MARITIME PROTECTION

MARITIME PROTECTION – YOUR INERT GAS SPECIALISTS

Trusted solutions built on 50 years' maritime expertise




MARITIME
PROTECTION

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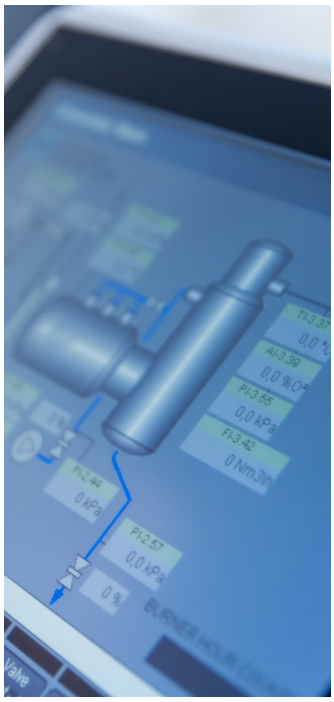
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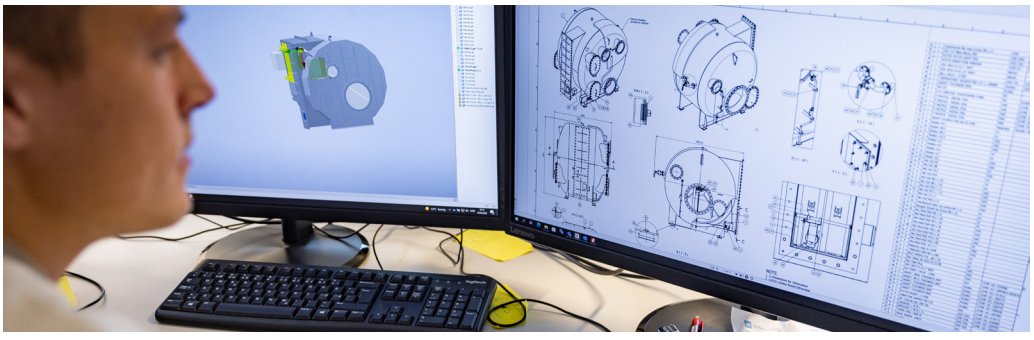












MARITIME PROTECTION

INTRODUCING MARITIME PROTECTION

Building on a seafaring heritage to lead in inert gas solutions

Founded in Norway in 1970, Maritime Protection is an advanced engineering and manufacturing company specialised in high-quality inert gas and nitrogen generation systems for the marine and offshore industries. Innovation has defined our journey from the outset. In 1984, we became the first company to introduce a membrane-based nitrogen generator system designed specifically for marine applications. That pioneering spirit continues to shape the evolution of our inerting and controlled atmosphere solutions today.

Since 2018, Maritime Protection has operated under the Survitec umbrella and continues to combine specialist expertise with global reach. Specified to the highest standards, our world-leading solutions are tailored specifically to the exacting needs of the offshore and maritime industry, including the protection of propulsion systems for alternative fuels. As a trusted authority in maritime safety, we continue to partner with our customers to protect vessels, cargoes and crews worldwide, offering systems and services you can rely on today and in the decades to come.



Bernt Öhrn
Managing Director, Maritime Protection



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Why Maritime Protection?

✓ Proven reliability

1,700+ systems installed worldwide including over 300 nitrogen systems, delivering robust performance and ease of maintenance

✓ Peace of mind

You have the assurance of compliance with various SOLAS/IMO/Class regulations for gold-standard protection of flammable and sensitive cargo

✓ Superior support

Global supply chain and local support teams for seamless availability of spare and replacement parts plus an agile service, inspection and repair offering – anywhere in the world

✓ Flexible designs

Compact, modularised solutions suited to different vessel layouts for rapid deployment and cost effectiveness

✓ Safety first

Our wide portfolio is designed, manufactured and delivered to the highest safety standards

✓ Comprehensive portfolio

Our inerting and controlled atmosphere solutions are part of a broader safety portfolio from our Survitec brand, that includes fire protection and detection systems and other safety-critical solutions

Our solutions support a wide range of vessels and applications



TANKERS



LPG/LNG CARRIERS



OFFSHORE PLATFORMS



FPSO VESSELS



PASSENGER SHIPS



ONSHORE & MARINE HYDROGEN CONCEPTS

INERT GAS SYSTEMS

A range of flexible solutions to meet all budgets

Inert gas systems are mandatory to protect vessels carrying cargo that produces hydrocarbon vapours. A controlled atmosphere of inert gas can eliminate the risk of explosions and fires in cargo tanks by keeping the oxygen content below levels specified by the International Maritime Organisation (IMO). We offer a range of inert gas generator solutions to suit individual space, capacity and cost constraints.

Highlights

- ✓ Full compliance with 1974 SOLAS Convention with latest amendments, and all Class and IMO guidelines
- ✓ Reliable design engineered specifically for the demanding conditions of ship board operation
- ✓ Fully automated operation for reduced crew workload
- ✓ Modular layouts for easier integration into shipyard projects
- ✓ Global service network for ongoing technical support and expertise, including remote support and diagnostics
- ✓ Modularised, compact solutions designed for modern vessels with limited space.



Flue gas systems

This is often the most cost-effective way to produce inert gas on board, especially for large tankers. These systems capture, cool and clean flue gas from the ship's boilers by passing it through a scrubber. As the flue gas already contains less than 5% oxygen, no further treatment is required and the soot-free inert gas can be distributed directly to the cargo tanks.

Inert gas generators (IGG)

Alternatively, the inert gas can be generated on board by burning fuel. Leveraging proven technologies, our fully automated gas generators are based on a smart, robust design for reliable performance and ease of maintenance. The inert gas capacity is dynamically adjusted in line with demand.

Dry Inert Gas Generators

Designed for liquefied gas carriers, our innovative dry inert gas generators combine a conventional combustion-based inert gas generator with a two stage dehumidification system including cooling and adsorption process. This concept results in a very compact gas drier – up to 50% lighter and smaller than conventional systems.

What type of system is right for me?

At the entry level, a flue gas system is often the most cost-effective option as it repurposes the gases emitted by the ship's boiler. An inert gas generator running on oil and/or diesel can be the preferred option if a more reliable or higher inert gas flow is required. Our team would be delighted to talk you through the various options and help you nail down the solution best suited to your needs.



NITROGEN SYSTEMS

Nitrogen supply solutions for next-level performance

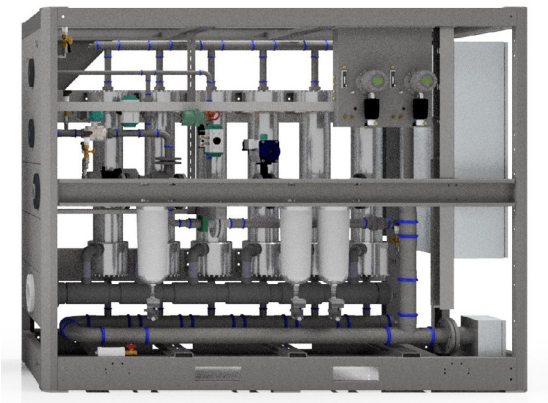
Nitrogen is the purest inerting medium and widely used to protect sensitive cargoes – such as chemicals, pharmaceuticals and edible oils – from oxidation, moisture ingress and contamination. We offer state-of-the-art technologies for high-volume, purity-critical applications. Our membrane and pressure swing adsorption (PSA) systems scale up to 7500 cubic meters per hour (m^3/h), delivering purities as high as 99.99% to support the most challenging inerting applications. Advanced monitoring, control and automation systems simplify deployment and reduce costs.

Highlights

- ✓ Trusted solutions from the pioneers of membrane technology for the maritime industry
- ✓ Continuous, reliable on-board supply of high-purity nitrogen
- ✓ Compact footprint thanks to modularised designs
- ✓ Energy efficiency with variable frequency drive (VFD) compressor systems (PSA systems)
- ✓ Proven performance with over 300 systems delivered worldwide
- ✓ Complementary reservoir tanks and booster compressors available
- ✓ Global service network for convenient access to spare and replacement along all major shipping routes







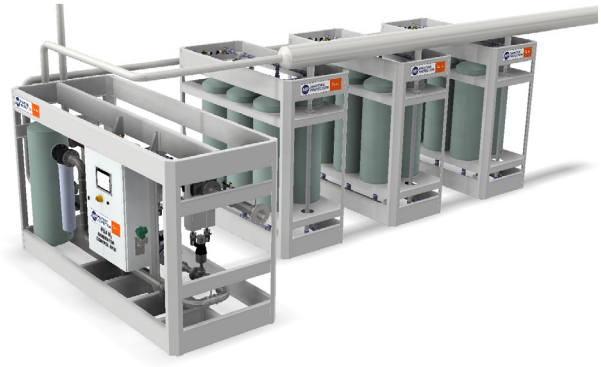
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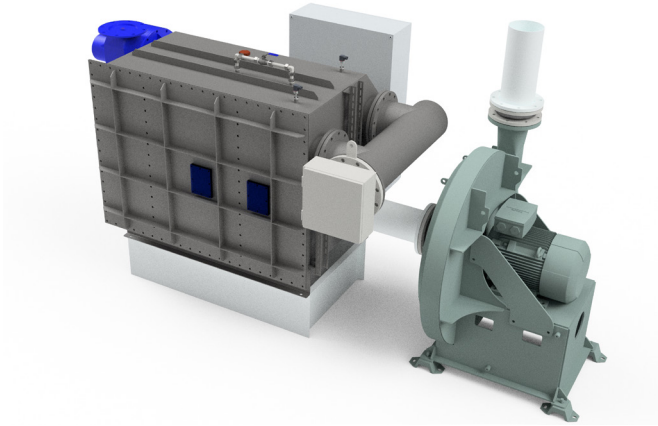
Membrane solutions for small to mid-volume requirements

Our extremely efficient membrane generators work by passing low-pressure compressed air through hollow-fibre semi-permeable membranes. This separates the air into a nitrogen-rich stream and an oxygen-enriched stream, which is safely vented. With one of the smallest footprints in the market, these membrane systems support fully automated operation, offering easy-to-exchange filters and ease of access for maintenance. Standardised, modularised designs support purities from 95% to 99.9% and capacities up to 5300 m^3/h. Customised designs enable even higher capacities.

PSA solutions for higher capacities

PSA is often the more cost- and energy-efficient option for capacities in excess of 1000 m^3/h. These solutions use carbon molecular sieves (CMS) to separate air into nitrogen and oxygen. Optimised to operate at low cost, our PSA systems generate nitrogen at purity levels of up to 99.99% and capacities of up to 7500 m^3 per hour.





Cargo tank dryer

A complementary, fully-automated, dehumidifier solution that supports rapid drying of cargo tanks and voids. This accelerates cleaning operations in port, which reduces downtime and improves productivity.

What type of system is right for me?

Membrane technology offers an extremely efficient solution, especially if you value simplicity. Typically, there are fewer parts, particularly for smaller systems, which makes them cheaper to assemble and install and easier to maintain. Membrane is especially suited to the growing number vessels running on cleaner fuels and to vessels with very limited space.

However, the energy requirements to generate gas at capacities in excess of 1000 cubic meters an hour (m^3/h) can make membrane technology a costly path for larger capacities. In those cases, our PSA technology is typically the best and most cost-effective way to generate high volumes of high-purity inert gas. Carbon molecular sieves (CMS) in PSA systems tend to be more cost-effective to replace than membranes, and our variable frequency drive (VFD) compressors help to reduce energy consumption for added cost efficiencies.



MAINTAINING YOUR INERT GAS SYSTEM

Expert support and cost-effective solutions to protect your business and reduce downtime

When you team up with Maritime Protection, service doesn't stop at delivery. You gain a long-term partner invested in your business success and in the operational continuity and safety of your assets – from day one. Local sales and service teams are based close to the major yards to support and accelerate your build schedules so you can deliver on time and on budget. Once your ship leaves the yard, we provide extensive aftermarket services to help



We offer a range of services to help you maintain your system efficiently and manage cost

- ✓ **Training and consultancy**
  Empowering your crew to operate your inert supply system safely and confidently
- ✓ **Scheduled service and repairs**
  Routine maintenance inspections and repairs performed by our highly-trained engineers – at a location that suits you
- ✓ **Remote support and assistance**
  Faster fault diagnosis that reduces downtime, saving you time and money
- ✓ **Flying squads for emergency support**
  Rapid-response teams available for global deployment in the event of a system failure
- ✓ **System tuning**
  To keep your inert gas system operating at peak performance
- ✓ **Kits and spares**
  Convenient, pre-prepared service kits of key spare and replacement parts, to cover common faults and failures



Do you have a question? Or would you like to know more?

Contact our expert team at: **sfs.mp.service@survitecgroup.com** or visit our website: **www.survitecgroup.com/maritimeprotection**



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