

Powder Mixer Reduces Blending Time from 4 Days to 4 Hours



Powder Mixer *Better Mixing in Less Time*

Manufacturing fertilizer requires a variety of wet and dry ingredients to be mixed together. The main base of the fertilizer consists of a mixture of several minerals, which are later combined with a 0.25% concentration of xanthan gum, a stabilizer that prevents separation. Because there are a variety of ingredients in fertilizer formula and the mixture is complicated to make, choosing the right equipment is an important part of the process.

One particular Brazilian processor manufactured their fertilizer mix in a large batch tank with an agitator to help incorporate the ingredients. Once the ingredients were incorporated, the mixture was sent to filling machine where the fertilizer was pushed through a dispensary nozzle and into packaging.

This mixing method had two major drawbacks: time and product quality. The process to make one batch took 40 hours to fully incorporate the minerals and often the end product had lumps that were too large to be moved through the dispensary nozzle, which caused the system to clog. Each time the nozzle clogged, the processor was forced to shut down production and throw away the material causing the blockage. Both of these challenges led to a lengthy production time and loss in profits. The processor began to seek another method to create a more efficient mixing system.

During their search, they discovered Fristam's Powder Mixer. The Powder Mixer features a funnel, full-port valve, and suction pump combination for smooth, controllable solids induction. Once inducted, the fertilizer mixture is forced through an in-line blender with a rotor-stator design, meaning all of the particles are sheared through the rotor-stator and reduced to the proper size for the dispensary nozzle and no clumps remain. By using the Powder Mixer, the processor saw a 90% reduction in mixing times and no longer had to worry about clearing any clogs in the system.

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