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Alfa Laval Test & Training Centre receives approval for testing with ammonia

Authorities have granted approval for testing with ammonia at the Alfa Laval Test & Training Centre. When installation of the testing setup is completed by the end of 2022, the centre will be able to work with all fuels in consideration as the marine industry decarbonizes.

Supporting the entire fuel transition

Alfa Laval will serve marine customers at all stages of their decarbonization journey, no matter which fuels they choose. As part of that strategy, the Alfa Laval Test & Training Centre will soon begin testing with ammonia. Just as it has for LNG, biofuels and methanol, the centre will deepen the knowledge of ammonia combustion and lead the development of needed onboard technologies.

“The Alfa Laval Test & Training Centre will explore ammonia’s properties and its behaviour in a wide range of systems,” says Alfa Laval’s Lars Skytte Jørgensen, Vice President Technology Development, Energy Systems. “That includes combustion systems, such as the burners on Alfa Laval Aalborg boilers, but also fuel supply systems and fuel cells – in other words, the full chain of fuel preparation and handling, where we will look at both efficiency and safety. With our testing setup approved, we can be first off the block in the race towards ammonia implementation.”

Dual barriers and isolated testing

“Safety is the first consideration in any testing situation,” says Jørgensen of the plans for the centre. “Existing safety regulations deal with ammonia as a coolant or fertilizer, whereas using ammonia as fuel at sea is a new area altogether. In our communication with the authorities, there was much discussion as to what was needed for safe marine-oriented testing.”

The testing setup includes a double-walled ammonia tank at a safe distance from other fuels, as well as double-walled piping with encapsulated welds for all pipes to and from the centre. These barriers reflect the safety measures that will likely be required for ammonia on future vessels. Initially, the testing itself will take place in a dedicated enclosure, using quantities small enough for emergency venting without risk to the environment or the engineers involved. At a later stage, full-scale testing will commence using both boilers and fuel cells.

With the setup approved, Alfa Laval will move swiftly to begin ammonia testing in early 2023.

To learn more about the Alfa Laval Test & Training Centre and Alfa Laval’s approach to marine decarbonization, please visit: www.alfalaval.com/marine

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Editor's notes

This is Alfa Laval

Alfa Laval is a world leader in heat transfer, centrifugal separation and fluid handling, and is active in the areas of Energy, Marine, and Food & Water, offering its expertise, products, and service to a wide range of industries in some 100 countries. The company is committed to optimizing processes, creating responsible growth, and driving progress to support customers in achieving their business goals and sustainability targets.

Alfa Laval's innovative technologies are dedicated to purifying, refining, and reusing materials, promoting more responsible use of natural resources. They contribute to improved energy efficiency and heat recovery, better water treatment, and reduced emissions. Thereby, Alfa Laval is not only accelerating success for its customers, but also for people and the planet. Making the world better, every day.

Alfa Laval has 17,900 employees. Annual sales in 2021 were SEK 40.9 billion (approx. EUR 4 billion). The company is listed on Nasdaq Stockholm.

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