

**DRY BULK BLENDING
EQUIPMENT**

- Rotary Batch Mixers
- Ribbon/Paddle/
Plow Blenders
- Rotary Continuous
Blenders
- High Intensity
Continuous Blenders
- Vee-Cone Blenders
- Fluidized Bed Mixers

**SIZE REDUCTION
EQUIPMENT**

- Shredders
- Rotary Lump Breakers
- Heavy Duty Cutters
- Knife Cutters
- Pin Mills
- Attrition Mills
- Hammer Mills
- Custom Machinery

J.O. Spice Company, Inc.

Spice maker adds paddle mixer to quadruple production

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BALTIMORE, MD Seafood, particularly Chesapeake Bay's famous crabs, is very popular in this part of the world, and for many seafood lovers an essential part of a meal is the spice that enhances the flavor of the food. J.O. Spice Company, Inc., a family-owned company, has been catering successfully to such diners' tastes for spices since 1945.

In recent years the company has built on its achievement in the seafood business by expanding its product line to include seasonings for meats, poultry and vegetables. The move has been so successful that in mid-2006 the company installed new mixing and packaging equipment and reorganized its production operations, which has increased its production capacity fourfold. "Our business has been growing by about 25% a year for the past five years and we were having trouble keeping up with the demand," says Don Ports, president, and grandson of J.O.'s founders (J.O. and Dorothy Strigle).

J.O. has about 50 standard products and "a few hundred" specialty products, which are distributed throughout the eastern and southern states. Previously, these products were mixed in three paddle mixers that had a combined capacity of about 2,000 lb (907 kg). Today, most of the products are mixed by a new, 150 cu ft (4.25 cu m)-capacity paddle mixer made by Munson Machinery Company, Inc. (Utica, NY). Powered by a 50 hp (37.3 kw) motor, the mixer can process batches of 7,000 to 12,000 lb (3,175 to 5,443 kg), depending on the density of the product.

Ports chose the mixer because J.O. has always used paddle mixers and they have proved their reliability for mixing the company's products, which generally have a "fairly high" bulk density. "We have considered ribbon mixers," he says, "but they are difficult to clean."

A typical batch consists of 10 to 12 ingredients, including liquid additions. The ingredients, mostly spices and salt, are received in 50 lb (22.7 kg) bags or boxes, which are moved by forklift onto a mezzanine and manually loaded into the mixer below. When a batch is completed it is discharged into 1,500 lb (680 kg) bulk bags, from which the product is packaged in 50 lb (22.7 kg) or 75 lb (34 kg) boxes, or 125 lb (56.7 kg) drums.

Formerly, packaging was a manual operation in which each bag was lifted by a hoist and emptied into the packages. In the new system, each bag is moved by forklift to a bulk-bag discharger, from which it is emptied into a hopper that serves two packaging lines via vibratory feed troughs. Each trough feeds product directly into a package that is set on a scale, and the flow is automatically controlled by a gain-in-weight system.

The higher capacity of the new mixing and packaging system has enabled the company to take on new business. "We had been doing some contract packaging of other products, such as cake mixes, and we have been able to expand that," says Ports.

J.O.'s retail products are blended by two of the old paddle mixers. These products are sold in 1 and 2 lb (454 and 907 g) bottles, which are filled by an auger. "We took out the smallest, 5 cu ft (0.14 cu m)-capacity paddle mixer because we needed the space," says Ports.



Figure 1: This 150 cu ft (4.25 cu m) paddle blender mixes most of the spices produced by J.O. Spice Company.



Figure 2: Most of the spice ingredients are received in 50 lb (22.7 kg) bags or boxes, but some, such as salt, come in bulk bags, which are emptied into the paddle mixer by means of a hoist.



Figure 3: A sampling of J.O. Spice seafood and meat seasoning products.



Figure 4: These spice products are packaged for the retail market.