



Power you can trust at sea.

Powerful and reliable solutions
for the maritime industry.

INNOMOTICS

Engineered reliability for harsh marine environments.



Maritime challenges.



Emissions reduction and regulatory progress.

Shipping and port operations are accelerating toward lower-emission and more sustainable operations, driven by tightening environmental regulations, decarbonization targets, and increasing demand for energy-efficient vessel systems.



Optimized space, weight and power density.

Modern vessels and retrofit projects require higher power output within increasingly constrained installation spaces, demanding compact, lightweight, and highly integrated electrical solutions.



Reliability, durability and lifecycle performance.

Marine applications operate in harsh, high-vibration, and corrosive environments where operational reliability, system availability, and minimized lifecycle costs are critical.

Innomotics value propositions.



Making low-emission operation possible.

Innomotics enables low-emission vessel operation through onshore power integration, high-efficiency generators, and optimized auxiliary systems that reduce fuel consumption and CO₂ emissions. Modular generator solutions and integrated motor-drive packages are engineered for high partial-load efficiency and seamless shore-power integration, supporting compliance with evolving maritime regulations.



Compact power, engineered to fit.

Innomotics delivers compact and modular high-voltage motors, scalable generator units, and advanced drive topologies with flexible cooling concepts. These solutions provide exceptional power-to-footprint performance, enabling efficient integration for shipyards, retrofit projects, and naval architects without compromising performance or reliability.



Protecting availability in harsh, high-vibration, corrosive marine settings.

Innomotics combines fault-tolerant drive technology, cell redundancy, motor-friendly output performance, and proven severe-duty motors to maximize uptime in demanding marine applications. Supported by a global service network and smart maintenance solutions, our systems are designed to enhance operational availability while reducing total cost of ownership across the entire lifecycle.

Modular synchronous generators.

Compact, efficient power for propulsion and auxiliary systems.

GEN M

A modular synchronous generator family engineered for marine duty: propulsion, shaft generators (PTO/PTI), auxiliary and emergency systems. GEN M is designed for **high power density** and **compact installation** to meet space and integration constraints aboard modern vessels.

Multiple cooling options, flexible electrical parameters, and high efficiencies maintained even at partial output, help reduce fuel use and lifecycle CO2 emissions.

Suited to a wide range of marine and naval vessels requiring compact, class-ready generator solutions.

GEN M technical data overview.	
Technical data overview	Synchronous
Enclosure material	Welded steel
Power rating	3-28 MVA
Shaft height	560-900 mm
No. of poles	4-14 (other pole no. on request)
Rated voltages	400V-13.8kV
Ambient tempratures	-40 to +60 C
Designs	B3 (more on request)
Degree of protection	IP55-IP66
Cooling type	IC01, IC81W, IC616
Efficiency	Up to 98,5%



Medium voltage drives.

Motor drive pairs engineered for availability and motor friendliness.

GM150

A medium-voltage drive based on a **3-level NPC** (neutral-point-clamped) topology, the GM150 is optimized for propulsion, thrusters, compressors and pumps. It supports flexible configurations for space-constrained installations while delivering robust reliability and straightforward system integration.



Perfect Harmony GH150 and SH150.

A modular **multilevel converter platform** that combines proven **M2C technology** with marine-ready reliability for demanding onboard applications. The SH150 stands out with Active Front End (AFE), enabling 4-quadrant operation, grid stabilization, and seamless power-to-power conversion. Their near-sinusoidal voltage ensures ultra-low harmonics and exceptional motor and network protection. Both solutions offer flexible cooling, high efficiency (>98%), and robust performance for critical marine drives.



GM150	Perfect Harmony GH150	Perfect Harmony SH150
1 – 10.1 MVA (air cooled)	—	—
2 – 24 MVA (water cooled)	4 – 47 MVA (water cooled)	4 – 32 MVA (water cooled)
2.3 – 4.16 kV (Output voltage) 6.6 kV and multi motor	4.16 – 11 kV (water cooled) (Output voltage)	3.3 – 11.0 kV (Output voltage)
2Q	2Q	2Q / 4Q (AFE)
- Separate transformer - Marine and offshore duty - Small footprint (water cooled)	- Separate transformer - Cell redundancy - Motor friendly	- Highest flexibility - Line friendly - Modular topology combinations

Compact, modular, and special medium voltage motors.

Fit for purpose medium voltage machines for marine integration.

Innomotics HV C

Compact, high-performance high-voltage motor designed for space-constrained marine and naval installations, delivering outstanding **efficiency and durability** in a **footprint-optimized design**.

Engineered with marine-grade construction, advanced **water jacket cooling**, and protective **coating systems up to CX and NORSOK** standards, it ensures long-term reliability in harsh environments. Available in flameproof designs and flexible configurations, it integrates seamlessly into **propulsion, thrusters, and auxiliary systems**.

HV C technical data overview.	
Technology	Asynchronous
Enclosure material	Cast iron
Power rating	- up to 2.5 MW (air-cooled) - up to 3.2 MW (water-cooled) - up to 2.3 MW (flameproof IC411) - up to 7.5 MW (flameproof IC511)
Shaft height	315 – 560 mm (flameproof up to 900mm)
No. of poles	2, 4, 6, 8 poles (other pole numbers on request)
Rated voltages	690V - 11 kV
Ambient tempratures	-40 to +60 C
Designs	B3, V1, B35 (more on request)
Degree of protection	IP55-IP66
Cooling type	IC411, IC416, IC71W, IC511, IC516
Efficiency	Up to 98%
Applications	Propulsion, thrusters, pumps, fans, compressors



Innomotics HV M

A versatile **modular high-voltage motor platform** designed for marine duty, enabling **tailored configurations** to meet specific performance and efficiency targets. Featuring rugged construction, innovative cooling solutions, and advanced **coating systems up to CX and NORSOK** standards, it is built to withstand the toughest operating conditions.

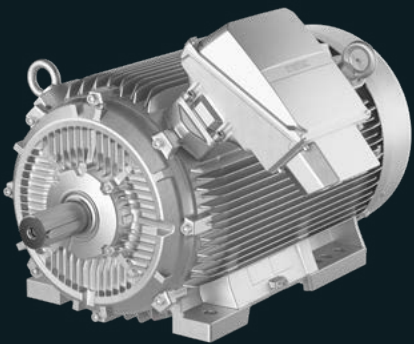
Its **scalable design** supports a wide range of power and voltage levels, with flexible enclosure and a variety of options. A robust and competitive choice for reliable integration into **propulsion, thrusters and auxiliary applications across diverse vessel types**.



HV M technical data overview.	
Technology	Asynchronous
Enclosure material	Cast iron / Welded steel
Power rating	up to 29 MW
Shaft height	- 450 up to 560 mm: cast iron enclosure (welded steel on request) - 630 up to 900 mm: welded steel enclosure
No. of poles	2, 4, 6, 8, 10, 12 poles (other pole numbers on request)
Rated voltages	690V - 13.8 kV
Ambient tempratures	-40° to +60° C
Designs	B3, V1, B35 (more on request)
Degree of protection	IP23, IP24W, IP55, IP56 non-heavy-sea
Cooling type	IC 01, IC 81 W, IC 86 W, IC 611, IC 616, IC 666 (Air- and water-cooled)
Efficiency	Up to 98%
Applications	Propulsion, thrusters, pumps, fans, compressors.



Severe duty low voltage motors built for the sea.



Rugged workhorses for heavy marine.

Innomotics SD motors combine high efficiency with a durable cast-iron enclosure to withstand harsh marine conditions above and below deck. **Compact and customizable**, they support **economical, sustainable operation** and offer **high efficiency levels**. For hazardous areas, Innomotics XP explosion-proof enclosures provide maximum safety and full marine certification.

Below deck.

Main propulsion auxiliaries, bow thrusters, azimuth drives, compressors, pumps, fans.

Above deck.

Winches, cranes, boosters, deep-well pumps and other hazardous-location equipment.

Offshore platforms, tankers and LNG units require specially protected equipment. Innomotics XP motors are engineered for explosive atmospheres (ie. enclosures) to ensure safe operation in zone and division systems.

SD motors technical data overview.	
Technology	Asynchronous
Enclosure material	Cast iron
Power rating	0.09 – 1,000 kW
Shaft height	71 – 450 mm
No. of poles	2, 4, 6, 8
Rated voltages	200 – 690 V
Ambient tempratures	-40 to +60 C
Designs	B3, V1, B35 (more on request)
Degree of protection	IP55-IP66
Cooling type	IC411, IC416
Efficiency	IE3, IE4, IE5, (IE6 on request)
Applications	Pumps, fans, compressors, winches, cranes, retrofit projects, etc.

Typical marine applications and the value we deliver.

From port electrification to dynamic offshore operations.

Core applications and sectors.

Innomotics solutions power main propulsion, thrusters, PTO/PTI systems, auxiliary generation, onshore power supply (OPS), pumps, compressors and auxiliaries. Our drives and packaged electrical systems are specified across merchant fleets, offshore platforms, dredgers, special vessels and naval vessels where compact, high-density electrification and robust performance are required.

Project examples that demonstrate value.

OPS installations supply shore power to berthed vessels, enabling measurable reductions in CO2 and local emissions while allowing port and ship operators to meet tighter environmental regulations. On wind-farm installation vessels and CSOVs, compact, high-power motors and generators deliver the dynamic positioning precision and heavy-lift capability needed in confined spaces, highlighting the advantage of modular, high-density electrical packages that reduce topside footprint and simplify retrofits.

Value we deliver. Practical outcomes for ship owners and operators.



Lower fuel use and emissions through more efficient drive control and electrification pathways, supporting sustainability targets and regulatory compliance.



Simplified maintenance and faster servicing through standardized modular components, cutting lifecycle maintenance hours.



Higher operational availability via modular redundancy and easily interchangeable power cells, reducing downtime and protecting critical missions.



Reduced total cost of ownership: operational savings, extended equipment life and easier upgrades translate into improved asset economics over the vessel lifecycle.



Lower vibration and noise, improving crew comfort and reducing mechanical stress on equipment.



Lifecycle services, project delivery, and technical snapshot.

Lifecycle and aftermarket.

Spare parts, repair, retrofit and upgrade, service agreements, training and field support designed to maximize availability and productivity. 24/7 options available to minimize unplanned outages and optimize total cost of ownership.

Project delivery and factories.

Innomotics operates specialized factories and project centers delivering drives and motors to marine specification. Project teams provide engineering for multi-motor/multi-generator packages, marine interfaces and classification workflow coordination. This integrated delivery model shortens lead times and reduces interface risk on complex builds.

Innomotics Exciter.

Brushless rotating reverse-field Innomotics Exciter for medium-voltage drive systems, a 1:1 replacement for discontinued Siemens SIMOTRAS* units.

IP54 protection, PROFIBUS and PROFINET compatibility. Compact footprint for confined installations.

* SIEMENS and SIMOTRAS are registered trademarks of Siemens AG or its affiliated companies whose use by third parties for their own purposes could violate the rights of the respective owner.



End to end support — from specification to sea trials.



Online support.
Find FAQs and product and service information in our download center or via the Innomotics Portal.



Technical support.
Quick access for troubleshooting and language-appropriate support for your installed base.



24/7 on-call support.
Centralized 24/7 on-call service for critical assets. As part of a service agreement you receive immediate support from our competent service experts.

Marine Certificates.

Innomotics products are designed and certified for marine applications in accordance with major international classification societies, ensuring compliance, safety, and reliability across global fleets. Marine suitability is validated by leading registers such as:

- ABS – American Bureau of Shipping (USA)
- BV - Bureau Veritas (France)
- CCS – China Classification Society
- DNV GL - Det Norske Veritas / Germanischer Lloyd (Norway / Germany)
- KR – Korean Register of Shipping
- LR - Lloyds Register (UK)
- RINA - Registro Italiano Navale (Italy)

Additional certifications available on request.



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Innomotics provides products and solutions with industrial security functions that support the secure operation of plants, systems, machines and networks. In order to protect plants, systems, machines and networks against cyber threats, it is necessary to implement – and continuously maintain – a holistic, state-of-the-art industrial security concept. Innomotics' products and solutions constitute one element of such a concept. Customers are responsible for preventing unauthorized access to their plants, systems, machines and networks. Such systems, machines and components should only be connected to an enterprise network or the internet if and to the extent such a connection is necessary and only when appropriate security measures (e.g. firewalls and/or network segmentation) are in place. For additional information on industrial security measures that may be implemented, please visit: **innomotics.com/cybersecurity**

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