



Bulk Fill Line for Snack Products

Case forming, bag inserting, integrated weigh filling, bag uncuffing, case sealing & palletizing

Project Overview

This midwestern US private label contract manufacturer for bulk snack products was expanding one of their two production facilities by 120,000 ft in order to keep up with the growing demand for their products.

A new contract would run their existing (4) bulk lines at capacity for the next 7 years, so another line would be critical in order to keep production flowing.

Customer Objectives

Cost-efficiently meeting production goals

The current manufacturing setup included semi-automatic filling and manual packing. With ongoing staffing shortages, the likelihood of increasing production volumes dependent on manual labor wasn't realistic. Plus, staff injuries were becoming costly as a result of the poor ergonomics associated with heavy lifting.

Having already purchased a filling machine, they hoped to work with a company that could integrate that piece of equipment and also supply the remaining machinery to complete the line.

Multi-SKU capabilities & line flexibility

The operation was running a large variety of SKUs: (25) to be exact. From 0.5oz single-serve bags to 700 lb totes of bulk snack products, the new bulk line would need to handle those products and a plethora of others in between.

Additionally, the customer wanted the line to be highly flexible in terms of layout, as they foresaw a possibility of future growth that could require an additional case former, bag inserter, and weigh filler, or possibly also the need to reconfigure to a centralized palletization system for the entire facility.

A compact solution was desired so they would have options if equipment needed to be relocated within the facility, or even transferred to a sister facility within the state.

Minimal total cost of ownership

To keep costs as low as possible over the long term, the customer preferred to work with an experienced, US-based vendor with a robust and responsive support group.

They also hoped to consolidate the sourcing/purchasing process for themselves as much as possible.

Pearson Solutions

Initially, the customer reached out to Pearson for a CE25 case erector and BI18 bag inserter, but expanded their order to include a UC15 uncuffer, CS25 case sealer, and an RPC-C compact palletizer when they learned that turnkey bulk solutions were available. Pearson was experienced working with the weigh filler manufacturer as well, so integrating that piece of equipment into the line would not be a challenge.

Due to the caustic environment from the salt on the snack products, all equipment was manufactured out of stainless steel for ease of cleaning and maintenance.

Equipment changeovers can be executed quickly with consistent interfaces providing step-by-step instructions and graphical changeover guides across all Pearson machines.

The modular line design makes it relatively easy to reconfigure as future production needs change. All the machines utilized in the solution are portable and simple to setup or make recipe adjustments to.

Right angle transfers were used in place of conveying to create a tight U-shape layout with a very small footprint.

The customer was confident they would receive timely support if and when they needed it on account of Pearson's West and East coast locations offering combined daily hours of operation spanning 12 hours, a 24/7 technical support group, and a blanket of technicians across the country. They also felt assurance in the remote accessibility capability that came standard on all Pearson machines.

As an experienced OEM and integrator in one, Pearson simplified the logistics of the project for the customer by serving as the single-point of contact- even for the previously-purchased third-party equipment.

Finally, the standard machine interfaces across all machine models would reduce the learning curve for operators and simplify training efforts.



Sequence of Operation:

A Pearson CE25-T Case Erector uses a vertical magazine pickoff and opposing vacuum to erect knockdown RSCs (regular slotted containers). The minor and major flaps are closed and tape is applied to the bottom of the case as it translates in the machine. The erected cases are discharged upright and conveyed away.

Cases are conveyed on lineshaft roller conveyor to the Pearson BI18 Bag Inserter. Pre-perforated poly bags are singulated from a bulk roll and opened over the case. The bag is cuffed and placed into the case with an internal mandrel to ensure proper bag placement.

Cases exit the bag inserter and are transferred 90 degrees via a pop-up transfer. A Pearson purchased third-party weigh filler loads bulk snacks into the cases, and a third-party metal detector is integrated in the bulk filler to provide product inspection.

Cases exit the filler and are transferred again via a 90 degree pop-up into a Pearson UC15-F Bag Uncuffer. Bags are uncuffed from around the case flaps and gathered for folding. Folding plates engage the sides of the bags and fan fold the top of the bag.

Cases exit the uncuffer and convey to the Pearson CS25-42T Case Sealer. The top minor and major flaps are folded and tape is applied to the top of the case as it is conveyed through the machine.

Finally, sealed cases are palletized by the Pearson RPC-C compact palletizer. The palletizer features a single floor level build station for easy operator access. When a full pallet is complete, an operator removes the complete pallet load with a pallet jack or fork truck and places a new empty pallet. The palletizing cell is then reset and palletizing continues.

- 1 Pearson CE25-T Case Erector
- 2 Pearson BI18 Bag Inserter
- 3 Third-party Filler & Metal Detector
- 4 Pearson UC15-F Uncuffer
- 5 Pearson CS25-42T Case Sealer
- 6 Pearson RPC-C Compact Palletizer
- 7 Third-party Labeler

