



**Bühler's new CUBIC innovation campus, adjacent to the company's Uzwil, Switzerland, headquarters, is scheduled to be officially opened this spring; representing an investment of some CHF50 million over three years. It combines R&D facilities with seven renewed application centres which will be available to customers for conducting tests and trial series in partnership with Bühler.**



**One of seven Flexicon bulk bag dischargers recently installed at the Spanish food processing plant of Productos Sur (see p13); an FIBC discharge spout is shown clamped shut by the Power-Cincher flow control valve, allowing partially emptied bags to be retied and removed.**

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**A Jupiter 2200 shredder from Lindner-Recyclingtech shown being loaded with unclean agricultural film at the Zutphen, Netherlands, waste processing plant of Daly Plastics; the shredder is said to offer the perfect cut as well as safeguarding against foreign objects, helping to produce plastic regranulate which is comparable to virgin material (see article on p12).**

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# Move to semi-bulk packaging helps double plant performance

Following the recent installation of seven bulk bag dischargers at Spanish food ingredients producer Productos Sur, output of powdered comestibles has increased from 35t to 70t per day.

**Prosur (Productos Sur), located in Murcia, south-east Spain, 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 to 70 tonnes per day, as part of a recent expansion project that increased Prosur's factory space from 3000 to 14,000m<sup>2</sup>. Built adjacent to its existing facility, the expansion has tripled packaging capacity, according to Francisco Hernández González,

production engineer and head of Prosur's production department.

The company previously processed orders by transporting powders in 500kg metal tote bins by pallet truck across the plant floor where the powders fed under gravity 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 70t/day to the packaging machines on the floor below. 1000kg capacity bulk bags are filled with blended food ingredients directly from the mixers, before being loaded on to the bulk bag dischargers.

### Bulk bag dischargers provide efficient and precise product handling

An electric hoist positioned over each discharger lifts the bag on to the half frame. The operator pulls the bag spout through a 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 (see front cover picture).

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 prevent airborne dust emissions and spillages.

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 materials



The bulk bag dischargers handle Prosur's powdered extracts from fruit and spices including food blends and natural flavours.

handling procedure. 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

Francisco Hernández González explained 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 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."

[www.flexicon.co.uk](http://www.flexicon.co.uk); [www.flexicon.es](http://www.flexicon.es)



Four of Prosur's seven Bulk-Out® model BFH-C-X half-frame bulk bag dischargers: an electric hoist positioned over each discharger lifts the filled bags on to the half frame.



The Power-Cincher flow control valve closes the bag discharge spout concentrically, allowing partially emptied FIBCs to be retied and removed (see front cover picture).



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.

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