

Solutions in Action



[PDC HOME PAGE](#)



Allen-Bradley CompactLogix Programmable Automation Controller



Allen-Bradley Kinetix 350 EtherNet/IP Single-Axis Servo Drive



Allen-Bradley PanelView Plus 6 Graphic Terminal



The R-350 shrink labeler from PDC International applies both full-sleeve shrink labels and tamper-evident sleeves at rates up to 400 containers per minute (cpm).

Attractive packaging plays a pivotal role in moving products from store shelves to shopping carts. And as brands and varieties continue to proliferate, consumer products companies increasingly turn to labeling to bolster differentiation and shelf appeal.

The once ubiquitous square paper label is being quickly overshadowed by eye-catching options that offer a larger backdrop for promotional branding. For those manufacturers that package products in bottles, shrink sleeve labeling is often the option of choice.

“Unlike paper labels, which often limit design space to the middle of the container, a shrink label provides the opportunity for 360-degree decoration,” said Gary Tantimonico, vice president, PDC International. “It’s aesthetically more pleasing and attracts attention.”

In the 1970s, PDC International pioneered shrink sleeve technology in response to a customer request for equipment to package emery nail files. When drug tampering incidents rocked the pharmaceutical industry a decade later, PDC applied its expertise to develop machinery for the application of tamper-evident seals. Today, the Connecticut-based company is a world leader in the design and manufacturing of shrink packaging systems and tamper-evident banding.

LISTEN.
THINK.
SOLVE.

The company's latest addition to their R-Series product family, the R-350 shrink labeler, applies both full-sleeve shrink labels and tamper-evident sleeves at rates up to 400 containers per minute (cpm). The system is ideal for high-speed beverage, dairy and household product packaging lines.

Depending on the application, full or empty bottles of almost any shape enter the machine on a continuous motion conveyor. A mandrel-style labeler, which uses the company's proprietary blade assembly, precisely places the graphic film. The containers continue downstream to a shrink tunnel, which conform the label to the bottle. Optional modules for date coding and barcode verification can be added to the system.

"In any high-speed application, minimizing downtime is critical," Tantimonico said. "Our unique cutting technology is key to keeping the system up and running."

Unlike other systems on the market that use "spinning knives" for cutting and perforating the film, PDC labelers use a patented blade assembly that is uniquely long-lived. Small, brittle, spinning knives dull quickly – often in days – and require frequent replacement and associated downtime. In contrast, PDC blades deliver precise, clean cuts for months, even under continuous, high-speed conditions.

To optimize uptime further, a "splice-on-the-fly" accumulator unwind stand comes as standard equipment on the R-350 labeler.

"This integrated feature allows the operator to continue to run the machine even while they are changing a roll of film," Tantimonico explained. "The machine alerts the operator and automatically ramps down to about half-speed as the film is getting low."

The system allows the operator about a minute to splice in the new roll. Once the splice is complete, the operator ramps the system back up to production speed.

"As is the case in many industries, skilled labor is scarce and turnover is high in packaging," Tantimonico said. "Therefore, having a user-friendly changeover process is critical – especially since our equipment usually runs multiple sizes and must be reconfigured frequently."

On the mechanical side, changeover on the R-350 labeler is tool-less and typically involves replacing the mandrel and feed screws.

"Changeover time is also minimized through the recipe-driven operator interface," said David Bouffard, engineering manager, PDC International. "All variables are pre-programmed into the control system and the operator simply selects a specific production run."

The R-350 labeler includes a Rockwell Automation control and information system with an Allen-Bradley® CompactLogix™ controller to manage overall machine functionality. Allen-Bradley Kinetix® 350 servo drives and Kinetix MP-Series™ low inertia servo motors control the motion and indexing functions. Allen-Bradley PowerFlex® 4M AC drives are used on the feed conveyor, timing screw and film unwinds. The system is integrated on an EtherNet/IP™ network and is monitored on an Allen-Bradley PanelView™ Plus 6 graphic interface.

"We work closely with Rockwell Automation and our local supplier, HESCO, on component selection to maximize performance and value," said Bouffard. "And by standardizing on the Rockwell Automation product family, we can apply one scalable control platform across our machine product offerings."

"This approach also benefits our customers," Bouffard added. "Many have multiple PDC machines and can support all their equipment on a common control platform."

For more information:

PDC International
Phone: 203.853.1516
Email: sales@pdc-corp.com
Web: www.pdc-corp.com

Allen-Bradley, CompactLogix, Kinetix, Listen. Think. Solve., MP-Series, PanelView, PowerFlex, Rockwell Software and Rockwell Automation are trademarks of Rockwell Automation, Inc. EtherNet/IP is a trademark of ODVA.

www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204-2496 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation NV, Pegasus Park, De Kleetlaan 12a, 1831 Diegem, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846