Powder Mixer Reduces Blend Time by 87%

Powder Mixer

Better Mixing in Less Time

A well-known hot sauce manufacturer was having trouble mixing xanthan gum[1], a thickener, into their sauce during production.

Their process called for pouring the gum powder into the top of a large mixing tank and blending it with a top-entry mixer. Xanthan gum is difficult to disperse and can form fisheyes or clumps, which are low density and tend to float in the tank. The top-entry mixer had a hard time pulling the gum down into the mixing zone.

It's estimated about 10% of the xanthan gum powder (roughly 2 lbs/batch) remained in clumps and was being wasted per batch. At $8 a pound and five batches a day, this added up to $400 a week in ingredients loss for the processor.

Additionally, they had to run the batch for longer periods trying to mix the xanthan gum, as well as screen the product to remove the clumps.

Searching for a solution, they purchased an inline powder induction unit to disperse the xanthan gum. This new equipment, however, did not have an aggressive enough mixer and it still allowed too much powder to get back into the tank undispersed, where it would float on the top and never get recirculated.

The hot sauce producer needed a true solution, a combination of powder induction and high-sheer mixing. Finally, they turned to Fristam for help, who recommended they use a Fristam Powder Mixer. The Fristam Powder Mixer, a proven combination system, was able to fully disperse the xanthan gum on the first pass, so that no undissolved solids ever got to the batch tank. The key is the FS Shear Blender, a component on the Powder Mixer that disperses the powders. The FS Shear Blender has multiple rows and many mixing zones per row. This creates several high intensity turbulent zones in the mixer and ensures a full dispersion on the first pass.

Because of this complete dispersion with the Fristam Powder Mixer, the hot sauce manufacturer could reduce their recirculation time from 30 minutes to 4 minutes per batch, as well as eliminate over $20,000 in ingredients waste yearly, while still producing their hot sauce with the perfect consistency.

**Note: Xanthan gum is an additive widely used as a thickening agent in the food, cosmetic, personal care and pharmaceutical industries. It is also commonly used as a stabilizer for suspensions, emulsions, and foams, as it prevents ingredients from separating.*

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