

AUTOMATION

case study

A fresh approach to packaging

An award-winning Italian machine for the delicate, yet high-speed, automatic packaging of fresh fruit owes its precision to intelligent drives from Control Techniques.

The Challenge

Automate a highly complex and delicate process that has been historically a manual process.

The Solution

Tiber Pack, of San Sepolcro in Tuscany, won the prestigious Award for Technological Innovation at the recent Agro Costa Show, held in Spain, for its revolutionary fresh fruit processing line - the Tiber Pack FWR-p machine. Each installation, which features Control Techniques' technology to control a number of pick-and-place axes and other movements throughout the machine, is custom designed to meet specific customer requirements.

Care is given to make it easy to use for operators who will be able to carry out adjustments and/or maintenance with simple keypad operation. Leading fresh fruit producers in Spain and the world over showed a great deal of interest in the new machine. A leading global multi-national was the first to secure itself an order for 20 new F/WR-p Tiber Pack lines for use in its packaging plant in Spain.

The groundbreaking new feature in the Tiber Pack machine is that a highly complex, delicate process, which, traditionally, is always carried out manually, is now completely automated and under the control of Control Techniques precision drives.

The line can package fresh fruit baskets into cardboard boxes created by the machine itself or into plastic crates at an extremely high production rate of approximately 120,000 baskets per hour.

The proprietary software designed by Tiber Automation (Tiber Pack's engineering division) combined with Control Techniques' technology plays a key role in managing the process accurately and effectively. Digitax servo drives control the various pick & place and shifter axes, while 1-1.5 HP (0.75-1.1 kW) Commander AC drives coordinate all steps to prepare and package fragile, easily bruised products that must be handled with the utmost care.

All lines are connected in a network and have onboard video cameras to check product flow at each part of the machine, from entry through to the exit point. Processing can also be monitored online from any Internet point; live updates of the product being processed and lines in operation are available online, as well as process control and quality statistics. This system gives end customers full access to the entire production cycle.

The Benefits

Tiber Pack opted for the Digitax that features a full functionality motion controller, optimized for high performance machines requiring synchronized motion. The on-board drive-to-drive networking links multiple axes and enables true distributed control. The drive's advanced motion features are configured in a flexible IEC61131-3 software development environment using PLC-open motion function blocks within Control Techniques' software. Digitax combines reliability, high-performance to increase operating speed, repeatability and accuracy, while at the same time reducing panel sizes and costs.

KEY BENEFITS

- Extremely high production rates
- Customer specific custom designed
- Full functionality motion controller
- Intuitive & straightforward programming
- Online monitoring and control
- Easy to use for end operators

CONTROL TECHNIQUES™

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