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Upcoming two-stage Alfa Laval AQUA Blue E2 freshwater generator multiplies the energy-saving AQUA benefits

A two-stage freshwater generator will soon join the Alfa Laval AQUA Blue family. Compared to the single-stage AQUA Blue E1, the two-stage AQUA Blue E2 produces twice as much fresh water for a certain amount of waste heat – or the same amount of fresh water using around half the waste heat. Thanks to AQUA plate technology, both models are far more efficient than competing systems.

Matchless efficiency in two stages

Introduced in 2008, Alfa Laval's AQUA plate technology cut the seawater needs and power consumption for freshwater generation in half. Since then, the AQUA Blue family of freshwater generators has steadily grown and improved. In early 2023, the single-stage AQUA Blue E1 will be joined by a two-stage counterpart: the AQUA Blue E2.

“The AQUA Blue E2 has all the strengths of the AQUA Blue E1, including AQUA plates with non-glued gaskets,” says Alfa Laval's Serdar Sengun, Head of Marine Heat Transfer. “By having two stages, it takes the green benefits even further. Shipowners can get twice the fresh water out for the energy put in, or they can use the added efficiency to save in other ways.”

Support for multiple green scenarios

As shipowners move to decarbonize, the two-stage AQUA Blue E2 can support their goals. Doubled capacity compared to the single-stage model can meet an increased need for fresh water, e.g. in connection with alternative fuels. Conversely, it can meet the existing need for fresh water with around half the waste heat input.

Saved waste heat can be used to generate electricity when the Alfa Laval E-PowerPack is also installed on board. But using less heat to produce fresh water can also help meet sustainability requirements. Vessels that must slow steam due to their Carbon Intensity Indicator (CII) or Energy Efficiency Existing Ship Index (EEXI) can retain their production of fresh water with the limited waste heat available.

“Other two-stage freshwater generators can manage these scenarios, but none can do it with the same high efficiency as the AQUA Blue E2,” says Sengun. “That's because AQUA plate technology uses just half the seawater and electrical power compared to other desalination methods.”

Saving space and time as well

Despite its wide capacity range, the AQUA Blue E2 handles the entire desalination process within a single plate pack. As with other AQUA Blue models, this creates installation advantages through a small footprint and limited pipework. Non-glued gaskets, which were introduced with the AQUA Blue E1, allow easy maintenance on board.

“The AQUA Blue E2 is a product of superlatives,” says Sengun. “Vessels can produce fresh water of the highest quality with minimal space and effort – and with the greatest energy efficiency.”

To learn more about Alfa Laval AQUA Blue freshwater generators and Alfa Laval’s approach to freshwater generation, please visit: www.alfalaval.com/freshwater

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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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