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## Case Study: Bulk Bag Dischargers Double Productivity of Ingredients Manufacturer



Seven Bulk-Out® model BFH-C-X half-frame bulk bag dischargers feed 70 tonnes per day to packaging machines on the floor below. An electric hoist positioned over each discharger lifts the bag onto the half frame.

**P**rosur (Productos Sur) manufactures powdered extracts from Mediterranean fruit and spices including savoury food blends, natural flavours, and food products based on natural antioxidants and natural preservatives.

Seven bulk bag dischargers have doubled productivity, from 35 tonnes to 70 tonnes per day, in an expansion project that increased Prosur's factory space from 3,000 m<sup>2</sup> to 14,000 m<sup>2</sup>. Built adjacent to its existing facility, the expansion has tripled packaging capacity, according to Mr. Francisco Hernández González, Head of Production Department and Production Engineer.

Prosur previously processed orders by transporting powders in 500 kg metal tote bins by pallet truck across the plant floor where the powders gravity-fed through butterfly valves into the packaging machines.

Today, on the top floor of the new facility next to the mixers, seven Flexicon Bulk-Out® model BFH-C-X half-frame bulk bag dischargers feed 70 tonnes per day to the packaging machines on the floor below. Bulk bags weighing 1,000 kg are filled with blended food ingredients directly from the mixers, before being loaded onto the bulk bag dischargers.

### Efficient and Precise Product Handling

An electric hoist positioned over each discharger lifts the bag onto the half frame. The operator pulls the bag spout through a Power-Cincher™ flow control valve, in which



Operator pulls the bag spout through the Power-Cincher™ flow control valve in which four elliptically contoured bars cinch the bag spout concentrically, enabling partially emptied bulk bags to be retied and removed.



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A Spout-Lock™ clamp ring creates a sealed connection between the clean side of the bag spout and the clean side of a Tele-Tube™ telescoping tube, which raises the clamp ring for connection to the bag spout and then lowers, applying continual downward tension to promote flow. The bag spout interface devices contain dust.

Further promoting the flow of material are Flow-Flexer™ agitation devices on each discharger that raise and lower the edges of the bag. Stainless steel material contact surfaces finished to sanitary standards meet Prosur's hygiene specifications.

The process is more accurate and efficient than the previous one. The dischargers automatically empty the powders through a sealed chute into the packaging machines on the floor below. Through the plant's central control system, high and low level sensors in the packaging machine hoppers send signals to open and close the Power-Cincher™ flow control valves to accurately fill the hoppers.

**Flexible for Large and Small Orders**

Mr. Francisco Hernández González said that three bulk bag dischargers are dedicated for packaging large quantity orders,

which require few product changeovers. The remaining four dischargers fill small batches that require frequent product changeovers.

"Most of our production is exported," said Mr. González. "The bulk bag dischargers provide an efficient, automatic and simple way to transport the products from the blenders to the packaging machines, in a really short time."

The packaging plant operates for eight hours per day, five days per week.

He concluded, "The bulk bag dischargers fulfilled our expectations. Compared to previous methods of handling, the dischargers allow us to process the same quantity of product in half the time." **FBA**



The Spout-Lock™ clamp ring creates a sealed connection between the clean side of the bag spout and the clean side of the Tele-Tube™ telescoping tube, which raises the clamp ring for connection to the bag spout and then lowers, applying continual downward tension to promote flow into packaging machine on the floor below.



The bulk bag discharger system handles Prosur's (Productos Sur) powdered extracts from fruit and spices including food blends, natural flavours, and food products based on natural antioxidants and natural preservatives.