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A sweet bulk bag weigh batching solution?

Welcome Food Ingredients has found an efficient solution to re-bag granular sugar used in the manufacture of sauces, pastes, dressings and dips.

The original solution used by the company was considered to be too complex and time consuming, as Tony Swann, safety, health & environment manager at Welcome Food Ingredients, explained: “We receive sugar on one-tonne pallets, comprised of 40 25kg bags. We used a combination of vacu-lifters and manual handling in an eight-stage process to transfer the sugar into appropriately sized plastic bags before they could be loaded into the cookers. The new transfer system has reduced re-bagging to just three stages.”

The company now achieves the same task in one-third less time with less labour while meeting ATEX requirements using an automated bulk bag weigh batching system with integral flexible screw conveyors, supplied by Flexicon Europe.

One tonne bulk bags are positioned alongside a stainless steel bulk bag discharger, which has an integral cantilevered I-beam with an electric hoist and trolley. The bag straps attach to a cross-shaped lifting frame, and the hoist lifts the bag into position on the discharger frame. An ATEX-rated earth clamp is then attached to the bag.

The operator attaches the clean side of the bag spout to the clean side of the discharger by means of a patented clamp ring, which is mounted on a telescoping tube that maintains constant downward tension on the bag as it empties and elongates, promoting material flow into the 110l hopper.

From the hopper a 3m long x 115mm diameter flexible screw conveyor transports sugar to a 40l capacity conical stainless steel weigh hopper resting on three load cells.

A gain-in-weight control system meters sugar into the weigh hopper at maximum feed rate. The load cells transmit weight gain information to the controller which steps down the feed rate to a trickle and stops the conveyor immediately before reaching the target weight to compensate for material-in-flight.

Weights of sugar are discharged through a slide gate and downsprout into a 10kg capacity blue plastic bag.

“The bulk bag discharger and filling system has simplified and improved what was a complex, multi-stage handling process,” said Swann. “Each week we typically re-bag around 30 tonnes of sugar, sometimes operating for 20 hours per day. With our old method, we were handling the equivalent of 100 tonnes of sugar per week.

“The team disliked having to manually handle 25 kg bags and are more comfortable with packing 10kg bags using the new equipment.”

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