

More productive and cost-efficient punnet packing concept

With Omron automation solution

Brillopak's single-pick punnet packing line featuring Omron Quattro Delta robots, controller and software boosts efficiency while cutting downtime and staffing costs

Case loading experts Brillopak are using Omron's robotics and control technology in a revolutionary single-pick punnet-packing line concept. Custom-designed for a leading UK retailer, the fully automated solution uses Omron's Quattro Delta robots, NJ production line controller and PackXpert software to load punnets individually. The line increases packing throughput and flexibility while reducing stoppages and human intervention.



Brillopak developed a unique "single-pick" concept that loads each punnet to the correct place in the box with the help of the four arm Delta robot from Omron.

Punnets are a popular choice for packing fresh fruit and meat. In a production line, they are typically packed into boxes or pallets by accumulating and loading complete layers. However, if a punnet is dropped or falls off the line, packing has to be stopped while a line operator fixes the problem. Punnets also have to be laid out in a uniform way, which is a problem for retailers as consumers demand greater variety of product offerings and sizes.

To alleviate these issues, Brillopak developed a unique "single-pick" concept that loads each punnet to the correct place in the box. Placing each punnet individually at the high loading rates of today's packing lines requires a delta-type robot and Brillopak selected the Omron Quattro Delta robot – the world's fastest robot with a top speed pick rate of 300 per minute. The Quattro Delta is also unique in having a fourth arm that which allows it to reach 30% further than similar sized robots. The additional axis also allows the robot to tilt the load, making it much more flexible – ideal for placing packs in tight spaces, such as punnet crates.

The line features two Quattro Delta robots, one after the other, under the control of an Omron NJ production-line controller (PLC) and Sysmac software. Access to the control features is via the Omron HMI tailored by Brillopak to show

the most common features in an intuitive manner – vital for getting the line up and running again fast. The resulting punnet packing system is fast enough to match today's production line speeds and support future upgrades to the line.

For maximum packing flexibility, the line also features Omron's PackXpert software which allows the position and packing order of each punnet to be individually programmed. When new punnet sizes are introduced, the produce provider can easily develop the packing layout pattern offline, simulate the packing process to ensure it is achievable in real world conditions and download it to the robots. This makes changeovers almost a push-button process, greatly reducing downtime for line changeovers.

"Our customer demanded a return on investment in under two years, which means the line needs to operate almost continuously. So, we designed the line to eliminate stoppages due to accumulation problems and minimise the time it takes to get the line running again after changeovers. Using Omron's technology for the motion, control and safety features of our machines because they can deliver highly integrated products under a single software solution. And that helps us quickly optimise the performance of new systems," David Jahn, Managing Director of Brillopak.

"Brillopak is a pioneer in the industry, continually pushing the boundaries to meet its customers' needs – as this example shows. This line installation is a perfect showcase of the capabilities of the new Omron Quattro Delta robot for packing applications, as well as the advantages that can be gained from the seamless integration of Omron products controlled through our dedicated Sysmac Automation Platform," adds Omron Field Sales Manager Andrew Shelley.



Brillopak's Meteor line incorporates two Omron Quattro Delta robots.



When new punnet sizes are introduced, the produce provider can easily develop the packing layout pattern offline, greatly reducing downtime for line changeovers.

About Brillopak

Brillopak designs and builds high speed end of line automation systems to the fresh produce sector. The company's purpose is to help its clients improve profitability and operational efficiency through the deployment of the latest robotic technologies. The company specialises in robotic packing of products in tray seal punnets, flow wrap and Vertical form fill seal (VFFS) bags and the robotic palletising of crates, cases and bags. The company seeks to raise the bar in applying technology to the sector and invests heavily in research and development. Brillopak was founded in 1999 and is based in Kent in the United Kingdom.

For more information visit: www.brillopak.co.uk.

About Omron

OMRON Corporation is a global leader in the field of automation based on its core technology of "Sensing & Control + Think."

Established in 1933, Omron has about 36,000 employees worldwide, working to provide products and services in more than 110 countries and regions. The company's business fields cover a broad spectrum, ranging from industrial automation and electronic components to automotive electronics, social infrastructure systems, healthcare, and environmental solutions.

In the field of industrial automation, Omron supports manufacturing innovation by providing advanced automation technology and products, as well as through extensive customer support, in order to help create a better society. For more information, visit Omron's website: industrial.omron.eu