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# Bulk Bag Filler speeds packaging at Kennedy Rice Mill

According to the U.S. Department of Agriculture (USDA), the total 2012 U.S. rice harvest is estimated at 8.9 million tonnes. The vast majority of this crop comes from six states – Arkansas, California, Louisiana, Mississippi, Missouri and Texas – an estimated 2.1 million tonnes, or about 24 percent, from Louisiana alone.

Because the Louisiana harvest takes place primarily over two months, it places a huge demand on the area's processing capacity. Any delay in moving the processed rice to market can result in severe cash flow problems for growers. To deal with this peak demand, Kennedy Rice, one of the largest growers in Louisiana, has constructed a new rice processing facility to convert freshly harvested and dried grain, known as rough rice, into polished white rice ready for sale to customers.

Opened in September, 2012 with the capacity to process up to 136,000 tonnes of rough rice per year, the facility took about two years to build, and cost over £6.2 million (\$10 million). The Kennedy rice mill fills orders as they are received rather than stockpiling polished white rice in a warehouse. Ninety-five percent of the finished product is shipped in bulk by rail or barge, but a growing amount of it is packaged in 907 kg bulk bags which the company fills using a Twin-Centrepost™ bulk bag filler from Flexicon.

## Bulk bags filled in response to orders

"We usually try to complete bulk bag orders two to three days in advance. The bulk bag filler is located in the warehouse, so filled bags do not need to be moved until they are ready to be shipped," says Marley Oldham, plant manager.

"Since we only recently began offering polished white rice in bulk bags, they account for a small percentage of our total production," explains Mr. Oldham. "We expect demand to increase significantly, however, and our bulk bag filler is designed to meet our future requirements."

The polished white rice to be packaged in bulk bags is aspirated to remove dust particles before being fed into a 2 m



Rice descends from the hopper, through a dome valve and downspouting into the Twin-Centrepost™ bulk bag filler

high, 2.3 m<sup>3</sup> capacity hopper mounted above the bulk bag filler. The rice flows from the hopper through a dome valve and 25.4 cm dia flexible downspouting into the bulk bag suspended above the deck of the Model BFL-CFHW-X Twin-Centrepost™ Bulk Bag Filler.

## Bulk bag filler designed for automatic operation

Plant air inflates the 1.3 m high bag for filling while an inflatable collar on the fill head holds and seals the bag spout. A filtered air vent at the fill head assures dust-free delivery of material to the bulk bag while providing a simple way to allow displaced air to exit the bag.

Except for manually connecting the bag spout to the inflatable collar, the process is automated by a programmable logic controller (PLC). Load cells beneath the pallet deck send signals to the PLC, which automatically stops the flow of rice by closing the dome valve when the bag reaches its target weight.

The operator only needs to pull the bag spout off the inflatable collar and tie it closed. The filled bag and pallet are removed by forklift. "Connecting, filling and disconnecting a bag takes only



Operator inflates the bag, removing creases prior to filling

about three minutes altogether," says Mr. Oldham.

"Flexicon's representative, Robert K. Wilson & Associates of Houston, Texas, worked with Flexicon's engineering department to evaluate our needs and determine equipment specifications, and then helped supervise installation and startup," continues Oldham.

"This new facility has created over 20 permanent local jobs," says Elton Kennedy, who along with his daughter, Meryl, oversaw design and construction of the mill. "It also gives regional producers another outlet for their rice crops with lower transportation costs and a faster return on their investment."



A bulk bag of polished white rice is ready for shipment. The filler is designed to meet increased demand for Kennedy Rice in bulk bags