CASE STORY

Alfa Laval technology powers sustainable operations on Maersk's pioneering methanol-fuelled container vessel

In a world where sustainability is increasingly important, A.P. Moller-Maersk has set sail with the world's first methanol-fuelled container vessel. Equipped with Alfa Laval's solutions for methanol as fuel, this vessel shows how innovative solutions and equipment can help shipping companies adapt to the evolving energy landscape and environmental regulations.

Embracing methanol as a viable marine fuel

Methanol is an increasingly viable contributor to the shipping industry's drive to use clean and sustainable fuel. When produced from renewable sources, it has the potential to reduce CO_2 emissions. Additionally, its ability to comply with the International Maritime Organization's (IMO) emission regulations has generated widespread interest in its adoption as a marine fuel.

Maersk's pioneering methanol voyage

Aiming to meet the ambitious 2040 target of net zero greenhouse gas emissions in time, A.P. Moller–Maersk, a well-known Danish shipping and logistics company, is advancing with great speed towards the adoption of new technologies, new vessels and green fuels.

In a visionary leap towards a sustainable future, Maersk has set sail with a pioneering methanol-fuelled container vessel. The 2100 TEU and 172-meter-long container vessel, powered by green methanol, arrived in Copenhagen from South Korea on its maiden voyage, in September 2023. The feeder vessel will sail the Baltic Sea route between Northern Europe and the Bay of Bothnia after it is put into operation.

The vessel is equipped with Alfa Laval's equipment designed to accommodate methanol as a fuel source.

Enhancing vessel efficiency through energy savings & carbon footprint reduction

Operating a vessel that runs on methanol as fuel requires careful consideration of the onboard equipment, prioritizing safety and user-friendliness. Maersk has chosen Alfa Laval equipment to support critical operations on board. The vessel is equipped with an Alfa Laval FCM Methanol low-flashpoint fuel supply system (LFSS) and a methanol-ready steam boiler that supports the use of green methanol as fuel while reducing energy consumption and emissions.

Fast facts

The scene:

Copenhagen, Denmark

Vessel owner:

A.P. Moller-Maersk

Vessel type:

Methanol-powered container vessel

The task:

Having solutions that can help to overcome the energy and environmental challenges of a methanol-fuelled vessel

The challenge:

1. Selecting equipment that meets the need of using methanol as fuel in a safe and easy way
2. Maximizing the vessel's energy savings
3. Overcoming the energy challenges posed by limited waste heat from the engine

The result:

1. Installed equipment ensures safe and easy methanol-related operations
2. Alfa Laval equipment is helping to lower the vessel's energy consumption and emissions
3. The energy-efficient equipment gives the vessel better EEDI and CII ratings

Product facts

To advance the methanol transition, Alfa Laval has developed a range of products and solutions that are methanol compatible, allowing for lower CO_2 emissions and increased fuel flexibility.

Products installed:

- FCM Methanol fuel supply system
- Methanol-ready steam boiler system
- Two-stage freshwater generator
- Marine gasketed plate heat exchangers
- Oil separators

Learn more about solutions for methanol as fuel

To navigate the dual challenges of limited waste heat from the engine and the ‘water in methanol’ operation, Maersk has installed the newly launched Alfa Laval AQUA Blue E2. This two-stage freshwater generator, with improved technology, provides twice as much fresh water for a given amount of energy, or the same amount of water with almost 50% less heat consumption.

In addition, the vessel is equipped with new state-of-the-art gasketed plate heat exchangers and oil separators from Alfa Laval.

The installed Alfa Laval equipment features technology that helps to lower the vessel’s energy consumption, improving its Energy Efficiency Design Index (EEDI) and Carbon Intensity Indicator (CII) ratings by effectively reducing its carbon footprint.

“We are excited to have Alfa Laval as our collaborator in providing solutions for our pioneering methanol-fuelled container vessel,” says Ole Graa Jakobsen, Head of Fleet Technology, A.P. Moller-Maersk. “Alfa Laval's products not only address our immediate operational needs but also align with our long-term commitment to sustainable and efficient shipping practices.”

Being ready for a zero-carbon future

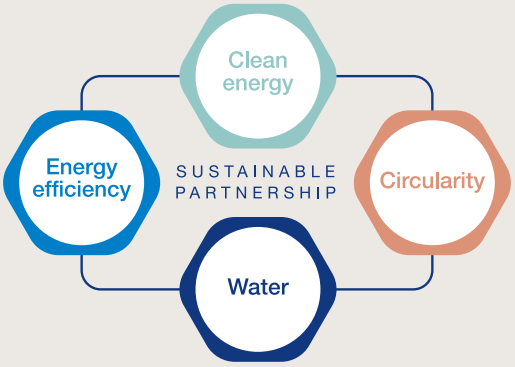
Alfa Laval has positioned itself as a forward-looking solution provider by expanding its capabilities for alternative fuels and energy-efficient solutions. The company's dedication to research and development, together with a unique service network, has enabled it to empower its customers and partners with new sustainable technologies.

The transition to methanol as fuel is a collaborative effort that requires the entire industry to work together. Alfa Laval’s commitment to delivering high-quality solutions and reliable services has established it as a preferred partner for driving the shift towards a more sustainable marine future.

Together for sustainable shipping

At Alfa Laval, sustainability is at the core of our business, serving as the guiding principle that shapes every decision we make. Our solutions help secure compliance with marine legislation and support the shift to new fuels and technologies.

Explore how Alfa Laval’s solutions contribute to sustainable shipping



CASE STORY

Fuel supply system
FCM Methanol

Methanol-ready
steam boiler system
type Aalborg OS-TCi

Oil separator

Marine gasketed
plate heat exchanger

Two-stage freshwater
generator AQUA Blue E2

The world's first container vessel sailing on green methanol.

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

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