
Container ship power generation calculation

What is a ship generator & how does it work?

The generator is designed for the safe operation of the ship and reefer container energy supply. There's a huge amount of energy lost by the cooling system and exhaust gas: up to 65% of total energy consumed. There is considerable potential for waste heat recovery on container vessels.

How to choose a generator for a ship?

Because the ship is for the transport of cargo, it is essential to design the capacity of the appropriate equipment. The size of the generator that supplies power to the ship is calculated in consideration of the safety margin along with the setting of the maximum usable load [20,21,22,23,24].

How much power does a container ship use?

The ship can load 1200 FEU (forty-foot equivalent unit) refrigerated containers and consumes approximately 7440 kW of power when operated at the maximum load. Figure 1 shows the power system of the target ship, and Table 1 lists the specifications of the ship. Figure 1. Power system of the target container ship. Table 1.

How to calculate generator capacity?

First, to calculate the generator capacity, the characteristics of each operation mode were analyzed through the actual load profile data of the ship. The time ratio and power demand range for each operation mode were confirmed as quartiles of the power data for each operation mode.

Moreover, the FEEMI indicator is used to determine energy efficiency for different ship fleets (container ship fleet, oil tanker fleet, bulk carrier fleet, LNG fleet). Experimental ...

Ever wondered how shipping containers - those metal boxes you see on cargo ships - became the rockstars of renewable energy? Let's unpack the financial magic behind ...

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The paper reviews and analyses today's applied and practically feasible methods of electricity production on board ships. Technical, economical and last but not least ecological ...

Therefore, this study recommends further research on energy-efficient reefers, generator engine optimization, and shore power adoption to reduce emissions from container ...

The fuel consumption onboard is associated with propulsion and electric power generation. The estimate of the propulsive power during different operational conditions is a routine task in ...

The results show that electric ships have significant advantages in environmental protection, energy saving and lower costs while electric ships for containers have great ...

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