

SOLUTIONS IN ACTION

PACK EXPO 2008



Relco's PET Bottle Sealing Machine



Booth No. S-3021

At PACK EXPO 2008, **Relco** will be showing a unit which demonstrates a **new concept for sealing PET bottles**, allowing for substantial reduction in bottle and closure weight. The new system can be used to seal bottles, jars and other containers. The company is showing a single head demonstration machine which is capable of undertaking a complete cycle of foil cutting, location, induction sealing and tool retraction in less than one second.

Headquartered in Watford, UK, Relco builds standard and capless induction sealing machines for a number of global food and beverage, cosmetics, pharmaceutical and medical companies.

Mark Gill, director, Relco, said, "We developed a new kind of capless induction sealing machine. It is a bench-top unit which is displayed on an elevated plinth in our booth. The machine fits into an end user's manufacturing line, by providing component parts for integration into a monobloc filler/capper. Or we can build a self-contained machine which will sit between the filler and the capper."

The machine feeds sealing material from a reel, die cuts it into the required profile, transports it onto the bottle and heat-seals it to the bottle using Relco patented induction system. This allows for the formation of a peelable hermetic seal achieved by induction without the need for an over-cap.

"We have developed and patented a unique ceramic punching and sealing unit which allows for a one-step foil cutting and sealing operation without the need for a further transfer between the cutting device and sealing head," Mr. Gill said. "This reduces size and the increased speed provides greater control and accuracy than what is currently possible with other competitive systems."

The most important fact of this sealing system is that it allows the end-user to provide a peelable foil seal to a bottle without the use of direct heating. This increases up-time and helps improve efficiency and operator safety. In addition, when compared to regular induction sealing (such as a foil-lined cap), this allows the customer to simplify the closure design, eliminate sealing defects caused by varying cap torque, and provides cost savings on material, since this is purchased in reel form. It also allows customers to benefit from different pack light-weighting possibilities.



Allen-Bradley® PanelView™ Component C600 Operator Interface



Allen-Bradley® Micrologix™ 1400 Programmable Logic Controller

Solutions in action at Pack Expo 2008

Relco's demonstration unit includes an Allen-Bradley control system from Rockwell Automation.

"On the demo machine which is showcased at PACK EXPO 2008, we incorporated an Allen-Bradley® MicroLogix™ 1400 programmable logic controller (PLC) with a Panelview™ Component C600 operator interface. However, on a recent machine custom-built for a customer of ours, we used a MicroLogix PLC and a PanelView Plus operator interface," said Mr. Gill.

The MicroLogix 1400 PLC offers high I/O count, fast High Speed Counter/PTO and enhanced network capabilities, while the PanelView 600 HMI delivers a real-time information platform which allows the user to keep operations running at an optimal level.

"Relco selected Rockwell Automation products mainly to provide seamless integration with the rest of its customers' production line," said Mr. Gill. "For most US based customers, Rockwell Automation is the standard choice, and by using their solutions as our control system, we can increase the integration possibilities and give more centralized control and data feedback on our machines."

"When customizing a system which has to be integrated in an already existing production line, the system has to be as intelligent and refined as possible. By implementing Rockwell Automation control equipment, we are able to build intelligent systems to seamlessly integrate into our customers' production lines, with minimum programming effort," said Mr. Gill. "Due to this flexibility, we can provide our equipment in a way which will integrate more fully into our customers' current Allen-Bradley controlled production lines."

Relco usually develops customized solutions in which motion and control requirements can be very complex and sophisticated, as its machines operate at very high speeds with a need to control very rapid vertical movements.

"We will consider buying a Rockwell Automation integrated solution for more complex requirements to complete the build. We will use servo drives and linear actuators too, as they fit our needs well," said Mr. Gill.

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