

ABB Solutions At Work

BLACKHAWK HELPS FOREMOST FARMS DOUBLE THROUGHPUT



ABB's FlexPalletizer™ working in a dairy cooler.

With the installation of its first robotic palletizing line, Foremost Farms USA, Waukesha, WI, is doubling its throughput, surpassing required speed and weight parameters and using a pneumatic gripper in a moist 35°F environment. Since the line has been maintenance free during its 10 months of operation, Foremost has already realized the expected savings projected for the installation.

The palletizing line, designed and built by ABB systems integrator Blackhawk Automation, Inc., Sun Prairie, WI, handles 18 (48 pounds each) Bliss-style corrugated boxes with glued side-flange seals per minute. The line, which includes an ABB FlexPalletizer™, a Blackhawk-developed pallet dispenser and an automatic stretcher wrapper, can exceed that rate for short durations when required.

Cost Saving Prompts Decision

When Foremost Farms needed to double the production volume of a milk shake product for a food service customer without increasing operating costs, it compared the benefits of adding another conventional palletizer with the advantages of using a robotic palletizer.

Golden Guernsey Dairy General Manager Robert Walker explains, “As a company, Foremost Farms has a lot of experience with conventional palletizing throughout the company and very few locations are completely satisfied with it. Conventional palletizers are not very flexible because they are designed

primarily for certain style boxes and certain patterns. They can be labor intensive to clean and maintain.

“When we looked at the service levels Blackhawk documented in its robotic solution, we were skeptical that a system could run flawlessly for that time frame. However, we saw that if that information was accurate, the initial cost difference between the robotic palletizer and a conventional palletizing system could potentially be made up well within a one-year window on maintenance alone.”

While maintenance cost savings were a key consideration, Foremost also had confidence in Blackhawk's understanding of the dairy business since it had developed effective material handling solutions for Foremost in the past. Additionally, Foremost recognized that with Blackhawk's partnership with ABB, its new robotic palletizing line would have local product and service support of an international robot manufacturer.

Innovations Address Challenges

Blackhawk Vice President and General Manager Jay Wildner notes, “The robot's flexibility gave us more options in laying out the line. This enabled us to develop a custom-height stand and build a pallet dispenser to save the robot cycle time when accessing pallets.

“We decreased cycle time because instead of having the robot pick up the pallet and put it into position, which takes about 15 seconds, we designed a pallet dispenser to position the pallet, saving the robot 15 seconds per load. To make the system even more efficient, we integrated the ABB FlexPalletizer, pallet dispenser and an automatic stretch wrapper.”

Using the Blackhawk-designed and built pneumatic gripper, the robot picks up 200 pounds of product placing it in a 10-per-layer pattern with a single pick, single place of four and then a single pick double place of four.

Transitioning To Robotics

Since this was Foremost's first robotics installation, the company had a number of concerns reflecting the dairy industry's caution in the implementation of new material handling technology. Beyond concern about the equipment's performance was its ease of use for employees.

Walker notes, “ABB and Blackhawk provided outstanding on-site training throughout the process. Although our employees had no prior robotic experience, with ABB's user-friendly operator interface they adapted quickly. Plus, since the system has been operating so flawlessly, the troubleshooting requirement has been non-existent.”

Robotics: Performance and Potential

Walker adds, “Based on our experience with robotic palletizing's ease of operation, flexibility and repeatability, I would expect all future palletizing requirements within the company will include a corresponding review of what a robotic palletizing option would look like for the same application.

“The capabilities of the robot were certainly a key factor in our ability to achieve the objectives of this project. However, another critical element was working with a systems integrator who understood our business, has robotic expertise, the support of the robot manufacturer and was committed to developing a solution that would provide the results we needed.

“The initial difference in cost of the two systems is quickly mitigated by the repeatability, accuracy, the handling of the products and reduction in ongoing operating costs. It's a clear win and demonstrates how, with the right robot and systems integrator, we have been able to expand the capabilities of robotic palletizing to exceed our performance and savings expectations.” **ABB**

