



Efficient tanker retrofits with Alfa Laval ballast water treatment systems and deckhouses

Customer: Millenia Maritime Inc.

Based in Glyfada, Greece, Millenia Maritime Inc. is an international ship management company that transports oil products with a fleet of double-hull MR tankers. Millenia provides a full range of operational, technical, crewing and commercial services, and its management takes pride in doing modern and efficient business. That includes choosing Alfa Laval PureBallast 3 Ex ballast water treatment systems in deckhouses – and completing successful retrofits in record time.





Finding a match for tanker needs

Millenia has seven MR tankers in the capacity range of 40,000–50,000 tonnes, all built between 2006 and 2009. Since the ballast water treatment regulations were still unclear at the time, no consideration for ballast water treatment systems was made in their original design. However, Millenia investigated the options thoroughly when the first four vessels began approaching their compliance dates in 2019.

“We don’t have a pump room on our vessels, because they’re equipped with Framo pumps just like 90% of the MR tankers delivered around the same time,” says Francesco Ricciardi, General Manager of Millenia. “There were chemical treatments available, but for the tanker segment and for our vessel size especially, UV technology is the most convenient principle. This method was and is the most suitable technical solution for our tankers.”

A choice for lasting performance

Specifically, Millenia opted for PureBallast 3 Ex ballast water treatment systems of 1500 m³/h. These were delivered in Alfa Laval’s own deckhouse solution, ready for plug-and-play installation topside. For Ricciardi, it was not only the system and deckhouse that were important, but also Alfa Laval’s deep experience and global service organization.

“If you don’t have the service engineers, if you don’t have the aftersales, it’s going to be very difficult to run your system and to get performance out of it,” Ricciardi says. “Alfa Laval has the expertise and a long involvement in the shipping industry. They were the pioneers in ballast water treatment, and they’re still far ahead of any competition in terms of performance and quality – especially in the tanker industry and for our size of tankers.”

For Ricciardi, performance includes the ability to handle rivers, sedimented waters and extreme cold, even if Millenia’s vessels are based in the Mediterranean today. “It’s a matter of trading area, and these were key points that give Alfa Laval the highest performance,” he explains. “You can’t assume that your vessels will work in a specific area forever. Some of our vessels are ice-classed and can travel to Canada or Norway, for example. We have to be able to accommodate the charterer’s trade needs.”

The same source for system and deckhouse

If PureBallast 3 Ex was an obvious choice, however, Alfa Laval’s deckhouse solution was not. At the time of Millenia’s selection, many tanker owners were building their own steel enclosures for ballast water treatment systems, either on their own or with the help of a shipyard.

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“We evaluated this option, but it was more complicated and also more expensive, because you had to fit the Alfa Laval system inside and get it all approved by the classification society,” Ricciardi says. “Buying from Alfa Laval was a plug-and-play delivery, much easier than any other solution.”

Ricciardi notes that time and experience have confirmed Millenia’s decision. “We know many shipowners who tried to build their own deckhouses and minimize their costs, but they spent much more time and money on retrofitting than expected,” he says. “I don’t think anyone considers it an option anymore.”

Easy installation, reliable protection

In contrast to self-made enclosures, Ricciardi says the PureBallast 3 Ex deckhouse installations were

easy to get right. “It’s a standalone solution with the PureBallast 3 Ex system already integrated inside,” he says. “We simply created a foundation platform welded to the main deck, then loaded the deckhouse on top of the platform. All we had to do was connect the deckhouse to the ballast pump main line, so it was really very easy.”

In addition, Ricciardi praises the deckhouse’s quality. “The Alfa Laval deckhouse is fully weather-proof and offers the best protection you could ask for, just as if they system were in the engine room,” he describes. “It’s insulated, it’s built with ex-proof materials and you won’t have any rust or other problems. There’s no maintenance required for the deckhouse itself, and it’s all pre-approved by the classification society, which in our case is RINA.”





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Coordinating to save time and money

For Millenia, who completed the fourth PureBallast 3 Ex deckhouse retrofit in April 2020, the installations have been cost-effective as well as smooth. In part, this is thanks to Millenia's successful planning and coordination with Alfa Laval, which allowed work to proceed faster than the benchmark.

“The cooperation was good for both parties, because we simply met and found ways to overcome any difficulties,” Ricciardi relates. “We naturally timed the installation of the ballast water treatment systems with dry docking, but we also utilized our time in dry dock well. We chose the engineering company and workshop very carefully, and we did most of the work afloat at a repair pier in Greece, before actually going into dry dock. With those preparations, we were able to retrofit each system in just 16 days.”

The difference, says Ricciardi, is a matter not just of time but of money. “We got very good installation results on all of our vessels, but we also secured a competitive time to market,” he says. “In the cost-benefit analysis for

the project, spending less time at the shipyard has high value. Every day the vessel is in the water is a day that it can be making money.”

Confident choosing Alfa Laval

With the first four retrofits completed, Millenia is now making plans for its other tankers. More ballast water treatment suppliers have recently been approved in Italy, where Millenia's vessels are flagged. Nonetheless, Millenia will retrofit PureBallast 3 Ex systems in Alfa Laval deckhouses, first on two more tankers in 2021 and then on the final tanker in 2024.

“The system is first class, and the next deckhouses will be even more compact than the previous ones,” says Ricciardi, noting that the entire ballast water flow can now be handled by a single 1500 m³/h PureBallast 3 reactor. “The flag state has approved more competitors for us to evaluate, but we would and did make the same decision. No one else can claim the same level of cooperation and expertise. We're glad that we've chosen Alfa Laval again.”

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Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

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