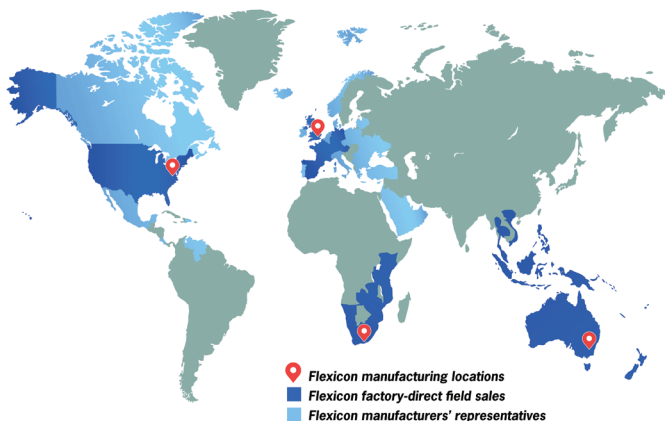




Seasoning mixtures are transferred from the forklift-loaded bulk bag discharger through the flexible screw conveyor to an auger filler that meters the powdered blend into the pouch filler below the mezzanine.

Sticky Seasonings in Bulk Bags Fully Discharged and Conveyed Automatically

JJ-0905



📍 Flexicon manufacturing locations
■ Flexicon factory-direct field sales
■ Flexicon manufacturers' representatives

flexicon®

USA

FLEXICON CORPORATION
Tel: +1 610 814 2400
E-mail: sales@flexicon.com
Web: www.flexicon.com

UK

FLEXICON (EUROPE) LTD
Tel: +44 1227 374710
E-mail: sales@flexicon.co.uk
Web: www.flexicon.co.uk

AUSTRALIA

FLEXICON CORPORATION
(AUSTRALIA) PTY LTD
Tel: +61 7 3879 4180
E-mail: sales@flexicon.com.au
Web: www.flexicon.com.au

SOUTH AFRICA

FLEXICON AFRICA (PTY) LTD
Tel: +27 41 453 1871
E-mail: sales@flexicon.co.za
Web: www.flexicon.co.za

SPAIN

FLEXICON EUROPE SPAIN
Tel: +34 930 020 509
E-mail: ventas@flexicon.es
Web: www.flexicon.es

FRANCE

FLEXICON EUROPE SAS
Tel: +33 7 61 36 56 12
E-mail: ventes@flexicon.fr
Web: www.flexicon.fr

GERMANY

FLEXICON EUROPE GmbH
Tel: +49 173 900 78 76
E-mail: vertrieb@flexiconeurope.de
Web: www.flexicondeutschland.de

SINGAPORE

FLEXICON SINGAPORE PTE LTD
Tel: +65 6778 9225
E-mail: sales@flexicon.com.sg
Web: www.flexicon.com.sg

INDONESIA

FLEXICON SINGAPORE PTE LTD
Tel: +62 81 1103 2400
E-mail: sales@flexicon.co.id
Web: www.flexicon.co.id

Sticky Seasonings in Bulk Bags Fully Discharged and Conveyed Automatically

LONG PRAIRIE, MN — Enterprise CP produces boxed pasta dinners, sides, and other pasta products sold nationwide under private labels and the company's own Premier Pantry brand.

"It's a low-margin business with little room for error," says Nolan Wolkow, Enterprise CP president. "You've got to make a lot of units, and you've got to do it really well. It comes down to speed, efficiency and managing your waste."

Demand has multiplied since 2020, the year the company moved into its 311,000 sq ft (28,892 m²) headquarters in Long Prairie, MN. By late 2021, the plant had added three packaging lines and now operates six. It also installed a new pasta press that can produce 8,818 lb (4,000 kg) per hour.

Moving sticky seasonings was labor-intensive

To feed seasoning mixtures to the largest pouch filling line, ingredients were previously discharged from 2,200 lb (1,000 kg) bulk bags suspended from a frame above an open-top hopper, from which a screw conveyor transported the powder to the pouch filler's feed hopper. However, the seasonings were sticky and non-free-flowing, making the operation labor-intensive and inefficient. "Employees had to manipulate the bag to get the powder to flow out, and then had to hammer on the hopper," Wolkow says. "There was a lot of operator intervention."

In search of a system that could handle a wide variety of poorly-flowing materials, Enterprise CP contacted Flexicon, which evaluated the seasonings at its test laboratory in Bethlehem, PA and proposed a Bulk-Out® model BFF forklift-loaded bulk bag discharger with an integral Bev-Con™ flexible screw conveyor. The new equipment simplifies the task of discharging and feeding the seasonings and reduces unnecessary operator labor.

Automating the process

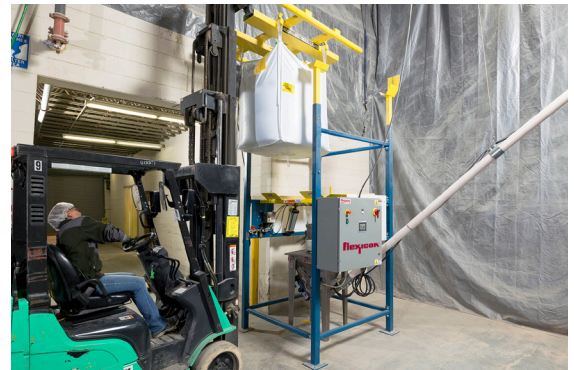
At floor level, bulk bags are attached to a bag-lifting frame by means of Z-Clip™ bag strap holders that secure the straps while allowing rapid insertion and removal, after which a forklift places the lifting frame, with suspended bag, into receiving cups atop the discharger frame posts.

The clean side of the spout is then secured to the clean side of the discharger's hopper interface by a dust-tight Spout-Lock® clamp ring, which is raised pneumatically by a Tele-Tube® telescoping tube to make the connection. It is then allowed to descend by gravity, maintaining continuous downward tension on the clamp ring and bag spout as the bag empties and elongates, promoting material flow.

"The telescoping tube is a big plus," Wolkow says. "It definitely makes things cleaner."



The Z-shaped strap channels allow easy access while holding the bag straps securely.



A forklift loads the bulk bag and lifting frame onto receiving cups atop the discharger frame.



The operator connects the bag spout to the Spout-Lock® clamp ring and Tele-Tube® telescoping tube, which maintains constant downward tension on the bag as it empties and elongates, promoting flow.



The hopper is fitted with internal agitators and a wall-mounted vibrator to promote the flow of seasonings into the conveyor's charging adapter.

Material flow is further enhanced by Flow-Flexer® bag activator plates, which raise and lower the opposite bottom edges of the bag on timed cycles. The bag ultimately forms a steep “V” shape that promotes total discharge into a 3 cu ft (85 L) floor hopper equipped with an air displacement port and filter sock to contain dust.

The hopper employs internal agitators and a wall-mounted vibrator to promote the uninterrupted flow of seasonings into the charging adapter of a 3-1/2 in. (89 mm) diameter Bev-Con™ flexible screw conveyor, which extends 20 ft (6.1 m) at a 41-degree incline to the pouch filler.

“Flexicon recommended the Bev-Con™ spiral to make sure we could handle the different flowabilities of the powders,” Wolkow says. “It’s a different style spiral than what we have on our other lines and works well.” The screw is the only moving part contacting the material and is driven by a 3 hp (2.2 kW) gear drive located beyond the point of discharge, preventing material contact with seals or bearings.

A PLC activates the discharger and flexible screw conveyor according to signals received from high- and low-level sensors on the hopper of the pouch filler, while a low-level switch on the discharger’s hopper prevents the conveyor from operating in a “starved” condition.

The new discharger eliminates the need to promote flow using paddles and hammers. “We spent too many staff hours focused on that,” Wolkow said. “Now we hook the bag up, and the operators leave it until it’s empty. The discharger does exactly what we need it to do.”

More upgrades ahead

The production area employs 30 people in two 10.5-hour shifts and operates four or five days a week. Each flavor is typically packaged in two- to five-day campaigns, depending on demand. Production has doubled since the opening of the new packaging lines.

“We prioritized the feeding on this line because that pouch filler is our biggest and most challenging packaging machine,” Wolkow said. “We also wanted to spend a good amount of time on the new Flexicon system before we committed to putting it on more lines. We will probably use the system on all our lines, and will definitely want the Tele-Tube, the agitated hoppers, and the other features.”



The conveyor screw is driven beyond the point of discharge, preventing material contact with bearings or seals.



Pasta feeds into the pouch filler below after the seasonings have been added.

Enterprise CP, Long Prairie, MN

1-320-357-3500

www.premierpantry.com

flexicon®

USA

FLEXICON CORPORATION

Tel: +1 610 814 2400

E-mail: sales@flexicon.com

Web: www.flexicon.com