



PART 1: SWITCH TO ELECTRIC AND INCREASE THE MOTORING RANGE OF YOUR YACHT BY 30%



One of the biggest misconceptions about electric propulsion is that you won't have any range left, or that you would need hundreds of heavy batteries to give you the range you would have with a traditional diesel engine.

Hopefully this series of articles will help clarify this topic because in reality, refitting your yacht to an Oceanvolt hybrid system will mean your motoring range increases by approximately 30% compared to a boat with the same size diesel tank.

PURE ELECTRIC VS HYBRID

There are two options when it comes to electric propulsion; pure electric or hybrid. One of our jobs at Oceanvolt is to help design the right system for each customer depending on how they plan to use their yacht.

If you have an average monohull of approximately 40ft in length, and you mainly cruise around Europe, pulling into marinas or harbours every few days, then a pure electric system could be ideal for you.

As a standard rule, Oceanvolt would specify a pure electric system to give you enough range to be motoring at your cruising speed for about 5 hours. If you were to reduce your speed even by one knot, you could almost double the amount of nautical miles you can achieve on a single charge.

The pure electric option is really ideal for those who only use the motor to get out of the harbour and then hoist their sails and go sailing. After all, on a sailing yacht, the sails should be the primary form of propulsion.



This type of sailor has already seen the value in switching to electric propulsion, as it not only greatly increases the comfort on board by virtually eliminating the noise, vibration and smell of diesel, but also the massive reduction in maintenance and fuel costs. But what about the blue water cruisers?

Some blue water cruisers want to have the possibility to motor for up to 1,000 nautical miles, and believe that this is impossible with an electric propulsion system. This is really not the case. An Oceanvolt hybrid system will actually increase the range of your yacht compared to the traditional diesel propulsion system, whilst also offering greater reliability.

But even more than this, it will greatly increase the onboard comfort. The diesel generator is a smaller engine compared to the propulsion engine, and it is in its own vibration-absorbing, soundproof capsule. Furthermore, there are no mechanical parts connecting to the diesel generator, unlike a propulsion engine, which must connect to the shaft or saildrive leg, and be mounted directly to the hull in order to output the thrust.

Firstly, an Oceanvolt hybrid system is designed such that the propulsion is always coming from the electric motor, and a 48 VDC generator is installed to supply power directly to the 48 VDC battery. This means the power does not have to go through a battery charging unit, so the efficiency is greatly increased.

If you are unfamiliar with the finer points of an Oceanvolt hybrid, please check out [this article](#) which explains how the system works and why we use DC generators instead of AC.