



# Extending performance

Marine service solutions for true peace of mind



# Extending performance

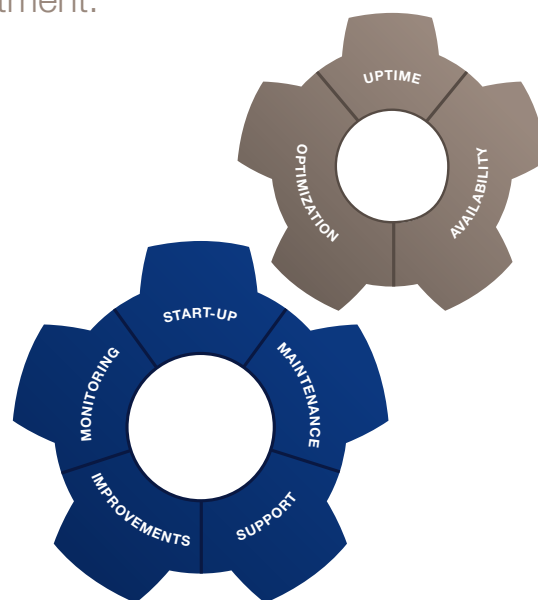
Alfa Laval's global service network keeps you competitive by minimizing costs and maximizing the return on your marine equipment investment.

With the knowledge, skills and support of Alfa Laval's global service network, you can rely on your equipment for as long as you own it. Our committed team secures performance that keeps you competitive throughout your equipment's life cycle.

In port or at sea, we bring you peace of mind.

## Expertise at your service

Alfa Laval has deep process and application knowledge, drawn from a vast installed base and a century of marine experience. You benefit from a long tradition of finding solutions, and from best practices identified worldwide.



# Driven to meet your needs

Uptime, availability and optimization are in constant focus. The Alfa Laval 360° Service Portfolio has solutions to ensure performance throughout your equipment's life cycle.

## Start-up

We bring your equipment into operation, smoothly and safely, while respecting global guidelines. We ensure your equipment delivers as it is meant to.

- Installation
- Installation Supervision
- Commissioning
- Commissioning Supervision

## Maintenance

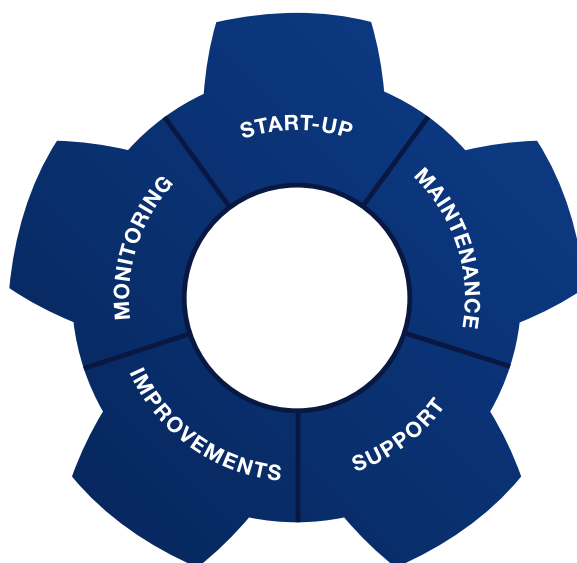
With proper maintenance at the right time, you can achieve higher performance and lower operating costs while maximizing your equipment's lifetime.

- Calibration
- Cleaning Services
- Exchange
- Preventive Maintenance
- Reconditioning
- Repair
- Service Kits
- Service Tools
- Spare Parts

## Monitoring

Stopping problems before they occur saves time and money. Inspections and audits – or even continuous monitoring – can keep you informed of any performance changes.

- Condition Audit
- Condition Monitoring
- Performance Audit



## Support

Assistance is always on hand. Many issues can be solved directly over the phone, and experienced troubleshooting specialists can be dispatched to your vessel when needed – in port or at sea.

- Exclusive Stock
- Technical Documentation
- Telephone Support
- Training
- Troubleshooting

## Improvements

Performance can be taken to the next level to better match your evolving needs. We can improve your equipment, letting you take advantage of the latest technical developments.

- Equipment Upgrades
- Redesign
- Replacement & Retrofit

# Performance Agreements

Secure top performance at a cost you can predict.

Performance Agreements are tailor-made solutions, combining your choice of services from the Alfa Laval 360° Service Portfolio. You can choose different services for different pieces of equipment, and review or change your agreement as needed.

## More than the sum of the parts

Combining services achieves a greater total result. You enjoy top performance and maximum uptime, while knowing your service costs in advance. That brings you true security, as well as a short payback time.



## Performance Agreement secures cost-efficient uptime

Grandi Navi Veloci, Italy

**Challenge:** An Italian passenger and freight ferry company wanted to ensure uptime, minimize service disruption and extend the life of its centrifugal separators.

**Solution:** A Performance Agreement was signed to give Alfa Laval full responsibility for the preventive maintenance of 49 Alfa Laval separators. All service intervals are included in the agreement, as well as spare parts, training and emergency visits if needed. At regular intervals, Alfa Laval engineers go on board to inspect and fine-tune the separators.

**Benefits:** Separator uptime is maximized and service interruptions are minimized, while the company has a fixed maintenance budget with lower overall costs.





# Start-up services

The beginning of a healthy life cycle

Avoiding errors at the outset saves headaches and money over time. We help you get every detail of your start-up right with a full range of services – from strategic consultation to hands-on installation.

Our skilled engineers use their knowledge to ensure your equipment is ready for coming challenges, and to put it into operation as smoothly and safely as possible. With Alfa Laval on your side during start-up, you can be sure every piece of equipment will live up to expectations and perform like it should over the long term.



## Installation

Optimal lifetime performance demands getting off on the right foot. Our experienced engineers help you do that by installing your equipment and preparing it for commissioning. With their specialist knowledge, they can provide insights into how small adjustments will play out over years of operation. So by putting installation in their hands, you can avoid unwanted surprises from the start.

## Commissioning

Securing ideal operation is more than getting equipment into place. After verifying your equipment's installation, our experts can take charge of starting it up on board, making sure this critical phase goes smoothly. Our specialists do test runs and performance checks, and even train your operators if needed. In short, they ensure your equipment and the processes it affects are fully optimized for safety and performance.



# Maintenance services

Letting you count on performance

A strong maintenance strategy keeps operating costs down by keeping your equipment's performance level up. It increases uptime, lengthens equipment lifespan and gives you transparent cost control.

Our expert maintenance both improves the function of your Alfa Laval equipment and helps you get more out of surrounding equipment. Our offering includes Cleaning-in-Place (CIP) that saves time and optimizes performance, reconditioning that leaves equipment good as new, and meticulously designed spare parts that ensure lasting reliability.



## PHE and FWG reconditioning

Years of use can be wiped away with our advanced reconditioning of plate heat exchangers (PHEs) and freshwater generators (FWGs). At our workshops, we use specially developed tools to inspect and restore your plates and gaskets – no matter what equipment brand you use. We can supply you with freshly reconditioned plates in the meantime, so that you can continue operating while we work.

## Boiler repairs

Alfa Laval experts can restore your boiler to perfect working condition and even extend its life, regardless of the boiler's type or brand. This may be more cost-effective than buying a new boiler, and Alfa Laval experts will always guide you to the optimum solution. Repairs are possible wherever and whenever needed – in port, at a shipyard or during your voyage – on a scheduled or emergency basis. We work quickly and effectively, according to class rules and your specifications.



# Support services

Expert assistance anytime, anywhere

Every minute is costly when a problem slows you down. But with Alfa Laval, you're never alone. In person, by phone and even online, our service experts can help you troubleshoot and solve any issue – both quickly and effectively.

Our Graduated Service Engineers, stationed in every part of the world, have in-depth knowledge that can protect your equipment and improve the way you use it. Similar insights are provided through our in-depth trainings, which take place both at our own sites and in other locations around the globe.



## Fuel Management Course

Alfa Laval trainings can help you adapt onboard operations to new conditions and new regulations. A good example is the Fuel Management Course, held jointly by Alfa Laval and Veritas Petroleum Services (VPS). The course, which focuses on the fuel complexities related to Emission Control Areas (ECAs), explores the operational risks in switching between fuels and the strategies available to avoid them.

## Troubleshooting

Alfa Laval troubleshooting experts can help resolve problems with any aspect of your Alfa Laval equipment, and often that of other brands. They assist with critical or emergency issues, and they provide advice that prevents future problems. With their guidance, many issues can be resolved by your own crew. But we can also dispatch them quickly for onboard troubleshooting, anywhere in the world – in port or at sea.



# Improvement services

## Optimizing for an even stronger future

The better your equipment performs, the more you benefit from it. Our improvement services help you optimize performance, or even take it to the next level.

As business drivers and regulations change over time, we can help you adapt your existing equipment, or provide upgrades and retrofits to let you take advantage of the latest technical developments. Best of all, there are opportunities to optimize that don't require a large investment. Many smart, cost-effective ways are available to improve operations and your bottom line.



### Alfa Laval PureDry retrofit

Retrofitting with Alfa Laval PureDry lets you take control over your waste oil – reducing its volume by 99%. PureDry eliminates its liquid component, along with the messy practice of pumping it onto barges. If fuel waste and lube waste are kept segregated, PureDry can also recover as much as 1-2% of the consumed fuel volume as ISO-quality fuel. What remains is a tiny amount of super-dry solids, easily disposed of as landed waste.

Alfa Laval PureDry



### WHR retrofit for auxiliary engines

Fuel costs and emissions can be reduced with a waste heat recovery (WHR) retrofit for your auxiliary engines. The Alfa Laval Aalborg XS-TC7A is a compact and lightweight economizer that we tailor to your ship and its engine design. Though it has a minimal footprint, it effectively augments steam production in port and en route. That can reduce the need to use your oil-fired boiler, for example during slow steaming.

Alfa Laval Aalborg XS-TC7A







### Alfa Laval Touch Control for existing boilers

Alfa Laval Touch Control is a reliable, easy-to-use control system based on a programmable logic controller (PLC). Already the standard on new Alfa Laval Aalborg boiler plants, it can also be installed as a replacement on existing plants. Highly intuitive, its graphical interface provides a full overview of the plant and quick access to any function. This enables faster, smarter decisions that help to optimize boiler use.

Alfa Laval Touch Control



### Automated Fuel Changeover System (ACS) retrofit

Without a scrubber, travelling in and out of Emission Control Areas (ECAs) means switching between residual fuels and distillates. That involves potentially engine-stopping risks, which can be removed by retrofitting with the Alfa Laval Automated Fuel Changeover System (ACS). The ACS is a complete changeover solution, supplying vital cooling and advanced automation for perfect control over fuel viscosity and lubricity.

Alfa Laval Automated Fuel Changeover System (ACS)



# Monitoring services

## Solving problems before they start

Avoiding the unexpected is among the best ways to save time and money. Our monitoring solutions let you lower cost of ownership while experiencing even greater peace of mind.

Inspections or audits of your equipment are one approach to monitoring – and a good way to identify opportunities. Another is continuous monitoring, for example of your spare parts consumption, which keeps you informed of any change that might affect performance. The earlier you identify an issue, the smaller and more cost-effective the solution to correct it.



### Condition monitoring spare parts

Your consumption of spare parts can speak volumes about the condition of your equipment and the way you use it. By keeping track of the type and number of parts you consume, we can use the numbers to identify issues in maintenance and operating practices. Catching and correcting these early on not only reduces your spare parts consumption, but also improves the performance of your equipment.

### Performance Audit

Knowing in advance that something may break, or that procedures could be better handled, is a key to improving safety, performance and economy. During a Performance Audit, our specialists evaluate the performance of your Alfa Laval equipment, looking to improve it and to reduce costs wherever possible. Their findings help you optimize maintenance, throughput and load for the highest possible equipment uptime.



# Global service network

Alfa Laval is always nearby, with service centres and partners in nearly 100 countries and in key marine harbours.



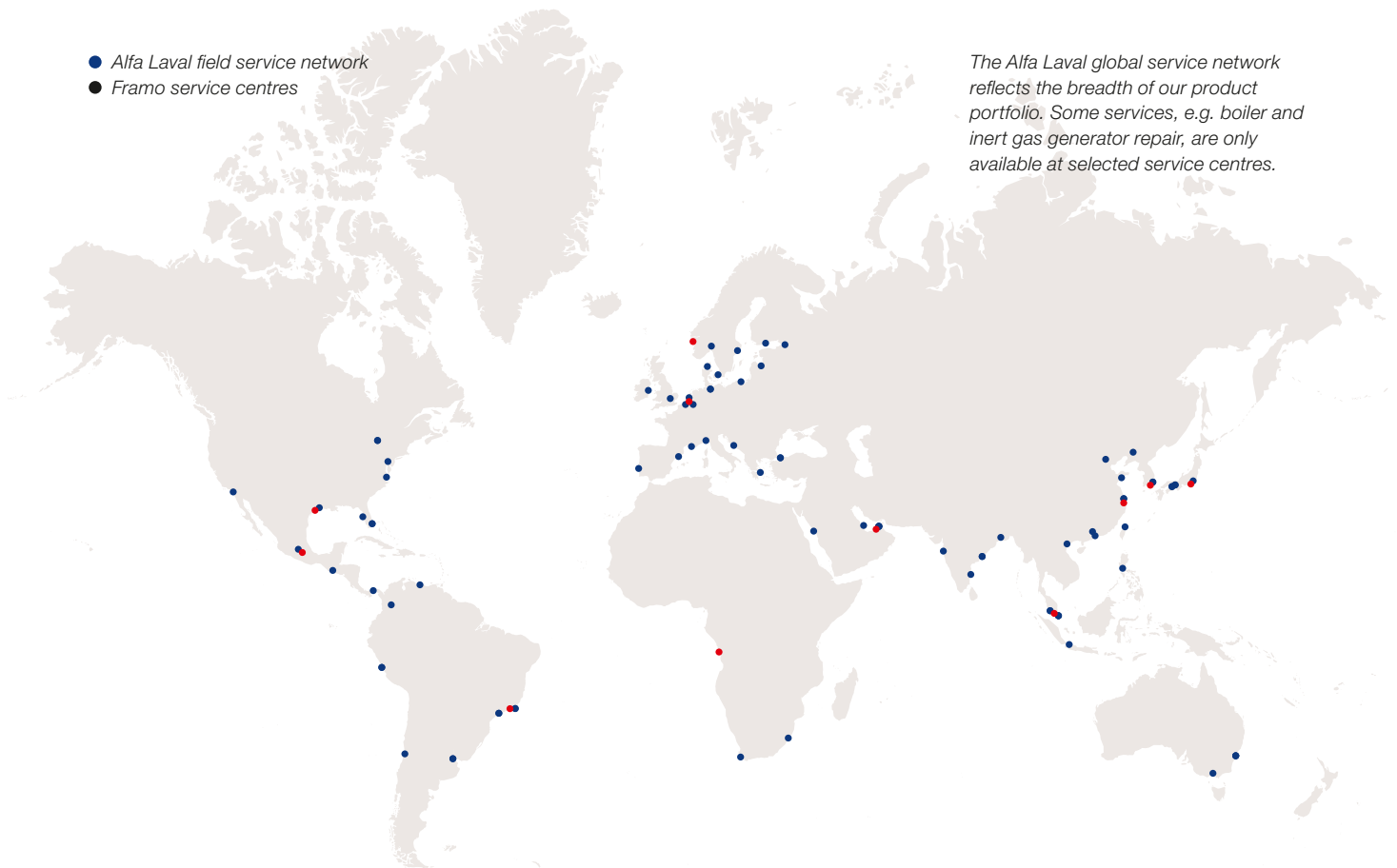
Alfa Laval's global service network is ready to assist you, by phone or on site. Its dedicated service specialists can perform routine maintenance, secure parts, troubleshoot complex issues or evaluate your equipment and make expert recommendations.

You meet professionals with marine expertise, supported by the breadth and depth of Alfa Laval's global knowledge – the result of over 130 years of experience.



- Alfa Laval field service network
- Framo service centres

*The Alfa Laval global service network reflects the breadth of our product portfolio. Some services, e.g. boiler and inert gas generator repair, are only available at selected service centres.*



### **Alfa Laval in brief**

Alfa Laval is a leading global provider of specialized products and engineered solutions.

Our equipment, systems and services are dedicated to helping customers to optimize the performance of their processes. Time and time again.

We help our customers to heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuffs, starch and pharmaceuticals.

Our worldwide organization works closely with customers in almost 100 countries to help them stay ahead.

### **How to contact Alfa Laval**

Contact details for all countries are continually updated on our website. Please visit [www.alfalaval.com](http://www.alfalaval.com) to access the information.

