

Press release

Fermentation is powering the future of food

As the global population approaches 10 billion, demand for protein is rising faster than ever, putting unprecedented pressure on land, water, energy and food systems. Meeting this challenge requires scalable, sustainable protein production. With the launch of the modular, no-jacket-required fermentation systems, Alfa Laval is driving that transformation, enabling next-generation proteins to be produced efficiently and at commercial scale.

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Global food security is among the defining challenges of our time, and innovation in fermentation is becoming critical to the future of food. The industry is seeking cost-competitive, scalable solutions beyond traditional fermenters. The Alfa Laval Fermentation System addresses this need, enabling reliable, high-quality protein production at commercial scale.

"The innovative fermentation processes being developed today will form the foundation of a more efficient food system in the near future," says Hans Christian Ebbe, Global Sales, Agro & Protein Systems at Alfa Laval. "Our system enables the production of high-quality, next-generation ingredients using fewer resources."

Smarter cooling – no jacket required

When scaling up production, the cooling capacity of conventional jacketed or coil-cooled fermenters often becomes a limiting factor. The Alfa Laval Fermentation System removes metabolic heat through an external heat-exchange loop, eliminating the need for energy-inefficient jackets or internal coils. The result is higher cooling efficiency, better process control, consistent product quality, and easier cleaning.

Modular simplicity, built to scale

The system's modular design reduces engineering complexity and installation time, while allowing straightforward capacity expansion. Most components – including the heat exchanger, control panel, and valves – are pre-assembled on a module. The result: faster commissioning, simplified maintenance, reliable performance, and reduced project risk.

Retrofit without starting over

Scaling up does not require investing in entirely new equipment. Existing tanks can be retrofitted to achieve commercial-scale performance, allowing producers to maximize their current assets without the capital expenditure of all-new systems. This approach enables faster scale-up while reducing project costs and making better use of existing infrastructure.

Part of a comprehensive portfolio for next-generation food

The Alfa Laval Fermentation System complements the company's portfolio of processing, separation, and heat transfer technologies, creating an integrated, end-to-end solution. From raw material handling to final protein output, customers benefit from a single partner supporting the entire journey to commercial scale.

"Taking fermentation from pilot to industrial scale requires reliability and flexibility," says Joosep Masik, Process Engineer, Agro & Protein Systems at Alfa Laval. "Our technologies and expertise help customers scale their processes from pilot to commercial production."

Backed by a global service network and deep process expertise, the Alfa Laval Fermentation System provides a long-term platform for next-generation protein production - from initial development to full-scale manufacturing.

More information: [Alfa Laval Fermentation System | Alfa Laval](#) and [Alfa Laval Next-generation food | Alfa Laval](#)

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.

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