

TriFactor Solution

Case Study

CONVEYORS, RACKING, PICK MODULES AND CONTROLS/SOFTWARE/SCANNING EQUIPMENT

Company Description

Premier Beverage Company, a member of the Charmer Sunbelt Group, is a major distributor of wines and spirits to restaurants, member chains, grocery chains and liquor stores in the Florida market.

Situation

Due to the company's growth, Premier made the decision to consolidate a number of warehouse facilities into one 400,000 sq. ft. distribution center in Miramar, Fla. To increase the throughput, it needed to update its picking technology and sortation rate capability.

Assessment

Although the company's Tampa facility was one of the first with a fully automated merge and sortation system, capable of moving 60 cases per minute, the goal in the new facility was to increase the rate to 100 cases per minute. To meet the company's objective, the new



facility also needed additional forward pick slotting, pre-merge and post-sort accumulation and improved technology on the conveyor system to minimize breakage.

Solution

TriFactor engineers worked closely with the facility's architect to make sure there was optimal column space and ceiling support. A pick to voice system and order picking modules were installed to facilitate greater pick rates. The carton and pallet flow lanes in the order picking modules were slotted to insure that proper storage was allocated based on the specific velocity of each product. At the induction of each sorter, the latest in bar code scanning equipment was used to gather all the information that was required by the Warehouse Control System in order to direct the carton to the proper shipping lane. To satisfy the need for smooth high speed sortation, a sliding shoe sorter was employed. To solve the problem of excessive breakage, a zero-pressure conveyor system was installed for pre-merge and post-sort operations, alleviating any backpressure issues. The conveyor was designed with 3-inch roll centers to maintain positive contact with the cartons and provide a smoother ride. The entire system, from order picking to sortation, was managed by a Warehouse Control

(over)

System Summary

Company:

Premier Beverage Company

TriFactor Provided:

Design Engineering
Product Selection
Installation and Training

Size:

400,000 Square Feet

Facility Type:

Distribution

Products Handled:

Cases of Wine and Spirits

Markets Served:

Restaurants, Taverns, Member Clubs,
Grocery Chains, and Liquor Stores

Completion Date:

September 2000

Products Utilized:

Conveyor
Merge and Sortation
Controls/Software/Scanning
Racking
Mezzanine
Pick Modules



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System that produced all of the labels, balanced the workload of the staff, controlled merging of product from the different pick areas, and coordinated shipping lane assignments by receiving data from and sending instructions to the PLC.

Result

The project was completed on schedule and on budget, as the new material handling system more than tripled Premier's throughput while increasing the picking accuracy to 99.9%. In addition to accomplishing these objectives, significant reductions in returns and costly pilferage were achieved. The design and implementation ultimately benefited Premier by helping the company to better serve its customers, while also increasing workplace safety for its employees.



ROI

36-48 months.



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