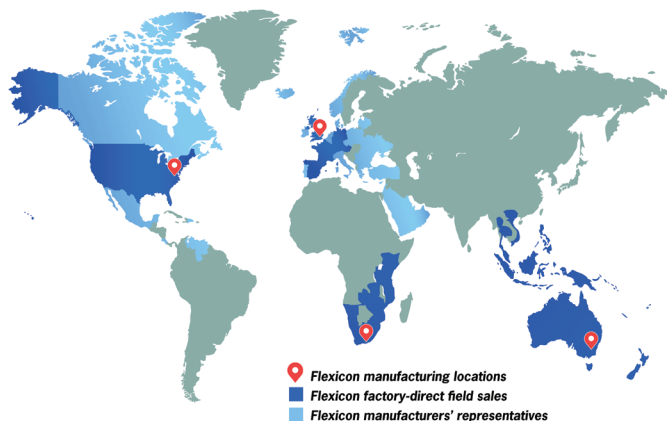




Automated Weight Batching Increases Output, Ends Fatigue at Goya Florida

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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

Automated Weigh Batching Increases Output, Ends Fatigue at Goya Florida

DORAL, FL — Sazon, Inc., a manufacturing division of GOYA Foods, the largest Hispanic-owned food company in the US, produces bouillon powders and numerous varieties of Sazón GOYA® powdered seasoning blends. The original product line was launched in Puerto Rico in 1973 and moved to GOYA's Miami-area facility in 1983.

Workers previously loaded herbs, spices, salt and seasonings manually into three ribbon blenders, each with a working capacity of nearly 3,000 lb (1,360 kg). The job required lifting, cutting, and dumping several dozen bags per batch, for 21 batches over an eight-hour shift. “Dumping 50 lb (22.5 kg) bags... for every batch is not easy work,” says Hiram Carlo, plant manager.

Automated weigh batch discharging from bulk bags ends fatigue

Due to robust sales growth, Sazon, Inc. added two packaging lines and two blenders to the operation in 2019. It also installed five identical bulk weighing and batching systems, one for each blender, to add a large-volume ingredient in many of the 19 seasoning and bouillon recipes.

Engineered and supplied by Flexicon Corp., each of the batching systems combines a BULK-OUT® bulk bag discharger and a flexible screw conveyor that feeds seasoning into a PNEUMATI-CON® pneumatic conveying line 55 ft (17 m) long.

In operation, one-ton (0.9-tonne) bulk bags of seasoning are delivered by forklift to the bulk bag discharger, which is mounted on load cells. The operator connects the bag loops to a lifting frame at floor level and, using a pendant controller, loads the bag into the discharger frame by means of a hoist and trolley travelling on a cantilevered I-beam.

The operator then makes a dust-tight connection to a SPOUT-LOCK® clamp ring atop a TELE-TUBE® telescoping tube, and unties the spout drawstring. The telescoping tube applies continuous downward tension on the bag as it empties and elongates, promoting flow and evacuation.

The seasoning powder, comprised of fine white crystals, flows into a 5 cu ft (142 L) floor hopper with an integral 5 ft (1.5 m) long, 3.5 in. (90 mm) diameter flexible screw conveyor. The conveyor propels the product at an incline, discharging through flexible downspouting into a pickup adapter feeding a 2.5 in. (64 mm) diameter pneumatic conveying line.

Load cells supporting the bulk bag discharger transmit loss-of-weight signals to a PLC that controls the batch weight of seasoning. “We just input the information into the panel, say 2,000 pounds, and that’s it,” Carlo says.



Five identical bulk weighing and batching systems, each comprised of a bulk bag discharger on load cells, move ingredients from bulk bags through a pneumatic conveying line to five blenders.



The operator connects bag loops to Z-CLIP™ bag strap holders on the lifting frame, which is then hoisted and rolled into the discharger.



The operator unties the bag spout, allowing sugar to flow into the floor hopper and through a rotary valve into the PNEUMATI-CON® pneumatic conveying line. On the left and right, flexible connections vent dust to filter socks.

Higher output with fewer personnel

The plant operates two shifts and can process 35 batches per shift, versus 21 batches previously, with just five operators responsible for batching, blending, packaging and shipping.

“We package more than a billion packets a year now, and we’re much more comfortable,” Carlo says. “No worker fatigue, and far less time dumping bags manually. It’s a more efficient way to make our products and it’s making our lives easier.”

GOYA Foods of Florida

305-592-3150

www.GOYA.com



A SPOUT-LOCK® clamp ring makes a dust-tight connection while a TELE-TUBE® telescoping tube applies downward tension on the bag, promoting flow and evacuation.



A flexible screw conveyor (foreground) feeds seasoning into the pickup adapter of a 55 ft (17 m) pneumatic conveying line routed to a blender.



An operator inputs the batch weight to be delivered to the filter receiver.



Minor ingredients are added after the pneumatic conveying system transfers the major ingredient to the mixer.



The filter receiver discharges through a rotary airlock valve into the blender below.



Blended batches are gravity discharged into a polymer surge hopper and flexible screw conveyor that feeds a packaging machine with no separation of blends. The fully enclosed system prevents contamination of the product and plant environment.



Material discharges from the flexible screw conveyor upstream of the drive motor, precluding contact with bearings or seals.



A major ingredient in Sazón GOYA® seasoning and bouillon recipes is comprised of fine white crystals.



Sazón GOYA® popular powdered seasoning blends.

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FLEXICON CORPORATION
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 Web: www.flexicon.com