



MARINE & OFFSHORE

High-efficiency and Reliable Marine Pump Solutions

PROVEN TECHNOLOGY

DESMI

THE NATURAL CHOICE OF HIGH-QUALITY PUMPS

Thousands of DESMI pumps are at work on the seven seas, and these pumping solutions are living proof that our customers are satisfied with the performance of our products.

For more than 50 years we have supplied marine pumps to the world's fleet - from the largest container ships to the smallest fishing vessels. Regardless of the size of the ship we know the owners' demands for many years of trouble-free operation.

In recent years we have also taken on the supply for offshore installations worldwide.

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ENGINE ROOM PUMPS

For half a century we have supplied solutions to vessels around the globe with the best in marine pumps and systems. They are living proof that DESMI customers are satisfied with the performance of our products. Be it for the world's largest container ships or small fishing vessels, we know the owners' demands for many years of trouble-free operation.

Our customers' demand for a minimum down-time period and low CO₂ emissions has proved itself from various concepts within DESMI.

DESMI co-operates with many companies across the European maritime industry to develop CO₂, SO_x and NO_x reduction strategies.

DESMI's dedication to constantly improve our existing programme and also develop new concepts, has tailored more than 100 types of pump combinations and designs, guaranteeing DESMI can always provide the right pump solutions for our customers.

DESMI offers fast track pumps with the DESMI 48 concept which reduces maintenance and down-time.



Our pumps comply with requirements of all classification societies.

Example test certificates from own test bed and any classification society are available on request

Our continuous product development, combined with the acquisition of relevant companies, has made the DESMI product range even more comprehensive.

To ensure a full pump package we co-operate with other manufacturers of high-quality pumps and accessories.



Vertical Pumps



Capacity range: Up to 4,400 m³/h
Pressure range: Up to 220 mWC

Horizontal Pumps



Capacity range: Up to 400 m³/h
Pressure range: Up to 150 mWC

Internal Gear Pumps



Capacity range: Up to 250 m³/h
Viscosity range: Up to 250,000 cST
Temperature range: Up to 250°C

OPTISAVE™

The simple way to save up to 80,000 USD per year

Save 80,000 USD by means of intelligent cooling water system control.

The cooling water system on-board vessels is designed for operation in 32°C seawater and 100% engine load and the auxiliary equipment runs as if this condition is permanent.

However, the seawater temperatures of the oceans are not 32°C all over the world. Actually, there are only few hotspots where these conditions are present. This means that the cooling system, in 95% of the operation time is absorbing too much energy.

By installing DESMI OptiSave™ energy saving system you will be able to regulate the energy consumption according to actual cooling demand and thereby save fuel for your generator sets.

You will achieve a 50% reduction in the energy consumption for your cooling water pumps already at 28°C. The power consumption of the pump will be reduced 4 times compared to the speed reduction of the pump.



For more info on OptiSave™
please follow the QR link or visit
www.optisave.info

The many benefits of DESMI OptiSave™ are:

- ✓ Energy saving up to 80%
- ✓ Short return on investment
- ✓ Prolonged lifetime of pumps due to less wear and tear
- ✓ Minimum changes in existing electrical installations
- ✓ Proven technology
- ✓ Proven savings
- ✓ Reduced OPEX
- ✓ Worldwide service support



An example trip from Shanghai to Denmark - with and without OptiSave™:

Your savings with DESMI OptiSave™ on this trip:

We have saved 52,000 kWh - and on board the vessel it costs 0,2 kilogram fuel to produce 1 kWh. The fuel savings will thereby accumulate to 10,3 tons of fuel. With today's bunker price of 590 USD/ ton fuel the savings for the described trip from Shanghai to Denmark will reach 6,130 USD for a 4 week trip.

**Green
Technology**

Saving calculation:

52,000 kWh
x
0.2 kilogram fuel
= 10.3 tons fuel

Saving calculation:

590 USD
x
10.3 tons
= 6130 USD - in 4 weeks

Savings:

676,000 kWh > fuel > 80,000 USD per year

Shanghai

| SEA WATER | | PUMP SPEED | kW USAGE |
|-----------|--|-------------|----------------|
| 24°C |  | 100% 56% | 90 kW 22 kW |

Singapore

| SEA WATER | | PUMP SPEED | kW USAGE |
|-----------|---|-------------|----------------|
| 28°C |  | 100% 80% | 90 kW 46 kW |

Total Savings When Reaching Denmark

| SEA WATER | | Savings |
|-----------|--|---------------------|
| 20°C |  | 0 kWh 52,000 kWh |

Based on actual data logging the proven savings of the DESMI OptiSave™ system will reach an annual saving of amazing 80,000 USD per vessel.

You can save millions of tons of fuel oil using OptiSave™.

OptiSave™ helps ship owners and designers to meet the requirement for reduction of CO₂ stipulated in IMO MEPC 62 rules.

OptiSave™ is designed to be integrated in newbuild and retrofit applications and can be fully integrated into the overall control system.

IMO has specified that the world fleet has to reduce CO₂ emissions by 180 million tons by 2020. This is equal to savings on an average of 285 tons of CO₂ or the same as 110 tons of fuel oil per vessel.

BALLAST WATER TREATMENT SYSTEM

RayClean™ Ballast Water Treatment System is the leading system in the marine industry with unrivalled treatment performance and lowest energy consumption in the class.

RayClean™ is IMO and DNV type approved and tested to meet the latest requirements and guidelines adopted by the International Maritime Organisation (IMO) and the US Coast Guard.

RayClean™ can be used in all water salinities and temperatures and the UV-Transmittance ranges from very high to very low.

The types of waters encountered by vessels could be anything from high salinity to fresh water, high temperatures to low temperatures, and with UV-Transmittance ranging from very high to very low where high UV-T corresponds to very clear water and low UV-T corresponds to extremely coloured and dirty water.

Brackish and freshwater conditions are encountered in many of the world's major ports that are located in rivers or at river estuaries. Examples are Shanghai, Rotterdam and Bremerhaven, to mention just a few.



Proven effective in all water salinities
– including fresh water
with UV-Transmission as low as 0.33.

**IMO and
DNV type
approved**

- ✓ Based on filtration and UV-treatment
- ✓ No chemicals! No risk of increased corrosion!
No hazards to crew, vessel or the environment!
- ✓ Tested in both fresh-, brackish and marine water salinities
- ✓ Tested according to both IMO and US Coast Guard requirements
- ✓ Automatic adjustment of treatment to water quality
- ✓ Tested in extreme water conditions with UV-Transmission as low as 33%
- ✓ Reliable treatment that meets the IMO and USCG discharge standards every time.



Skid-mounted or containerised solution



RayClean™ System

Newbuildings & retrofit



Our system is suitable for your vessel and your needs

High-efficiency & Reliable Marine Pump Solutions



We supply marine pumps to the world's fleet - from the largest container ships to the smallest fishing vessels.

- *proven technology*



CARGO

The NDW Cargo pumps from DESMI are energy efficient and well-proven for pumping various media - from LPG and LEG over a wide range of chemicals to CO₂.

DESMI Cargo pumps consist of three main components: base arrangement, pipe and pump cylinder. The cylinder is designed with a variable number of impellers and casings to meet the required head and capacity.

The pipe stack consists of a number of intermediate pipes in which the cargo is transported to the outlet flange of the base arrangement. The intermediate shaft, which drives the impellers, is placed in the centre of the pipe stack.

The shaft is supported by guide bearings for each 1.5 metres, which is also the length of the intermediate pipes in the pipe stack. The bearings are made of carbon and are lubricated by the cargo.



Making a quality product that meets
your requirements is not enough to secure
a successful installation

DESMI has wide experience with managing various projects such as entire pump systems for aircraft carriers, fire-fighting system pumps for nuclear submarines in dock, and large-scale on-shore installations. These project management skills ensure that your expectations are met.



Long Shaft Deepwell Pumps NDW



Capacity: 100 - 800 m³/h
Pressure: 0 - 150 mLC
Temperature: -104°C - +180°C

Booster Pumps



Capacity: 60 - 600 m³/h
Pressure: 0 - 150 mLC
Temperature: -104°C - +180°C

FINEFOG™

The DESMI FineFog™ fixed fire fighting system is developed to suppress or extinguish fire at an early stage before releasing the total flooding system as required by SOLAS.

The FineFog™ water mist has a highly suffocating and cooling effect. With this system you can

protect the inflammable objects in accordance with SOLAS requirements (e.g. main engine top, auxiliary engine top, heated fuel oil purifier, oil fired boiler front, incinerator burner, oil fired inert gas generator etc.) without having to shut down the engine, evacuate personnel or seal-off space.

The FineFog™ is designed and approved to fully meet the requirements of SOLAS Ch.II-2/Reg.10.5.6, IMO MSC/Circ.913, MSC/Circ.1165 and MSC.1/Circ.1276 and is approved by the major recognized classification societies.



FineFog™ is a fixed water based fire fighting system for local application

The fire suppression or extinguishing function is based on the water mist M5 spray head, complemented by DESMI design for easy and safe operation during the entire lifetime of the product. The spray head has proven its efficiency through many full-scale tests and real-world fires.



Fire-Fighting System



Water capacity:

9.4 l/min at 3.5 bar for nozzle installation height up to 8 m
15 l/min at 9 bar for nozzle installation height up to 14.5 m

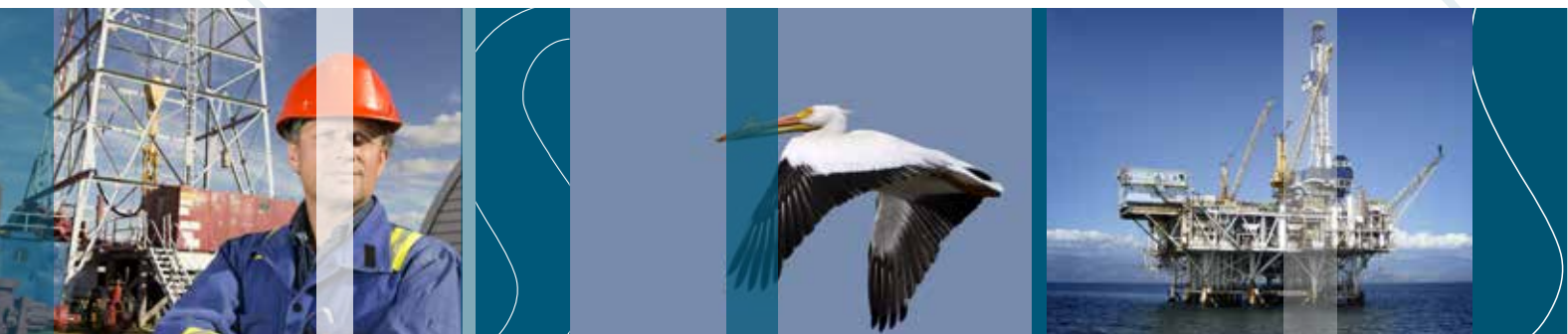
OFFSHORE

Reliability, minimum down time, available spare parts around the world, service, and fast replacement pumps. These are all words that describe the demands from the offshore sector in general.

The DESMI brand stands for just that; our products and solutions are highly suitable for any pumping service within the offshore utility applications.

We offer a wide range of centrifugal pumps, gear pumps, screw pumps and progressive cavity pumps, among others. All of them are well proven and highly suitable for offshore installations.

We supply pumps and service for new builds, vessel and system conversions as well as for change of worn out pumps.



DESMI's reference list includes various jack-up rigs, semi-submersibles, FPSOs and other offshore related installations and vessels

Thanks to some 50 years of supplying pumps for the marine and offshore markets DESMI have developed a unique know-how. Our highly skilled staff guides our clients in the right direction when choosing the perfect pump for the job.

We have a wide range of pumps in stock, ready to be shipped anywhere within a week. Together with our well established spare parts service this makes DESMI the perfect partner for offshore pump supply.



Vertical Pumps



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Our dedicated global DESMI Service Team delivering local service



The efficient and reliable operation of DESMI products is a requirement of both the customer and DESMI. In this regard, the DESMI Service Team can support and enhance these operations on a global scale.

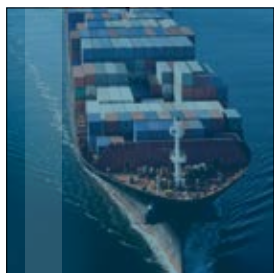
The DESMI Service Team are all factory-trained and available to answer both your technical and practical demands.

The DESMI Service Team can also offer customized programmes to meet specific client requirements and be your partner of choice. In case of emergency breakdowns, we can send over pumps and equipment within 48 working hours or access our global parts database and have the equipment operational in the shortest possible time.

DESMI Service Team supports a working culture based on an appropriate respect for health, safety and environmental issues.

DESMI is a global company specialising in the development and manufacture of pump solutions for marine, industry, oil spill combating, defence & fuel and utility both locally and globally. Our product range - supplemented with agency products from other leading world-class manufacturers - is complemented by related services such as the design and installation of pumping systems, oil spill recovery packages, and a first class after-sales service which can include full technical support, commissioning and product training.

DESMI equipment is sold to more than 100 countries via a network of subsidiaries and distributors on six continents.



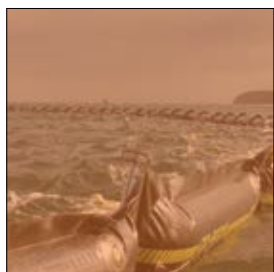
MARINE & OFFSHORE

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INDUSTRY

The key factors in all areas of the process industry are reliability, productivity and performance of the production plant. These are precisely the parameters addressed by the DESMI range of products, systems and services for the industry segment.



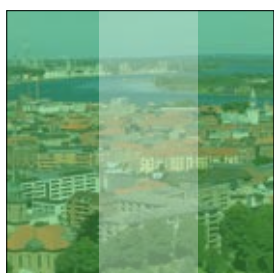
OIL SPILL RESPONSE

The oil spill response solutions from DESMI are trusted in the industry. Whether your requirement is for offshore or the shoreline area; the Arctic or Equatorial environment, we continue to deliver proven solutions for all spill conditions - and we offer the very best life cycle costs.



DEFENCE & FUEL

Utilising products from other world class equipment suppliers to compliment the extensive DESMI pump range, DESMI design and build liquid handling solutions used by military forces around the globe. Based on many years experience with systems suitable for working in austere conditions and environments we provide total liquid management - from project management and systems integration to procurement and logistics planning.



UTILITY

DESMI provide pumps and pump solutions for the supply of domestic water, district heating/cooling and waste water. Operational reliability, energy optimization and service-friendliness are essential headlines for a business that services cities, buildings and not least, people.

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INDUSTRY

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UTILITY