



Nitrogen systems

Verhaar Omega Air & Nitrogen BV is your ideal partner for the design, manufacturing and supply of a nitrogen generator system. Over recent years we have developed and designed an entire range of systems for applications onboard chemical tankers, oil/product carriers, gas tankers, offshore applications and other dedicated services in the oil & gas industry. With over 60 modules in operation to date, the wide experience of the crew at Verhaar Omega is at your service.

Our range of generators varies from the smallest unit producing 15 nm³/hr to the larger units with a capacity of 5500 nm³/hr. All are rated at a nitrogen purity of 95%. Nitrogen gas can be generated with purities up to 99.9%.

Using our in-house design and manufacturing expertise, we can customise specific capacities, purities or special applications upon request.

Product philosophy

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

- Complete system design and supply
- High nitrogen capacity with small unit dimensions

- Constant and reliable production of nitrogen on demand
- Easy and minimal maintenance
- Self maintaining and intelligent system control
- Clear and simple system operation

Unit design

The standard units are constructed in such a way that they can withstand the harsh environment often found onboard ships, offshore units and oil & gas applications. Special measures protect against the potential damage caused by vibration and salt air corrosion. The units are 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 prevents any damage or leakage at the nitrogen generator in the unlikely event of either cargo liquid or gas entering the nitrogen generator upstream.

Nitrogen Generating Membranes

Large volumes of nitrogen at low pressures
The unique fibres in the applied membrane modules are the highest permeable membranes in the world.

Using the 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 as low as 6 bar(g)
- Significantly lower your costs per m³ of nitrogen
- No ageing of membranes after delivery.

Feed air treatment equipment

The efficient life span and performance rate of the nitrogen membranes depends mainly on the quality of the compressed feed air. Our systems feature a modular air treatment package. Before feed air enters the nitrogen membrane it passes through a multi-stage air treatment package. The air pre-treatment system ensures a long life-span for your installation, combined with a minimum of maintenance costs and efforts.

One Touch control system

The One Touch control system consists of a fully PLC-controlled system, fitted locally in the generator unit. A colour touchscreen makes monitoring and operating the nitrogen generator clear and simple. Depending on



the application, remote placed control and status panels are available for deployment in the cargo control room, bridge or engine control room.

The Verhaar Omega nitrogen systems include the complete valve arrangement to be fitted in your nitrogen deck lines, pressure transmitters and other required instruments. By supplying the complete system and accessories, we secure the reliability of your system. Also available are class-approved buffer tanks for nitrogen storage, high flow and high precision pressure reducing valves, and instrumentation for your strip, pad and blanket lines. All these instruments and equipment are fully incorporated in the One Touch control system.

Service & Commissioning

Verhaar Omega nitrogen generators are designed and manufactured to the highest standards, ensuring you excellent performance combined with maximum durability. Technical assistance is available from our team of engineers during the onboard installation of equipment, commissioning and for after-sales maintenance.

Certificates & certification

Verhaar Omega nitrogen generator systems meet all rules and regulations set by the major classification bureaus such as LRS, GL, BV, DNV, ABS, RINA and RMRoS.