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Alfa Laval Brew 701 eMotion cuts energy consumption by 70%

Alfa Laval is launching a new, energy-saving option for its Brew 701 disk stack separators called eMotion. The energy consumption for a Brew 701 equipped with eMotion is roughly 70% lower than for other separators of comparable capacity. The primary applications for Brew 701 eMotion are pre-clarification and polishing of beer.



Alfa Laval Brew 701 eMotion

Lower energy consumption thanks to reduced air friction

The peripheral speed of a separator bowl is roughly 700 km/h (435 mph). At this speed, air friction causes significant energy losses and heats up the bowl. In a traditional separator, air friction increases energy consumption by roughly 60-70%. The new eMotion system pumps out the air in the void between the separator bowl and the frame casing, creating an air pressure of just 0.1 bar. This lowers friction considerably and, in turn, energy consumption.

Lower cooling needs and noise level

An added benefit of the low friction is reduced heat generation. This means cooling requirements are very low and cooling water consumption is minimal. Reduced heat generation also facilitates CIP cleaning since there is no burnt fouling on the inside of the separator bowl. Operators benefit from low noise levels and low surface temperatures.

High clarification efficiency

Mikaela Boström is Portfolio Manager, Food & Water at Alfa Laval. She explains Brew 701 eMotion offers many benefits besides low energy consumption.

“Brew 701 eMotion is the market-leading solution for pre-clarification of beer. The separation efficiency is 99.9% at high flow rates and high solids loads, making it the ideal separator for larger-scale breweries that wish to minimize filtration costs and beer loss. Service requirements are very low thanks to a minimal number of parts in the drive system, and operating reliability is very high,” says Mikaela Boström.

Gentle product handling

Alfa Laval’s hermetic design ensures very gentle acceleration of the beer once it enters the clarifier, preventing yeast cells from breaking up. This increases separation efficiency and makes it possible to operate a Brew 701 at high flow rates and high cell concentrations. The gentle handling also increases yeast viability. Roughly 95% of the yeast can be reused, compared to 80% for a traditional separator.

Flexible operation

A Brew 701 eMotion can operate at a wide range of flow rates and bowl speeds, making it possible to use one unit for several different types of beer without readjusting its configuration.

Thanks to its high flexibility regarding solids and yeast concentrations in the feed, a Brew 701 can be used for clarifying all types of beer, including high-gravity beer, and still run at high flow rates.

To learn more about Alfa Laval Brew 701 eMotion, visit www.alfalaval.nl/brew701emotion

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Editor's notes

About Alfa Laval

Alfa Laval is a leading global provider of specialized products and engineering solutions based on its key technologies of heat transfer, separation and fluid handling.

The company's equipment, systems and services are dedicated to assisting customers in optimizing the performance of their processes. The solutions help them to heat, cool, separate and transport products in industries that produce food and beverages, chemicals and petrochemicals, pharmaceuticals, starch, sugar and ethanol.

Alfa Laval's products are also used in power plants, aboard ships, oil and gas exploration, in the mechanical engineering industry, in the mining industry and for wastewater treatment, as well as for comfort climate and refrigeration applications.

Alfa Laval's worldwide organization works closely with customers in nearly 100 countries to help them stay ahead in the global arena.

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