

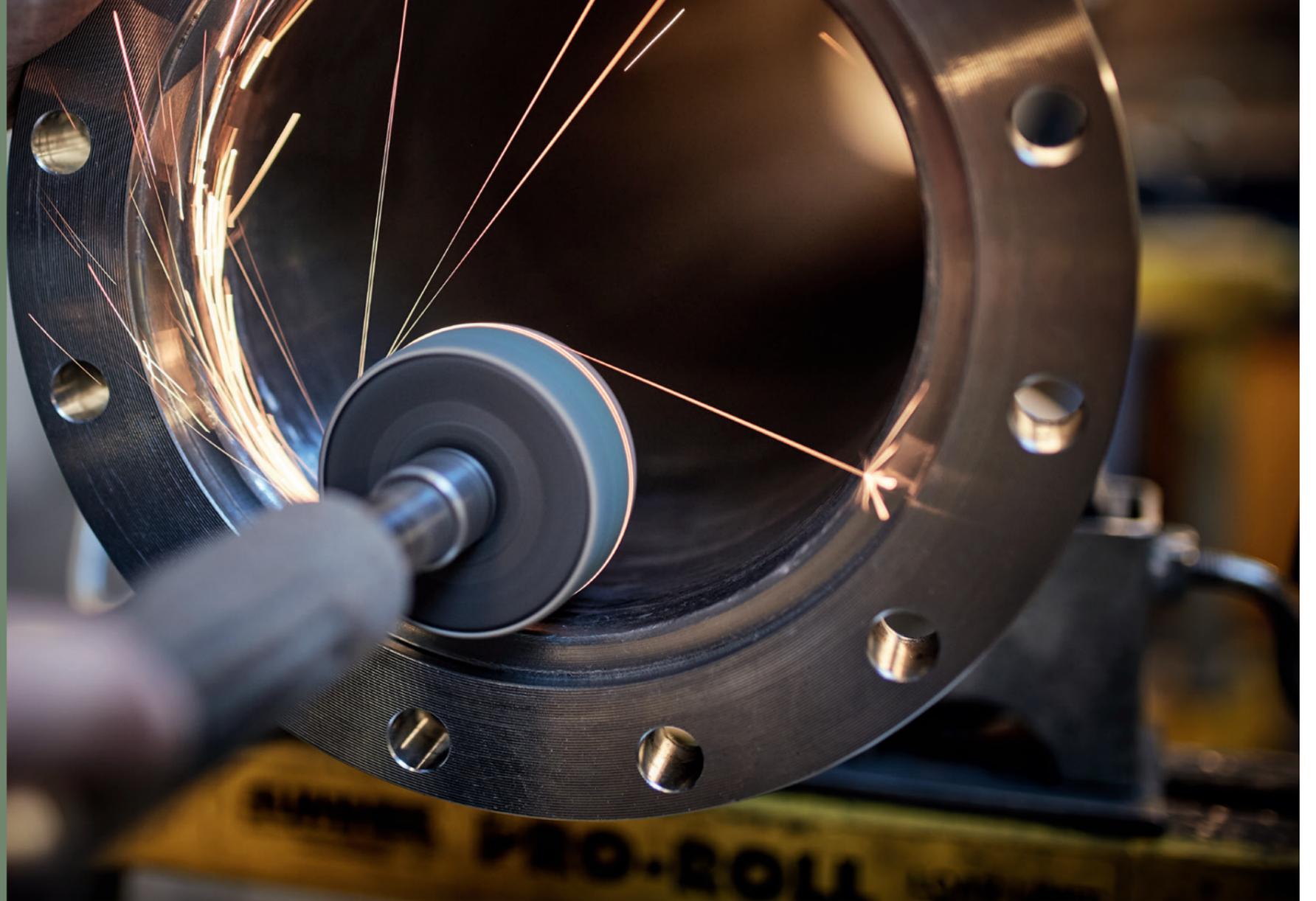
# DEEPWELL GAS CARGO PUMPS

Powering a better future



SVANEHØJ

Over the span of nearly 100 years, Svanehøj has developed a well-proven deepwell technology for all types of gas carriers and all types of gas cargo.



Svanehøj is a market-leading pump manufacturer specialized in multigas pumping systems for future proof sustainable solutions. We advise and assist customers within gas pumps, fuel pumps, product & chemicals pumps and offshore solutions and provide global service through our one-stop service solutions.

## Well-proven gas pump technology

Through nearly 100 years of experience in the industry we have developed an unparalleled design and technology, that ensures our customers the best, safest and most reliable pump solutions on the market.

We specialise in customised deepwell pumps used for off-loading liquid gas on gas carriers and barges up to 100.000 m<sup>3</sup>. Our pump solutions handle all types of gas cargo at all temperatures and gravities

without any component changes, offering efficiency optimization and potentially huge cost savings.

More than 1100 gas carriers worldwide have already been equipped with deepwell and booster pumps from Svanehøj, with more than 7000 pumps.

# Customized solutions for all gas cargo types

At SVANEHØJ we take pride in being flexible and adapting solutions to specifically suit any challenges that a shipowner or a shipyard may encounter.

Our dedicated project team tailors gas pump solutions for all vessel types, from the smallest fully pressurised push barges and dedicated CO<sub>2</sub> carriers to the largest fully refrigerated VLGCs. Our pumps can handle any type of gas cargo at all temperatures and gravities without component changes, including LPG, ammonia, ethane, ethylene and LNG.

## We offer tailored gas pump solutions for:

- Fully pressurised tankers, cargo at ambient temperature, tank pressure up to 18 bar.
- Semi-refrigerated tankers, cargo liquified by cooling/pressure process down to -104°C.
- Fully refrigerated atmospheric tankers, cargo cooled to saturation temperature (typically -104°C).
- Fully refrigerated LNG carriers and LNG Bunker Barges at (temp).

## Unique leakage protection system

SVANEHØJ's unique automatic pressurised shaft sealing system is designed for maximum sealing security and protection against leakages.

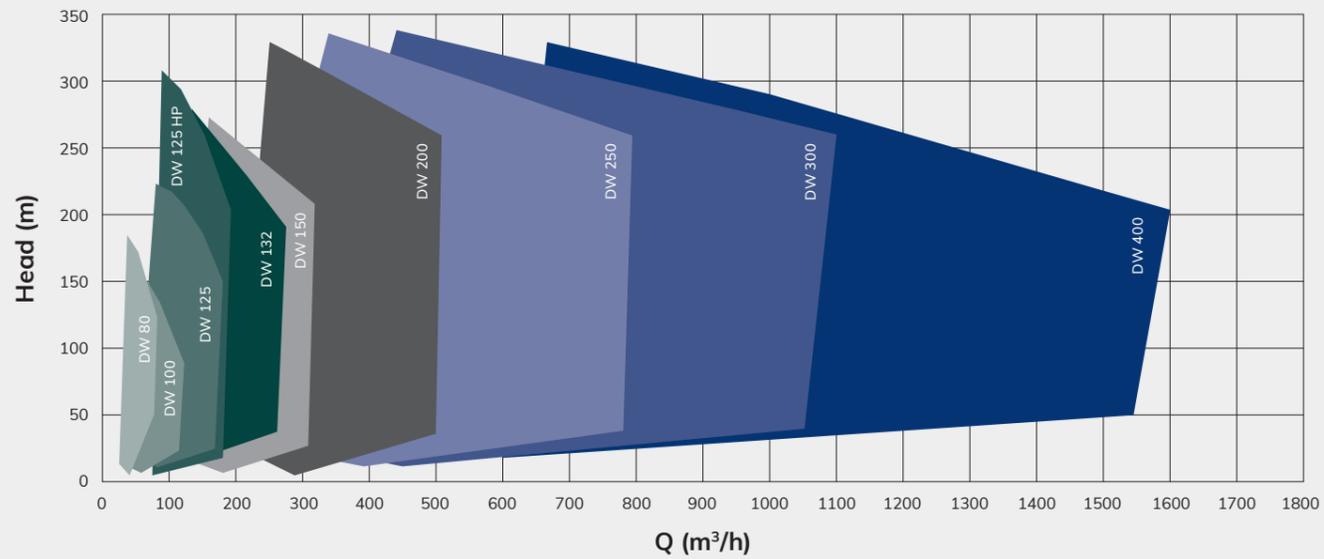
The system features a double mechanical seal and a pressure booster where the sealing oil is put under pressure both by the cargo tank and the spring, thus avoiding any adjustments by the crew.

This ensures that the sealing chamber pressure is always higher than the cargo tank pressure for maximum protection against cargo leakages.

## Booster pump for lighter cargos

Our NMB Booster pumps act as boosters that increase discharging pressure when offloading lighter cargos. It is designed for liquid gas and is installed on fully refrigerated carriers. The booster pump is also available in an in-line vertical version.

# We make it uncomplicated to adapt to Carbon Capture and Storage



At Svanehøj our flexible product range in DW gas pumps is able to handle all types of gas cargo including CO<sub>2</sub>. Several CO<sub>2</sub> carriers around the world are already equipped with a Svanehøj pump solution and have been for the last decade which has given us valuable knowledge and experience in producing and servicing equipment for carbon capture and storage.

With our in-depth experience and a proven track-record, we make it uncomplicated to adapt to the fast-growing world of carbon-neutral solutions – helping the world in the transition to a greener tomorrow.

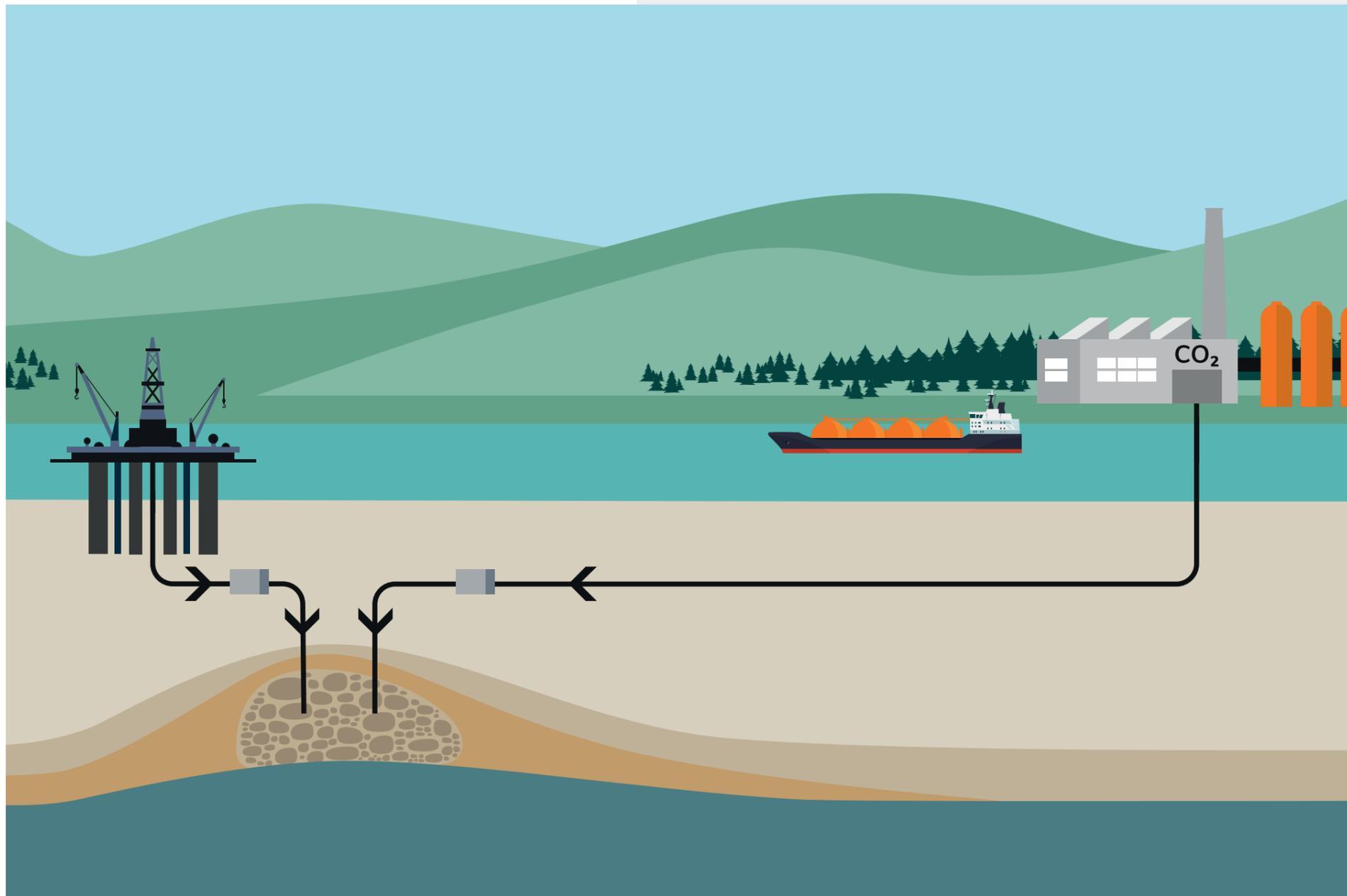
Our pumps can handle all types of gas cargo at all temperatures and gravities without any component changes, including LNG, CO<sub>2</sub>, LPG, ammonia, ethane and ethylene.



## Engineered to handle CO<sub>2</sub>

At Svanehøj we contribute with quality and performance that supports the growing industry of carbon capture and storage.

- Low pressurized CO<sub>2</sub> with pressure down to 4.2 bar which together with the unique design of the Svanehøj DW Pump ensures a low NPSHr and reduces the risk of cavitation and dry ice formation.
- Fully pressurised tankers, cargo at ambient temperature, tank pressure up to 20 bar.
- Semi-refrigerated tankers, cargo liquified by cooling/pressure process down to (-55 °C)

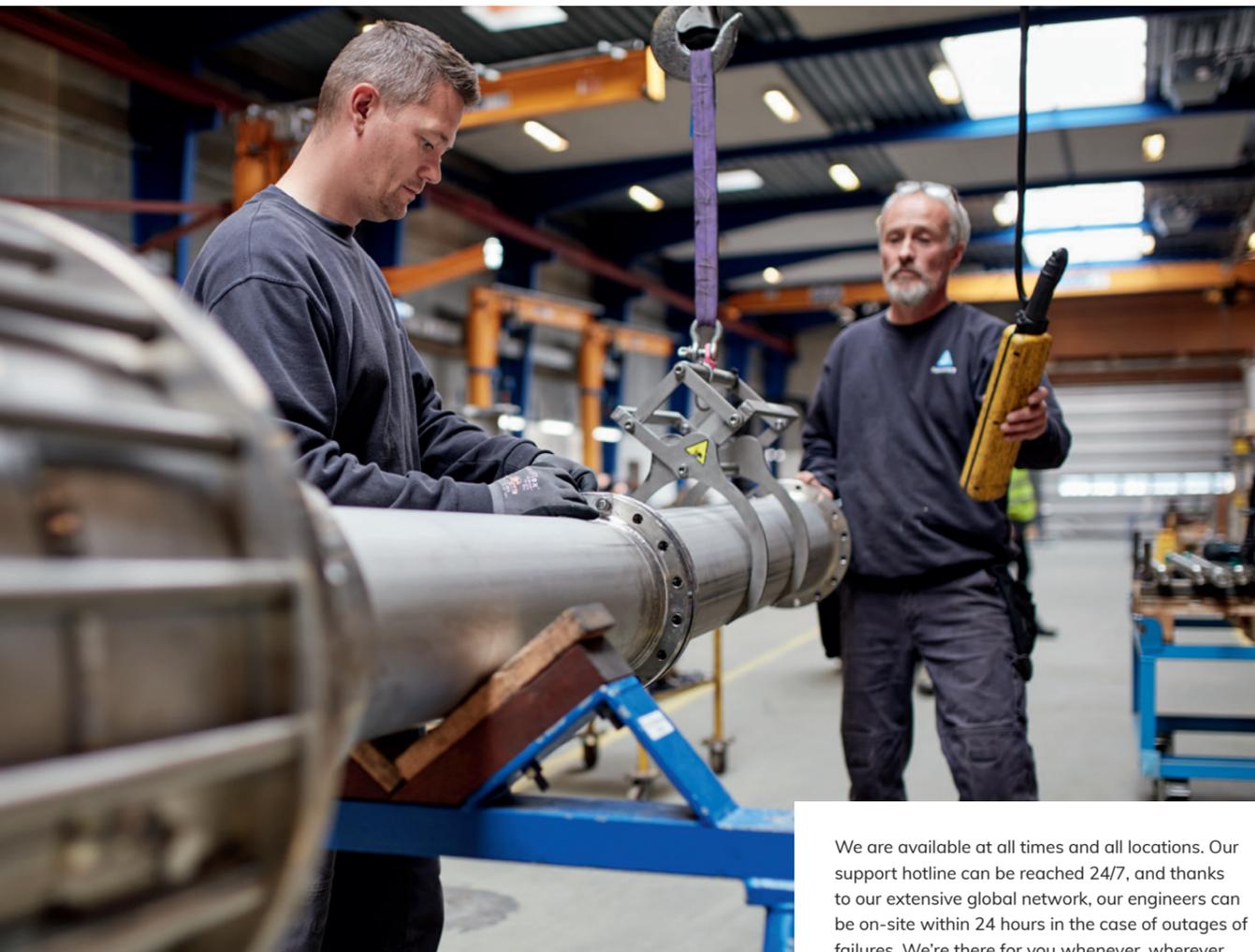


If we want to reach the global climate goals a united effort among industries is required. Carbon Capture and storage is one of the most future-proof concepts.

The technologies evolve rapidly and call for a new scale of CO<sub>2</sub>-transportation and for larger carriers with a reliable pump technology. The world needs to embrace sustainable solutions to reduce CO<sub>2</sub>-emissions and minimize the negative effects of climate change. The transition begins by phasing out fossil fuels and convert to renewable energy types.

At Svanehøj we are committed to being a sustainable partner. Designed to be a safe, reliable and highly adaptable our pumping solutions will support the shipping industry – as well as other industries – with a fast and complete transition to zero-carbon processes.

## Solutions for Carbon Capture and Storage



We are available at all times and all locations. Our support hotline can be reached 24/7, and thanks to our extensive global network, our engineers can be on-site within 24 hours in the case of outages or failures. We're there for you whenever, wherever.

## At your service

At Svanehøj, our goal is to be your preferred provider of pump solutions, which is why we go the extra mile to make sure that you get the most out of your deepwell cargo pump investment.

This means that in addition to excellence in quality and performance, you get the support and advice of our highly-educated and experienced team of experts throughout the entire lifetime of your installation.

We believe in working closely with our customers, and we strive to build long-standing relations, allowing us to tailor the

best possible solutions and to continuously ensure optimised pump performance and efficiency. Whatever challenge or requirements you may face in your operation, our project department will gladly assist you in making the optimal and most cost-efficient choice for your project.

# Svanehøj Service Solutions

Svanehøj Service Solutions delivers worldwide and personalised 24-hour service, all year long. Fusing our global network, depth of expertise and exceptional response time we enable you to stay ahead wherever you are.



### Pre-docking inspection

Before your vessel is scheduled to dry-dock, our specialists will board the vessel to inspect the cargo handling system. After a thorough inspection, we will issue a detailed inspection report to make sure the pre-dock is planned in details in regards to manpower, materials, timing and resources.



### Cargo and cooling compressor service

No matter the complexity of your compressor system – and no matter the brand – our specialists deliver advanced maintenance and fast repair, reducing potential downtime to a minimum.



### Genuine spare parts & spare part kits

Svanehøj Service Solutions carry a large number of spare parts in stock for pumps, compressors, valves and instrumentation. This ensures day-to-day delivery and less downtime for you. Svanehøj Service Solutions is the only authorized supplier of OEM spare parts from major equipment suppliers.



### Calibrate measuring equipment

Calibration of measuring equipment – from cargo tank instrumentation to level gauge systems – is essential in order to ensure correct and optimal performance. Svanehøj Service Solutions provides precise calibration, including documentation.



### Service on deepwell pumps

Trained and certified in fast troubleshooting, specialists from Svanehøj Service Solutions are able to provide immediate repairs of your deepwell cargo pumps – both on site and in dry-dock.



### Safety valve service

Svanehøj Service Solutions offers complete service on valves on gas, product and chemical carriers. The service, carried out by experienced specialists, includes preventive maintenance, repairs and testing in order to ensure your safe and efficient operation.

Svanehøj Danmark A/S  
Fabriksparken 6,  
DK 9230 Svenstrup J

Tel. +45 9637 2200  
svanehoj@svanehoj.com  
svanehoj.com

**SVANEHOJ**