

A Guide to Cruise Ship Power Systems

Cruise ship power systems can vary from ship to ship, but every ship has an engine that uses fuel, usually diesel or gas, sometimes with supplemental electricity.



WHAT IS MARINE PROPULSION?

Marine propulsion is the way ships generate power to move through the water. The most basic forms of propulsion are sails or with a paddle. For large ships, like cruise ships, the most common are:

- Diesel engines
- Diesel-electric engines
- Gas turbines



TRADITIONAL DIESEL ENGINES ARE SIMPLE

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Of the three propulsion types presented here, diesel engines are the simplest technology. This technology is not that different from how the steamships of the 19th century.

EFFICIENT HYBRID DIESEL-ELECTRIC ENGINES

Most new cruise ships use diesel-electric engines. This type of propulsion is very similar to traditional diesel engines. The main difference is that instead of the engine and pistons being connected directly to the crankshaft and propellers, it is connected to a generator to generate electricity.



EFFICIENT HYBRID DIESEL-ELECTRIC ENGINES



MODERN GAS TURBINES

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Gas turbines, although they use a non-renewable energy source, are a greener option than diesel. They work the same way that diesel-electric propulsion systems do, and the heat that the turbines generate is often used for onboard electricity.



CRUISE SHIP POWER SYSTEMS

HOW ARE CRUISE SHIP POWER SYSTEMS EVOLVING?

Ship designers and engineers have begun coming up with new, more eco-friendly ship power systems to lessen the impact of cruising on the environment.

- Using wind propulsion like a sailing ship
- Harvesting solar energy
- Liquefied natural gas and new fuel technology