



near marine



Meeting the challenges of 2020

When the 2020 global sulphur cap enters into force, it will impact marine fuels, marine vessels and the marine industry as a whole. Alfa Laval is ensuring customers are prepared, for fuel challenges and more.

Alfa Laval can secure compliance, safety and continued efficiency, no matter what a vessel's fuel strategy. Whether the choice is low-sulphur fuels, exhaust gas cleaning or switching to LNG, we have reliable and easy-to-use solutions to match.

For over 100 years, Alfa Laval has been helping marine customers meet their toughest challenges. Vessel performance is the focus we share – in 2020 and beyond.

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Fuel line security – with any fuel

Alfa Laval's fuel line expertise covers the whole chain leading from the bunker tank, no matter if it ends at the engine or a boiler. Whatever the fuel and wherever it's combusted, Alfa Laval technologies and know-how ensure safe, compliant and efficient fuel delivery.

The 2020 global sulphur cap makes fuel choices and fuel handling more complicated. Many fleets are moving from single-fuel systems to multi-fuel operations, which naturally affects the engine fuel line. Not only are there

new demands on separator capacity and fuel conditioning, fuel line systems must also work in a more integrated and adaptive way. You'll find more on these challenges and Alfa Laval's solutions at www.alfalaval.com/fuelline

But fuel isn't only burned in the engine. Boilers are also affected, which is why there are now multi-fuel solutions and optimized fuel supply recommendations for Alfa Laval Aalborg boiler systems. Even vessels that continue with HFO can experience boiler issues, since installing a SOx scrubber can impact boiler operation. To learn about these challenges and the answers available from Alfa Laval experts, visit www.alfalaval.com/boiler2020

Smarter safety in boil-off gas management

More and more ship owners are either using LNG for propulsion or exploring the option. Alfa Laval technologies and expertise – especially in the area of boilers – are playing a key role in managing boil-off gas (BOG) and making LNG propulsion possible.

In order to use LNG as fuel, vessels must be able to manage boil-off gas (BOG), the evaporated gas that can increase tank pressure. LNG carriers can do this with the Alfa Laval Gas Combustion Unit (GCU). But the best and most economical solution for vessels using LNG as fuel is often a dual-fuel Alfa Laval Aalborg boiler, designed with boil-off gas in mind.

A boiler, either for producing steam or for heating thermal oil or water, is equipment that vessels need anyway. Since an Aalborg dual-fuel boiler can be fired with LNG,

it can take on the additional safety function of BOG management. In some cases, this capability is what makes an LNG conversion feasible.

In addition, the boiler can burn the mixture produced when inerting LNG tanks for inspection. Since the mixture of inert gas and LNG can't be burned by the engine, it's normally disposed of at an onshore terminal before and after dry docking. Using the boiler to burn it instead is a time-saving and economical alternative.

A century of steam



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.



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, the new PureSOx WCS provides the most cost-effective solution for both present and future needs. To learn more about closed-loop operation and water cleaning, visit www.alfalaval.com/puresox

The clock is ticking down to IMO revised G8

The global sulphur cap isn't the only change coming in 2020. Next year on 28 October, the IMO revised G8 guidelines for ballast water treatment systems enter into force. Alfa Laval PureBallast 3 was the first solution ready – and remains one of the few that is.

When considering ballast water treatment systems, ship owners need to think carefully about when they will be installed. Just one year from now, any system without IMO revised G8 approval will be banned from installation. Since the IMO rules are global, the wrong choice of system will put most world ports out of reach.

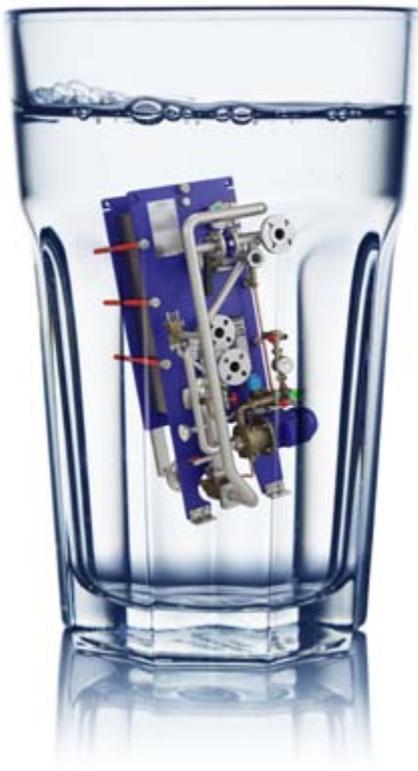
The new requirements are far more stringent, which means the path to type approval may be long. PureBallast 3 has been revised G8 ready

since early 2018, but so far only a handful of suppliers have followed Alfa Laval's example.

With revised G8 certification in hand, PureBallast 3 customers can look ahead with confidence. Moreover, they can look to PureBallast 3 to meet their other challenges. The past year has seen many new advances, including a 1500 m³/h reactor, minimized holding time in United States waters and deckhouse solutions with an optional booster pump unit.



To learn more, visit www.alfalaval.com/pureballast



BIG ADVANTAGES FOR SMALLER VESSELS

Alfa Laval offers a wide variety of equipment solutions, covering applications from bow to stern. They include a growing range of equipment for fishing boats and other smaller vessels, where capacity needs and space are more limited.

The new AQUA Blue Mini freshwater generator is a perfect example of proven technology in a smaller package. Easy to use and service, it has a tiny footprint and a minimal need for electrical power. Yet it efficiently provides 1–18 m³ of high-quality fresh water per day – with no filters to clog or membranes to change. That makes the AQUA Blue Mini a simpler, smarter alternative than either bunkered water or reverse osmosis.

Another ideal solution for smaller vessels is the Alfa Laval MIB series centrifugal separation system for lube oil. Created with advanced manufacturing, design and drive technologies, MIB separators are both smaller and lighter than conventional solid-bowl models. To see how one fishing boat has benefitted, use the QR code here.



Watch the Prins Maurits case film

Original parts for original performance

Equipment reliability is everything at sea, and it comes down to even the smallest parts. Alfa Laval genuine spare parts ensure peak performance and minimize the risk of unscheduled downtime.

Alfa Laval genuine spare parts are manufactured and tested to match the original specifications and tolerances. Not only do they match the equipment perfectly, they provide the same high performance it was originally designed for.

“If you use inferior products, they’ll work only for a short period of time,” says Stuart Bott, Senior Marine Engineer, who has spent 25 years at sea. “You end up with more

downtime, and you spend more time on parts and labour, because you have to replace things multiple times. For me, Alfa Laval genuine spare parts provide confidence that it’s going to work correctly – when we need it, for as long as we need it.”

Learn more about Alfa Laval genuine spare parts and hear about Stuart Bott’s experience at www.alfalaval.com/genuine-spare-parts



Stuart Bott, Senior Marine Engineer, UK