Case study

Broccoli on the fly

Weighing and labeling automatically in a packing plant

It is green and known to be healthy: broccoli. In Europe, the Netherlands ranks among its most important exporting countries. The Gebr. Hoff en Zonen company cultivates in Andijk in Western Frisia. Freshly harvested, the broccoli finds its way to the packing hall to get prepared for delivery to supermarkets.

The packing plant has been developed by Tegra Systems, a system integrator and cab partner. Along each conveyor line, a maximum of 70 broccoli per minute can be shrink-wrapped in transparent foil, weighed, labeled and sorted fully automatically one by one.

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Making two from one

The two companies have already been working together successfully for more than ten years. Until 2018, Gebr. Hoff en Zonen had available one conveyor line to process the broccoli. Then they expressed the requirement to add a second line to the plant and to increase the output.

André van Teeffelen, Sales Engineer at Tegra Systems, sums up: “The customer demanded solid technology that takes the work of the employees and operates quickly, precisely and error-free even in the longterm. The technology is not limited to devices. It also collects all data that is of interest for the grower of the product, its customers in retail and wholesale, or the consumer. It thus contributes to the verification and traceability of broccoli as well as to food safety and quality”.

Customized workstations

For Gebr. Hoff en Zonen, an automated system was put into practice that shrink-wraps broccoli in foil, weighs, labels and presorts the vegetables after they had been poured in the conveyor line. Two Hermes+ systems are installed on each conveyor line for printing and applying labels. Various label layouts are in use. Product information is printed rapidly on labels by the first Hermes+ and the labels are applied precisely on each wrapped broccoli: What vegetable is it? What is its weight? Which is its commercial category? Pre-printed decoration labels are applied by the second Hermes+. Finally, the identified broccoli is sorted. What initially looks like rotating windmills, is for sliding the items arriving in rapid succession on the conveyor off the belt to the correct weight section.

Labeling while the product is **in motion:**
It is not necessary to stop the conveyor belt.

A **MACH 4S printer** on a broccoli collecting station.

Reasons for choosing cab

According to André van Teeffelen, “Hermes systems can be very well integrated to conveyor lines with the help of stands, assembly aids, sensors or switches. The firmware enables fast printer programming. A minimum of efforts is required to maintain the devices. All this is exactly what we need in our plants”.

cab for Hermes systems provides a large number of modules to apply printed labels on products – for example by tamping, rolling or blowing on, corner-wrap, on round materials such as cables or pipes. Any possible task can be solved. This is unique on the market. In the case of Gebr. Hoff en Zonen, Tegra Systems has decided for the air jet box 6114. It sucks a label printed by the Hermes print unit with the help of a fan. A powerful blast of air makes a label overcome distances of about 20 cm to apply on the broccoli without contacting its surface. No pressure is exerted on the vegetables.

Full labeling

Each broccoli is different. As a consequence, the Hermes systems have to apply labels dynamically on items of different sizes and shapes within the conveyor line. Uneven foil materials used to shrink-wrap the vegetables as well as the quick succession at which a broccoli passes the labeling station one after the other are further critical factors that are taken into account.

If a label falls off a product during further transport on the conveyor belt, this broccoli gets its label by an employee later on. MACH 4S label printers are available in every weight section at which broccoli is collected in boxes. By means of the peel-off plate of the printer, a label separates from its liner. This makes manual removal of a label an easy thing to do.

Tegra Systems

The company produces and supplies packing, weighing and labeling solutions to be integrated to industrial plants. Customers can choose from standard products as well as from application-specific systems. The company was founded in 2003 by André van Teeffelen‘s (pictured) father. www.tegrasystems.nl

Video of the application:
www.cab.de/en/hoff-tegra

For information on Hermes+ systems see:
www.cab.de/en/print-apply

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