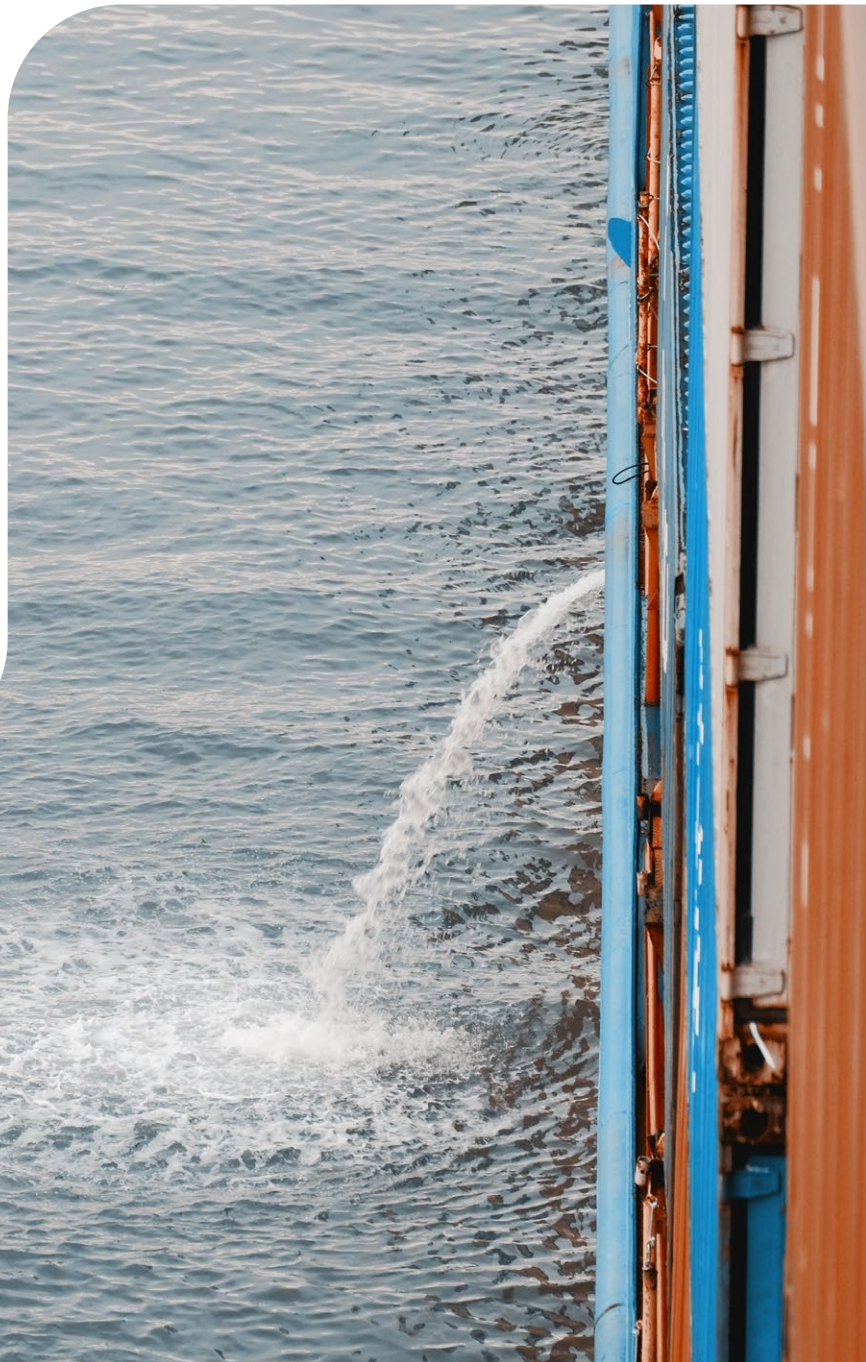


Replacing static OWS with Alfa Laval PureBilge Compact put an end to costly frustration

For one European shipper of passengers and freight, bilge water is no longer a headache. The company has switched from static, coalescer-type oily water separators (OWS) to Alfa Laval PureBilge Compact. With its continuous centrifugal separation technology, the new system puts high oil-in-water values, high filter costs and constant crew monitoring in the past.



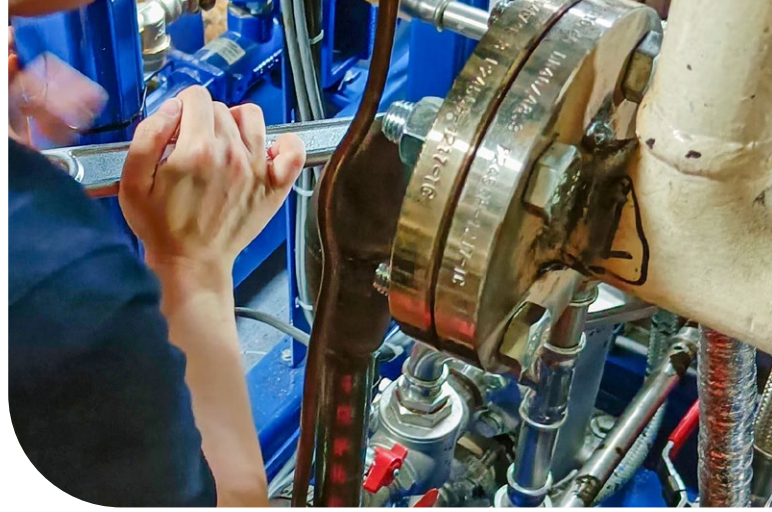
High filter costs with static OWS

Until recently, bilge water was a major source of frustration on a RoPax ferry in southern Europe. The ferry is owned by a shipping company that operates in areas with a strict oil-in-water discharge limit of 5 parts per million (ppm). This target is significantly more challenging than the global limit of 15 ppm¹, and the ferry was struggling to meet it.

The ferry had recently installed a two-stage coalescer-type OWS, rated for 2.5 m³/h. Yet despite having a brand-new system, it was unable to discharge without constant filter replacement. Due to the high consumption of filter elements, reaching 5 ppm was nearly as expensive as landing the bilge water. So, with the crew's labour factored in, it made more sense to deposit it in port than to treat it on board.

Proposing a better solution: PureBilge Compact

Thanks to a long relationship with the shipping company, Alfa Laval became aware of the OWS difficulties. Alfa Laval was in the process of finalizing a new product, PureBilge Compact, and suggested that the ferry evaluate it as a field test. PureBilge Compact is a smaller version of PureBilge, a proven OWS based on centrifugal separation.



Alfa Laval's experts promised that PureBilge Compact would be reliable and efficient. It would deliver 5 ppm in continuous, single-stage operation – without constant filter changes. As a result, the ferry would be able to meet its needs with a lower-capacity system, rated for just 0.6 m³/h.

Continuous, cost-effective operation

Intrigued by the potential, the shipping company agreed to install PureBilge Compact for testing in October 2022. When the system began operating, conditions on the ferry became very different. Not only did PureBilge Compact deliver 5 ppm consistently, it was also self-sufficient.

With the static, coalescer-type OWS, crews had spent countless hours in the engine room. They were either changing filters or monitoring the OWS to be sure of the ability to discharge. Now they could pursue their other duties, and their time savings were matched by cost savings. No more endless purchasing of filters, no excessive filter waste to dispose of – and no more landing of oily water.

¹ 15 ppm is maximum oil-in-water level allowed by MEPC.107(49).



Why PureBilge Compact succeeds where coalescers fail

The outcome on the ferry was a direct result of PureBilge Compact’s centrifugal separation technology. Coalescer-type OWS rely mainly on gravity, which is ineffective during sea travel. By applying a force 6000 times stronger than gravity, a centrifugal separator is immune to pitch and roll. Plus, it breaks the complex emulsions in modern bilge water, which are often stabilized by cleaning agents and other onboard chemicals.

While a filter stage can remove the impurities left after a coalescer, the filter elements seldom last long in bilge water application. OWS type approval requires only a few hours of testing², so a coalescer-type OWS can easily be rated for 2.5 m³/h. In continuous operation, however, the filter elements soon clog. This makes the rated throughput impossible at sea, and 5 ppm – or even 15 ppm – becomes an expensive target to meet.

Continuous, high-efficiency operation is why a PureBilge Compact system for 0.6 m³/h could outperform a coalescer-type system designed for four times more.

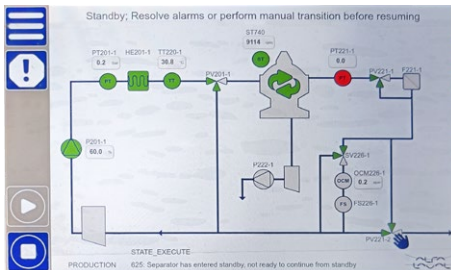
A solution to keep – and repeat

By the end of the field test period in February 2023, the shipping company was thoroughly convinced. The ferry was consistently compliant at 5 ppm. Discharge with PureBilge Compact was automatic, and no large tanks were needed to hold the bilge water. Better still, the crew’s only task was a small amount of manual cleaning, recommended at three-month intervals. Not wanting to go back to high costs or landing bilge water in port, the company asked to keep the test installation and have it certified on board.



In addition, once the product was finalized, the company selected PureBilge Compact for the ferry’s two sister vessels. Like the first ferry, these had been experiencing high costs and PPM values with their static, coalescer-type OWS. With the proof already in hand, the company had a go-to solution in PureBilge Compact.

² The type approval procedure set by MEPC.107(49) requires three separate tests, the longest of which is 2.5 hours.



The automated control and monitoring integrates with that of other Alfa Laval systems, giving the crew on board a single, user-friendly interface.

To learn more about all Alfa Laval PureBilge systems, please visit www.alfalaval.com/purebilge

How to contact Alfa Laval

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

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