Press release

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Successful testing of an HT-PEM fuel cell system using methanol paves the way for scale-up at the Alfa Laval Test & Training Centre

In Q2 of 2022, Alfa Laval started up a small-scale methanol fuel cell system at the Alfa Laval Test & Training Centre. Based on positive test results, plans for a 200 kW installation are on track. Ultimately, it will provide the marine industry with a scalable energy supply that does not involve combustion.

Fuel cell system development proceeding as planned
Alfa Laval is the driving force in marine fuel cell development aimed at an efficient and cost-effective energy solution based on high-temperature proton exchange membrane (HT-PEM) fuel cells. In the first step, a 10 kW (2 x 5 kW) installation has been running at the Alfa Laval Test & Training Centre since July.

“We are pleased with the progress in the HT-PEM fuel cell system development,” says Alfa Laval’s Jeroen van Riel, Business Development Manager, Marine Energy Systems. “Although this first installation is small, it allows us to test the basic setup and the function of the supporting equipment. The data compiled so far is very promising, which suggests that we can move into the next stage as planned.”

Scalable power without fuel combustion
The fuel cell system in development, which will provide clean operation with no particulate emissions, uses carbon-neutral renewable methanol. It comprises modules of HT-PEM fuel cell stacks that can be combined in racks of 200 kW, creating a standardized, scalable system for many megawatts of power. Alfa Laval is responsible for the overall system infrastructure, as well as the distribution systems needed to support the fuel cells.

In the current phase of testing, two modules containing one fuel cell stack each are being run with the distribution systems. The operational data will then be used to fine-tune the 200 kW module and rack setup.

“The development will lead to an integrated, safe and marine-certified product for application on tomorrow’s green ships,” says van Riel . “Within the near future, it will offer a realistic alternative to combustion-based auxiliary power on board.”

To learn more about Alfa Laval innovation for methanol and Alfa Laval’s approach to shipping decarbonization, please visit: www.alfalaval.com/methanolasfuel

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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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