In the mix

As F&B manufacturers adapt to changing market demands, mixing and blending technologies are continuously advancing to meet evolving challenges. *FoodBev* speaks to Erin Dillon, media and marketing coordinator at ROSS Mixers, to explore the key role these processing techniques play in beverage production.

Erin Dillon, media and marketing coordinator at ROSS Mixers

What role do mixing and blending technologies play in the F&B manufacturing process?

Mixing and blending play a crucial role in the F&B manufacturing process for several reasons. Firstly, utilising the correct mixer for your application and applying the correct mixing techniques help to ensure a uniform distribution of ingredients, which is crucial to achieving repeatable product quality – such as taste, texture and colour – as well as optimal shelf life and customer satisfaction.

Secondly, proper mixing and blending techniques can enhance production efficiency, reduce processing time and contribute to overall cost-effectiveness in manufacturing. Finally, thorough cleaning and maintaining proper sanitation standards are integral aspects of the mixing process.

Focusing specifically on the beverage industry, what are some of the latest innovations/technologies enhancing manufacturers' mixing capabilities?

In the beverage industry, manufacturers are increasingly adopting advanced technologies like ultra-high shear mixing and inline powder induction systems. Applying the appropriate level of shear and doing so in a practical manner is the main objective of most emulsification and solids dispersion requirements.

Producers are embracing new alternatives to simple propellers and other low-speed agitators on one end of the shear spectrum and expensive high-pressure homogenisers on the other end.

The latest rotor/stator offerings in the market can strike a balance between multiple factors such as shear intensity, throughput, ease of maintenance, energy consumption and upfront capital cost.

How have mixing technologies evolved in the beverage industry over the years?

The beverage industry has witnessed a shift towards more sophisticated and automated mixing solutions. In some processes, traditional batch mixing has given way to continuous processing, improving overall efficiency.

The integration of additional process monitoring sensors and data analytics has further revolutionised the industry by providing real-time monitoring and control, resulting in consistent product quality and improved efficiency.

Additionally, control systems and process automation allow manufacturers to monitor and adjust mixing parameters in real-time for optimal results. ROSS SysCon Recipe Controls enable operators to monitor and control the human-machine interface (HMI) screen from a smartphone or tablet. These systems can be configured to automatically send text or email messages regarding operating status, production concerns or alarm notifications.

What challenges are beverage manufacturers looking to solve with their mixing technology? Which solutions have proven most effective to date?

Beverage manufacturers are often challenged by the need to achieve precise control over ingredient distribution, shorten production cycles and adapt to changing formulations. ROSS addresses these challenges through innovations like high shear mixing, vacuum technology and customised solutions. Almost every mixer and blender we build is tailored for a particular end user. From our experience – this is the best approach that has led to most success stories.