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SURVIVAL TECHNOLOGY

MP MARITIME PROTECTION

PSA NITROGEN GENERATOR SYSTEMS

Using Pressure Swing Adsorption technology to generate high capacities of high-purity gas



The challenge: Finding cost-effective solutions to meet new market requirements

As the maritime industry shifts towards decarbonisation, there is a growing market for a wide range of nitrogen generator solutions to support different types of vessels running on cleaner fuels. Membrane technology offers an efficient solution for many, but the energy requirements to generate gas at capacities over 1000m³/h makes it too costly for some.

The solution: Pressure Swing Adsorption (PSA) technology

Pressure Swing Adsorption (PSA) technology uses Carbon Molecular Sieves (CMS) to separate air into nitrogen and oxygen. With a PSA solution from Maritime Protection, it is possible to generate gas with purity levels up to 99.99% at capacities of up to 7500m³ per hour, with technology optimised to operate at lower cost and with reduced energy consumption.

PSA NITROGEN GENERATOR SYSTEMS

PSA nitrogen generator solutions from Maritime Protection

We have designed and manufactured inert gas solutions according to IMO rules and regulations for over 50 years for customers worldwide. We use modular components and variable frequency drive (VFD) compressor systems to minimise system footprint and reduce energy consumption. We also offer superior after-market support, with servicing, spare and replacement parts available through our global supply chain.

Equipment supplied as standard

- ✓ Feed air filters
- ✓ Air/N2 buffer tank
- ✓ Modular adsorber vessels
- ✓ Long-life pneumatic and solenoid valves
- ✓ Stainless steel internal piping & fittings
- ✓ Nitrogen and air flow regulation
- ✓ Siemens PLC control system
- ✓ Touchscreen interface

Additional equipment and services

- Nitrogen reservoir tanks
- Nitrogen booster compressor
- Dew point analyser
- Nitrogen cylinder filling system
- Double block & bleed system
- Remote monitoring & support

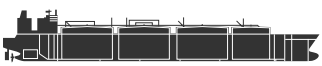
TECHNICAL DATA	
Maximum capacity	7500 m3/h
Nitrogen purity	95% - 99.99%
Operating pressure	6-10 bar
Ambient air temperature range	up to 55 °C
Dew points (atmospheric)	< -60 °C



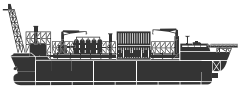
Vessels we support



Tankers



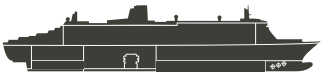
LPG/LNG carriers



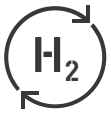
FPSO vessels



Offshore platforms



Ships using alternative fuels



Onshore & marine hydrogen concepts

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