



packaging **innovation**
at work.



International Dairy Show 2013 Preview

Plan to see Delkor's many *Innovations* at Booth 930

Robotic cell efficiently loads ice cream sandwich cartons

In close quarters, dairy companies frequently are forced to "sandwich" a whole new packaging line into their operations. By merging all the key components of a secondary packaging line into a single integrated system, Delkor has found a way



Delkor unveils new packer for ice cream sandwiches

for one ice cream novelty manufacturer to fit a new line into their plant.

Delkor has engineered a compact, integrated system that performs

the forming, loading and closing of the cartons, capable of packing 140 ice cream sandwiches per minute.

The system can form and load multiple cartons in a single cycle, depending on carton size and pack patterns. The loader performs dual collation to organize the paper-wrapped sandwiches and packs them into cartons using a Fanuc IP67 food-grade delta robot. Suction cups at the end of the robotic arm can pack into 6-, 12-, 18- or 24-count cartons. For this stage, Delkor is using robotic technology similar to what it is using to load flexible pouches in other applications.

The system is designed for quick, tool-less changeovers of less than five minutes for each function of forming, loading and closing.

The combined machines are all servo-driven, using Allen Bradley Kinetix servo drives. The system also utilizes an Allen Bradley CompactLogix PLC and PanelView Plus color touchscreen HMI. The system features a heavy-duty steel frame, and all contact surfaces are manufactured with stainless steel or other food-grade materials.



Delkor debuts first-of-its-kind robotic cartoning designed to collate and nest Tetra Pak containers

Delkor Systems will introduce to the dairy industry a high-speed robotic packing system that integrates forming, loading and closing with a detection device that locates and discharges out-of-place packaging before it can jam the system.

Delkor's patent-pending C1 1400 Robotic Packer is the result of close cooperation between Delkor and Tetra Pak, a worldwide leader in aseptic packaging. This system is designed for use with Tetra Pak's globally popular Tetra Wedge® Aseptic package, often used for juice, nectar, still drinks, tea and milk drinks, as well as numerous other types of packaging. Delkor's packer can pivot alternating containers to nest them in a carton, minimizing required carton space and maximizing pallet density.



Tetra Pak's globally popular Tetra Wedge® Aseptic package

Flexibility and efficiency are key features of the system, which can handle a wide range of case formats, sizes and packing patterns, as well as multiple substrates, including paperboard, microflute and corrugated materials. This will allow users to produce finished secondary packaging on a single, integrated system that meets the requirements of any market channel from convenience stores to club stores.

(Turn to Robotics, page 2)

Delkor's Cabrio Case™ designed for easy conversion to retail-ready display

Delkor is introducing Cabrio Case™, a new design that easily converts a corrugated shipping case to an attractive retail-ready display. The case design also offers a cost-saving alternative to tray/hood or regular slotted cases (RSC).

Many retailers are eager to employ retail-ready cases in their stores since these containers can reduce labor requirements for stocking, while improving safety and reducing product damage when cases must be cut open. However, many convertible cases can be difficult to form due to tear strips, score lines and other features that inhibit the ability of packaging equipment to form the case. Once opened, these designs may have jagged tears or rough edges that reduce retail shelf impact.

Delkor's patent-pending Cabrio Case is based on a conventional flange-seal case (FSC) that is formed with angled flaps that create a display open at the front



The Delkor Cabrio Case™ easily converts from shipper to retail-ready display tray

with a higher wall at the back. The case is top-loaded and sealed. Once opened, it is tilted forward to display product on a shelf. The rear wall provides support for products presented in flexible packaging. This makes the Cabrio Case ideal for products loaded flat for transit and then displayed upright.

Precuts on the front and sides of the cases allow easy tear-away of the case

top, providing clean lines that enhance the display. Meanwhile, a tear strip is used on the back of the case, away from the customers' view. Sizes can be varied to match product dimensions or rows of product loaded into a case. The Cabrio Case also has no perforations around the corners that could compromise the structural integrity of the container.

Employing a flange-seal case may result in significant corrugated

material savings of 10-20 percent versus an RSC or 34-53 percent versus tray/hood cases. The Cabrio Case can be formed on the Delkor Trayfecta® former and closed on Delkor F and S Series closers.



Compact milk line design capitalizes on flexibility

When a major milk producer sought to increase packaging capacity for 8 oz. milk chugs in its existing facility, Delkor devised a high-speed, space-saving solution. The line integrates a former and loader with a mass-flow infeed, loading two 24-count trays per cycle. In less than a minute, the system can be changed from trays to a flat-pad package (Spot-Pak®). Using a stacker, loaded trays can be stacked two-high before being shrink bundled. This integrated, in-line system measures just over 7 feet in width, fitting easily in the required space.



Robotics (from page 1)

The packer achieves high levels of productivity by utilizing Delkor's detect-and-discharge system to prevent line stops due to jamming during the collation process. In addition, tool-less changeovers can be accomplished in a matter of minutes. The system also incorporates the highly accurate and reliable Delkor Trayfecta® to form cartons.

"The development of this robotic packer is the result of a close working relationship between Delkor and Tetra Pak," says Dale Andersen, president and CEO of Delkor. "It is an important development for the growing beverage industry, which is seeking new ways to make their products stand out. This packaging system paves the way for Tetra Pak to expand use of the Tetra Wedge Aseptic® in North America."

Integrated system loads multiple yogurt flavors into cases

Retailers increasingly want a variety of product flavors loaded into a single case. Delkor has responded with a new integrated system that can simultaneously load three cases with multiple flavors of 4-oz yogurt cups. The cups are fed directly from the filler into lanes dedicated to each flavor.

The new system places two layers of six cups into a flange seal case that is formed by a Delkor Trayfecta® S4 901 former. Those cases feed into the Delkor LIF Loader/Closer, where a



two-axis servo gantry robot picks and places six cups (two of each flavor) into the case, with layers interspersed by a corrugated pad that is fed from a magazine via a flighted infeed. This integrated system is capable of packing 240 cups or 20 cases per minute.

Machine combo maximizes packaging flexibility

Delkor takes packaging flexibility to a whole new level with the combination of its versatile Trayfecta former and the new Spot-Pak® 650 loader. This new equipment solution provides the maximum range of package

options – full corrugated case, trays, various retail-ready formats, as well as the widely used Delkor Spot-Pak packaging system.

Delkor designed the Spot-Pak 650 to easily adjust for changing packaging needs in the marketplace. Specifically, Delkor's Spot-Pak 650 is designed to offer 14 different packaging configurations, from single containers to sleeved product, multiflavors, the full range of product sizes and pack patterns, as well as a full range of shipper formats. This high level of flexibility makes it the most versatile packer on the market.



Delkor's new Model 650 packer is so versatile it can be changed over without tools in 5 minutes to go from high speed packaging of a side-car container for yogurt to the sleeved yogurt package



Delkor Spot-Pak® 650 Loader

Delkor Trayfecta® S former and Delkor Capstone liddler

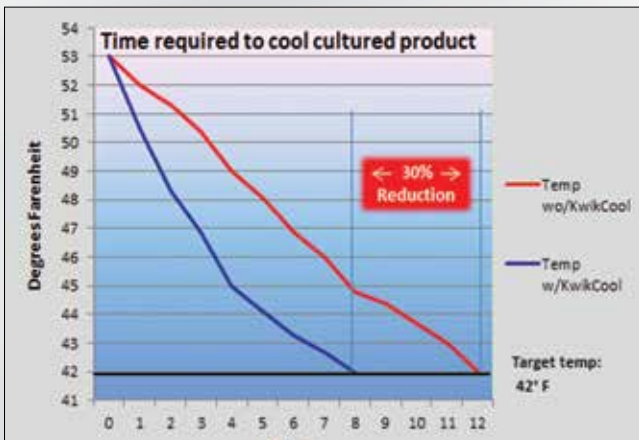
Designed to form a graphic paperboard lid around a corrugated base, this combination of machines offers multiple options for retail-ready packaging. The Trayfecta can form a rigid, yet low-cost corrugated base to be covered with printed paperboard lid, creating a package that could boost shelf appeal for an array of products ranging from processed cheese to electronic devices. The Delkor Capstone L1 liddler offers a compact footprint, robust stainless steel construction, tool-less changeovers in less than three minutes and a single, low-level magazine for easy loading.



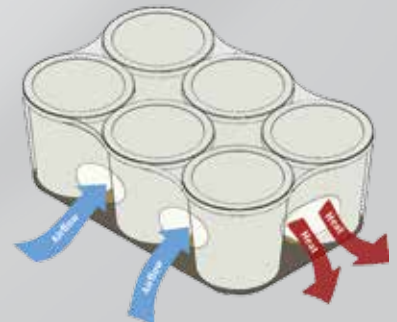
Delkor Capstone Liddler



Delkor KwikCool™ Induction Unit saves time and energy



One of Delkor's latest innovations, the patent-pending KwikCool Induction Unit, already is helping major dairy companies reduce energy costs and improve their throughput. Many food products processed at higher temperatures and packaged in containers need hours of refrigeration to cool to required temperatures. The KwikCool perforates shrink wrapping in strategic locations, allowing greater airflow, which can cut cooling time by 30 percent or more! The unit includes an array of punches mounted on the wrapper, just before the package sealing area. See how this unit, on display at Delkor's booth, can dramatically boost productivity and preserve product integrity.



Delkor Trayfecta® S4 demonstrates the 'Power Of Three'

Delkor will showcase the Trayfecta S4 former, its best-selling machine, at the International Dairy Show. The Trayfecta has been modified with added features that make it the most versatile high-speed carton, case and tray former on the market.

As the most popular former in the dairy industry, the Trayfecta is widely used for yogurt, cheese and ice cream applications. This machine truly represents the "Power of 3" since its broad range of capabilities seems to come in multiples of three. The Trayfecta handles paperboard, microflute and corrugated packaging all on the same machine. It can form glued, locked, and foldover formats in tray, case and cartoning applications.

The Trayfecta S4 is offered in three

standard models designed to suit most application needs, but can be customized if necessary. Three servo motors precisely control the critical machine functions of blank picking, transfer, and forming head motions, and tool-less changeover can be accomplished in three minutes per lane. The Trayfecta also can use multi-head formers to produce different types of containers in a single machine cycle. Spring-loaded forming cavities and pneumatic carton eject cylinders support reliable high-speed performance.



Delkor expands product line to meet customer needs in multiple market segments

When it comes to secondary packaging, Delkor is unmatched in delivering innovation and flexibility. In recent years, Delkor has stepped up its R&D to commercialize numerous market-leading

machines that help packagers meet today's needs while allowing adaptability for tomorrow's packaging opportunities. [Visit Delkor at the International Dairy Show \(Booth 930\)](#) to see for yourself.

Delkor formers

Delkor offers the most versatile carton, case, and tray formers on the market today. The Trayfecta® S and M Series formers are able to accommodate corrugated material, paperboard and microflute on a single machine in a wide variety of styles. Also offered is the Trayfecta R series an all-in-one solution for forming retail-ready display trays.



Delkor loaders

Delkor offers a range of high-speed loaders with the flexibility to handle an array of secondary packaging. These include the latest in robotic loading, as well as Delkor's patented Spot-Pak® package, a sustainable alternative that shrink wraps products placed on a corrugated pad for big savings in material costs versus full corrugated shippers.

Delkor closers

Delkor offers a wide range of high- and moderate-speed closing solutions for tri-seal, top-seal, and flange-style cases and cartons. The Delkor Capstone S is the only high speed closer in the world with patented Intelligent Positioning® technology, a system that squares the carton and lid to ensure precise seals every time.



Delkor integrated systems

Some of Delkor's latest innovations include space-saving integrated systems. From integrated multi-pack handle applicators to an all-in-one former, loader and closer, Delkor's compact and innovative solutions have a system to meet almost any plant or application need.

