



UNDER WRAPS

Innovations in vertical shrinkwrapping help streamline beverage multipacking application

BY DAVID NETTLES

Responding to consumer demand for more choices in product SKUs (stock-keeping units) and packaging options, multipacks have become ever popular.

Buyers love the wholesale prices, variety of products in one package, and the grab-and-carry convenience of multipacks.

For manufacturers, bottlers and distributors of spirits and other beverages, multipacks open up new options to incentivize buyers, while promoting a larger quantity of products sold.

Bottles arrive clean and organized, while theft and tampering are reduced and less plastic and cardboard go to waste, as multipacks require less secondary packaging material than with individual containers.

This helps manufacturers achieve sustainability initiatives.

Many multipacks rely on shrinkwrapping to achieve these objectives, but wrapping vertically-oriented containers, such as bottles for spirits, wine and tea, has proven challenging.

In a conventional multipack shrinkwrap set-up for wrapping vertically-oriented bottles, once the con-



Miniature-sized bottles travel directly from the filler into the vertical shrinkwrapping system without requiring any manual reorientation of the filled containers.





tainers are filled, they must then be laid down on their sides on a conveyor and turned manually so that their logos are facing in the same direction and/or their barcodes are hidden.

The only practical way to hold the items together to keep them from rolling while being wrapped is to use a chipboard carrier tray or boot.

They are then fed through a horizontal shrinkwrapper, which applies a polymer plastic film, and when heat is applied, it shrinks tightly over whatever it is covering. Because the manual manipulation of the bottles is done off-line, many manufacturers prefer to send out the individual containers after filling to contract packagers and have them orient the bottles and shrinkwrap them into multipacks.

In essence, the manufacturer fills the bottles, sometimes wraps them, boxes them, palletizes them, ships them to a contract packager, who then takes the individual bottles out of the boxes and puts them on a conveyor, along with a carrier tray, orients the positioning of the containers so the logos and barcodes are in the proper position, then shrink wraps them in multipacks, boxes them, palletizes and sends them back to the manufacturer for distribution or to an external distribution center.

This method not only adds additional costs, labor and time to the packaging process, but also necessitates the use of added packaging materials from the carrier trays and film for double wrapping.

Buyers love the wholesale prices, variety of products in one package, and the grab-and-carry convenience of multipacks.

Add to this the increased consumption of energy for additional transportation and the double wrapping and cartoning, making for a very inefficient system.

Manufacturers and bottlers have been in need of a way to shrinkwrap these vertical-bottle multipacks without the added labor and expense from conventional horizontal shrinkwrapping systems.

The latest technology in vertical shrinkwrapping eliminates these problems. Most critically, they can automatically wrap multipacks of bottles directly from the fillers with the product standing upright.

With no need for manual reorienting of the products prior to wrapping, containers can now go directly from filling to wrapping, and then on to palletizing and distribution inline, without interruption.

Additionally, carrier trays are no longer required to position the individual containers for shrinkwrapping with this latest technology.

One such system, the patent-pending **914 Orbital**

Vertical System (OVS) from Texwrap Packaging Systems (www.texwrap.com) not only automatically wraps bottles while in vertical positions, but the wrapper trims the film above or underneath the package, where it is hidden from view.

This offers many more packaging opportunities for packaging designers, and does not compromise product presentation on store shelves.

Using an exclusive patented mechanism, it cuts and trims away the film in one action to create a full top or bottom trim seal, instead of the traditional lap seal, to enclose the product.

This makes a very secure and attractive package for store display.

The sealing is done with a servo orbital-motion head, which eliminates the need for the head to move with the product while the seal is being made.

The head moves in an ellipse, without the back and forth motion of typical sealing heads, which dramatically increases the throughput speed of the wrapper.

The servo-technology was designed from the ground up to integrate servo-motors, PLC controls and the mechanical elements of the system.

The servo-controls give precise product and film control, which allows high-speed wrapping with precision print registration.

The result is a fast, reliable and flexible wrapper with minimal moving parts and maximum performance, capable of wrapping 150 three-bottle multipacks per



minute, while using the least amount of film possible.

To make this vertical shrinkwrapping technology even more effective, a multipack of vertically-oriented bottles can be automatically arranged with the labels facing precisely in the same direction while standing upright, before shrinkwrapping.

These shrinkwrappers use high-speed camera technology to scan each item as it enters the system.

The camera data is instantly transferred to the controller, resulting in exact movement information to obtain the desired final product orientation.

The servo-driven gripper wheels spin each bottle to this position—resulting in precisely aligned labels for a strong point-of-sale visual presence. This makes a very attractive and functional multipack.

The wrappers are also flexible enough to orient different labels in a variety multipack.

An important function in packaging of multipacks is to cover the barcodes of the individual bottles, so that the package can be identified as a multipack and not as individual units.

The servo-precision of this new vertical wrapping technology ensures that the individual bottle barcodes can be covered by the printed film.

Because this wrapping technology does not require a carrier tray to hold bottles in place while wrapping, in applications where the carrier tray was also used to hide barcodes from individual containers, the packager can now use printed film to correctly identify the



The jaws of the 914 OVS orbital shrinkwrapping system from Texwrap can accept bottles of up to nine inches in height.

unit as a multipack.

Whether producing four-packs, 10-packs or multipacks of 50-ml bottles, these new vertical wrapping technologies not only allow spirits, wine, tea and other beverage manufacturers and bottlers to eliminate costly, time-consuming and resource-intensive processes from their end-of-line production chains, but they

open up more opportunities for packaging designers, and improve product presentation on store shelves. 🍁

*David Nettles is the director of sales at **Texwrap Packaging Systems**, a **ProMach** company specializing in product shrinkwrapping and bundling systems based in Washington, Mo.*