

elinmotoren.com



# Pioniering the future Customized maritime drive solutions





## Advanced drive concepts for your maritime operation

The way ships navigate at open seas has changed in the last years to meet the unique challenges of the maritime world, delivering a seamless blend of power, sustainability, and precision. We understand the importance of environmentally friendly technologies, and our electric rotating machines reflect the commitment to safeguard our marine ecosystems.

In the ever-evolving landscape of maritime exploration, ELIN Motoren stands as a beacon of innovation, propelling the industry toward a sustainable and efficient tomorrow. As we set sail into the future, the transformation in drive concepts emerges as a pivotal chapter, driven by an urgent need to reduce CO<sub>2</sub> emissions and align with the ambitious goals set forth by the IMO for 2030.

At the heart of this transformation lie our advanced electric motors, meticulously crafted to revolutionize the way vessels traverse the open seas. With an unwavering commitment to precision, efficiency, and low noise, these motors serve as the cornerstone of a greener maritime sector. Their remarkable torque and unparalleled efficiency usher in a new era of propulsion, enhancing maneuverability and operational excellence.

We share the vision of a maritime industry that operates harmoniously with the environment. By harnessing the power of electric propulsion, we are collectively steering toward a future where emissions are minimized, and sustainability takes center stage. Through transformative drive concepts and the integration of electric motors, we forge a path to reduce CO2 emissions and create a legacy of positive change. Precision and low noise become the hallmark of our approach, ensuring that every voyage is marked by efficiency and environmental consciousness.

Our electric motors, harnessing the power of permanent magnets, represent a leap forward in efficiency and performance. The inherent properties of permanent magnets enable our electric motors to generate higher torque with exceptional precision, enhancing vessel maneuverability and optimizing energy consumption. Furthermore, these motors operate with remarkable efficiency, converting a larger portion of input power into usable output. This increased efficiency directly translates into reduced energy consumption, a critical factor in our shared journey toward sustainability.

At ELIN Motoren we act as a partner who understands the importance of tailor-made technical solutions with a deep knowledge when it comes to international regulations and certifications to support you in your design specifications.



## Main propulsion: **Unleashing the precision and power**

ELIN Motoren produces efficient asynchronous and PM synchronous machines for diesel-electric or fully electric vessels like ferries, offshore service vessels, LNG/LPG vessels and special ships like research vessels. Electric drives are vital for eco-friendly and efficient shipping, aligning with IMO's emission reduction initiatives. Our motors offer low-noise, low-vibration design, and enhanced maneuverability through azimuth thrusters, podded propulsion, and dynamic positioning tech, ensuring precise maritime performance.

## PTO/PTI Systems: **Redefining power distribution**

Experience versatility like never before with Power Take-Off (PTO) and Power Take-In (PTI) hybrid systems. Seamlessly harness surplus power from your main propulsion system to drive auxiliary equipment, optimizing energy distribution and minimizing downtime. ELIN Motoren specializes in low-voltage squirrel-cage induction machines with water-cooling for PTO-PTI hybrid systems with gearboxes as well as inline PM shaft-generators.



## Thrusters: Precision in every direction

Navigate with finesse using advanced thruster technologies. Our electric motors are used in thruster systems provide unmatched thrust control, ensuring optimal maneuverability in confined spaces and challenging conditions as torques retrieve immediately. Whether it's azimuth thrusters, tunnel thrusters, or retractable thrusters, ELIN Motoren empowers your vessel with the precision needed to navigate any waterway.

## Auxiliary Drives: Beyond main propulsion

Elevate auxiliary equipment functionality with our asynchronous motors with cage rotors. Seamlessly integrate our drive solutions into your vessel's auxiliary systems to optimize performance and efficiency. From pumps to boil of gas-compressors, these systems ensure reliable power distribution, enhancing your vessel's operational capabilities and reducing downtimes.

## Service and Maintenance: Your lifecycle partner

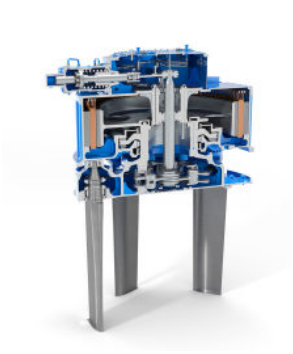
Service is a lifelong promise for us. Our electric motors and generators must ensure reliable, high-performance operation even after decades and many hours. Service and repair round off our company's value chain and ensure you can rely on optimum machine performance throughout the product lifecycle.

We offer a wide range of services and spare parts to ensure that your machines operate reliably and are always in top condition. Our highly qualified technicians have many years of experience in maintaining and repairing electric motors and generators. Our dedicated test field is one of the most modern facilities in Europe to perform electrical tests on all machines, including also structure and air borne noise measurements.



## Reliability beyond horizons

When it comes to maritime operations, reliability is paramount. Our electric motors are renowned for their high torque, rapid response and reliability even in the harshest marine environments. Our portfolio covers asynchronous motors with short-circuit and slip ring rotors as well as highly efficient PM synchronous motors and generators for the marine industry and its various applications. ELIN Motoren offers drive solutions between the ranges of 200 kW up to 35 MW.



### Integrated permanent magnet motor

- High torque electric motor for S1 operating mode
- Low fuel consumption and noise-emissions
- Safe and precise maneuvering of the propeller
- Reliable and high dynamic drive unit



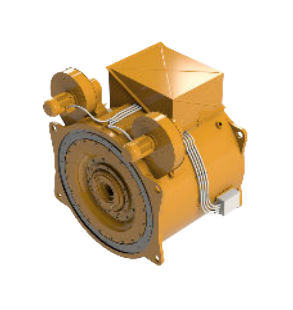
### Permanent magnet shaft generator

- High efficiency at low speed and partial load operations
- Small footprint because of brushless PM technology
- Redundant cooling with water jacket and heat



### Water-cooled induction generator and motor

- High dynamics and wide constant power range
- Reduced fuel consumption of the vessel
- Low noise emissions
- Optimized efficiency



### Permanent magnet generator and motor

- High efficiency at low speed and partial load operations
  - High torque for S1 mode
  - Small footprint because of brushless PM technology
  - Low noise emissions and weight
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