

Improved mixing efficiency enables faster, more efficient processing and higher productivity

Innovative technologies enhance mixing efficiency and save energy by up to 50%

Want to capitalize on the growing global demand for food? By improving the mixing processes at your plant you can save energy, delivering faster and more efficient processing and protect product integrity, such as colour, flavor, texture and aroma.



Mixing and blending is vital for food processing. Protecting product integrity in the mixing process is paramount to product quality. Most food producers rely on high-quality powdered ingredients to add colour, flavour, texture and aroma to their products such as soups, sauces, dressings, ketchups etc. Blending powdered ingredients and thickening agents helps create the base for most processed food and drinks, solid pieces of food or fruit pulp can then be added to further enhance flavor and appearance. Proper mixer selection is therefore a key consideration.

50% energy savings with innovative mixing technologies

A revolutionary hygienic mixing technology, the [Alfa Laval Hybrid Powder Mixer](#) makes it possible to achieve a consistent ingredient base, faster, more efficiently and using less energy than conventional technologies. It combines pump and powder dissolving technologies into a single versatile unit and is the only hygienic inline powder mixer capable of drawing powder into the unit while using a single pump to simultaneously transfer the resulting process liquid at pressures of up to 4 bar. This eliminates the need for separate supply and discharge pumps, cutting energy costs by up to 35% and doing away with associated costs.



An innovative combination of pump and powder dissolving technologies, the Alfa Laval Hybrid Powder Mixer is capable of drawing powder into the unit while using a single pump to simultaneously transfer the resulting process liquid at pressures of up to 4 bar.

However, cost savings is not the only area in which the Alfa Laval Hybrid Powder Mixer excels; it reduces processing time and mixes more thoroughly than conventional mixers. Other inline powder mixers might create mechanical shear within a small area, which can raise process temperatures and negatively impact product quality. In contrast, the Alfa Laval Hybrid Powder Mixer effectively pre-blends the powder and liquid before the mixture enters the high-shear stage. It then creates high dynamic shear in different stages using less energy to ensure quick and complete powder dissolution with no negative impact to product quality.

Another effective mixing technology is the [Alfa Laval Rotary Jet Mixer](#), which handles liquid mixing, gas dispersion, tank cleaning, and powder mixing when used in combination with a powder mixer. The Alfa Laval Rotary Jet Mixer together with the Alfa Laval Hybrid Powder Mixer provides one of the fastest and most efficient methods available to blend powdered ingredients while saving up to 50% in energy costs. Conventional powder mixing technologies require several motors for the supply pump, booster pump, agitator, discharge pump and tank cleaning device. This Alfa Laval mixer combination only requires a single motor to handle the same tasks!

Up to 80% energy savings with gentle agitation

Upon completion of powder mixing, agitation may be required to add solid pieces into the liquid base, such as sliced mushrooms into soups or visible herbs in clear salad dressings. Energy-efficient Alfa Laval agitators are suited to a wide range of mixing and blending applications, including those that involve keeping sensitive solids suspended in liquids. Alfa Laval agitators feature EnSaFoil impellers that combine effective and gentle mixing, low-shear performance, uncompromising hygiene and a reduction in energy consumption of up to 80%.

When the world is looking to increase food and beverage production, innovative mixing solutions like these can contribute to producing more food and drink that looks and tastes better.



Article by Martin Lykke, Global Portfolio Manager for Mixing and Blending at Alfa Laval

Martin Lykke brings over 20 years of specialized experience in process and food technology to his role as Global Portfolio Manager for Mixing and Blending at Alfa Laval. With a technical foundation as a Dairy Technologist and an Academy Profession Graduate in Process Technology, he bridges the gap between deep application knowledge and global strategic management. Throughout his career, Martin has held key technical and leadership roles focused on optimizing production environments within the food, dairy, and pharmaceutical industries. He holds an Academy Foundation Degree in Business and Human Resources Management, and his expertise spans from hands-on commissioning and troubleshooting of process plants to the strategic development of global market plans, with a particular focus on mixing and cleaning technology and process designs. Martin is dedicated to transforming complex technical challenges into reliable solutions that ensure efficiency and safety in global process industries.



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