



MARINE NITROGEN GENERATORS

In addition to the successful range of bow and stern thrusters, Verhaar Omega has developed and designed an entire range of nitrogen generator systems for use onboard of chemical tankers, oil / product carriers, gas tankers and offshore applications.

The standard range of generators vary from the smallest unit producing 50 nm³ hr upto the large units with a capacity of 4500 nm³/hr all rated at a nitrogen purity of 95%.

Because of the modular design, specific capacities, larger or smaller; other than our standards are available upon request.

Product philosophy

The Verhaar Omega nitrogen generators are designed by using innovative solutions for marine applications.

- Complete system design and supply
- High nitrogen capacity with small unit dimensions
- Constant and stable production of nitrogen
- Easy and minimum maintenance
- Self maintaining and intelligent system control
- Clear and simple system operation



Unit design

The standard units are constructed in such way that they will withstand perfectly the harsh environment often found on board of ships and on offshore applications. Special measures are taken to eliminate damages caused by vibration and corrosion due to salty air. The unit is fitted with complete stainless steel piping and instrumentation, while the frame construction is preserved by a high quality marine paint system.

Valves used in the system are fitted with chemical resistant seats and seals. This to prevent any damage or leakage at the nitrogen generator in the unlikely



event of cargo liquid or when gas is entering upstream the nitrogen generator.

Parker Hifluxx Nitrogen Membranes

Large volumes of nitrogen at low pressures; the unique fibres in HiFluxx[®] membrane modules are the highest permeable membranes in the world.

Using the HiFluxx[®] high performance membrane makes it possible to:

- Generate the same amount of nitrogen with a lower membrane system investment compared with other makes of membranes
- Feed air pressures from 6 bar(g)
- Lower your costs per m³ nitrogen significantly
- No aging of membranes after delivery.



Feed air treatment equipment

The efficient life span and performance rate of the nitrogen membranes is depending mainly on the quality of the compressed feed air. Our systems feature a modular air treatment package. Before feed air is entering the nitrogen membrane it passes a 5 stage air treatment package.

- 1st - dehydration unit with automatic condensate drain
- 2nd - cartridge filter < 0,1 mg/m with automatic condensate drain
- 3rd - cartridge filter < 0,01 mg/m with automatic condensate drain
- 4th - active carbon element for reducing oil content in air to < 0,003 mg/m³
- 5th - electric air heater for re-heating the feed air to optimum temperature



The air pre-treatment system ensures a long life time of your installation, combined with a minimum of maintenance costs and efforts.

"One Touch" control system

The One Touch control system consist of a fully PLC controlled system, fitted locally at the generator unit. Monitoring and operating the nitrogen generator is clear and simple by using the 8" full colour touch screen.

Depending on the ship's classification details remote placed control and status panels are required in the Cargo Control Room (CCR), Bridge (BP) or Engine Control Room (ECR).

Double block and bleed valve arrangement and deck accessories
The Verhaar Omega nitrogen system contains the complete valve arrangement to be fitted in your nitrogen deck line, pressure transmitters for sensing the deck line pressure, pressure gauges and non return valves.

Moreover class approved buffer tanks for nitrogen storage, high flow and high precision pressure reducing valves and instrumentation for your strip, pad and blanket lines are available. The above described parts are fully incorporated in the "one touch" control system.



Service & Commissioning

The Verhaar Omega nitrogen generators are designed and manufactured to the highest standards for excellent performance combined with maximum durability. Technical assistance is available from our team of engineers during the installation of the equipment on board, commissioning and of course for maintenance.

Certificates & certification

The Verhaar Omega nitrogen generator systems are in accordance with the rules and regulations set by the major classification bureaus such as LRS, GL, BV, DNV, ABS, RINA, RMRoS and others.



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