

REVIEW OF THE YEAR

2010

A MACHINERY PROMOTIONAL SUPPLEMENT
update

Fresh thinking achieves time and cash benefits

Billed as the most significant reworking of its product portfolio in over a decade, Domino is introducing brand new versions of the A-Series continuous inkjet (CIJ); the V-Series thermal transfer overprint (TTO) and D-Series laser coding ranges.

The first model in the new A-Series range – the A320i – had its global launch at Paris-based exhibition Emballage 2010 in November. It showcases Domino's new i-Tech, or intelligent technology concept, that encompasses an array of smart technologies to make production lines lower maintenance, lower cost and more efficient.

By combining a number of these clever features on the A-Series machines, the company has delivered tangible productivity and OEE benefits by completely eliminating preventative maintenance.



The A320i print head

The foundation of the 'service-free' concept is the elimination of traditional preventative maintenance activities. No longer will Domino engineers have to visit customers to perform regular maintenance activities. Instead, 'plug and play' routine consumables replenishment can be undertaken by production staff. The CleanFill consumables are colour coded for easy identification and all feature self sealing valves for a safe and clean working environment.



Easy consumables exchange

The new A-Series marks the debut of Domino's new i-Tech intelligent technology concept for monitoring and managing the A320i's performance to enhance reliability and improve overall efficiency. Among the most important functions of i-Tech are:

- Monitoring printer configuration and usage to automatically adjust the consumables replenishment cycle. This ensures the ink is always in the optimum condition to maximise OEE
- Minimising waste by automatic depletion of the working volume of ink in the Qube. In addition, 100% depletion of the ink and make-up cartridges means that no fluid is left in exhausted cartridges
- Intelligent management of the solvent recovery system to reduce make-up usage.

The A-Series' i-Tech ink system does away with the ink reservoir in favour of a modular concept that features the new Qube, in which the ink and filters are separated from the pump and associated electronics. This approach means that disposing of the ink does not involve scrapping viable, functioning mechanical and electrical components – a significant

benefit given the increasing influence of environmental performance on purchasing decisions.

Furthermore, the annual Qube replacement is carried out in less than ten minutes and can be easily completed by production staff.

Domino's new i-Tech ink system and SureStart print head both contribute to significantly lower operating costs and greatly reduce the printer's environmental impact. The A320i prints up to four lines of code, text, automatic serial or batch numbering and real-time clocks.



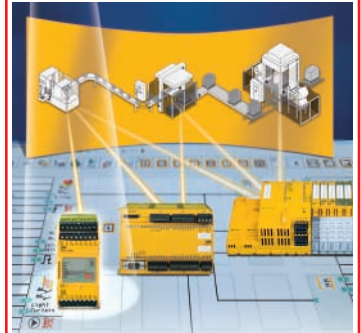
The QuickStep user interface

The A320i is among the first Domino printers to feature QuickStep – a new, simplified and standardised operator interface rolling out across the company's entire range. QuickStep minimises operator errors and speeds printer set-up by doing away with complex menus and parameters in favour of simplified set-up routines requiring minimal operator involvement.

01954 782551
www.domino-uk.com

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Depositor suits pasta and rice

The MPF depositor from Multi-Fill Inc features a pneumatically operated volumetric filling head, which is controlled by a PLC.

It utilises a vacuum pump to pull ingredients such as cooked pasta and rice into the volumetric pocket prior to dispensing. The vacuum also helps to evacuate air and some moisture, increasing the density of the product. This enables the machine to deposit precise portions of product into a tray, carton or pouch.

The latest models include upgraded adjustment for the filling head, making the depositor easier to adjust for line height variation. Another innovation is a dual-drive belt system that allows positive traction of the product conveyor belt. The conveyor belt itself is now available in food-grade blue plastic. These new features can be retrofitted to older



machines.

In the UK, Headland Foods operates an MPFSC-120 depositor to fill cooked chilled rice and spaghetti at speeds of up to 100 packs/minute and ready meal co-packer, Request Foods in the USA, has recently installed two MPFSH-075 machines to deposit various ready meal ingredients on lines running at up to 75 containers/minute.

Multi-Fill is represented in the UK and Ireland by F. Jahn. 020 8977 8822 www.f-jahn.co.uk

Twin head combination meets pie needs

Freshpack has installed a twin-headed combination metal detection system to cope with different pack formats for its pies.

The metal detection system with ferrous-in-foil inspection facility and checkweigher is from Fortress Technology.

The Phantom in-foil metal detector can differentiate between metal contaminants



and ferrous metals in foil. 01295 256266 www.fortresstechnology.co.uk

INTRODUCTION

Business stays positive despite the downturn

Despite the daily dose of doom and gloom in the media, 2010 was not all bad for business as a quick glance at this Review of the Year shows.

New product development has continued apace with several new launches covered in this review which shows investment by machinery manufacturers in research and engineering development has not stopped during the recession. And the same can be said of its customers, too.

Although capital has been tight, especially for SMEs, there is plenty of evidence in the following pages of large, turnkey projects and installations of equipment across several end user sectors, including food, drink and healthcare. People still have to eat, and even if equipment is running basic recipes rather than gourmet dishes, it makes no odds.

As for a more general look at the market in 2010, the Business Monitor from the Engineering Machinery Alliance (EAMA) found that companies started 2010 with strong UK export business performance. In January 2010, UK mechanical engineering companies reported their strongest month on month enquiry growth at 42% and 58% gains respectively; orders rose for 47% in both UK and export business.

Fast forwarding to the end of 2010 saw more positive news for several sectors. The EAMA figures in November reported improved inquiry and order levels after the seasonally weaker figures in August and some softness in July. Confidence levels were reported as high with over three quarters of respondents saying they were confident/very confident about business through to March 2011.

It seems business has been able to adapt to changing market conditions better and quicker than the government as the drastic Spending Review showed. For instance, over the course of the spending Review period, the Department for Business, Innovation and Skills (BIS) will reduce its resource budget by 25%. And taking into account anticipated receipts, the cut to capital spending by 2014-15 will be 44%.

What is clear from this review, however, is that machinery manufacturers have taken stock of their businesses during the tough times and are now more focused and in better shape to tackle the still uncertain future in a more positive manner.

MACHINERY update

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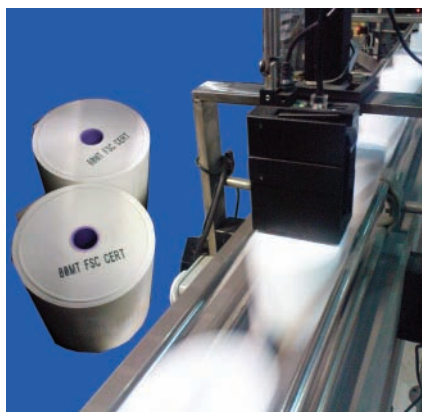
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New coders on a roll

Open Date Equipment has introduced thermal ink jet printers to its range of coding and marking machines which, it says, makes inkjet technology affordable and practical for much wider end user markets.

It has already successfully installed six CleanCode EV I models at one of Europe's largest suppliers of till rolls and labels, Schades UK, of Ripley, to supply real time and date codes onto the more than 50 million till rolls, which the company produces each year.

The coders are significantly less expensive than continuous inkjet and offer much lower running costs than CIJ or drop on demand machines, claims Open Date. The Schades' machines replaced a number of continuous inkjets which the customer found to be time consuming and expensive.



Open Date's CleanCode prints clearly on till rolls

The CleanCode is ready to install, right out of the box and the new CleanCode LX, driven by Lexmark™ printhead technology, adds to the current range of EV I and EV II machines.

LX models deliver greater print distance, up to 9.5mm and higher ink yield than the EV models, and give print resolutions of 300 or 600 dpi at

line speeds of up to 61 metres/minute. Around 20 per cent more printable characters per cartridge are claimed.

The printhead is integral to the 42 cubic centimetre ink cartridge, so when the cartridge is replaced, so is the printhead. No make-up is required for the inks and virtually no maintenance is necessary. The coder is switched off when not in use and the cartridge stored; at start up the cartridge is simply reloaded.

Two versions of the LX are available. The EVI-LX offers a basic system to print one line of 12.7mm text or two lines of 5.5mm text. Additional software is available for the EVI-LX to increase functionality. The EVII-LX can print three lines of 3.2mm or four lines of 2.4mm text. 020 8655 4999 www.opendate.co.uk



Cost effective checkweigher is easy to use

The E Series checkweigher from Yamato can help increase output while reducing overall costs.

With a weighing range of 6 up to 25kg, the stainless steel checkweigher is supplied with a full colour touch screen and data management.

The company says it has concentrated on accuracy and ease of use with this design as, for instance, the E Series has an interactive wizard as standard to help operators with set up and product input.

During operation, the machine monitors both the software and hardware operation and provides animated screen prompts to assist the operator should a problem arise. Various reject devices are also offered.

Line height can be altered between 600-900mm and this helps the unit to be installed in an existing line.

To offer environmental benefits, the E system utilises a clever power supply that in turn reduces power consumption as well as being RoHS compliant. 0844 991 2356 www.yamatoscale.co.uk

A speedy animal!

Research by Copdock Mill, based in Ipswich, which supplies pet and animal feed to clients throughout the South East and Midlands, has proved that the installation of four Rotoplat 507 pallet wrappers, from Aetna Group UK, was an excellent investment.

Derrick Ladbrook, distribution manager for Copdock Mill explained: "We handle 150 pallets/day on average and, with 5,000 lines at any one time, the number of different products per pallet can vary enormously. So we needed machines which would be reliable, flexible and, most importantly, easy to programme for soft, hard or a combination of products."

The company researched a number of suppliers, taking

several different makers' machines on trial, specifying four key programming criteria: gentle lay on force to protect soft items; tighter wrap for heavier sacked items; high security wrap for heavy or unstable items or mixtures of many different items per pallet; and a short programme for low pallet loads.

Setting out the advantage of the Rotoplats Ladbrook said, "Everything on the Rotoplats can be set on the keyboard and the programme locked. Some of the other machines used a potentiometer to adjust tension and wrap cycles, which meant there was a risk that operators could alter the programming, causing delays and possibly create unstable or insecure loads."



An added benefit has been a significant reduction of wrapping material costs with a 38 per cent saving in consumption.

"Our primary concern is security and protection of the products. Pallets can travel over 300 miles before delivery and with much of the feed in paper sacks weatherproofing is also important." Maximum load per pallet is 1.5 tonnes.

01234 825050 www.aetna.co.uk

Pipe detector is paste perfect

S+S Inspection has launched two new versions of its Liquiscan metal detection and separation system for removing magnetic and non-magnetic metallic contamination from pumped liquids and pastes.

Two models are available: Liquiscan VF+ for viscous material such as sausage meat and cheese and the Liquiscan PL for liquids and semi-liquid pastes. The VF+ version is supplied on a mobile, height adjustable stand and the PL on a tabletop frame. A range of reject systems is available depending on the application. The VF+ can be supplied 'linker' drive compatible and with fittings to match all the major meat pump systems.

Both are available to fit a wide



range of pipe sizes and use the latest Genius+ control system with an integrated menu driven validation system to monitor all standards including HACCP, BRC and IFS. A built-in password protected system log records complete documentation of all operating parameters.

Fitted with quick release pipe connectors, the new Liquiscan VF+ may be moved easily to different locations for wash down and maintenance procedures, says the company. 01489 553740
www.sesotec.co.uk

High-tech Transmodule

Transmodule a high-tech transport device designed to boost the efficiency of its automated packaging machines was unveiled by Schubert UK at Total 2010.

Replacing its previous vacuum conveyor scheme, it was demonstrated on a confectionery packing line. Operating on a rail system that links each processing station of a Schubert packaging line, it is claimed to use less power as it moves cartons between a line's packing operations. A typical line comprises five sub-machines handling carton erecting, filling and closing.

It consists of vacuum suction cups for holding the erected boxes in place, a drive motor and control electronics, and requires power only when accelerating from a standstill to its travel speed of up to 5 metres/second.

When the Transmodule decelerates to position itself for



the robotic packing process, the drive motor switches to generator mode thus supplying electricity stored in capacitors, which is used when starting up again. At the end of the operation, the device returns to its starting position along the rail system.

It offers wireless data and power transfer and is linked to the machine's software control system. Schubert plans to extend

the use of the device for its new automatic tool change facility set to be launched next year.

"This new method will set new standards in packaging machine construction and pave the way for more efficient and flexible packing machines," commented David Maddern, Schubert UK's sales director. 01676 525825
www.schubert-uk.co.uk

Pick & place with vision

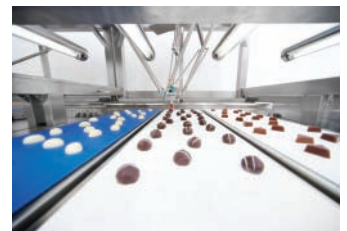
Tekpak Automation has introduced the 'Packman Vision' robotic cell, a 4-axis vision guided cell for food and pharmaceutical applications.

The pick and place function uses Elau P4 robots with integrated, compact control systems panels and special vision conveyors, with back lighting or top lighting, which can handle packed or unpacked individual products and place them into trays or cartons at speeds of 120/minute per robot. Position repeatability is better than +/- 0.1mm, according to the company.

Featuring all stainless steel construction, including the arms, to avoid product contamination, a range of grippers, both vacuum and mechanical, is available.

Vision system software includes a correction facility to compensate for belt tracking errors when picking directly from existing conveyors. Packman Vision can track products and trays so that it can pick and place into moving trays.

Teach technology makes it simple for the vision system to recognise new products and to inspect for damaged or non-conforming products. 00353 (0) 53 916 3033
www.tekpak.co.uk
www.tekpak.ie



Advanced automation brings fresher benefits

Ishida Europe has designed and installed a complete packing line enabling just three to four operators to produce prepared salads at up to 40 trays a minute, while automating inspection and making every pack traceable to a stored x-ray image.

Gastro Star produces 30 tonnes of fresh products every day ranging from vegetables and salads to fruit, including salad mixes under the Betty Bossi and Weight Watchers brands. The company was an early adopter of automation in salad packing and the new line is part of a wider series of measures it has taken to increase capacity and efficiency to meet product demand.

The new line was designed by Ishida's Solutions division and includes tray denesting, multihead weighing, tray sealing, labelling, seal testing, a vision system, x-ray inspection, checkweighing and packing into crates. The 30-40 packs a minute achieved is double that of the former fastest line at the company with product giveaway at 1-2% by comparison with 10%



Ishida Europe has designed and installed a complete packing line enabling three to four operators to produce prepared salads

previously. Currently working on 200g and 250g packs no more than two shifts a day, Gastro Star calculates that the line will pay for itself within five years.

In operation, crates of prepared leaves which have been cut to size and washed run via an elevator above the multihead weigher where the salad is tipped into an infeed system. The tray sealer at the heart of the line is an Ishida QX-1100 and handles four trays

at a time, flushing them with an atmosphere of oxygen, nitrogen and carbon dioxide.

At the end of the line, the IPS (Ishida packing system) pick-and-place system not only automates what used to be the most labour intensive part of the line, but does it at high speed with greater flexibility by picking individual packs rather than pre-determined layers.

0121 607 7700
www.ishidaeurope.com

Conveying under control

X45 is a compact conveyor platform which allows easy integration with machines and space efficient filling, production and packaging lines, says FlexLink Systems.

The product handling is gentle and stable, contributing to high product quality standards and high line efficiency as well as offering long service life, low noise level and easy engineering it claims.

"The compact boundary dimensions and the ability to run in bends provides new opportunities to automate sophisticated flows in a simpler way than before. The conveyor runs smoothly which is crucial in transporting standing vials in the pharmaceutical industry," says



Fredrik Boberg, head of innovation management.

X45e is an intelligent platform for automated processes such as assembly, controlled filling and samples analysis. Advanced 24V drive units and puck handling modules with embedded controls, simplify controls engineering and enable high line efficiency, says the company.

Power consumption is very low due to the efficient PM motor and transmission. It is RFID prepared, facilitating track & trace and automated QA capabilities.

01908 327200
www.flexlink.co.uk

Palletising robot for tight spaces

FANUC Robotics' latest addition to the M-410i range of palletising robots claims to be the fastest robot in its class performing cycles in less than two seconds, says the company.

This makes it suitable for high capacity production requirements in bag and box palletising.

Performing a standard industry palletising test - moving

400mm up, 2,000mm horizontally and 400mm down - while handling a 60kg payload - the new M-410iB/140H performs 1,900 cycles/hour, claims FANUC.

A slimmer arm and wrist design make the 140kg payload model the most compact robot in the range.

The articulated design is ideal for confined spaces and for operation in areas with low

ceilings. The new slimmer forearm and wrist is equipped with integrated cableways to speed up system installation and to avoid cable snags and breakages.

The robot can be either floor or plinth mounted to provide a cylindrical work envelope of 5.7m diameter up to a maximum height of 3.5m.

02476 639669
www.fanucrobotics.co.uk

Twin multihead weighers linked for high accuracy

Italian manufacturer PFM Packaging Machinery has demonstrated how its MBP series of multihead weighers can now be linked via common software to provide particularly high accuracy while counting and mixing a large number of ingredients into a single pack.

In a custom project for the Polish site of a major international confectionery manufacturer, the company has linked two 20-head radial combination weighers – both with a tier of memory buckets – to allow up to eight different types and flavours of chocolate to be mixed, with a minimum and maximum count on each, to accuracies up to $\pm 0.5g$. Packs range from 220g to 5kg.

The complexity of the operation is shown by the 220g size, which is made up of a mixture of seven different types of chocolates with an average weight of 10g.

The number of chocolates in

each flavour is allowed to vary from a minimum of two to a maximum of five but overall pack weight has to be maintained within a tolerance of $\pm 0.5g$. Speed is some 60 weighings a minute.

“While a single 20 head multihead weigher could achieve the speed, the number of weight combinations needed to ensure this high level of accuracy, for minimum giveaway of a high value product, demanded an alternative approach,” explains PFM sales and operations director Chris Bolton.

PFM’s solution is two Series 20C3 20-head multihead weighers, both controlled by a single software system on an industrial PC.

Both machines are equipped with a second tier of buckets – memory buckets – which accept product from any undischarged weighing buckets, holding the weight in memory for the controls to make up the next



Each weigher is equipped with four separate feed systems

target weight. In this way, the weighing combinations available on each machine are virtually doubled, giving higher speed and accuracy.

Purpose written, the software controls 40 weighing heads and their corresponding memory buckets at the same time, giving a total, including the pre-dosing buckets, of 120 modules with eight vibrating feeder channels and eight elevator belts, each

with their own vibrating hopper. The level of product on the central cone is controlled via ultrasonic sensors.

“This is a major advance and opens up the possibility of even higher accuracies where the value of the product and the speeds required justifies additional capital expenditure,” explains Bolton.

0113 239 3401
www.pfmuk.com

Flexible wrapping for plastics parts

McKechnie Plastic Components (MPC) demanded complete pallet wrapping flexibility from its Robopac machine from Aetna Group at its site at Stamford Bridge, North Yorkshire.

Aetna has supplied the latest Rotoplat 507 machine to wrap a range of plastics components made for a wide variety of industries including automotive, construction, packaging, medical and brewing, as well as several consumer products. It joins three other Aetna machines already running at the site.

All items are palletised prior to transportation, so the pallet wrapper has to be both flexible

and ultra reliable. A typical output of between 150-200 pallets a day is required over a two shift pattern, seven days a week. Programmes can control several features such as tension, amount of wrap and pre-stretch. These can be locked into the control panel memory and recalled at the touch of a button, speeding up the process, eliminating operator error and ensuring repeatability.

“Our products can range from quite small, irregular shaped items to big, heavy parts for the construction industry,” explains logistics manager for MPC Russ

Cox. “Having pre-programmable wrappers, which can store a variety of information to cover these variances, has improved the whole palletising process.”

Following a recommendation from its packaging film supplier, MPC trialled one of Aetna’s Rotoplat machines and, as Cox explains, “quickly we found that the power pre-stretch was saving us up to 60% on film usage and the reliability of the wrappers has helped avoid bottlenecks in the warehouse”.

An added bonus on the large Stamford Bridge site is the ease with which the Rotoplats can be moved around quickly to deal



with different wrapping jobs by using a forklift. “They are very rugged in construction,” says Cox, “so will take plenty of lifting.”

01234 825050
www.aetna.co.uk

Checkweigher comes to the rescue of natural remedies

OCS Checkweighers has installed an HC-IS checkweigher at natural healthcare remedies company A Nelson to cope with increased demand for its products and in particular, handle the cylindrical bottles that are used for its Rescue Remedy.

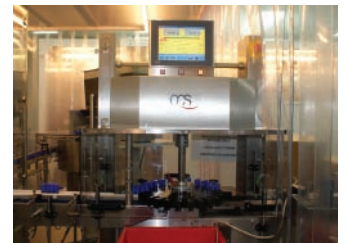
As products are being transported down the production line on fast moving conveyors, the stability of the cylindrical

Flower Remedies, Nelson's Arnicare and Spatone. Previously, off line manual sampling techniques were used to verify correct weights which was, of course, very time consuming and expensive. "We are now running a 100% check so every single bottle will be checked in-line, saving time and eliminating the need for additional paperwork," says Matt

- the HC-IS-D - which allows throughput of 160 pieces a minute. With the integration of the HC-IS-D (dual lane), Nelsons now operates on a 100% in-line checkweighing process on all of its products.

Nelson's Rescue Remedy bottles come in two different sizes: 20mm and 25mm diameter and the HC-IS-D weighs two bottles at the same time at a throughput of 130 pieces a minute. Then, when Nelson's wants to run a different bottle size, it can simply change the star wheel.

Using a rotary star wheel mechanism means that bottles are transported smoothly over the weigh cells with no handling or stability issues. The star wheel automatically produces the correct product queue for a more continuous throughput prior to



Accurate results are possible even when handling cylindrical bottles

checkweighing commencing.

Installation is easy as the checkweigher simply slots over the production line with minimal integration and downtime. The HC-IS-D is very compact, and so requires only minimal space on the production line, while the star wheels are designed for quick release without the need for special tools when changing to a different size product.

01993 701970

www.ocs-cw.com



Flower remedy products contribute a high proportion of Nelson's total sales

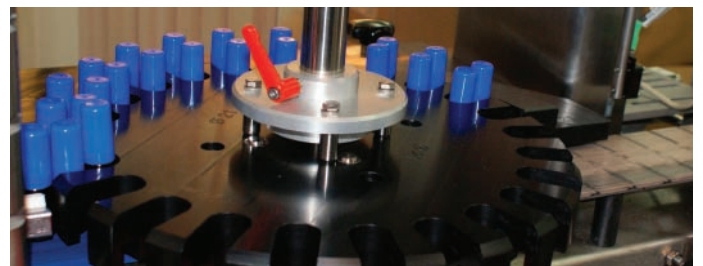
bottles can be affected which causes poor product handling and also movement as the products are weighed. This can make results unreliable. The HC-IS is designed to handle cylindrical products and obtain accurate results each time.

Nelson's brands include Rescue Remedy, Bach Original

Prickett, engineering manager at Nelson's.

The checkweigher's robust handling has also resolved any stability issues in production.

The HC-IS uses a single weigh cell and can weigh up to 80 pieces a minute. For higher throughput speeds, OCS supplies a dual weigh cell system



The star wheel produces the correct product queue for continuous throughput prior to commencing checkweighing

Learning logistics at speed

Educational publisher and distribution services provider Cengage Learning has made its facility more efficient by installing a LogisticsPRO warehouse management system to operate with a new belt/roller conveyor system from UPM Conveyors.

UPM was responsible for the total turn key project at

Cengage's distribution facility in Andover which supports clients in education, academic reference and legal businesses around the world. In operation, LogisticsPRO downloads order data to the UPM PC and this information is then transferred to the UPM PLC barcode readers. This diverts boxes to the appropriate picking, packing

and shipping areas while keeping the status of each order continuously updated.

Distribution director at Cengage Learning Carrie Willicome says immediate improvements in speed and efficiency has been achieved by this installation. She was also impressed by the on site engineers who performed the



The belt/roller conveyor system from UPM Conveyors is making educational publisher efficient

installation with very minimal disruption to the business.

01753 548801

www.upm.co.uk

Integrating canning lines ensures absolute safety

Overall responsibility for the installation of two identical layout canning lines handling special milk powder for baby food was entrusted to Krones by Nestlé for its production facility at Konolfingen in Switzerland.

Each of the two canning lines operates at 16,800 cans an hour for the smaller can while the larger one is handled at about 8,400 each hour. For both canning lines and for both pouching lines, Krones installed one order management system and one LDS line documentation system each, both of which exchange information with Nestlé's higher-order MES (Manufacturing Execution System).

Krones was tasked with coordinating and integrating all the machines concerned on the canning lines, plus the software and the huge range of monitoring devices to ensure absolute product safety. As the line integrator, Krones IT Solutions Division (IT-S) had to coordinate

the large number of original equipment manufacturers involved and to support them in providing the specified database.

In this context, Nestlé relied on Krones as the sole contact thus avoiding any interfacing problems in the event of faults and defects.

This meant that Krones IT-S was not only the solution supplier but also acted in an advisory capacity as far as the challenges encountered in the canning and packaging operations were concerned. Implementation of a can-do order management system has minimised rejects and guaranteed efficient yet easy-to-read operator prompting.

Based on a Wonderware platform, Krones supplied the requisite interface between the order management system and the MES which serves to distribute the order parameters among the individual machines on the factory floor.

The order management system offers a host of functionalities



A total of six scanners are used for reading the barcodes

including a can infeed system that accurately matches the target quantity to save both material and time. Tank, and container, accurate production ensures that for an order with a specified target quantity of 10,000 cans, precisely

10,000 are produced. The rapid-response cut off of both container and product infeed achieves this, and the same applies for tank accurate production.

01942 845000
www.krones.com



There is an option for packing one layer or two layers in the cartons

Machinery safety for all packaging scenarios

Pilz's expertise in machine safety was demonstrated at BVM Brunner when the manufacturer updated the safety concepts on its new film wrapping machine following renewed machine.

In the application for BVM Brunner, Pilz undertook renewed machine risk assessments to update the safety concepts on its machines in its bid to comply with EN ISO 13849-1. Subsequently the company decided to implement a new safety design for a machine which incorporated comprehensive safety solutions from Pilz.

BVM's Compacta Genius Servo is a fully automated machine with a cross-sealing jaw. It was

however, necessary to safeguard the operator while at the same time complement the flexibility and easy handling required for processing a variety of products.

Pilz's Safety Calculator PAScal, was used to determine the required PL and SIL (Safety Integrity Level) of the safety functions according to EN ISO 13849-1.

The new compact configurable safety relay, PNOZmulti Mini, was selected to monitor safety functions. Despite its compact 45mm width, the multi Mini with its 20 safe inputs and 4 safe semiconductor outputs (to SIL 3, PL e) covered all safety functions of the machine, including E-Stop,

Light Barriers and Safety Gates. The PC-based drag and drop PNOZmulti Configurator also minimised initial set up.

The mechanical safety gate switches were replaced with low maintenance, non-contact magnetic safety switches, PSENmag, which offered high tolerances for set up and switching distance, a clearly visible status indicator and reduced engineering time due to plug in cables.

Pilz's portfolio of control and automation products along with services including training, engineering and consultancy has earned it recognition in machinery safety. Many of these products



PNOZmulti Mini safety relay

and services are suitable for packaging machinery from relatively simple machines to complete packaging lines.

01536 460766
www.pilz.co.uk