

BOTTLING REPORT

MICK WHITWORTH REVIEWS SOME OF THE LATEST EQUIPMENT FOR BOTTLING FROM PPMA MEMBERS.

THERMOFORMING

Form-fill-seal option brings promise of lower costs

Two years ago, at the French packaging show Emballage, Erca-Formseal wheeled out the prototype of a new thermoforming machine for bottles, designed to bring the benefits of form-fill-seal to those currently buying and storing pre-made bottles.

Since then, Erca-Formseal has been refining the design to create a machine suitable for an industrial environment and, at Emballage 2004, staged in Paris in November, it took the wraps off the first production version.

Chris Robinson, of UK agent XJL, spells out the key elements of the new range:

"They will all feature regular-sized frames with standardised components and controls," he says. "Individually-designed tooling will allow users to produce their own size and style of bottles and we can supply extra downstream machinery to provide a fully-integrated operation. At present, bottle sizes can be anything up to 330ml."

According to Mr Robinson, the machine offers the recognised form-fill-seal benefit of low material costs, with the added advantages of dramatically reducing transport costs and storage space.

"The raw materials to make the bottles are plastic discs, or tokens, reel-fed lidding foil, reel-fed paper labels and screw caps – all of which can be transported and stored very economically compared with conventional bottle logistics," he says.

Tokens are fed from boxes to the machine by a sorting unit, prepared in a special heating box and then thermoformed in a multi-lane mould.



Form-fill-seal: New bottling process by Erca-Formseal

A reel fed, in-mould labelling unit can apply a paper wraparound label to a parallel-sided section of the bottle. There is a choice of neck finishes that includes a flat flange for a foil seal, a thread form to accept a screw cap, or both. The foil is cut on-machine from a reel.

Chris Robinson says the thermoforming process for the plastic, the use of reels of lidding and the sterilisable dosing units combine to provide a very hygienic filling operation.

The machine exhibited at Emballage is designed to produce 330ml bottles at a rate of 12,000 an hour and will now form part of a complete, automatic line, including a Laurent token sorter/feeder, Zalkin screw cap sorter-

applicator and a tray packing machine with palletiser from A & F, including a Kuka robot.

Sleeving machines, labellers and other ancillaries can be bolted on if needed and, Chris Robinson adds: "By equipping the machine with extra product tanks, it can very simply produce multi-packs without the need for pre-storage or double-handling."

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RINSING AND FILLING

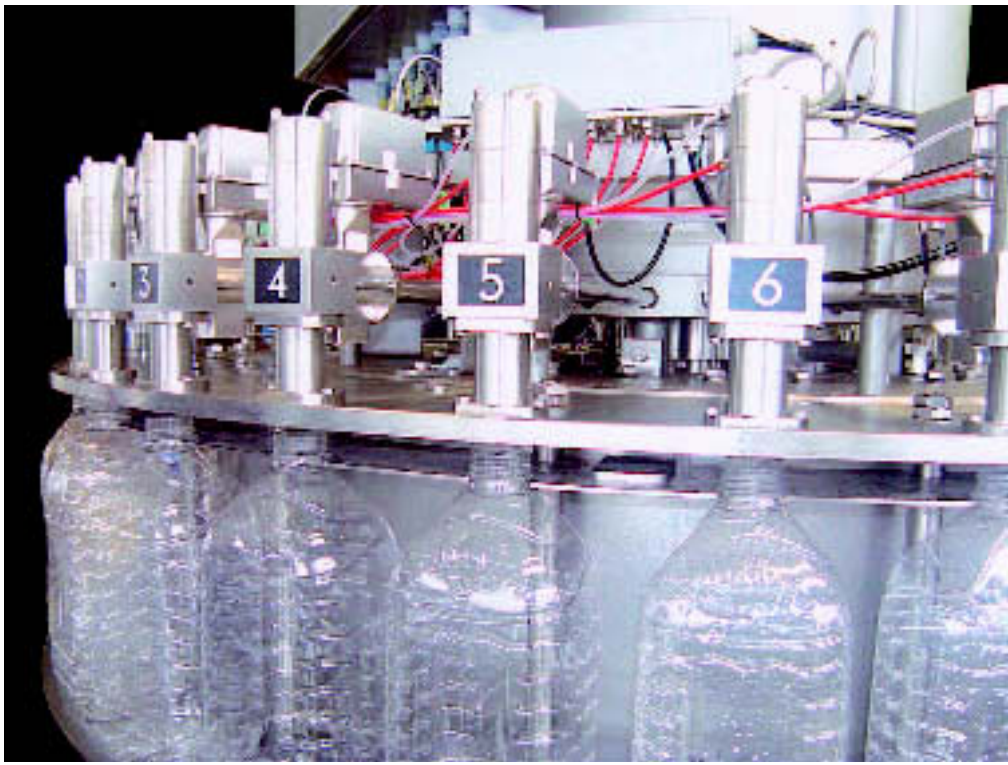
Still mineral water is not just plain sailing

It ought to be the simplest product to fill. But according to beverage line manufacturer Krones, still water ranks as one of the most sensitive of finished drinks, and requires special handling during the filling process to retain its crystalline purity.

Recently, says the company, two major international food and drink producers each drew up specifications for their ideal still water filler. Krones took these wishlists on board to create the Volumetric VODM-PET machine.

This has been designed as a filler with a central bowl. Fill quantity is measured by inductive flow meters, while two diaphragm valves ensure two different flow velocities. For enhanced hygiene, there is no contact with the mouth of the bottle.

In fact, says Krones UK: "Hygiene-friendly construction is the unifying theme of the filler's entire design, beginning with the product path." Static diaphragm valves have been used to avoid the dynamic movements of a piston valve and thus any possible deposits of dirt particles. The valves feature EPDM diaphragms which,



Rotary flowmeter filler: KHS has introduced the Innofill NV range to handle bottle sizes from 100ml to 5 litres

says Krones UK, are "very hard-wearing and do not affect taste".

A closed clean-in-place (CIP) circuit has been integrated, and there is also an option to use automatic CIP cups to make cleaning even faster. Indeed, the entire filler can be automatically cleaned and disinfected from outside. If necessary, separate closure disinfection and bottle rinsing can be provided – an obvious option, points out Krones UK, when bottling aromatised waters.

The absence of lift cylinders is said to be another major advantage: the bottles remain on one level throughout and, since there is no need for them to be raised, filling can be started immediately after transfer to the filler. "The entire construction is very open in design," says Krones UK, "with only a few components above the open mouth, so it's really easy to clean."

Since the VODM-PET's diaphragm valves are provided in pairs, users can run their filling process at two different speeds, which means optimum filling speed for each bottle size. Filling accuracy is claimed to be high, at around 0.2 per cent standard deviation for 1-3 litre bottles.

The VODM-PET has been designed as a multi-chamber filler. The return air is not passed back into the product chamber but escapes into the atmosphere. This, apparently, was another major requirement on the industry's wish list.

Krones UK says the benefits of a volumetric multi-chamber filler in terms of simple operator control and hygiene-friendly construction are

topped by its price-performance ratio. Cost comparison with the purely mechanical level-controlled filler that preceded it apparently shows "significant cost advantages" for the new VODM-PET, even for bottles 1 litre or more and at speeds of 20,000bph upwards. This, it says, is down to the optimised flow velocity and the absence of lift cylinders. Product can be filled faster, while the filler carousel can be downsized.

Major market in spirits

Another principal supplier that has been investing heavily in R&D is Stork Bottling Systems, which has a major market in spirits, supplying machinery to fill bottle sizes from 50ml to 4.5 litres. Indeed, Stork claims that 65 per cent of liqueur volumes worldwide are filled on its equipment.

For producers looking for a single machine, options include a Stork monobloc unit incorporating the filler and capper for ROPP caps, Stelcaps and Guala closures. These blocs can be either electrically or mechanically synchronised to a labelling machine.

Stork has continued its development of both the filler and, specifically, the filling valve, to reduce alcohol losses and to allow the use of colour-coded quick-release change parts from the BWE alliance.

The latest generation of air return tubes in Stork valves is said to have delivered faster filling times and better cleanability. They can be mounted and dismounted without tools, and can be added to existing vacuum fillers as retrofits.

KHS has recently introduced the Innofill NV range of rotary flowmeter based fillers, aimed particularly at non-carbonated drinks in plastic bottles. Speed is 6000 to 60,000 containers an hour, in the size range 100ml to 5 litres.

The Innofill NV operates with electromagnetic induction flowmeters, providing press-button changeover of bottle size and volume while open jet filling valves are employed for non-contact filling.

"Since bottle mouths are not pressed and sealed against the filling valves, this means maximum microbiological and hygienic security during the bottling process," says KHS. "This method also eliminates the need for lifting elements for pressing the bottles against the filling valves, resulting in fewer wearing parts and so less servicing and sanitising effort."

The NV series is capable of both single stage as well as two-stage filling and there is a newly developed gas lock at the product outlet to prevent dripping. This gas lock also allows a defined amount of solid matter to pass, particularly for beverages with a high amount of pulp.

A CIP system is available, using rinsing pans that move automatically into place under the filling valves to allow cleaning agents to be circulated continuously.

Calypso Soft drinks, which up to recently was best known for carton and cup-packed health drinks, has installed a complete in-house filling line for a new range of soft drinks and isotonic drinks in PET bottles. Supplied by Ave UK, the equipment includes an unscrambler, air conveyors, ultra clean rinser-filler-capper, trayless shrinkwrapper with film registration and a cluster packer.

Italian group Sympak, which includes Sima and BC, has also been building a reputation as a supplier of beverage fillers, and it is currently addressing the UK market through distributor Planet Flowline.

Sympak supplies machines for volumetric, vacuum, piston and counter-pressure filling, and claims to have had particular success with a new generation of medium and high-speed hot-filling units. The Sympak hot filler is said to guarantee a low recirculation ratio so that product is filled at the exact temperature required.

In this system, PET bottles are supported at the neck and the base so that even extremely lightweight containers can be handled. The filling process ensures pressure is eliminated from

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the bottle before containers are transferred, which helps ensure there is no product spillage, and is backed up by the use of a large diameter transfer starwheel, which reduces the centrifugal force on the containers.

Meanwhile, Dawson has supplied Irish soft drinks manufacturer Glenpatrick Spring Water with a new bottling line to handle both cold and hot filled products.

Drawing on experience in the fresh juice sector, Dawson adapted its existing level fill technology to allow Glenpatrick to fill glass and PET containers on the same machine with minimum changeover times.

Dawson says that one of the filler's principal features is the 'continuous flow' water-jacketed bowl, which automatically maintains the product temperature throughout the filling process.

The new Glenpatrick line also include a Dawson Space Saver depalletiser, made almost entirely in stainless steel, to handle pallets of glass, lightweight plastic and PET containers with automatic changeover and layer board removal.

Linear flowmeter machines

Juices and smoothies manufacturer Orchard House Foods chose German-built Breiitner equipment when it decided to expand its filling capacity last year, installing two eight-head Breiitner IDL 2085 linear flowmeter fillers equipped with VRS 2084 four-head cappers, supplied via UK representative Engelmann & Buckham. These are now filling smoothies and fruit juice in sizes from 200ml to 1.5 litres.

"The key feature of the Breiitner machine is its flexibility," says Engelmann & Buckham. Breiitner's flowmeter system, which is fed from a 100 litre pressure vessel, enables different products and volumes to be run, with "quick and efficient" cleaning and changeover.

Job parameters are programmed into an industrial PC, which can store 999 product profiles. The flowmeter monitors the flow rate of the product and then signals the PC to open or close the filling valve. The PC sets the volume, the speed at which the filling nozzle dives and rises, and the conveyor speed to bring bottles to the eight filling heads at the correct rate.

At the end of the product run, the Breiitner unit can run one filling nozzle only at the lowest outlet point. Thanks to the company's system for differential positioning of the filling outlets, this means that product wastage is minimised.

Link Print & Packaging has announced two "cost effective" filling machines – one volumet-



Closing with foil: Examples from Fords Packaging

ric, the other a level fill unit – from Taiwanese manufacturer Pack Leader Machinery.

The FL-100 volumetric piston filler is available to handle five fill ranges of 5-60ml up to 500-1000ml and can be equipped with a number of diving nozzles to give speeds up to 60 containers a minute. The FL-200 level filling machine is available in capacity ranges of 300-1500ml and 1500-5000ml and runs at speeds up to 70 containers a minute.

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CAPPING

Foil could offer cost savings on single portion drinks

Producers of spirits such as whisky and gin in miniatures or one-shot mixes could gain "huge cost savings" from switching from wadded caps to foil closures, according to Fords Packaging Systems.

Fords pioneered the foil closure more than 70 years ago with its system for capping glass 'doorstep' milk bottles and more than 10,000 Fords presses have since been installed worldwide. But with home milk deliveries on the decline it has latterly focused development on heat-sealable closures for other containers, including PET, composite and metal.

In dairy, the drive towards long-life products has opened new opportunities, with Fords claiming that its thin foil closure can be sterilised more reliably than wadded closures. "Also," says sales director Mike Dormer, "having heat-sealed the foil to the top of the container, providing a hermetic and tamper evident seal, a very simple press-on cap can be applied, offering reclosure once the bottle has been opened. This combination closure is both technically and commercially more viable than a wadded cap."

He adds: "Single-portion drinks such as whisky and gin would derive huge cost savings from changing to a Fords closure, without prejudicing the easy-open use of a single container."

Mike Dormer argues that bottlers are wasting money on reclosable ROPP (roll-on, pilfer-proof) closures for products that will be opened and consumed in one hit, such as single-serve spirits and pre-mixed one-shot drinks. "Miniatures are used on the airlines, and the moment they are opened the ROPP is of no further use."

ROPPs may provide tamper-evidence, he says: "But one has to ask, do they really need to be resealable? If you're only looking for tamper-evidence, the chances are that you would get as many as 10 or 15 more foil closures for the same cost."

He accepts this is "a marketing decision, to some extent" but says that if one or two bottlers switched to foil, others would have to follow because of the downward pressure on price.

Some fillers – especially contract packers –



Versatile capper: Cap Coder's new CC560 machine

need to run a variety of closure types on a single machine. And Oxfordshire-based Cap Coder says its CC560 on-line capper is ideally suited to this type of application.

The CC560 is a development of the CC550 model, which has been around for more than a decade. It can be installed over an existing conveyor and, as with the CC550, the starwheel is indexed by an overhead drive unit. But on the CC560, the number of indexes per revolution is pre-programmed into a PLC, enabling swift changes to be made between different bottle sizes. "One moment you can be using a four-pocket starwheel to run a 1 gallon jerrycan and the next moment a 24-pocket starwheel to run, say, a 30ml bottle," says Cap Coder.

At the heart of the machine are the swing torque heads, which are mounted on a contra-rotating beam so that while one head is screwing a cap onto a bottle, the other is picking up the next cap. "This is by far the best way to get a cap onto a bottle properly," the company says. "To pick up the cap with the torque head and then screw it on works for all caps, not just some, and it is comfortable at 40 a minute."

The CC560 forfeits the advantage of conven-

tional, fully-automated cap feeding because, according to Cap Coder, it can mean "undue complication, cost and delay" in changing caps. The CC560 works at one height, irrespective of bottle size, and can deal with different cap sizes without tooling or change parts.

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FILL LEVEL MONITORING

On-line system keeps bottler within the law

Cumnock-based Caledonian Bottlers fills up to 150 million bottles of adult drinks and flavoured waters every year under contracts with other UK and international brand owners.

Last year, with production increasing rapidly, it found that its traditional method of checking fill levels was too slow and inefficient. Operators were using a laboratory balance to sample 50 varieties of drinks in bottles ranging from 275ml to 700ml. The average fill level was then manually calculated and recorded on paper-based forms.

To help it comply with average weight legislation, and to allow for expansion in due course,



Level check: Avery system at Caledonian Bottlers

Caledonian Bottlers has switched to an electronic system from Avery Weigh-Tronix. The package, Average Weight, is a module from the PlantPower suite of manufacturing control software, which is designed to increase productivity, improve quality and provide product traceability.

A similar system has been installed by Pete & Johnny's, the juices and smoothies producer, at its Nottingham factory.

Caledonian's system comprises a manager's PC station linked to an operator terminal located in the laboratory. Operators weigh sample bottles from the filling line and the data is fed to a central PC, eliminating the need for paper-based records and providing evidence of due diligence.

Information is made instantly available to the supervisors, in graphical format, enabling them to monitor and correct any significant variation in fill levels. This helps to reduce product giveaway and comply with average weight legislation.

Avery Weigh-Tronix says the new system has speeded up Caledonian's checkweighing procedure ten-fold and eased pressure during full production periods. It can also accommodate up to seven further stations to meet future filling line requirements.

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CODING AND LABELLING

Laser coders maintain speed on empty and filled bottles

As demand for traceability has extended further up the beverage supply chain, coding onto glass has become a necessity for bottle manufacturers, not just fillers.

The standard solution has been to apply an inkjet code – sometimes an 'invisible', uv-readable code – at the end of the production line when the glass is cold. However, according to Linx Printing Technologies, there are potential disadvantages.

The bottle maker's traceability code might be confused with the code subsequently applied by the filler, or it might be damaged or removed by handling during the filling operation so it no



Hot marking: Dot matrix codes are applied to hot glass by the Linx Xymark BBH laser

longer provides traceability back to the maker.

The Linx solution for glass container manufacturers is a laser coding system, the Xymark BBH, which applies discreet dot matrix codes that are permanently etched into the glass. Coding takes place close to the point at which the bottle is formed, while the glass is still red hot. This, says Linx, generates a clean, smooth mark and largely avoids the creation of microscopic debris that occurs when lasers are used to mark cold glass.

However, if coding at the point of bottle manufacture presents special challenges, so too does coding in the filling hall. But high-speed laser coding has now been extended to this area – and not just for glass.

The S-Series range of CO₂ scribing lasers from Domino is designed to offer readable, high contrast codes on surfaces including PET and labels as well as glass. And Domino claims that the latest additions to this series, the S300 and S300B, have been welcomed for plastic and glass coding applications in the beverages market.

The S300B is, Domino says, particularly suited to PET applications because it uses 'Blue Tube' technology, a wavelength specifically suited to PET. This ensures that there are no holes and therefore no 'leakers' – often a problem with laser marking on plastic, the company maintains. This model has apparently achieved speeds of more than 1000 bottles a minute, printing a two-line code, and 152

metres a minute on labels. Single line codes can be produced on glass at speeds of over 122 metres a minute.

The smaller S300 version is sufficiently compact to fit inside the existing guarding of many machines but, according to Domino, can still code at high production speeds and over a large print area.

Linx has also introduced a new high-speed continuous ink jet printer, the 6800 Swift, which is able to print small-character two-line codes at speeds up to 176 metres a minute. It incorporates a solenoid valve system to minimise the need for printhead cleaning and incorporates a temperature sensor to allow the system to adjust itself to fluctuations in

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temperature and so maintain the printing performance.

Most major bottlers will, of course, be using a range of coding technologies, at different stages of the operation, for primary and secondary packaging. Coors Brewers, for example, has a working partnership with Videojet Technologies that goes back to 1987, and the bulk of Coors' can, bottle and pack coding equipment has been supplied by the company.

Over the years, 39 Videojet Excel printers have been installed at Coors' Burton and Capehill sites. These units provide multiple-line coding from a single print head at line speeds of more than 338 metres a minute.

When Coors decided to integrate the Capehill operation into its Burton on Trent facility, Videojet helped relocate some of the existing Excels, and also supplied several new Excel UHS printers, able to apply a three-line code at speeds of 90 metres a minute. Coors requires the application of a best-before date in the form of a Julian code together with a line number.

In the past two years, Videojet has been building its global service networks and developing new product lines. With the acquisition of manufacturers including Willet, Alltec and Accusort, it now claims to be the world's largest coding equipment supplier.

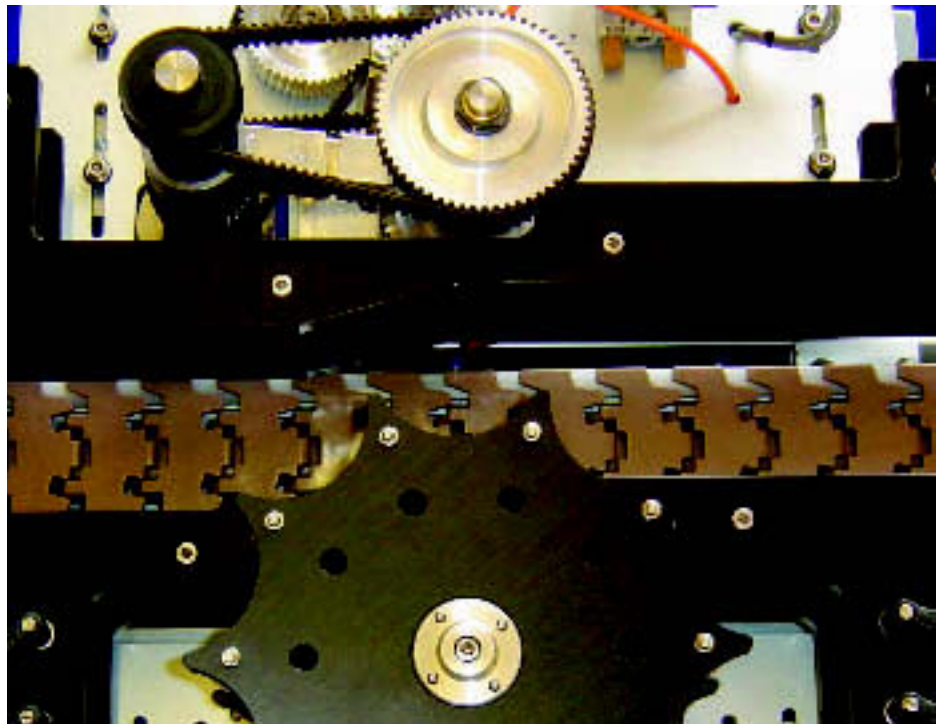
Its laser coding range includes systems to code PET or glass bottles at speeds up to 80 metres a minute, cases at 60 a minute and labels at 1200 a minute.

Videojet's Allprint Smart S laser range was developed specifically to meet the coding needs of large beverage plants. It is designed to fit inside most high-speed beverage labellers, allowing coding onto the glue palette or the container table.

Australian winemaker Rosemount Estate is now using Lightjet Vector lasers from Imaje to code two lines of vertical text – including alcohol percentage, batch number, production line number and production time – onto wine labels.

For Rosemount, one priority was the flexibility to code numerous sizes and types of labels, and the scope, in future, to handle extra data if necessary. But the company also wanted coding to be performed while the label is being applied on the bottle, which means bottles are spinning in the machine while travelling forward at speed. Nevertheless, the Imaje lasers are typically coding 300 bottles a minute, and up to 390 a minute at peak times.

Coca-Cola Enterprises (CCE) at Milton Keynes has just installed five Hitachi PX series



Round bottle orientation: Hayman Distillers has installed this system from Noshe Engineering

continuous ink jet printers from Euromark Coding & Marking, following trials of the printer on one of CCE's Capri-Sun foil pouch production lines.

The printers will add additional traceability information to pouches on five production lines at speeds up to 250 pouches a minute. Ultimately the printers will also be used to output management information from each pouch filling machine.

Bottle orientation

Across in Essex, the own brand and contract spirits filler Hayman Distillers has doubled the speed at which it is able to orientate bottles before labelling, using a purpose built in-line round bottle orientator built by Noshe Engineering. This orientation is carried out to ensure that the front and rear labels are positioned equally about the bottle seams, for optimum presentation.

The new orientator operates by using an existing indent in the heel of the bottles as a datum point. Bottles arriving on the conveyor are first captured within a starwheel which controls the bottle flow and provides the nest in which the bottle is rotated by friction belts until the indent is located. At this point the friction belts retract and the starwheel is indexed by one pocket to discharge the correctly orientated bottle and accept the next bottle for presentation to the turning belts.

As well as looking for speed of coding, bottlers of everything from beverages to toiletries are also looking to add a touch of sophistication to their products, and are increasingly turning

to a 'no label' look. One labeller that can add this premium feel is the latest rotary system from Harland Machine Systems.

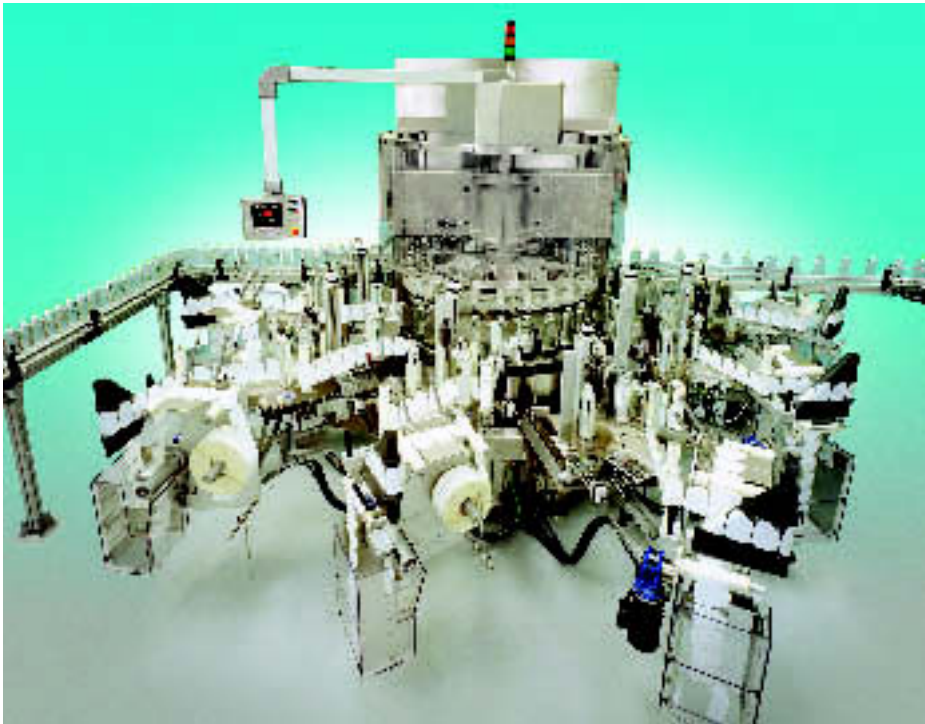
The Harland Enterprise is an automatic rotary pressure-sensitive labeller, with up to six labelling stations as standard, and operates at speeds of up to 1000 containers a minute, applying a range of labels including thin or ultra-thin film versions to give that 'invisible' touch.

Up to 40 product platforms are available for the Enterprise, which can be continuously rotated, cammed or motion controlled. An auto-change system means the machine can also automatically alternate between label heads to eliminate downtime.

Product changeover times are kept to a minimum by the use of quick-release change parts and a 'recipe' product management system, while the platforms and control system are designed for easy reconfiguring to suit new applications.

Sovereign Labelling Systems has installed its latest heat-shrink sleeving machine at Tynant Spring Water in Wales to apply a tamper-band seal to the company's new Tau range of bottled water. The Aegis 2 sleever – a mid-range machine – is able to operate on an existing conveyor with variable speed and spaced products and can be used to provide both full-body and tamper-band sleeving at speeds in excess of 200 products a minute. Sovereign says it is the only UK manufacturer offering a range of both heat-shrink and stretch sleeving machinery.

Meanwhile, Codeway has found that sales of label-checking systems are growing alongside



Rotary labelling: *New Enterprise pressure-sensitive applicator from Harland*

its labeller sales, thanks to retailer demand for more accurate bar code identification. Codeway has been supplying labelling and bar coding systems to bottlers for over 20 years, and now offers equipment to ensure both that the correct label is applied to the correct product and that the bar coding itself complies with ISO/IEC quality standards.

For special labelling requirements, such as the SSCC (serial shipping container codes) pallet label demanded Sainsbury and other retailers, Codeway uses the Avery Dennison 64 bit print-apply engine, with on-line bar code checking fitted to pneumatic applicator heads. The company says its CheckRite system prevents any product being despatched without correct bar code identification, while a range of ISO/IEC 15426-1 certified verifiers is also

available for manufacturers' QC departments.

Finally, a change in label positioning, using a W5200 print-apply machine from Weber Marking Systems, has solved a legibility problem for bar codes on shrinkwrapped packs of Pete & Johnny's PJ Smoothies delivered to a major retailer.

Previously, the packs of six 1 litre bottles were labelled on the top, but the wide spacing between the bottle closures created an irregular surface and hence creases in the labels, which in turn led to bar code misreads and rejected deliveries.

Instead, Weber's 5200 machine – which makes use of Pete & Johnny's existing print engine – applies the label to the side of the pack. It will be joined shortly by a second complete 5200 print-apply system.

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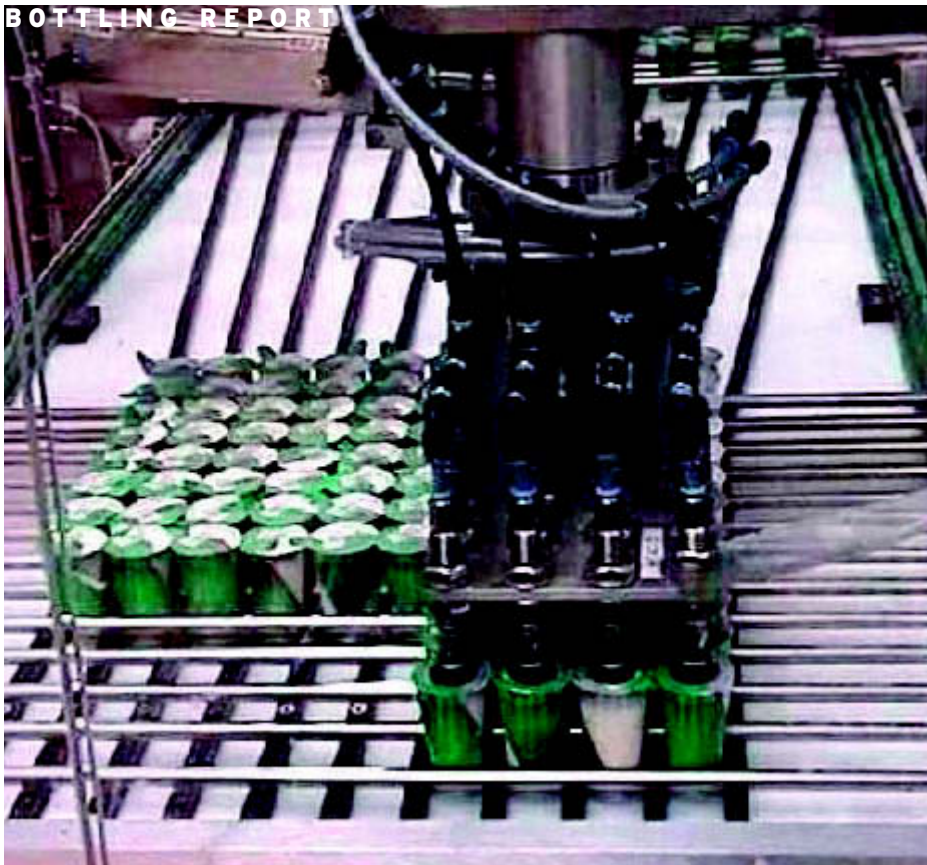
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Loading merchandisers: Kappa pick-and-place system for handling vodka shots

END-OF-LINE

Fast-track solution for one-shot drinks

When Independent Distillers was preparing to launch Twistee Vodka Shots, a one-shot liqueur-and-schnapps drink, it was clear the product was not going to be easy to handle at the required 250 flasks a minute.

The Australian-owned company worked with case-packing specialist Kappa Machine Systems to arrive at a suitable end-of-line solution, which Kappa then manufactured, installed and commissioned in 12 weeks to meet the launch deadline.

Filled flasks are taken from the infeed conveyor, collated and loaded into a System 2200 case packer where point-of-sale merchandising units in various sizes and formats are loaded by a servo-driven pick-and-place mechanism developed by Kappa. The machine can be size-changed in less than 15 minutes and, since most adjustments are via lead-screws with digital counters, there are no change parts. Automatic size change is also available as an option on the System 2200 which, for this application, is fitted with a power-fed magazine holding 400 cases to free up the operator for other tasks.

Further recent developments from Kappa include an automatic blank-feed system in which cases are taken directly from the pallet. This system, which is also available as a retrofit to existing Kappa lines, cuts out all the manual handling issues involved when operators need to lift cases into magazines – a particular problem with larger cases and with higher speed applications.

Instead, the pallet of blanks is simply wheeled into the machine using an electric hand-truck. Cases are then taken to an accumulation hopper so a new pallet can be loaded with no need to stop the machine.

As well as designing and building its own machinery, Kappa is now UK and Ireland rep-

resentative for Italian machinery manufacturer Bortolin Kemo, which builds depalletisers, case erectors, division inserters, pick-and-place systems, case sealers and palletisers. The latest addition to this range is the IAB04 pick-and-place case-packer, which can work at speeds up to 3800 cases an hour in a 2 x 3 format.

Langenpac of Holland delivered its first high-speed cartoning line for packing whisky bottles into individual gift cartons in the early 1990s. Since then, its machinery has evolved into what it calls a "highly flexible design" with a range of labour-saving options.

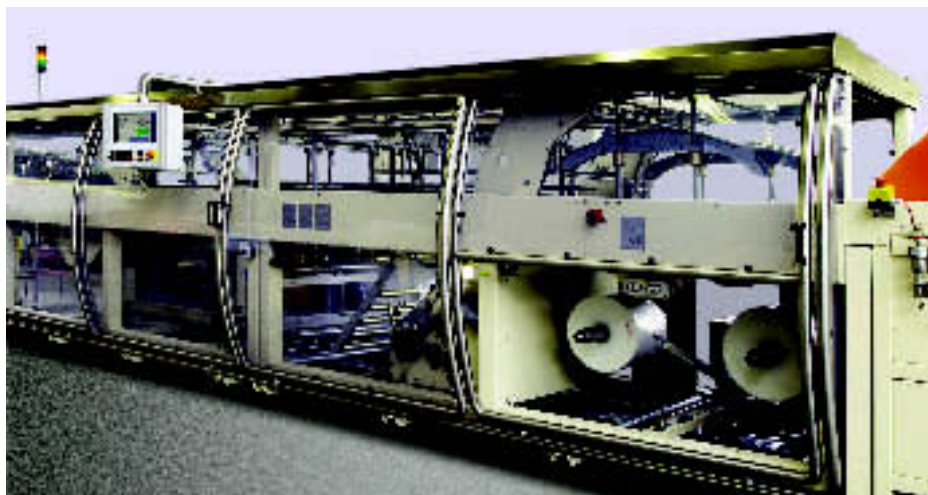
Automatic carton feed

These include bottle infeed systems, requiring no change parts for a wide range of bottle designs and sizes, as well as automatic carton blank feeding, and bottle outfeed systems with a positive stand-up device. In the UK, the company is represented by Springvale Equipment.

Langenpac has built machines running at speeds up to 360 x 1 litre glass bottles a minute, loading horizontally. So bottles arriving – usually from a labelling machine – must be correctly spaced and laid down before cartoning can take place. This first point of contact with the bottles is critical, says Langenpac, and bottles often arrive with labels that are still damp and susceptible to damage.

Various options are available to handle this initial contact and spacing, including traditional infeed screws or a new system of spacing belts, which can be positioned away from the label area of the bottle and adjusted for different bottles sizes.

After closing, there is also a system to up-end the cartons to ensure bottles leave the machine upright, with back plates supporting each bottle as it stands up. Any cartons that are not closed



High speed shrinkwrapper: The new Involve HLP80 available from F Jahn & Co

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Top-loading monobloc: Mondo & Scaglione Impack machine from Sealed Air

properly automatically bypass the stand-up system and are rejected laying down.

Swiss end-of-line specialist Involvo – represented in the UK by F Jahn & Co – has introduced a new high-speed shrink wrapper, the model HLSP80, which operates at 80 packs a minute with single lane infeed or up to 240 packs a minute with three lanes. Since the system is modular, the HLSP80 can be upgraded later if required with the addition of flat blank inserters or wraparound tray erectors for tray-packing applications.

Shrinkwrapper for bottlers

Spanish supplier Rochman, – represented in the UK by Yorkshire Packaging Systems – has recently introduced its own, automated shrink-wrapper specifically for bottlers. It can take bottles in random lane format and scramble them into the required layout – typically 2 x 3 – then collate and wrap them in a trayless format. There is also an option for trays or base boards to be incorporated, and the system can handle print-registered film at speeds of 15 to 20 packs a minute.

Collations of lagers, ready-to-drink cocktails and premium soft drinks are often held together with a card gripper around the necks, and Gainsborough Craftsmen produces a machine to pack in this format. It works by queuing a single line of bottles, then cross-pushing the correct number for the multipack into a horizontal, intermittent-motion pocketed chain. The collation is moved beneath a pick-and-place head and a pre-glued cardboard gripper is pulled down from the magazine, opened and placed over the group of bottles. Further down the machine a final crimping device fixes the gripper firmly in place.

An alternative system from the same manufacturer is a twin-lane continuous motion unit,



Switch to shrinkwrap: Adpak has supplied a machine for organic drinks, replacing corrugated

which can produce multi-packs in single or twin row formats. A bottle orientation module can be included to ensure all labels are facing the same way.

According to Italian manufacturer Dimac's UK representative Aetna, the past six months have seen sales of its single roll shrink wrappers rise as manufacturers invest in new machinery to keep up with increasing demands from retail customers.

For example, a Dimac machine has been chosen by a principal water bottler, while two other customers in different industries, who traditionally pack into trays of 24 and then shrink wrap, are introducing more multipacks of six cans, shrinkwrapped in print registered film.

A further packer has invested in Dimac machinery in response to demand for trays of six rather than 12, which required line speeds to be doubled.

Sealed Air's recently-acquired subsidiary

Wrapid Packaging Systems has added an entry level, monobloc packaging unit from Italian maker Mondo & Scaglione to its range. According to Sealed Air, the Impack machine – designed for bottles but now being used for other packaging types – is ideal for small and medium sized producers moving into end-of-line automation for the first time and is capable of offering a payback within 12 months.

The Impack brings together case erecting, case filling and case sealing operations in one unit, and Sealed Air says it can further adapt the machine to suit each customer's specific needs. For example, the Impack can also be used to erect and fill trays and can be connected to a semi-automatic palletiser.

Finally, Adpak has recently supplied a family-owned organic drinks firm with a shrinkwrapper, which has eliminated the "thousands of pounds" cost of cases with inserts and dividers for 6 and 12 bottle packs. The bottles are now presented on a base board and simply shrink-wrapped in 60 micron pe film. ■

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For full details of all PPMA members able to supply machinery for bottling, consult the PPMA machinery finder service, tel: 020 8773 8111, or visit www.ppma.co.uk