



near marine



Together for
vessel performance

For more than 100 years, Alfa Laval has partnered with ship owners, ship operators and shipyards to strengthen and protect marine business. Now as always, our shared goals are in focus.

Alfa Laval has a lasting commitment to solving marine challenges – through innovation, insight and partnership across seventeen product groups and vessel-wide. With reliability and ease of use in mind, we keep operations running smoothly and safeguard

compliance with regulatory demands. And as business at sea changes, we provide new ways to save costs and secure profits.

The first century was just a beginning. Welcome to a new era of vessel performance.

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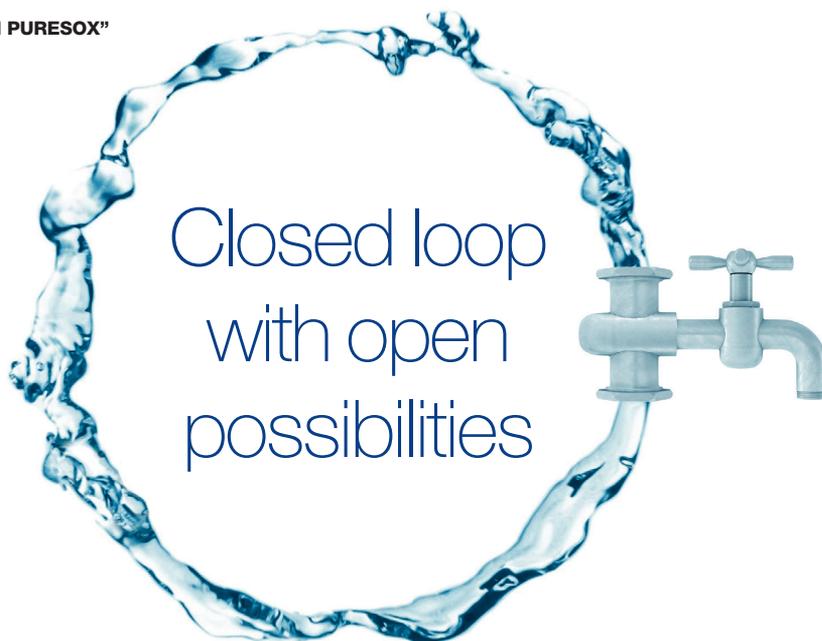
Cost-saving new flexibility with PureSOx

When the first vessel set sail with Alfa Laval PureSOx ten years ago, it had a hybrid system on board. Capable of operating in either closed or open loop, hybrid systems balance the ability to meet tougher discharge regulations with total operating economy. Today, a new PureSOx water cleaning system (WCS) offers more cost-saving flexibility than ever.

CONTINUED STORY FOR "COST-SAVING NEW FLEXIBILITY WITH PURESOX"

In 10 years at sea, Alfa Laval PureSOx has shown that SOx limits can be met while operating on more economical high-sulphur fuel. Likewise, it has proven that closed-loop operation is both possible and feasible. Many PureSOx customers have chosen hybrid systems with closed-loop modes, while others have chosen hybrid-ready systems, which simplify later upgrading from an open-loop to a hybrid system.

Now PureSOx has grown even more flexible when it comes to closed loop, thanks to a new modular and upgradeable PureSOx water cleaning system (WCS). It combines high-speed separation – an Alfa Laval core technology which is the most effective means of water cleaning – with flocculator and membrane options, plus the ability to handle both $Mg(OH)_2$ and NaOH as alkali, and to choose between seawater or fresh water. In short, it provides the most cost-effective solution for both present and future needs.



PureBallast 3 meets tough challenges with ease

Alfa Laval PureBallast 3, the third generation of the leading ballast water treatment technology, now has minimized holding time in United States waters – and is ready for revised G8 requirements in 2020.



Today PureBallast 3 owners can deballast as needed, in all water salinities and anywhere in the world. An updated type approval from the U.S. Coast Guard (USCG) minimizes USCG holding time to just 2.5 hours, which is only needed when crossing between Captain of the Port Zones. In addition, PureBallast 3 is prepared for the revised G8 requirements that soon must be met by any system prior to installation. Though the stricter guidelines take effect in October 2020, Alfa Laval is one of just a handful of suppliers with revised G8 certificates in hand.

Regulations are not the only challenge, however. The PureBallast 3 offering continues to develop, providing simpler and smarter answers to complex needs. Last year saw the launch of a 1500 m³/h reactor, which enables even more compact systems for large flows. And today there are also vessel-specific solutions, such as deckhouses and booster pump units for tankers.

More steam without burning more fuel

Why let valuable energy go up in smoke? The Alfa Laval Aalborg Micro is an extremely compact new waste heat recovery boiler that maximizes the energy efficiency of auxiliary engines.

Tomorrow's blended fuels will need to be properly stored at a higher ambient temperature – Alfa Laval's recommendation is 10–15°C above the pour point. That means steam needs may actually increase after 2020, even if the fuels are pumped at lower temperatures than today.

That extra steam is easy to acquire with the Alfa Laval Aalborg Micro waste heat recovery boiler. A unique coil design makes it just as effective as standard smoke-tube boilers. But with its remarkably lower height and smaller diameter, the Aalborg Micro is exceptionally easy to retrofit.



SOLUTIONS TO MEET THE 2020 SULPHUR CAP



Alfa Laval's fuel line expertise encompasses the whole chain from bunker tank to engine. As fuel sulphur regulations change operations on board, updated technologies and smart recommendations are helping customers meet the new challenges.

The 2020 global sulphur cap will make fuel choices and fuel handling more complicated. Many fleets will move from existing single-fuel systems to multi-fuel operations, which can result in problems – from clogged fuel systems to engine stoppage – if not managed properly.

Meeting the challenges will affect the fuel line as a whole. Separators will require new levels of capacity and efficiency, while fuel conditioning systems will need embedded automation to ensure safe changeover. More synergy will be needed between fuel line equipment and the engine, and even the fuel lines for oil-fired boilers may need to be updated.

Alfa Laval is making a difference in all these areas, from providing separators with Certified Flow Rate (CFR) to synchronizing oil feed and engine load with Alfa Laval FlowSync. The new Alfa Laval Fuel Conditioning Module (FCM) 1.5 Oil automatically handles up to four fuels and keeps them safely segregated. And for Alfa Laval Aalborg boilers, there are both multi-fuel burners and optimized fuel supply recommendations. Through all of these efforts and more, Alfa Laval is securing greater protection and energy efficiency – even as fuel operations change in the face of 2020.

Marine engine lubrication made compact

Lube oil quality impacts engine lifetime. Efficient oil cleaning is crucial for minimizing marine engine wear and damage, and for ensuring consistent operation at peak performance. The inevitable changes in fuel types after 2020 make it necessary to reassess lube oil strategy.

There are still many unanswered questions regarding the impact the 2020 sulphur cap will have on marine engine lubrication systems. However, evidence suggests that the use of a centrifugal separator, to remove contaminants from the lube oil, will continue to promote engine longevity and efficiency, regardless of the fuel oil used.

The compact, low-maintenance Alfa Laval MIB series centrifugal separation systems are excellent for purifying or clarifying lubricating oil on smaller vessels. Featuring new designs and materials that improve performance and usability, they help reduce maintenance hours and boost oil system reliability.



Fresh water with an even smaller footprint

The Alfa Laval AQUA Blue fresh water generator cut seawater needs and electrical power consumption in half. Now the AQUA Blue Mini cuts footprint by 40% for smaller vessels.

Alfa Laval AQUA technology has a history of making things smaller, and the new AQUA Blue Mini allows fresh water generation in a smaller space than ever before. Though almost half as small as the already compact AQUA Blue, it produces up to 18 m³ of fresh water per day. That makes it a perfect match for smaller vessels where space is a constraint.

Easy to use, the AQUA Blue Mini is big news for vessels that currently bunker fresh water or rely on other fresh water generation solutions. With its tiny footprint and minimal need for electrical power, it has lower cost of ownership than other fresh water generation technologies. Yet it maintains the same high fresh water quality that proven AQUA technology is known for.

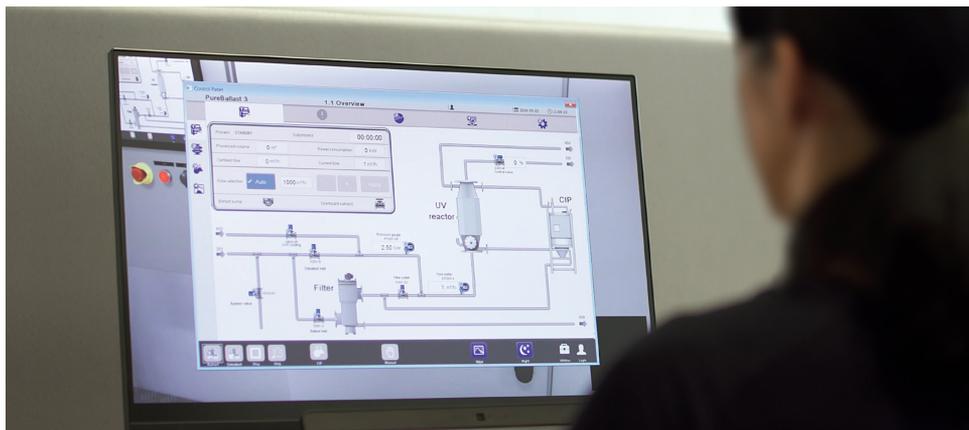


Securing vessel performance worldwide

Service is integral to performance – throughout a vessel's lifetime and wherever it sails. Alfa Laval service expertise helps avoid costs today, but also saves over time.

In an industry where time is money, few vessels can afford a standstill in their operations. Reliability at sea is critical, which makes service a priority. But service is just as much about keeping equipment optimized and ensuring low running costs over time.

Alfa Laval's service offering is driven by all of these needs. It builds on a comprehensive service network, with resources available 24/7 in ports all over the world. But it also builds on a wealth of knowledge, covering every major application on board.



Today, those resources and expertise are more accessible than ever, both physically and digitally. A good example is PureBallast 3 Computer-Based Training (CBT), which complements face-to-face training and supports ongoing crew development. Another is PureSOx Connect, which simplifies compliance and supports optimization through real-time analysis.

Online, on board and globally, the offering will continue to develop. Alfa Laval is committed to helping customers succeed – not only through cutting-edge equipment and systems, but by keeping service at the forefront.