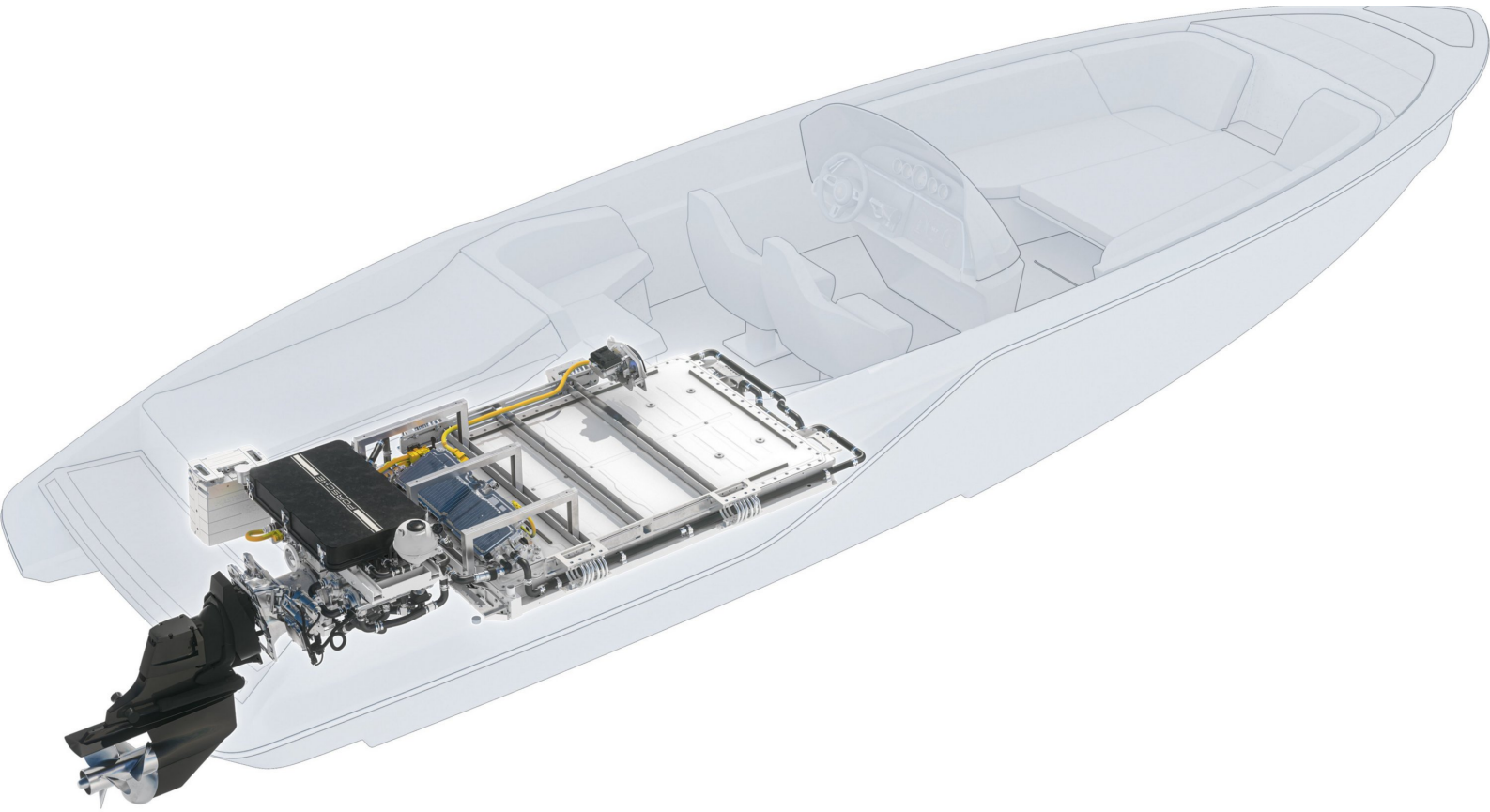


The efficient and powerful electric motor from the Macan

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The powertrain of the eFantom, with a latest-generation permanently excited synchronous electric motor (PSM), comes from the all-electric Porsche Macan. Porsche is using the most powerful variant of the future all-electric compact SUV for the technology transfer. In the yacht, the system power is throttled to 400 kW. A shaft transmits the power from the electric motor to the Z-drive. Although the motor is located in the hull of the boat, the Z-drive can be controlled directly like an outboard with a shaft and screw.

State-of-the-art power electronics optimise the efficiency of the electric motor: silicon carbide (SiC) is used instead of silicon as the semiconductor material in the pulse inverter. This significantly reduces switching losses in the PWR and enables higher switching frequencies.

The electric motor sits in the back of the boat while the controls are housed in a special waterproof box emblazoned with the Porsche logo. The lithium-ion battery, likewise adopted from the Macan, is also

located under the lounge area at the rear end. The total gross capacity is around 100 kWh. For the suspension in the support frame, the experts at Porsche opted for wire rope mounts, which are particularly good at absorbing the shocks that inevitably occur while driving fast and in waves. The Frauscher x Porsche 850 Fantom Air glides comfortably over the water despite its sporty overall orientation.

Porsche drivers are accustomed to being able to select the optimal drive characteristics for any situation with use of multiple driving modes. This is also possible with the eFantom, which offers the Docking, Range, Sport and Sport Plus settings. The modes change the characteristic curve of the throttle response while also featuring different speed limits. For example, in Docking mode for harbour driving, the speed is limited to 8 knots (the equivalent of 15 km/h).

The optimal cruising speed is 41 km/h (22 knots); at this speed, the boat can cruise for around an hour on a battery charge. Naturally, the range is correspondingly shorter when driving at or near the top speed, which is 85 km/h (46 knots) in Sport Plus mode. Typical outings with a mix of slow and fast driving allow a driving time of two to three hours – depending on the driving profile.

Thanks to the 800-volt technology from Porsche, the electric boat can be charged with over 250 kW of DC current at DC fast-charging stations. Under ideal conditions, the battery can be charged from a 10 per cent state of charge (SoC) to 80 per cent in well under 30 minutes. AC charging at conventional household and high-voltage sockets is of course also possible and will, according to the Porsche experts, be the most common use case as the infrastructure is available in the vast majority of ports. There is an 11-kW AC charger on board as standard. The charging ports are located on the front side of the left bench.

MEDIA ENQUIRIES



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