



# High-Speed Packaging System for Amy's Kitchen Frozen Pizzas

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## EXECUTIVE SUMMARY

More than 350 million tons of frozen pizzas are sold every year in America. Today, frozen pizza remains one of the most popular frozen snacks in any grocery aisle because of its affordability and convenience. It is essential for any fresh or frozen food production company to consider not only cosmetic but more importantly food safety guidelines to ensure ultimate freshness to the end-customer. It is particularly important to wrap frozen food products at a speed that will match the high customer demand and production levels common today to avoid thawing and spoiling. Amy's Kitchen was no exception to any other food production company and required a highly sanitary solution to shrink wrap their frozen pizzas at high-speed to maintain production, ensure extended shelf-life, and to be mindful of as to not damage this highly delicate product.

### Customer Challenge

One of the ways to solve Amy's problem of wrapping frozen pizzas at high-speed is to have a conveying system that provides careful handling. The conveyor must maintain a smooth movement to prevent crust chipping or loosened toppings. Because Amy's kitchen was handling a delicate food product, they also needed a solution that could withstand a high-pressure wash down environment.

Amy's Kitchen also sought to reduce operator error and handling of the frozen pizzas to again reduce product damage, ensure a highly sanitary environment, and ultimately reducing labor costs.

## The Solution

Shuttleworth's patented stainless steel Slip-Torque® conveyor, as well as Servo SmartFeed® technology, allowed the machine to withstand the high-pressure wash downs needed in a sanitary environment as well provide high-speed product handling. The stainless steel conveyor frame is designed to be washable as well as the anti-microbial conveying surface. Its Slip-Torque technology delivers product automatically into the flow wrapper, has low-line pressure, and an all-roller bed conveyor, which stops turning when the product is not moving, avoiding damage to the frozen pizzas.

The Servo SmartFeed handles the frozen pizza at a rate of 120 ppm by first receiving the product and conveying it to an in-motion, back-to-back buffer zone. The pizza then enters the first two correction zones. The first zone runs the pizzas at the same speed as production and with the products abutting each other. The pizzas then enter the second zone, where they are spaced out with a speed increase equal to the flight pitch on the wrapper infeed conveyor, or to the ideal seal bar spacing on a belted wrapper delivery system.

As the frozen pizzas reach the discharge end of the second zone, a sensor reads the presence of the product's leading edge and moves it forward or backward for accurate placement into the wrapper infeed section. The amount or size of the correction is also fed back through a state-of-the-art electronic motion control system to all of the previous zones of the Servo SmartFeed, where the placement of the pizza can be adjusted accordingly. This provides an accurate and balanced high-speed wrapping operation.



EASY CLEAN™ CONVEYOR



### COMPANY BACKGROUND

*Amy's is an organic food pioneer. Since 1987, Amy's has cooked with delicious, non-GMO ingredients, making gluten free, vegan and vegetarian foods for all. All of Amy's 250+ products are vegetarian and made with organic ingredients while making over 130 gluten-free products.*



Slip-Torque® Conveyor



Servo SmartFeed® Technology

## RESULTS

By balancing the product flow, Shuttleworth's SmartFeed significantly reduces the need for human involvement in the process, reducing operator error. Also, because individuals don't handle the product, the likelihood of the pizzas being contaminated is reduced or virtually eliminated. Additionally, SmartFeed reduces labor costs because the machine automatically adjusts to production surges and modulates the speed of the wrapper to accommodate them. It then lowers the speed back down to normal production levels after the surge is over.

The solution that Shuttleworth provided allowed Amy's Kitchen to keep up with the demand of production from their frozen pizzas. While eliminating product damage, reducing labor involvement, and providing the customer with a highly sanitary solution, Amy's Kitchen pizza was able to run an efficient process and greatly reduce operating costs.



Pizza Infeeding

*From automotive and electronics, to paper conversion and pharmaceuticals, to food and consumer good markets and beyond, manufacturers across the globe rely on Shuttleworth's proven product handling solutions to increase line efficiency, maximize profitability, and minimize risk. As part of the ProMach Product Handling business line, Shuttleworth helps packaging customers protect and grow the reputation and trust of their consumers. ProMach is performance, and the proof is in every package.*

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