



Facts about MAN Diesel SE

FAQs – Frequently asked questions and answers

The MAN Diesel Group is frequently asked these questions. Our press office would be happy to answer any others you may have.

Question: How big is MAN Diesel's biggest engine then?

Answer: The most powerful engine in use developed at MAN Diesel and built under MAN licence, powers one of the world's largest container ships, which is maintained by the Greek shipping company COSTAMARE. The type 12K98MC engine has twelve cylinders and an output of 101,640 HP (74,760 kW). It is over ten metres tall. In 2007, MAN Diesel received the order for eight 14-cylinder engines of type 14K98ME-C7. Its output of 115,000 HP (84.3 Megawatt) make this two-stroke engine the world's most powerful marine diesel engine. The engines will power eight container ships with a transport capacity of 10,000 standard containers from Korean shipyards.

Q: Why do marine diesel engines still run on environmentally problematic heavy-fuel oil?

A: In brief, because they can, and because it's the cheapest type of fuel overall. Heavy-fuel oil is nothing more than the residue that remains behind after the refining of mineral oil. If ships and diesel power plants were to be operated with clean car diesel, a different method would need to be found to dispose of the unavoidable residues of our consumption of mineral oil. The research MAN Diesel carries out to reduce NO_x and soot has led to heavy-fuel oil, a waste

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material, being disposed of practically in an environmentally responsible way.

Q: Is it still worth it for MAN Diesel to produce in Europe?

A: Of course it is. We could not afford to keep our European production facilities open based on sentimentality alone. The development and production of our diesel engines demand expertise that we need to utilise where it is available – namely in our European facilities that have over 100 years of experience and innovative strength. Our collaboration with licensees also has a long tradition: MAN Diesel engines are produced all over the world – and always have been.

Q: Is diesel technology, which is now 112 years old, not slowly becoming superseded?

A: No. All technical systems follow the law of efficiency. Only if a new system is more efficient than the existing one can it oust the old one. Transportation by ship requires propulsion that reliably and quickly takes the ship from A to B, moving as much load as possible, keeping costs of capital, maintenance and repair low and burdening the environment as little as possible. In this regard, the diesel engine continues to be matchless: total consumption of fuel and lubricant, reliability, operating and maintenance costs mean that over 95% of all major ships are still powered by in some cases giant diesel engines.

Q: Is it not pointless, operating power plants with diesel engines?

A: Diesel engines coupled to generators continue to have the highest level of efficiency at converting fuel into electricity. One reason is that diesel engines can run with virtually any combustible material, from natural gas and

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crude oil – in other words the oil that comes straight out of the ground – to heavy-fuel oil, i.e. refinery products. Diesel engines are also extremely maintenance-friendly. Especially when a hard-to-reach area needs a reliable independent power supply, diesel power plants are ideal. This is also the case, for instance, on islands. Unlike other power plants (atomic plants, hydropower plants) they can be networked to the grid in less than a year.

Q: Why are no two-stroke engines built in Augsburg any more?

A: It would not be economically viable to produce engines of that size at different sites. Consequently, MAN Diesel has this rule: Copenhagen is responsible via the licensing model for low speed two-stroke engines, while Augsburg, Frederikshavn and Saint-Nazaire are responsible for medium-speed four-stroke engines.

Q: Is there – apart from the size – a difference between car and marine diesel engines?

A: The basic principle is the same, but there are a few differences, such as the design, the materials, the charging, the quality of the fuel, the service life and so on. Essentially, there are more differences than there are similarities. For example, by the time a large marine diesel engine has its first general overhaul, a car diesel engine has long since been on the scrap heap.

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