1,000 gallons of recovered beverage product – per tank, per day

United States | Case story

A major US beverage manufacturer was looking for a solution to more efficiently mix their highly concentrated flavored liquid, and to fully recover their entire product from a 5,000 gallon tank.

Another mixer's Achilles heel
The customer's concentrate mixing process begins by filling their tank with 1,000 gallons of clean water. Roughly 1,000 gallons of concentrate is pre-mixed separately and then blended into the 5,000 gallon tank. The tank is then filled with additional water to achieve the final liquid volume.

Previously, all mixing was accomplished by a top-mounted, high-speed and high-shear mixer, which didn't reach the tank bottom and resulted in ineffective mixing. The mixer was so ineffective that the customer was also evaluating a blend-up mixing process for the final 1,000 gallons of mixture. This remaining 20% of volume is considered the tank "heel," and it was simply emptied as waste – resulting in 1,000 gallons of lost product.

Alfa Laval learned of the project through a channel partner – where the customer inquired about our mixer after seeing it in operation at a trade show.

From waste to recovery
After a 4.5 hour presentation and demonstration, a ten-inch Alfa Laval magnetic mixer was recommended and installed at the bottom of the 5,000 gallon tank. As a result, every bit of product is now mixed in the "heel" portion of the tank, i.e. the 1,000 gallons of product that was previously considered waste.

The mixer continuously blends at a gentle 150 RPM – keeping the final mix concentration uniform before entering the filling stage.

100% yield and a production step saved
The continuous mixing process allows for a homogeneous mix, i.e. the mixer can continue to run while the tank is drained, allowing for 100% yield of the product. In this case, 1,000 gallons of product can be saved without any unnecessary waste. The magnetic mixer also saves the customer a production step. Since all ingredients and water can be homogeneously mixed in the same tank, an additional concentrate tank for pre-mixing ingredients is no longer needed – saving the customer an additional production step.