Case story

Specifying for modern needs with two-stage AQUA Blue E2 freshwater generators

A shipping company in the Middle East is building several new bulk carriers to support its growing operations. To meet their high demand of fresh water, the vessels will have two-stage Alfa Laval AQUA Blue E2 freshwater generators.

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Ensuring a sufficient margin of fresh water
The shipyard's original specification for these bulk carriers contained the customary solution: single-stage freshwater generators. Despite the increasing need of fresh water on today's vessels, not all are aware that technology has moved forward.

Single-stage freshwater generators would have produced 20 tonnes of fresh water per day on the bulk carriers, using 588 kW of waste heat. The shipowner, however, felt this was too small a margin for the boiler and engine room machinery. Wanting the vessels to be self-sufficient as well as energy efficient, the owner chose to have two-stage AQUA Blue E2 freshwater generators installed.

Less waste heat – or more fresh water
Compared to a single-stage freshwater generator, the two-stage AQUA Blue E2 needs 50% less waste heat for a given capacity. To produce the 20 tonnes of fresh water that the shipyard had specified per day, it would require only 330 kW.

By changing the specification, the shipowner has doubled the capacity. When applying the full amount of waste heat in the AQUA Blue E2, the bulk carriers will instead have a daily capacity of 36 tonnes. The freshwater generator's second stage provides a boost of 16 tonnes per day.

Efficient in multiple ways
Alfa Laval's revolutionary 3-in-1 AQUA plate technology, applied in two stages. AQUA technology lets evaporation, separation and condensation occur in a single plate pack. As a result, the AQUA Blue E2 needs 50% less seawater flow than a conventional freshwater generator – and therefore consumes 50% less electrical power.

In addition, the AQUA Blue E2 has a 45% smaller footprint than any conventional two-stage model. Since the plate pack slides open within the frame, no extra service area is needed. Thanks to the unique non-glued gaskets, operators can perform regasketing on board, without transporting plates or bunkering extra water. So, just like the footprint, the maintenance needs are small.

To learn more about the Alfa Laval AQUA Blue E2 and other AQUA Blue freshwater generators, please visit www.alfalaval.com/FWG

How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com