

ENGINEERING
TOMORROW



Danfoss Oil, Gas, Marine and Offshore

A trusted partner for all your oil, gas, marine and offshore needs

Comprehensive solutions to help you increase system efficiency, safety and reliability.



25+
years of optimizing
performance

A TRUSTED **PARTNER:**

Complete support for **oil, gas, marine** **and offshore**



As the world population is projected to soar to 9.7 billion by 2050, demands for goods, infrastructure and energy resources are expected to increase exponentially. And today, offshore and maritime industries face significant challenges to meet growing needs and heightened environmental regulations.

While renewable energy technology is developing rapidly, fossil fuels remain the most significant fuel source. To meet increasing demands safely and sustainably, you need a reliable partner to navigate the oil, gas, marine and offshore industries.



A record of reliability

Few industries face greater risks than oil, gas, marine and offshore. In these industries, the price of failure is expensive: lost resources, damaged reputation, environmental impact, injured workers, etc. Costs from unplanned shutdowns can add up quickly — anywhere from \$38 to \$88 million per year. Choosing the right partner is key to maintaining profits.

Danfoss leverages decades of experience in other industries to produce some of the most reliable, robust products on the market. When you work with Danfoss, you're partnering with its global network of system integrators and distributors. These experts work in tandem with our Danfoss engineers, accessing the same support and resources. Local service translates to reduced downtime, increasing profitability over the system's life cycle.

Increased efficiency and performance

Reducing downtime and increasing availability are crucial to boosting overall efficiencies. That's where connected solutions and the IoT make a significant difference.

Connected solutions — like our PLUS+1® controller — enable predictive maintenance, allowing operators to promptly identify system errors. This means operators at sea can use precious time wisely and make service arrangements before the vessel arrives to port.

Furthermore, **energy efficiency** can be increased by nearly 30 percent through hybrid propulsion systems and peak shaving. Operators run their diesel engines at optimum levels, storing excess power from the generators in batteries and releasing it back into the grid when needed.

Safety

Safety at sea is paramount. Whether you are seeking water mist, CO₂, foam or dry chemical powder systems, Danfoss Semco provides turnkey solutions from our portfolio of high pressure pumps, powered by our electric motors and variable frequency drives.

Streamlined certifications

More regulations and mandates from global organizations require additional compliance from OEMs. That's why Danfoss offers built-in comprehensive certification and regulation compliance for the oil, gas, marine and offshore industries on the component level. We streamline the process to minimize complications.

OFFERING ALL MAJOR CERTIFICATIONS FOR **OIL, GAS, MARINE AND OFFSHORE**

CASE STUDY: CMAL Electric Hybrid Ferries, Scotland

As part of its commitment to supporting Scotland's emissions reduction goals, Caledonian Maritime Assets Limited (CMAL) implemented a groundbreaking diesel-electric hybrid propulsion system for its newest roll-on/roll-off (RORO) ferries. Equipped with variable speed drives from Danfoss, this system offers up to 38 percent in fuel savings and reduces emissions.



CHALLENGE

EMISSIONS

Reduction

SOLUTION

2

VACON® NXP SERIES LIQUID-COOLED
VARIABLE SPEED DRIVES

RESULT

38%

REDUCTION IN
FUEL CONSUMPTION

We now appreciate the benefits of **hybrid technology** protecting the environment and reducing operating costs — the success of which depends on **reliable, efficient and well-engineered components**, which is a very good description of VACON® NXP drives from Danfoss.

JOHN SALTON
Fleet Manager and Project Director, CMAL



Broad expertise

Danfoss understands how these unique challenges affect oil, gas, marine and offshore applications — an expertise derived from more than 25 years in the industry.

Whether it's a 40-foot fishing boat, offshore vessel, drilling rig, cruise liner or anything in between, Danfoss delivers the solutions you need — a diverse product offering designed to optimize a variety of applications.

Products

- Electronic controls
- Fixed fire fighting systems
- Hydraulic motors
- Hydraulic pumps
- Hydraulic valves
- Sensors
- Software
- Variable frequency drives

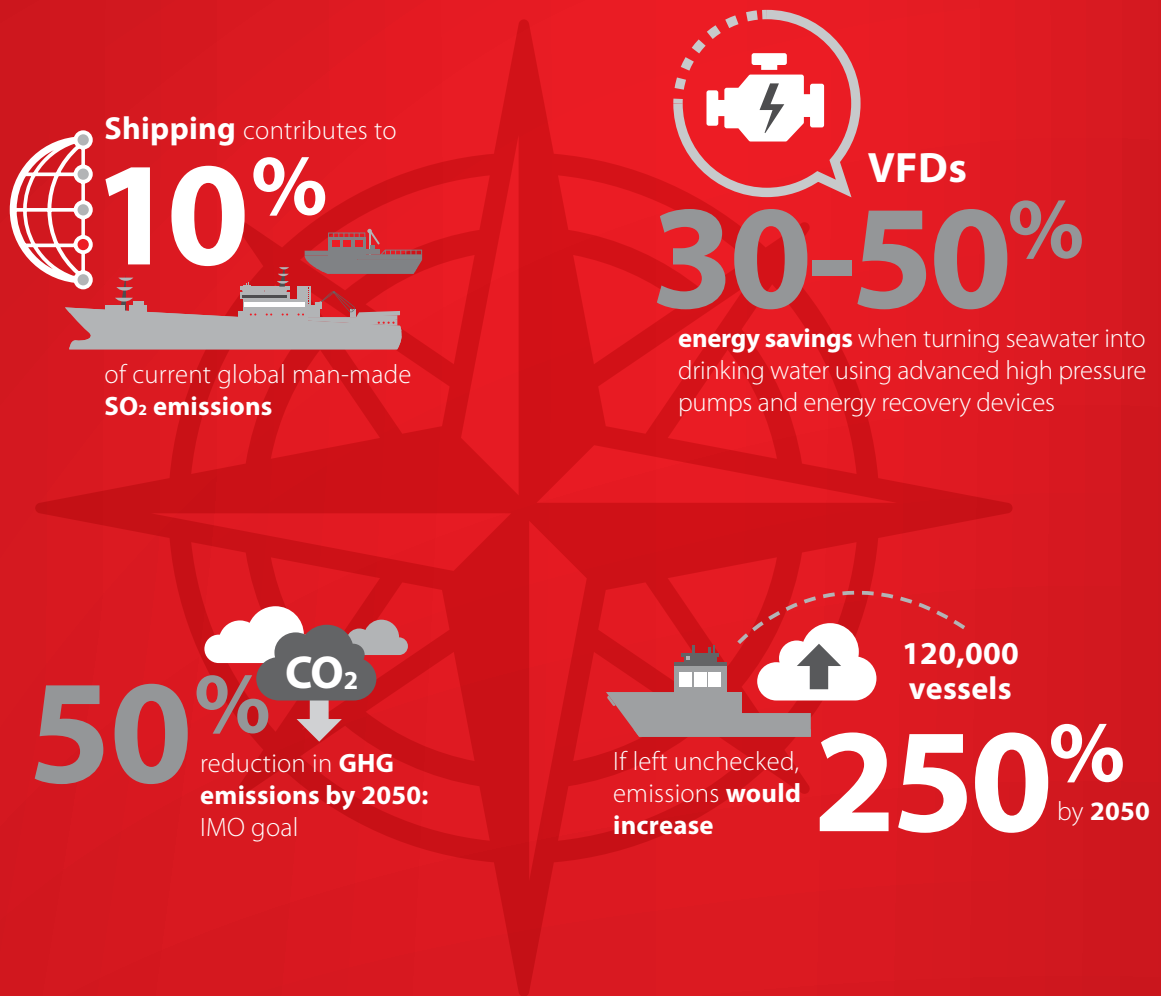
Applications

- Accommodation
- Artificial lifts
- Bilge
- Coiled tubing
- Cranes
- Drill rigs
- Engine room
- Jack-up rigs
- Marine hybrid-propulsion
- Pipe handling
- Top drives
- Winches

Innovative solutions

Danfoss' innovative solutions can help companies meet **global emissions regulations**. Hybrid propulsion systems, custom software solutions and new technologies can all help lower overall diesel consumption.

Danfoss is also uniquely positioned to provide the best solution to a broad array of challenges. One example of Danfoss' cutting-edge technology is its patented anti-sway system. The integrated, sensorless control reduces load sway in cranes, boosting productivity.



Danfoss understands your complex challenges. That's why we are Engineering Tomorrow while delivering the right products, technologies and partnerships you need today to help you navigate more efficiently, safely and sustainably in the harshest environments.



To learn how our diverse product lines can be put to work for your specific application, visit energy.danfoss.com or bit.ly/DanfossMarineAndOffshore.