

Press Release

Innovation dominates the seas

For Liquefied Natural Gas applications in the marine sector, Vanzetti Engineering offers submerged centrifugal pumps of the ARTIKA series and reciprocating pumps of the VT-3 series.

Cavallerleone, 28th May 2020 - LNG is the clean and affordable fuel for the marine industry of the future. The new regulations for sulphurous emissions in the Baltic Sea and the North Sea, and their extension to the Mediterranean Sea, the US coasts and probably some Asian countries, are strongly pushing LNG-related investments and innovation in the marine industry.

All key players in this industry have started to invest in technology, infrastructures, new dual-fuel or gas-only engines for ships and ferries, and in new LNG bunkering vessels, too.

Conducting research and development and boasting expert knowledge in cryogenic applications, Vanzetti Engineering has been working on liquid methane for marine applications since 2006, and today the company is a leader in low-pressure LNG marine applications.

In recent years, the company has also approached high-pressure LNG marine applications, aiming to become one of the market leaders also in this domain.

All submerged centrifugal pump models offered by Vanzetti Engineering can be approved by class, and according to their size (proportional to flow capacity) and number of stages (proportional to pressure), they can be used as:

- Spray pumps or stripping pumps on LNG carriers and LNG bunkering vessels
- Main or backup pumps for feeding gas to low-pressure marine engines, with differential pressure up to 20 bar
- Small to medium cargo pumps
- Ship-to-ship bunkering pumps
- FSRU/booster pumps, with differential pressure up to 55 bar.

These pumps can be mounted on the bottom of LNG tanks or inside vacuum cryostats installed at the base of tanks. In both cases, the **ARTIKA series** project, equipped with bearings constantly lubricated with LNG and with no gaskets, preserves cold temperature conditions for quick and efficient start-stop operations and low maintenance.

High pressure marine applications

Vanzetti Engineering has recently invested in research and development for the **new VT-3 model**: a reciprocating pump designed and manufactured in compliance with marine classification standards.

The VT-3 pump can be used as high-pressure pump to supply gas to MAN MEGI engines. It is available in a TRIPLEX configuration with flow rate up to 14 m³/h and pressure up to 350 bar.



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The VT-3 pump can also be mounted on skid (also certified for marine applications) and provided with a range of accessories, including sensors, instruments and valves for safe and reliable pump control.

For ships equipped with two-stroke MAN MEGI engines, the VT-3 models offer an ideal solution in terms of performance, safety, reliability and low maintenance.

ARTIKA submerged pumps

The ARTIKA submerged pump models can supply LNG at different flow and pressure rates. For instance, model ARTIKA 300-2S can reach up to 300 m³/h flow rates with differential pressure up to 12 bar, ensuring fast and reliable operation. All Vanzetti Engineering pumps can be certified to the marine class required for the project. Safety and high reliability are our core design concept.

With numerous marine pump projects supplied and several in its order portfolio, ARTIKA submerged pumps are the optimal answer to various needs for small, medium and large LNG carriers: Fuel Gas pumps, Spray Pumps, Stripping Pumps, Cargo Pumps.

Depending on the requirements, the ARTIKA models can pump the LNG from extremely low to very high flow rates, with supplied differential pressures that can vary from minimum levels up to around 20 bar necessary for the XDF two strokes engines.

A solution for every requirement

According to the type of engine and its features, the company can offer ARTIKA submerged pumps or piston type VT-3 reciprocating models.

These two families can be applied to all kinds of LNG fuelled ships. Vanzetti is the sole supplier of all cryogenic pumps of the Carnival Corporation cruise ships with LNG engines.

Vanzetti Engineering also supplied the Fuel Gas System pumps for the Royal Doeksen LNG catamaran ferries, with particularly low flow rate levels required. The ARTIKA 120-3S model guarantees reliable and stable flow and pressure, even at these working conditions.

Container vessels such as the Wes Amelie (converted vessel) or the Nordic Hamburg (new built) exemplify some of the many small flow rates ARTIKA pumps applications: in first case for 4 stroke engines, in the second one for 2 stroke XDF engines. The ARTIKA 120 model is modular from 3 to 6 stages, making it possible to cover the full range of marine gas engines.

The first trans-Atlantic Post Panamax LNG Car Carriers to be built, owned and operated by Siem Car Carriers will be equipped with MAN MEGI two stroke engines and Vanzetti Engineering VT-3 pumps. Depending on the engine consumption requirements, the VT-3 pump can be tailored by our engineers in Simplex, Duplex or Triplex configuration.

Other successful Vanzetti Engineering projects include the semi-submersible crane vessel (SSCV) Sleipnir, where 16 of our ARTIKA 160 pumps are installed, and the LNG crude oil tankers built by Samsung Heavy Industries.

Floating Storage Regasification Units (FSRU)

In terms of FSRU applications (Floating Storage Regasification Units), orders for such vessels are constantly increasing, since it is the best solution for an efficient and cost-effective supply of gas to electric power stations, industrial areas, coastal cities and islands with no gas network.



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Depending on the customer needs, Vanzetti Engineering can supply different solutions for FSRU projects. The most popular is the ARTIKA 200-4S pump that reaches beyond 30 m³/h flow rates at 35 bar; an effective alternative is the new ARTIKA 200-6S, able to reach 55 bar differential pressure.

These pumps can be either installed in-tank or in-sump. Their extremely high reliability guarantees continuous process conditions for all applications.



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