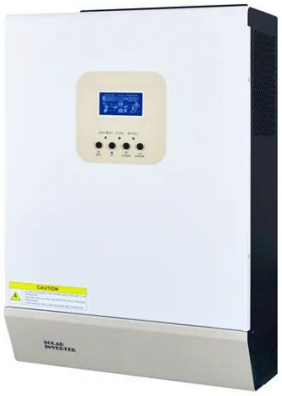

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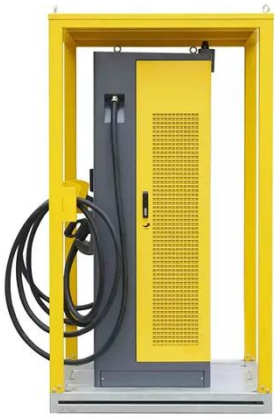
SWAC - SeaWater Air Conditioning , Makai Ocean



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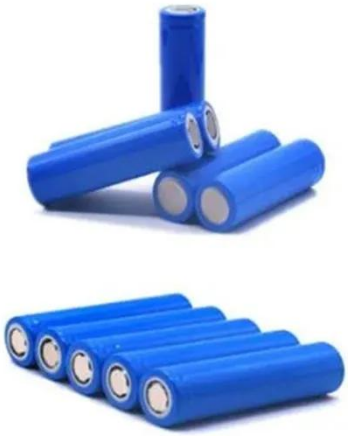

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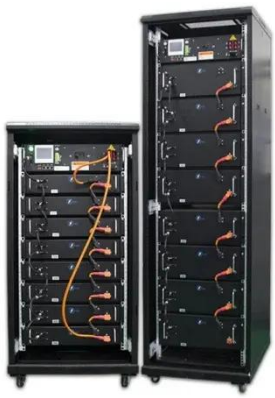

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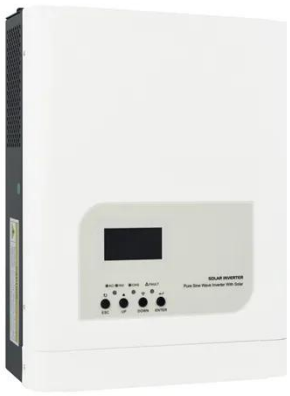

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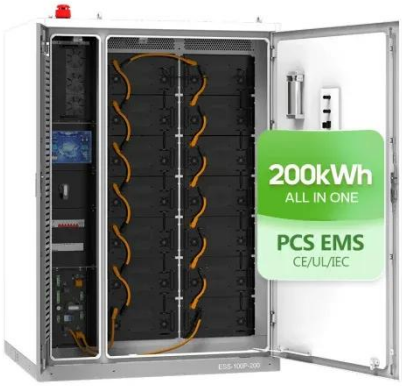

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