NEWSLETTER FOR THE MARINE INDUSTRY SPECIAL EDITION SPRING 2018

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ALFA LAVAL PUREBALLAST 3 IS READY FOR REVISED G8 – AND THE YEARS AHEAD

In early February, Alfa Laval PureBallast 3 became the first ballast water treatment solution to be type approved according to the revised G8 guidelines. This continues the momentum from 2017, an eventful year not only for PureBallast, but for ballast water treatment as a whole.

The recent months have been important ones for Alfa Laval PureBallast 3. The third generation of the market's leading ballast water treatment technology is now the first solution with IMO type approval according to the revised 2016 G8 guidelines. Based on tests conducted in Q3 2017, DNV GL issued the type approval certificate on behalf of the Norwegian Maritime Authority on 2 February.

"Our customers require future-proof solutions, which is why certification in compliance with the revised G8 guidelines has been a high priority for Alfa Laval," says Anders Lindmark, head of Alfa Laval PureBallast. "Being revised G8 ready, in addition to having U.S. Coast Guard type approval, shows that PureBallast 3 is a robust solution, prepared for tough conditions worldwide."

Momentum from PureBallast 3 Compact Flex

The news that PureBallast 3 is revised G8 ready follows the positive reception of PureBallast 3 Compact Flex, which was launched at the end of 2017. Based on loose components, PureBallast 3 Compact Flex packs the leading ballast water treatment technology into a footprint up to 20% smaller – and reduces installation costs by up to 10% through its plug-and-play concept.

"PureBallast 3 Compact Flex was greeted enthusiastically by customers and engineering companies, which made the launch a highlight of 2017," says Lindmark. "Going forward, the system is also a key part of our retrofit strategy. Over the course of many retrofit projects, we've learned how important it is to minimize footprint and simplify installation. So those things were front and centre in the new system's development."

Going forward with certainty in 2018

Needless to say, the launch of PureBallast 3 Compact Flex was not the only major event in ballast water treatment last year. After years of discussion, the IMO Ballast Water Management Convention entered into force, and MEPC 71 set the implementation timetable for existing vessels. Moreover, the U.S. Coast Guard issued important clarifications about what happens if a ballast water treatment system changes hands – or the supplier disappears.

"What's important about all these things is that the market now has answers," Lindmark says. "We know what applies, and that knowledge is important for all players on the market. With the uncertainty gone, we can all focus on moving forward and planning properly for successful retrofit projects."

Urgent to begin retrofit planning

In fact, many customers have already decided on their ballast water treatment systems and have retrofits in the pipeline. Others are well on their way.

"We're starting to see a higher level of activity in the market," says Lindmark. "That poses a risk for customers who have yet to choose a supplier or begin planning their retrofits. If they wait until the end of the year to start, they risk tighter projects that may ultimately be less successful."

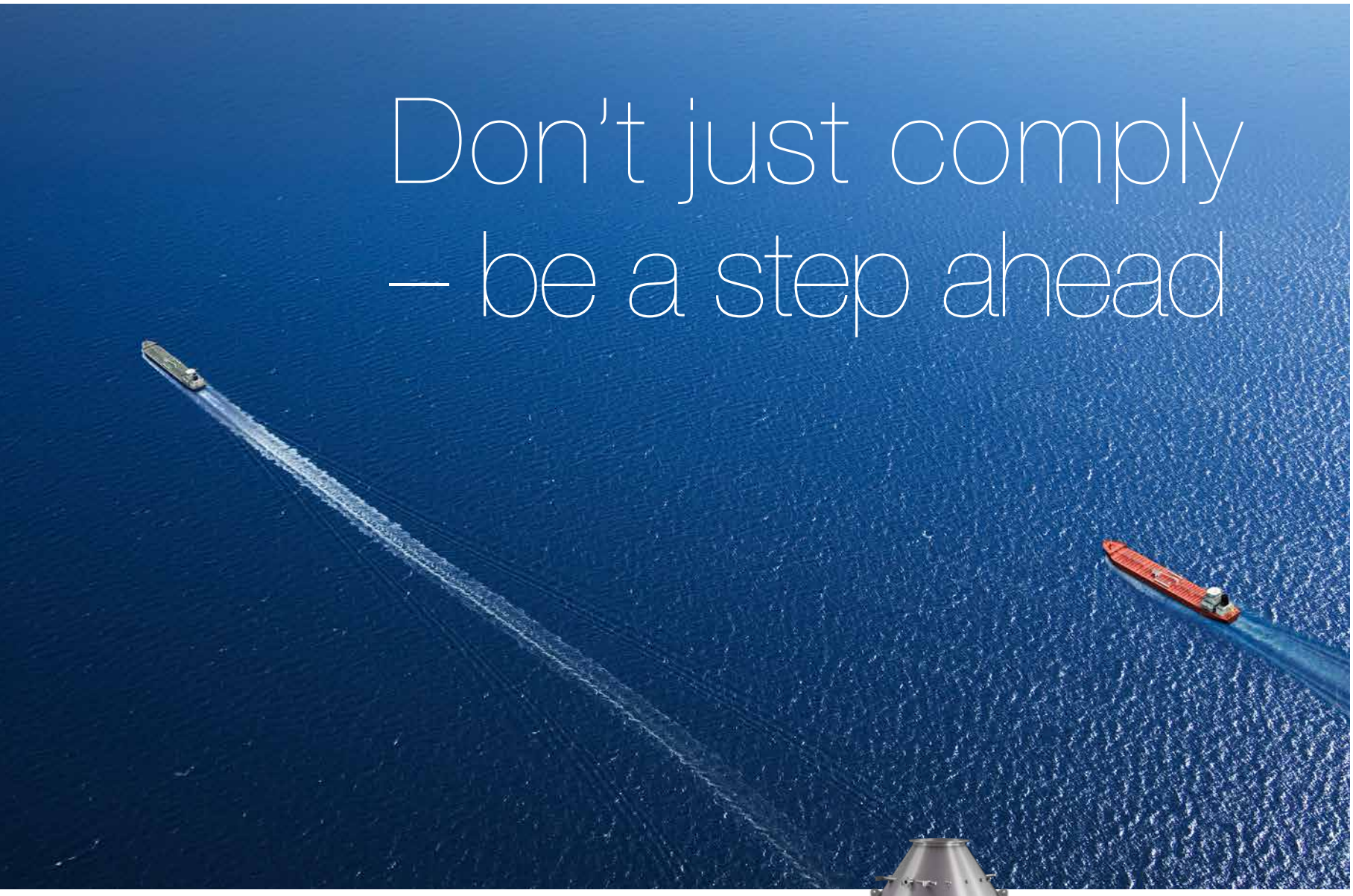
But Lindmark points out the positive as well. "Alfa Laval has been working with retrofits for a decade, so we have well-established procedures in place," he says. "When you run a project well, including the design and engineering, you can win a lot by the time it comes to the actual installation."

An even stronger PureBallast network

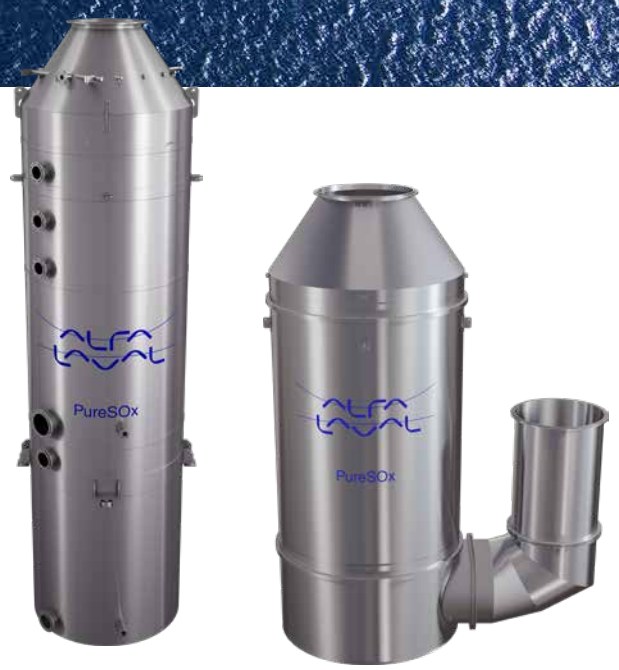
As well as building up knowledge and procedures for the coming retrofit period, Alfa Laval has invested heavily in the personnel who work with ballast water treatment. Headcount was added during 2017 to support shipyards and commissioning, and the service resources for PureBallast continue to grow.

"We've trained even more of our 500 field service engineers to work with PureBallast specifically, and we've added dedicated PureBallast engineers to cover individual regions," says Lindmark. "Having a strong service network in place is vital, because this is a cooperation with our customers for the lifetime of the vessel."

Lindmark concludes: "It comes down to customers' compliance. Alfa Laval will be there, ready to secure and maximize their uptime."



New Alfa Laval PureSOx connectivity solution simplifies SO_x compliance



Connectivity is a catchphrase in today’s marine industry, but Alfa Laval is taking concrete steps to make it a reality. With a new connectivity programme for Alfa Laval PureSO_x scrubbers, the company is adding value for exhaust gas cleaning customers. The solution promises both simplicity and even greater reliability in SO_x compliance.

With nearly 100 systems in operation and in compliance, Alfa Laval PureSO_x is already a trusted solution for meeting the SO_x limits posed by Emission Control Areas (ECAs) and the 2020 global sulphur cap. With the launch of the new PureSO_x connectivity programme, it will put customers even farther ahead, providing new ways to save time and money. The programme builds on the new Alfa Laval Remote Emission Monitor (ALREM), a data reporting and storage device that is part of all new PureSO_x orders and also available for retrofit.

“Customers want to eliminate hassle and downtime, so that they can spend more time performing,” says Olaf Van Heerikhuizen, Manager Service Gas Systems. “Connectivity is the key, as we’ve already seen in ALREM projects with major PureSO_x customers. The ALREM lays the groundwork for a range of data-driven services that will make compliance – and life on board – much easier.”

SOx compliance reporting without the work

The first service to be rolled out in the PureSOx connectivity programme is one that simplifies proof of compliance and is available on all vessels where the ALREM is installed. Rather than analysing scrubber compliance data themselves, customers receive user-friendly, graph-based reports via the Alfa Laval Touch Control system on board.

“This is immediate pain relief for customers, whose scrubbers are legally required to log around 50 data signals every three minutes,” says Van Heerikhuizen. “Instead of interpreting a hundred pages of raw sensor data for just a few days of operation, they get a finished compliance summary that they can hand over directly to authorities.”

If they choose, customers can also review the data for their vessel or fleet via an online portal. Accessible on a subscription basis for a simple monthly fee, the portal lets them view their vessel’s route and receive a SO_x compliance summary for the dates they select.

Many more possibilities to come

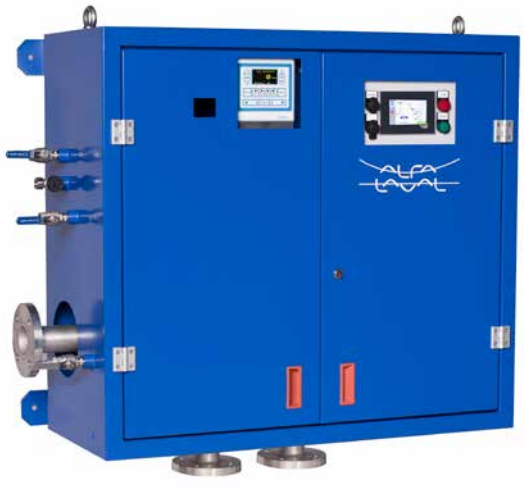
The capabilities of the ALREM go far beyond reporting, which paves the way for additional services to come. The system can log not only the required compliance data, but also PureSO_x diagnostic and performance data that can be sent to the cloud for processing by Alfa Laval analysts. This provides a foundation for condition-based maintenance services and new levels of scrubber optimization.

“In the course of testing the ALREM, we’ve been able to use the diagnostic information to find the root causes of an alarm and arrive on the vessel with the right parts and information to solve the issue quickly,” says Van Heerikhuizen. “As the system grows more sophisticated, we’ll be able to provide more predictive maintenance and help customers trim their scrubbers for even better performance and energy efficiency.”

To learn more about Alfa Laval PureSO_x and Alfa Laval’s approach to exhaust gas cleaning, visit www.alfalaval.com/puresox

Alfa Laval BlueBox SA ends oily water compliance worries

Fines and criminal charges for non-compliant discharge of oily water continue to make headlines. Alfa Laval PureBilge has long helped customers avoid such problems, and now the Alfa Laval BlueBox SA offers peace of mind to those with other oily water treatment solutions.



The enforcement of oily water discharge requirements has grown increasingly strict, with high-profile cases resulting in massive fines or even jail sentences. Ship owners can rest easy if they have an effective solution like Alfa Laval PureBilge, whose centrifugal separation technology handles both emulsions and rough seas. But for customers with static coalescers or older, less optimized separators, oily water can be a real a source of worry.

This makes the new BlueBox SA welcome news. The BlueBox SA is a tamper-proof oil content monitor and data recorder that can be used with any oily water separation solution. Based on the original BlueBox, which is integrated into PureBilge, the BlueBox SA is a standalone unit for upgrading an existing oily water setup.

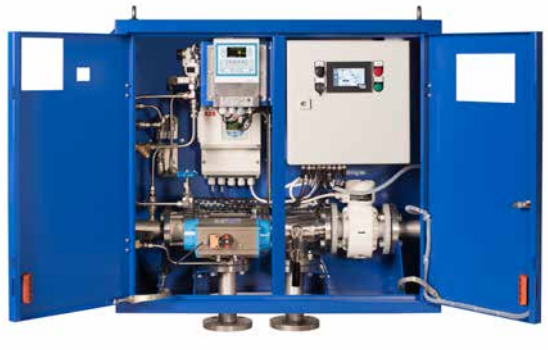
An upgrade for any oily water separator

The BlueBox SA monitors the oil content of the water for overboard discharge, making sure that it falls within the set 5 or 15 ppm limit. If the oil content is too high, the BlueBox SA prevents the overboard discharge valve from opening, ensuring that no non-compliant discharge can occur.

The solution can be used to upgrade an existing oily water separator, regardless of its age or maker, as well as on newbuild vessels. Besides monitoring clean water tanks, where a standalone oil content monitor (OCM) is required, the BlueBox SA can be used to monitor clean drain tanks, which collect steam condensate, boiler drainage, cooler air drainage and more.

Added insurance for those with coalescers

The Blue Box SA is an important safeguard for ship owners and operators, and particularly for those with static coalescers. Though able to pass the land-based tests for type approval, coalescers are batch systems whose performance and capacity are limited – especially in rough seas. Due to their heavy reliance on polishing filters and the excessive attention they require, customers like RollDock are abandoning coalescers in favour of centrifugal separation technology.



The Alfa Laval adaptive fuel line steps up the fight against cat fines

Cat fines are a clear and present danger for all who sail with residual fuels. Centrifugal separators are the most important line of defence, but they become even more effective as part of an optimized whole. Alfa Laval works with the entire fuel line to boost both protection and energy efficiency.

Cat fines continue to cost ship owners and operators thousands of dollars in repairs and lost business. Statistics reveal that 40% of today's 500 cSt fuel has a cat fine level of 40 ppm, and that 50% of all operators cannot remove enough cat fines to reach engine manufacturer specifications. When new sulphur regulations take effect in 2020, the situation may grow even worse, as low-sulphur fuels often contain more cat fines – not less.

Keeping vessels safe demands responsive fuel treatment. Alfa Laval S separators have long led the way in this regard, with Alcap technology that adjusts automatically to oil composition. Today, the Alfa Laval adaptive fuel line is taking an even more comprehensive approach.

Getting still more from the separators

The Alfa Laval adaptive fuel line comprises all aspects of fuel treatment, including not only separation and fuel conditioning, but also the fuel feed. The latter is a key area where Alfa Laval FlowSync makes a significant difference.

FlowSync is an automatic separator feed pump control system that uses variable-speed pumps to synchronize the feed with the engine's actual fuel consumption. At the same time, it monitors the daily service tank and keeps it filled to a safe working level.

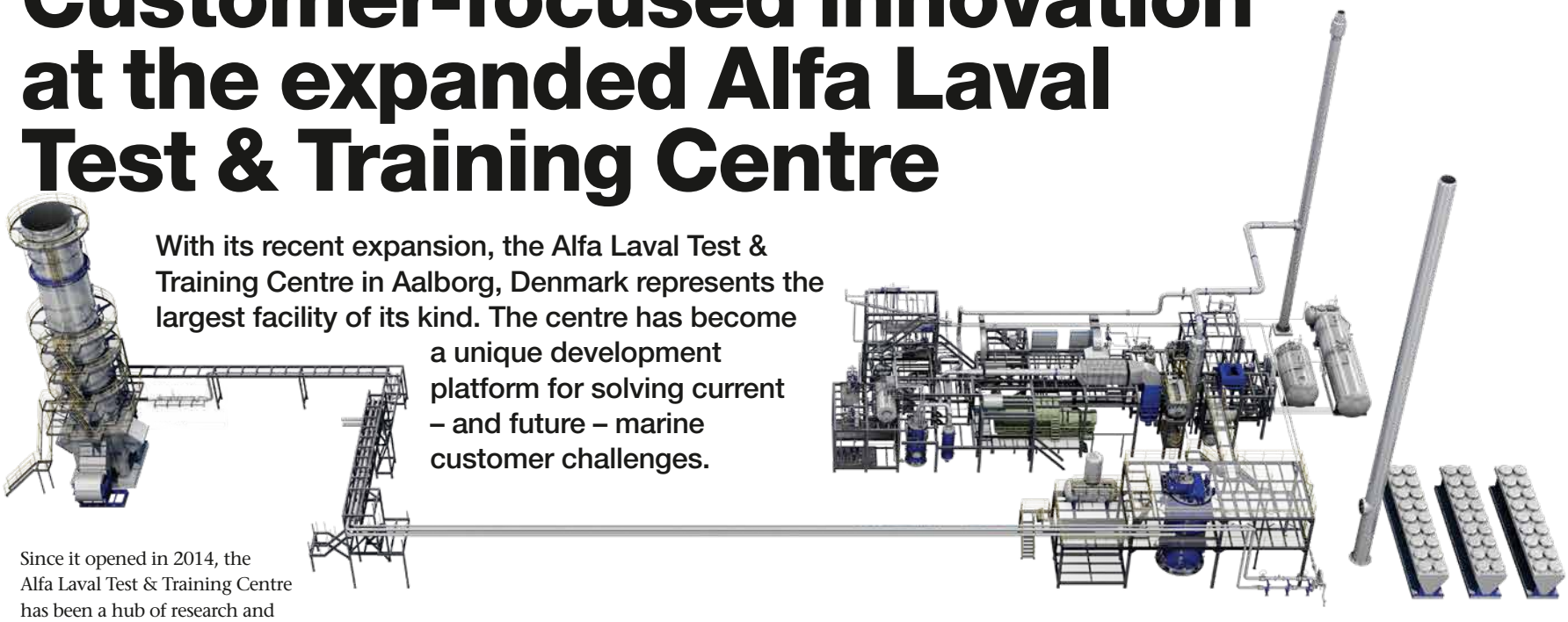
By seeing that only the necessary amount of fuel is pumped, FlowSync creates better conditions for the separator, allowing more fuel retention time in the separator bowl. This leads to even better cat fine removal, as well as energy savings within the separator. During slow steaming, FlowSync also saves pumping energy by eliminating needless fuel recirculation.

A complete approach for protection and savings

FlowSync is just one of several solutions within the Alfa Laval adaptive fuel line. Others detect elevated risk or loss of separation efficiency, enable safe management of multiple fuels (Alfa Laval FCM One) and recover waste fuel for reuse (Alfa Laval PureDry).

Through slow steaming synergies and a mix of groundbreaking technologies, the Alfa Laval adaptive fuel line offers peace of mind and more. When all aspects are considered, it creates a potential annual savings of as much as USD 1,000,000.

Customer-focused innovation at the expanded Alfa Laval Test & Training Centre



With its recent expansion, the Alfa Laval Test & Training Centre in Aalborg, Denmark represents the largest facility of its kind. The centre has become a unique development platform for solving current – and future – marine customer challenges.

Since it opened in 2014, the Alfa Laval Test & Training Centre has been a hub of research and development in exhaust gas cleaning, ballast water treatment, steam production, fuel cleaning and other key areas. It began as a full-size machine room on land, where Alfa Laval products are installed and integrated into major process lines around a 2 MW marine engine.

The centre has become a springboard for customer-focused innovation. It has contributed to new products, systems and technical solutions, all offering customers innovative ways to lower operating costs, reduce environmental impact and improve their business overall. And through a new gas expansion, opened in 2017, it will do even more.

Expanded possibilities

With the new expansion, the original 250 m^2 testing space has grown to nearly 1400 m^2 in total. The enlarged space supports a marine industry in rapid transition, enabling focus on combustion technologies for gas and other fuel alternatives. New equipment includes burner and inert gas systems, as well as the Alfa Laval Gas Combustion Unit (GCU), installed in full scale.

"Our investment in the Alfa Laval Test & Training Centre reflects the extraordinary changes we see in the marine industry," says Peter Leifland, President of Alfa Laval's Marine Division. He notes that thousands of vessels are expected to sail with gas within 15 years, compared to just hundreds today. "Tightening emissions legislation is driving many customers from residual fuels towards LNG and other alternatives," he says.

Increasing the pace of innovation

The costs of the new investment are far outweighed by the benefits, according to Leifland. "We see many areas where the centre has accelerated our R&D and improved its quality," he says. "Exhaust gas cleaning, where our Alfa Laval PureSOx platform is fully ready for the 2020 global sulphur cap, is just one example."

In paving the way for gas, the centre will be vital in bringing customers the most environmental and energy-efficient solutions. "The rate of change in marine legislation is increasing," says Leifland. "With the expanded capabilities of the Alfa Laval Test & Training Centre, our customers' onboard technologies will be ready to meet their technical challenges – whether the fuel is diesel, gas or something else altogether."

The new Alfa Laval AQUA Blue S-type generates fresh water using almost 70% less power

When it was introduced in 2008, Alfa Laval's AQUA freshwater generation technology cut seawater needs and pump-related power consumption in half. With today's AQUA Blue S-type, the need for electrical power is further reduced – to just one-third that of conventional freshwater generators.

The new AQUA Blue S-type uses the same 3-in-1 AQUA plate technology as the original C-type configuration. But it maximizes energy efficiency and capacity-to-footprint ratio by making use of the vessel's existing seawater cooling system pumps. This cuts electrical power needs by 70% compared to conventional freshwater generators, and it shrinks the already small AQUA Blue footprint by up to 15%.

"AQUA freshwater generation technology revolutionized energy use in a very well-established application," says Alex Jönsson, Global Business Manager for Alfa Laval freshwater generators. "With the AQUA Blue S-type, we further reduce the energy-related costs for ship owners – as well as the installation costs for shipyards."

Greater installation flexibility

Besides its smaller footprint, the AQUA Blue S-type offers shipyards a considerable amount of new flexibility, including a range of connection alternatives. Because it makes use of the vessel's seawater cooling system pumps, it employs a smaller ejector and a smaller, separately installed ejector pump. Likewise, the pipework can be both shorter and smaller in diameter.

In addition, the S-type handles a wider span of pressures, which means the configuration can be adapted to the highest or lowest water level. An adapted configuration is able to deal with higher pressure in the overboard line, which allows the freshwater generator to be placed more freely on board.

Always the right freshwater generator option

Having the choice between an S-type or C-type configuration of AQUA Blue ensures an ideal match for ship owner and shipyard priorities. The AQUA Blue C-type, which has a combined cooling water and ejector flow, has a single seawater connection to the vessel's sea chest. This makes it independent of other equipment and conditions in the vessel's seawater cooling system.

"Whichever configuration customers choose, they will receive a truly robust solution," says Jönsson. "AQUA Blue is designed not only for energy and footprint savings, but also to last the lifetime of the vessel."

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