



Laser-Guided AGV System Makes Navigating Food Supplier's Warehouse Quick & Easy

Features and Benefits

Significantly reduce pallet and product damage

100% real-time inventory tracking for food safety

Flexible, expandable routing for future production changes

Safe and reliable basket delivery

Exceeded financial targets generating a 37% ROI based on labor savings

Operates 24 hours a day, 7 days a week

Industry Group: Automated Guided Vehicle Systems (AGVS)



Unit Load AGV with Roller Conveyor Deck and "Pop-Up" Chain Conveyor/Stationary Rails -Attachment

This AGV system carries baskets of canned food to and from 9 retort cookers for sterilizing. It updates a previous JBT system, which had been operating 24/7 for since 1998. While the previous system utilized wire-guided navigation, the updated one uses laser guidance for greater movement accuracy, provides more paths to shorten travel time, and makes future additions or changes easier to implement.

The system consists of three laser guided roller conveyor vehicles, vehicle control software, and laser navigation targets. Vehicles travel on a virtual path using laser guidance to navigate through the facility. Reflective targets mounted to building columns and walls give precise feedback for extremely accurate vehicle positioning.

The AGV system operates as a "taxi", delivering 2 baskets per load. When a retort is ready for baskets, the retort control system sends JBT's AGV control system software a movement order via web-based interface. The vehicles then travels to a loading conveyor, communicates with the customer conveyor to ensure it is safe to approach, and docks at the conveyor.

Plant and AGV conveyors then move together to load baskets of cans onto the AGV. When the load is safely aboard, the AGV updates the plant computer with load position and status. It then moves to the retort and reverses the process to unload the basket. In the same way, the vehicle automatically unloads the retorts when the sterilization process is complete.

The vehicles are equipped with conveyors that move baskets on and off the AGV and lower the baskets onto rails before moving. This prevents the load from damaging the conveyor in the event of an emergency stop. AC variable-frequency motors drive the AGV with servo precision, and the system automatically fast-charges Lithium-ion batteries to maximize operating time

This AGV system not only makes navigation quick and easy, but it also reduces labor costs, shortens travel time, improves safety, eliminates material handling related product and facility damage, and increases productivity.



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