**IN-DEPTH RESEARCH LEADS TO A REVOLUTION IN TRAY SEALING TECHNOLOGY**

Ishida Europe has launched a tray sealer which the company claims is breaking new ground in terms of both its performance and environmental benefits.

The new Ishida QX-500 has been developed following detailed feedback from Ishida’s global customers and partners. This has resulted in the design of a compact tray sealer that can fit easily into new and existing packing lines and combines excellent seal quality and high throughput with helping companies to meet their sustainability targets.

The QX-500 delivers a 66% increase in cycle speed, a 44% reduction in weight, a 46% reduction in size and a 50% reduction in energy consumption. This means the new tray sealer significantly reduces waste and delivers a step change in productivity, says Ishida.

The tray sealer offers a variety of consistently high-quality sealing options – seal only, gas flushing, MAP, stretch film and skinpack – across a wide variety of tray designs and materials, including plastic, board, and recyclable and innovative paper film formats to support the use of sustainable packaging. It is capable of up to 25 cycles per minute for seal only, and up to 17 cycles per minute for MAP, and is available with integrated film coding, gas mixing and integrated vacuum system.

“The global food market remains extremely competitive, and companies face many challenges on a daily basis,” said Tara O’Connor, Ishida Europe’s Product Manager for tray sealers. “By talking in depth with our customers and partners, we have been able to fully understand their tray sealing requirements. The QX500 is designed to maximise yields and throughput without compromising on product or pack quality and while minimising environmental impact.”

Alongside its high speeds, the QX-500 incorporates Ishida’s new ‘IntelliSeal’ (patent pending technology) system that ensures excellent seal integrity for extended shelf life while providing ease of opening for the end user. The system constantly measures the sealing force of the tray sealer to optimise sealing pressure, temperature and time for each cycle. This enables the QX-500 to adapt itself to each packaging format to guarantee the highest pack quality, consistency and integrity.

A unique tool change system allows tools to be changed within ten minutes, without the need for additional manual handling equipment. A new tray delivery and transfer system offers unbeatably smooth tray and product handling properties to ensure maximum seal accuracy and spillage-free product transfer.

During the design stage of the QX-500, each component of the machine was individually assessed to calculate its carbon footprint and, where appropriate, alternative materials selected to reduce environmental impact. The use of highly efficient servo motor technology minimises energy consumption and cost of operation, and the QX-500 monitors its power consumption during production to ensure it is running at the most energy efficient setting.

Another challenge identified in Ishida’s research was available factory space. An additional focus of the QX-500’s design was therefore to drive down the size and weight of all major sub-systems of the tray sealer to deliver high performance using a minimum machine footprint. This allows companies to realise a high ROI on often limited floorspace.

The creation of a full-size mock-up of the machine early in its development resulted in improved access within and around the machine and improvements to the routing of services and the implementation of major maintenance operations.

With long term reliability essential for any tray sealer operation, all technology platforms for the QX-500 have been tested over a run of 17 million cycles, the equivalent of many years of production. The platforms were reviewed every 1 million cycles and are continuing to run, providing ongoing information to enable additional enhancements to Ishida’s predictive and preventative maintenance offering.

“Often development initiatives for products for an existing technology are based upon incremental improvements,” concluded Tara O’Connor. “The QX-500 represents a true clean sheet approach, with a development process that involved very high expectations and features enhancements across all aspects of the machine.

“This very broad development approach for both new technologies and machine construction means that we can truly state that the new QX-500 is revolutionary rather than evolutionary. All the new sub-systems come together to make something greater than the sum of its parts.”

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