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Alfa Laval's PureBallast first to treat ballast water on petroleum tankers

PureBallast, Alfa Laval's unique and chemical-free system for ballast water treatment developed in cooperation with Wallenius Water, will be installed aboard two new bitumen tankers for Nynas, a world-leading supplier of specialty petroleum products. As the first ballast water treatment installation adapted to the hazardous tanker environment, the order broadens PureBallast's installation portfolio and paves the way for future tanker solutions.

Alfa Laval's PureBallast continues to assert itself as the commercial leader in ballast water treatment. Adopted by more than a dozen shipping companies, the type-approved system has been selected for over 50 vessels of varying types and capacities.

Today the list of PureBallast installations also includes petroleum tankers, thanks to a groundbreaking order from Nynas. Nynas, a specialist in naphthenic oils and one of Europe's leading suppliers of bitumen, has chosen PureBallast for two bitumen tankers to be built at China's Wuhan Nanhua Huanggang Jiangbei Shipyard.

Scheduled for delivery in 2010, the Nynas vessels will each have a ballast tank capacity of 2150 m³ and a treatment system flow of 500 m³/h. But in light of their cargo and the resulting gas risks on board, the vessels will have their PureBallast systems above deck rather than below. The ballast water treatment solution, which involves a specially designed enclosure, is the first to be certified for use aboard petroleum tankers.

Performance and size decisive

Since the new tankers will operate in sensitive areas like the Baltic and North Seas, the selection of a ballast water treatment system was an important issue for Nynas. While the company has worked with Alfa Laval in the past, it was not a given that PureBallast would be the system of choice.

"Having been in regular contact with Alfa Laval for a long time, we have always been well informed of environmental developments," says Björn Karlsson, who will oversee the newbuilds as Group Shipping Manager for Nynas. "When ballast water treatment came into focus a year or so ago, we understood the issues and decided to thoroughly investigate all suppliers and systems on the market."

In addition, Nynas chose to analyze the pending IMO requirements, including the possibility of ballast water exchange. Ballast water exchange can allow newbuilds to avoid treatment during the first years of operation, but it did not seem a feasible option for Nynas. "The waters where we sail are often too shallow for ballast water exchange," says Karlsson, who adds, "Even if ballast water treatment is not required at first, an investment now makes more sense than an expensive conversion down the road."

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Once set on ballast water treatment, Nynas narrowed the field to the four systems with IMO approval, finally settling on PureBallast. “With such a large investment,” Karlsson explains, “it felt important to choose a solution with a proven ability to meet IMO demands. And PureBallast’s compact construction was a good match for our tankers, whose smaller design is determined by physical restrictions in the harbours where we sail.”

Pioneering a tanker solution

Even after Nynas had chosen PureBallast, the system had to be adapted to the hazardous environment of a bitumen tanker. As well as releasing gases, bitumen is normally transported at a temperature between 160-180°C but vessels can carry products up to a temperature of 250°C. Such conditions have thus far prevented ballast water treatment on tankers, since no ballast water treatment system has yet been classified as EX-proof.

To facilitate adaptation and simplify dialogue with the shipyard, Alfa Laval spent considerable time working with Nynas and the Shipyard. Besides travelling to China to present the PureBallast technology, Alfa Laval representatives arranged for both parties to visit PureBallast installations currently underway. “Shipyards are often uneasy when it comes to installing new technology,” Karlsson says, “so having Alfa Laval on hand for guidance and direct answers was a valuable part of the process.”

The finished design for the Nynas tankers places PureBallast in a pressurized structure on deck, rather than in the engine room. With a double-door construction that acts as an airlock and an over-pressurized ventilation system, the housing eliminates the need for an EX-proof treatment system, allowing PureBallast to be certified by Bureau Veritas for use in this environment.

“This solution is a pioneering effort, and one that will open up possibilities for other petroleum tankers,” says Karlsson. “Alfa Laval has been extremely helpful and flexible in the design process, which along with PureBallast’s construction has allowed us to minimize the added structure needed.”

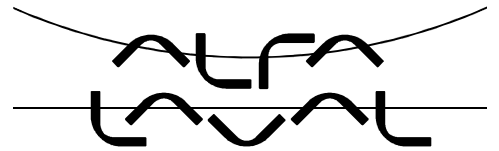
The commercial leader in ballast water treatment

For Alfa Laval, the Nynas order is yet another first in a long history of leadership in ballast water treatment. PureBallast, which was the first commercially launched treatment system and the first without chemical treatment processes to receive Ballast Water Type Approval, will now be the first system installed aboard a petroleum tanker.

In addition, the order brings the total number of PureBallast installations to around 60, far more than that of any other system. PureBallast has been selected by over a dozen shipping companies, including large global players like Wallenius and E.R. Schiffahrt. Moreover, PureBallast has been chosen for a wide variety of vessels, ranging from RoRo and supply vessels to container ships and bulk carriers in capacities from 250 to 1000 m³/h.

“The fact that PureBallast has been chosen by so many – and for installation aboard such a diverse range of vessels – is clear evidence of the system’s performance and flexibility,” says Peter Carlberg, General Manager of Alfa Laval Marine & Diesel. “With the order for the Nynas tankers, we’ve now shown that PureBallast’s flexibility can be taken even further.”

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Editor's notes

About Alfa Laval

Alfa Laval is a leading global provider of specialized products and engineering solutions based on its key technologies of heat transfer, separation and fluid handling.

The company's equipment, systems and services are dedicated to assisting customers in optimizing the performance of their processes. The solutions help them to heat, cool, separate and transport products in industries that produce food and beverages, chemicals and petrochemicals, pharmaceuticals, starch, sugar and ethanol.

Alfa Laval's products are also used in power plants, aboard ships, in the mechanical engineering industry, in the mining industry and for wastewater treatment, as well as for comfort climate and refrigeration applications.

Alfa Laval's worldwide organization works closely with customers in nearly 100 countries to help them stay ahead in the global arena.

Alfa Laval is listed on Nasdaq OMX Nordic and, in 2008, posted annual sales of about SEK 28 billion. (approx EUR 2.9 billion). The company has some 12,000 employees.

For further information contact:

André Szczerba

Alfa Laval Tumba AB

Marine & Diesel Equipment

Marketing Communications

SE-147 80 Tumba, Sweden

Phone: +46-8 530 650 00

Fax: +46-8 530 345 55

e-mail: andre.szczerba@alfalaval.com

www.alfalaval.com

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