

# Press release

## Alfa Laval completes Factory Acceptance Test for FCM Ammonia, confirming commercial readiness for ammonia-fuelled engines

**Alfa Laval has successfully completed the certified Factory Acceptance Test (FAT) for FCM Ammonia fuel supply system, class certified by China Classification Society (CCS). The milestone confirms that the fuel supply system has passed all functional and safety verification procedures in accordance with the required standards, demonstrating that it is engineered and tested for safe integration into an ammonia-fuelled two-stroke engine environment.**

Stockholm, Sweden, 11/3/2026

### **From concept to class-certified commercial reality**

As the maritime sector advances toward low- and zero-carbon fuels, ammonia is gaining momentum as a key decarbonization pathway for deep-sea shipping in the long run. However, commercial adoption depends on more than engineering feasibility and supply chain availability; it also requires certified safe systems and validated manufacturing processes.

The FAT for the first FCM Ammonia, out of the seven units ordered by Tianjin Southwest Maritime for its dual-fuel ammonia carriers, marks a major step from development to commercial execution. It confirms that the system is technically robust, safe, and qualified to meet the demands of shipbuilding.

At the core of this milestone is dual validation. CPGC (CSSC Power Group Corporation), which is the system integrator and buyer, has validated the fuel supply system design and production quality. In parallel, CCS has conducted a comprehensive review and on-site witnessing of the Alfa Laval FCM Ammonia fuel supply system in accordance with the *Guidelines for Ships Using Alternative Fuels* and relevant international regulations, certifying the system's compliance with stringent marine safety and technical standards. Together, these validations confirm both customer confidence and regulatory acceptance for commercial readiness.

"By completing the certified FAT for Alfa Laval's FCM Ammonia, one of the first in the industry for a two-stroke dual-fuel ammonia application, we position ourselves as frontrunners supporting the safe adoption of ammonia in commercial shipping," says **Roberto Comelli**, Europe E&S Manager, Marine Separation & Fuel Supply Systems, Alfa Laval. "This milestone confirms that our ammonia fuel supply technology has reached a new level of industrial maturity, and together with our partners, we are ready from design to production and will help the industry transition."

"Full supply chain control is essential when introducing a new fuel into the marine environment, and it all starts with ensuring key component traceability and robust supplier qualification," says **Cui Yuwei**, General Manager of CCS Athens Branch. "The successful completion of this FAT signifies that the system has met the fundamental requirements for commercial application in terms of design safety, functional integrity, and production quality control. This is a significant step forward for the industry in enabling ammonia as a viable fuel for the next generation of commercial vessels."

The FCM Ammonia system is part of a wider ammonia propulsion project bringing together key stakeholders across the marine value chain. The two-stroke dual-fuel ammonia engine is supplied by WinGD, while the vessel will be constructed at CSSC Huangpu Wenchong Shipbuilding for Tianjin Southwest Maritime. This collaboration reflects the technical depth and coordinated industry effort required to introduce ammonia as a marine fuel at a commercial scale.

### **Certified design, safety and production readiness**

The FAT validates FCM Ammonia design, control architecture, safety layers and ammonia-handling routines in a marine environment. The comprehensive test program covered full hardware integration and I/O verification, control and safety logic validation, simulation of operational and fault scenarios, functional testing of ammonia-handling, and detailed documentation review conducted in accordance with class requirements.

The project has enabled Alfa Laval to establish and validate a supply chain capable of delivering ammonia fuel supply system for marine applications, aligned with class requirements. This ensures that the capability demonstrated at Alfa Laval's manufacturing site at Monza, Italy, represents a commercial solution ready for series production.

### **Moving from certification to onboard integration**

The completed FAT covers the first step in a series to be delivered under the contract. Following class approval and customer validation, the next phases will include installation on board the LPG/ammonia vessel, commissioning activities, followed by fuel and gas trials at sea. Additional identical modules will follow as the vessel program progresses. CCS will continue to oversee the upcoming phases.

Read the PR on the first order for FCM Ammonia:

[FCM Ammonia Press release | Alfa Laval](#)

Visit the marine equipment and solutions for ammonia as fuel page:

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For more information, please visit the Alfa Laval Marine webpage:

[www.alfalaval.com/marine](http://www.alfalaval.com/marine)

**This is Alfa Laval**

The ability to make the most of what we have is more important than ever. Together with our customers, we're innovating the industries that society depends on and creating lasting positive impact. We're set on helping billions of people to get the energy, food, and clean water they need. And, at the same time, we're decarbonizing the marine fleet that's the backbone of global trade.

We pioneer technologies and solutions that free our customers to unlock the true potential of resources. As our customers' businesses grow stronger, the goal of a truly sustainable world edges closer. The company is committed to optimizing processes, creating responsible growth, and driving progress to support customers in achieving their business goals and sustainability targets. Together, we're pioneering positive impact.

Alfa Laval was founded 140 years ago, has customers in 100 countries, employs more than 22,300 people, and annual sales were SEK 66.9 billion (5.8 BEUR) in 2024. The company is listed on Nasdaq Stockholm.

[www.alfalaval.com](http://www.alfalaval.com)

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