



Case packaging of powder products

Case study: Skinetta and COOP

Applications in packaging

- Picking
- Packing
- Palletizing
- Inspection/quality control

ABB products in this application

- IRB 340 FlexPicker

Quicker distribution and flexible packaging of bags.

“Products in granulate and powder form behave as fluids in bags.” This is how Dominik Leder explains the core problem when it comes to optimising the end-of-line packaging for loose packaged goods such as sugar, coffee or baking mixes. “We were aiming for a flexible system that can package our products quickly and reliably”, says Leder, who as the project co-ordinator at the COOP production and packaging centre is responsible for the planning and implementation of technical projects. This must also be able to cope with Duopacks weighing up to 1,000 grams.

The solution to the problem was quite different to what Leder and his team had originally expected. “We were very sceptical about whether there was a robot system which would even be able to hold our products due to the centrifugal forces” remembers Leder. The COOP team was therefore anticipating a more traditional solution.

However, a newly developed robot-based system was considered: the RobTeq Speed-Picker by Skinetta Pac-Systeme, based on the ABB FlexPicker. “This solved a whole range of problems for us” says the 41-year-old operations expert. “Above all, the changeover times and maintenance expenses could be drastically reduced.” This is because the abrasive, sticky contents of damaged bags cause a high level of wear in conventional case packagers, whereas there are considerably fewer mechanical parts in the RobTeq Speed-Picker.

Optimised suction system manages 1,000 grams

To start with, the way to achieve this was anything but clear. Norbert Wörz, head of production development at Skinetta: “We were aware that we would have to break away from the norm if we wanted to design a low-maintenance, fast and extremely flexible end-of-line packaging machine. The ABB FlexPicker seemed to be the new way forward.” The ABB team involved did not wish to rule out the possibility that the design of such a machine could succeed with the FlexPicker. To solve the gripper issue, Skinetta first had to optimise the suction system. The suction performance of conventional systems was by no means sufficient to transport 1,000 gram



The Skinetta end-of-line packaging machine packages up to 88 bags per minute. The RobTeq Speed-Picker packages bags weighing up to 1,000 g. The suction technology of the ABB FlexPicker was optimised in order to achieve this.

bags reliably and at the necessary speed. To absorb the sudden weight resistance of the content, a special movement curve was also calculated for the gripper. According to Norbert Wörz: “Only with this combination did we find it possible to place the bags in the cartons at high speed.” The Swiss company liked this concept. “Nowadays, we need to be much more flexible than a few years ago,” says Leder, describing the different situation in the packaging centre. The logistics engineers stock five distribution centres which each supply around 1,000 local businesses and shops. “The trend is for packaging sizes which are exactly sufficient to fill the shelf” explains Leder. Above all, products which have a low demand should be delivered at a precise time and in small quantities. In the meantime, the packaging centre delivers directly to the shops, bypassing the central distribution warehouses. This allows COOP to react quickly to unexpected purchasing trends.

Case packaging of powder products

Case study: Skinetta and COOP



Carton sizes which exactly fill a shelf section are ideal. The picture illustrates well how varied the product ranges of baking powder and chocolate powder are.

The construction of the RobTeq Speed-Picker is designed for quick and flexible packaging. Only the suction cup has to be replaced to switch packaging format. A new locking mechanism makes the changeover even easier. Even the mechanical pre-grouping of the bags is a thing of the past. The Skinetta RobTeq Speed-Picker packages up to 88 bags per minute. The ABB FlexPicker is used and is synchronised with the conveyor belt.

The robot takes the bag with its vacuum gripper and places it in the waiting carton, as specified in the packaging plan. The cartons are changed quickly so that the machine can carry on packaging without having to pause. Due to the easy program procedure, the Swiss packaging company has a high degree of independence. According to Dominik Leder, "once Norbert Wörz from Skinetta reprogrammed the machine as part of the acceptance procedure, all our doubts were finally dispelled." The number of packaged layers and the speed of the packaging unit can also be directly set on the machine itself.

Packaging solution flexible to financial demands

The RobTeq Speed-Picker allows COOP to react to increasing financial demands. According to Dominik Leder, "we have the increasing pressure of cost on the one hand and growing customer demands for more flexibility, speed and quality on the other hand". For example, the "categories", the buyers responsible for product lines at COOP, can also be produced or packaged by other manufacturers. For example, the centre in Pratteln has lost the task of roasting and packaging peanuts to an independent competitor.

"After a year however, the categories have come back simply because our product quality is right", says Dominik Leder. Conversely, COOP also packages for other manufacturers. "We would like to expand this", announces Leder. The production and distribution centre which acts at the cost centre for COOP, the largest parent company group in Switzerland, wishes to gain autonomy in this way and thereby also secure the efficient Pratteln site in the Basel canton in the long term.

FACTS

Key benefits

- Reduced change-over time
- Reduced maintenance cost
- Higher reliability due to less mechanical parts
- High flexibility
- High speed - 88 bags/min
- Easy to program

SKINETTA FACTS

Facts about Skinetta

For decades Skinetta has developed and manufactured machines and lines, which are built individually for the requirements of their worldwide customers of the pharmaceutical, cosmeceutical, food and non food industries.

For more information: www.skinetta.com