

CONTRACT

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CP/CMs on the Road to Success

Outlook Group built its success on capabilities less common among contract services, thanks to its history, and adds upon them to benefit customers and streamline their supply chains. **p. 6**

3 Words From CPA President on Recalls

9 Corelogistics Attains Social ESG Goals Through Charity

11 Empac Boosts Production With Vertical Wrapper

15 New From OpX: “ESG Framework: Journey to a Successful ESG Program”



Rotary Mixer Boosts Output Fivefold, Halves Labor

Dietary supplement contract manufacturer increases volume, minimizes time and labor, and reduces dust with factory-refurbished rotary batch mixer.

BY MELISSA GRIFFEN, Editor

In 2020, **Phoenix Custom Manufacturing** sought to expand production and develop into a full-fledged contract manufacturer of protein powders, amino acids, functional foods, and encapsulated dietary supplements. To lead the firm in its transition, Eric Manfull, an 18-year veteran of the food & dietary supplement industry, was brought on as general manager.

Manfull first decided to tackle Phoenix Custom Manufacturing's nine-month backlog that was due to mixing equipment being unable to meet volume demands.

"We needed to blend 330,693 lbs a month, but we couldn't even scratch at volumes like that with the equipment we had," Manfull says.

The company previously tried to solve this problem with a used V-blender, but its shaft cracked. Manfull then reached out to **Munson Machinery**, an equipment provider he'd had success with in the past, which offered a factory-refurbished 700-TS-90-SS Rotary Batch Mixer. Installation took less than a week with no significant issues, only time spent training operators, writing and implementing new SOPs, and validating the blender.

Faster blending with less dust and labor

The semiautomatic rotary batch mixer was installed alongside a bag dump station and vibratory sifter fitted with a 10- or 20-mesh screen. To load the mixer, the operator empties 55 lbs bags into the bag dump station which feeds the material

to the sifter using earth magnets and a chute connected to the mixer's inlet, which remains stationary as the vessel rotates.

The rotary batch mixer increases Phoenix Custom Manufacturing's throughput as its batch capacity more than doubles that of the co-man's other conical and tumble blender units. The company manufactures about 30 products, some using two ingredients and others as many as 50. While the Rotary Batch Mixer handles protein and amino acid powder applications, the other blenders mix smaller-volume products.

Blends discharge from the mixer through a stationary outlet equipped with a pneumatically actuated discharge door that allows the operator to control flow. Protein powder blends flow into bulk bags holding up to 992 lbs. These are transferred in-house to packaging lines that fill pre-formed poly bags and pouches of various sizes. Other products are transferred to a capsule-filling machine and packaged in bottles.

"It takes us an hour on each end to load and unload the conical blender of a 1,323 lbs batch," Manfull says. "We can charge the Rotary Batch Mixer with twice as many ingredients in 15 to 20 minutes and discharge in 10 minutes." With the faster throughput, the co-man's nine-month backlog could be cleared within 60 days, as well as current demand. "We do more in one shift with this mixer than we could in two shifts with the other blenders," he says. "Instead of blending four days a week, 20 hours a day, we're blending four days a week over one 10-hour shift."

Manfull says employees like the Munson machine as it is easier to operate in terms of charges and discharges with fast



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Case Study



blends. The mixer cleans and sanitizes within an hour. After the equipment has dried, the mixer is back into production with minimal downtime.

Increased production, labor reduction, and employee safety

Since installing the mixer, Manfull lists increased volume, labor and waste reduction, airborne dust reduction, and more homogenous blends as benefits. Manfull says Phoenix Custom Manufacturing has seen an increase in contracts landed as well.

Production was previously 4,400 to 11,023 lbs a week, but with the new equipment, the company produces between 37,479 to 55,116 lbs of product. Manfull says, "It's been key to our success and a huge savings in time and labor."

The increased throughput per production day leads to less cost per man-hour, reducing labor by half, allowing the co-man to utilize its labor more effectively.

Waste is reduced by the internal flights serving a second use in directing it toward and through the mixer's outlet until the product is fully evacuated. The flights also prevent segregation and improve blend homogeneity.

The equipment provides better dust

control to improve the operation and employee health and safety. A flexible coupling seals the sifter outlet to the mixer's inlet, and ports on the mixer's inlet and outlet chutes connect to a dust collector, with a single radial seal preventing dust escaping the drum. "We have 10% of the dust that was present before," Manfull says.

Along with the third-party cGMP certification Phoenix Custom Manufacturing has received, the co-man also has HACCP certification by SGS and is working toward obtaining ISO standard compliance and organic, kosher, halal, and gluten-free approvals. These certifications will help across the company's services, which include blending, encapsulation, sachet filling, bottling and packaging.

The factory-refurbished 700-TS-90-SS Rotary Batch Mixer inside Phoenix Custom's facility.

Protein powder blends flow into bulk bags. They then are transferred in-house to packaging lines that fill pre-formed poly bags and pouches of various sizes or in bottles.

Waste is reduced by the internal flights serving to fully evacuate product. The machine also incorporates a dust collector to improve employee health and safety.

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