

Continental Products

Case History

Successful Search for Rotary Batch Blenders Saves Drug Company One Million/Year

A leading manufacturer of Animal Health products installed six 1000 cu. ft. capacity "Rollo-Mixers®". Product quality improved, production rates were increased, and they eliminated costly rework.

Previously, rotary blenders had required 90 min. mix times. Product sampling was difficult due to poor equipment access, and mixing was inconsistent. Often batches were off-spec, needed to be reformulated, and then remixed and retested. Reworking 40% of the batches cost >\$1MM/yr.

Also, production needed to be shut down every 50 hours to correct seal and drive-related problems and to remove excessive material buildup due to an antiquated liquid addition system. Air, paddle and ribbon blenders were also used unsuccessfully for years.

Ambitious goals were needed to achieve their objective. They included a reliable process to consistently produce 40 MM kg/yr, improved quality, and decreased costs by improving efficiency and eliminating rework.

In May, 1991, the company's engineering and R&D people searched for new mixing technology at an international trade show. They learned of Continental Products Corp. (CPC), which specializes in mixing, blending and coating equipment. The unique capabilities of the "Rollo-Mixer®" were exciting, and an evaluation was planned at their facility for state certification.

In October 1991, CPC sent a 10 cu. ft. capacity "Rollo-Mixer®" test unit equipped with variable speed drive, liquid addition capability and viewing windows so they could witness each cycle of the process.



The company's mixing process required multiple steps. (1) preblend a fermented product to achieve uniform potency. (2) mix in diluents such as rice hulls and limestone, and (3) coat the particles with soybean oil to de-dust the product.

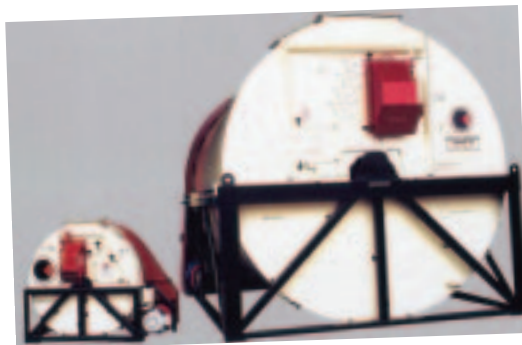
Forty three 350 lb. batches were produced, and the average assay was 1.3%, which was well below their 4% goal.

The process was then scaled-up 100X to be able to produce 35,000 lb. batches. In April 1992, the company purchased 6 each 1000 cu. ft. capacity "Rollo-Mixers®" to meet their production goal. Each blender was designed with electronic load cells, and

automatic product sampler, electronic flow controls, and CPC's unique "Free-Fall Processing®" liquid spray addition system. Mixer features included one moving part rotating at only 3 rpm, a proprietary gravity flow mixing design (each batch is divided and combined 20-30 times per rev. depending upon mixer size), a low-profile & compact design, a state-of-the-art seal, and low maintenance limited to lubricating the two main bearings and the drive chain.

Production has been a success since the first batch. Now 35,000 lb. batches are uniformly mixed in 10 minutes. Batch to batch consistency has eliminated all rework and has substantially reduced raw material and labor costs including lab time. The entire operation has been far more efficient resulting in a net savings of >\$1MM/yr.

The R&D manager recently commented: "Since production began nearly 10 years ago, lot homogeneity measurements are equal to or better than the results measured in the original series of pilot runs. Product quality is consistently within our specification and our production plant runs smooth because our mixers are so reliable."



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