Solutions in Action

Aagard released the Aspire packaging cell in response to new regulations and customers’ evolving needs.

The end of the line is where innovation begins for Aagard.

Founded in 1997, Alexandria, Minnesota-based Aagard is known for manufacturing cost-efficient and easy-to-install cartoning, case-packing and palletizing machinery. Its patented, wrap-around cartoning equipment and combination packaging solutions are preferred by many food and beverage manufacturers.

In response to new regulations and its customers’ evolving needs, Aagard has recently introduced multiple new packaging solutions – including the Aspire™ packaging cell and the Maksimal® Top-Load Case Packer with an integrated robotic infeed module.

The Aspire packaging cell combines case packaging and palletizing within a footprint of 9 feet 9 inches by 13 feet. The machine features a three-servo axis gantry robot, which erects cases in a loading station and fills them with cartons. A case shuttle drives the loaded cases through a series of power devices to close and secure them before building the final product – a pallet ready for transportation.

“The Aspire is contained completely within its own frame, with flexibility to move between many different lines,” said Jason Norlien, sales engineer, Aagard. “Drop-down castors, forklift tubes and a telescoping infeed conveyor allow the machine to collapse inside its frame, and expand to match different conveyors.”
This leads to substantial savings for customers who would otherwise need two separate machines to automate the case assembly and packaging processes. In addition, the Aspire’s dual-palletizing stations and large case-magazine capacity allow a single operator to manage up to five machines at once – as opposed to two or three operators per line previously.

The process is controlled by an Allen-Bradley® CompactLogix™ programmable automation controller (PAC) from Rockwell Automation, which delivers cost-effective, high-performance control in a small footprint. The controller is integrated with an Allen-Bradley Kinetix® 5500 servo drive and VPL servo motor via EtherNet/IP™, providing high-speed motion synchronization on a single control platform. Operators can remotely monitor the case packaging and palletizing process using FactoryTalk® View Machine Edition software operating on an Allen-Bradley PanelView™ Plus human-machine interface (HMI).

The robot uses the midrange architecture system from Rockwell Automation, featuring the CompactLogix 5370 PAC for standard and motion control, the Allen-Bradley Stratix 5700™ managed switch and the Allen-Bradley ArmorBlock® I/O. The machine is seamlessly integrated into the plantwide control system via an EtherNet/IP network.

A servo-driven rotational set-up head attached to a case shuttle selects and erects pre-loaded case blanks. A pair of actuated funnels opens both minor and major case flaps, and each set of pouches falls inside smoothly when a drop deck retracts. Closing the case requires two flight indexing stations – one to close the case’s top minor flaps and one to close the top major flaps.

Now complete, the case is discharged on a customer’s conveyor for palletizing or transportation.

Throughout the process, operators can easily monitor the case-packing process using a PanelView Plus HMI and FactoryTalk Machine Edition software. The machine’s design provides flexibility for system configuration, enabling users to make changes to accommodate changing product needs.

“We work with Rockwell Automation consistently because our customers are familiar with their solutions, making the technology-transfer process simple,” said Daren Myren, controls engineer at Aagard. “That, and their troubleshooting capabilities, are exceptional. Whenever we need troubleshooting support, we know we can reach someone who can help.”

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