

Press release

Alfa Laval launches Hukka-5, the next-generation exhaust gas steam boiler, advancing energy efficiency onboard cruise vessels

Alfa Laval introduces at SMM 2026 "Hukka-5", the next-generation exhaust gas steam boiler designed to enhance waste heat recovery on cruise vessels and passenger ferries. Its revolutionary inverted, downward natural circulation design enables efficient recovery of exhaust gas waste heat while minimizing equipment footprint. By capturing and reusing exhaust gas waste heat, the innovative boiler helps operators significantly reduce fuel consumption and CO₂ emissions, supporting both environmental targets and operational efficiency.

Stockholm, Sweden, 2 September 2026

For cruise vessels and passenger ferries, improving energy efficiency increasingly means making better use of the energy already available onboard. Hukka-5 addresses this by enabling greater waste heat recovery from exhaust gases in a compact boiler configuration, helping operators make more efficient use of onboard energy. The new boiler is available immediately for project orders.

Enhancing energy efficiency through advanced natural circulation

Natural circulation has become the industry standard for exhaust gas steam boilers on cruise vessels, eliminating the need for circulation pumps by harnessing physical principles to move water through the boiler unit. With Hukka-5, Alfa Laval takes this technology further by introducing downward natural circulation.

The design enables counter-current flow conditions, even within the limited space of ship funnels, resulting in a minimized exhaust gas boiler (EGB) footprint. This minimizes the risk of flow instabilities in the evaporative circuits, even with exhaust gas temperature fluctuations which could be the case when using alternative fuels.

The result is a waste heat recovery solution designed to deliver optimal operational performance, enhanced safety and advanced energy efficiency on vessels with four-stroke engines, especially those with frequent port calls, such as cruise ships and passenger ferries.

"Our previous state-of-the-art WHR boiler, Aalborg XWi, set the standard for natural circulation on cruise vessels. Now, as the need for greater waste heat recovery grows, we are introducing the Hukka-5 and taking energy efficiency to the next level. Since every square meter matter on cruise ships, the new innovative inverted natural circulation design recovers more waste heat without increasing the footprint", says **Matti Takasuo**, General Manager for BD & Sales for Power, Offshore & Cruise business line, Alfa Laval.

Hukka-5 is part of the "Hukka" exhaust gas steam boiler product range, together with [Hukka-8](#). The range is compatible with engines and gas turbines running on all fuels, including methanol and hydrogen.

Innovative modular design with tailored configurations for efficient heat generation

The Hukka-5 is designed to adapt to the operational needs of cruise vessels and passenger ferries. It offers seamless integration of electrical steam generation, without the need for additional pressure vessels or auxiliary/fired boilers, enabling efficient steam production during port stays when shore power is available. Additionally, the boilers modular design enables tailored configurations, including selectable multi-stage heat recovery solutions with optional condensing cold-end design, further improving installation's energy efficiency.

Beyond energy savings, the modular approach leads the way to reducing costs, shortens lead times, and lowers the specific carbon footprint during construction. Hukka-5 is equipped with a vertical steam drum as a standard, for optimal layout design, free of ship orientation installation requirements.

Maximizing waste heat recovery to reduce environmental impact

By capturing and reusing exhaust gas waste heat, the Hukka-5 enables cruise vessels and ferries to maximize energy utilization and minimize environmental impact. The advanced design ensures the possibilities to recover more energy from exhaust gases, reducing the need for additional fuel and lowering overall CO₂ emissions.

This not only supports compliance with increasingly stringent maritime regulations but also helps operators achieve their sustainability targets and lower the operating costs. With the Hukka-5, Alfa Laval continues to drive innovation in energy efficiency and environmental performance for the marine industry.

Proven experience in waste heat recovery

With decades of experience and a global presence, Alfa Laval is a trusted leader in exhaust gas steam boiler systems for marine, offshore, and land-based power plants. Since 2000, Alfa Laval has completed over 1,300 waste heat recovery boiler installations for cruise and passenger ferries, plus hundreds of land-based projects in more than 100 countries. These systems now reduce CO₂ emissions by over 10 million tons annually, demonstrating Alfa Laval's proven, reliable, and sustainable technology for customers worldwide.

Explore more about Hukka-5 here: [Hukka-5 | Alfa Laval](#)

Read more about cruise WHR here: [Cruise waste heat recovery | Alfa Laval](#)

For more information about Alfa Laval marine solutions, visit www.alfalaval.com/marine.

This is Alfa Laval

The ability to make the most of what we have is more important than ever. Together with our customers, we're innovating the industries that society depends on and creating lasting positive impact. We're set on helping billions of people to get the energy, food, and clean water they need. And, at the same time, we're decarbonizing the marine fleet that's the backbone of global trade.

We pioneer technologies and solutions that free our customers to unlock the true potential of resources. As our customers' businesses grow stronger, the goal of a truly sustainable world edges closer. The company is committed to optimizing processes, creating responsible growth, and driving progress to support customers in achieving their business goals and sustainability targets. Together, we're pioneering positive impact.

Alfa Laval was founded 140 years ago, has customers in 100 countries, employs more than 23,670 people, and annual sales were SEK 69.6 billion (6.6 BEUR) in 2025. The company is listed on Nasdaq Stockholm.

www.alfalaval.com

About Power, Offshore & Cruise business line (Alfa Laval Aalborg Oy)

The **Power, Offshore & Cruise** business line (Alfa Laval Aalborg Oy, a Finland based subsidiary of Alfa Laval's Ocean division) designs and supplies waste heat recovery boiler systems and fired boilers for cruise ships and ferries, power plants, process industry and offshore applications worldwide. The unit's innovative solutions improve customers' energy efficiency, emissions reductions and savings in fuel costs all over the world. The unit has extensive know-how and decades of experience with thousands of fired and waste heat recovery boilers supplied all over the world, with a special focus on combined cycle power generation systems. The business unit is based in two main locations: Rauma, Finland and Singapore. The business has its origins in Uusikaupunki, Finland, established in 1964, supplying marine boilers. The business was acquired by Aalborg Industries in 1997, which Alfa Laval acquired in 2011.

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