



RobotLoader benefits Protein Industry

Even though automated processing and packaging machines for the protein industry have been around for some time, one production step has mostly been carried out by hand - the placing of products into the packages. Automated tray loading has always proved difficult, due to high hygiene standards and irregular product shapes and surfaces. However, in the quest for a solution to this problem, collaboration between CFS and Sigpack Systems, a Bosch Packaging Technology company, has resulted in the development of the **CFS RobotLoader**.



The growing number of single and two-person households has led to a shift towards smaller, single portions for fresh and frozen foods. When manufacturing these convenience foods in Western Europe and the US, apart from labor costs, factors such as standardization, product waste and production flexibility are major influences in deciding strategies. The application of HACCP hygiene standards, which are being harmonized throughout Europe, is also now playing an increasingly important role in decision-making, as the highest priority is placed on protecting consumers from dangers such as listeria bacilli.

Automated loading

The experts at CFS and Sigpack Systems were aware that unconventional methods would be needed to develop an automated solution for tray loading in the protein industry. The result was the **CFS RobotLoader**, an innovation that has changed the view of packaging in this sector. This new concept fills fresh meat, poultry, meat products, cheese and cold

cuts cleanly, reliably and quickly into precast or thermoformed trays.

At the core of the system is Sigpack Systems' Delta robot technology, which has been used successfully in a wide range of applications, such as the handling of deep frozen and chilled products, baked goods, chocolate and biscuits, and the top loading of non-food items such as pharmaceutical and cosmetic products.

Special challenges

The production conditions for deep frozen foods create special challenges for the robots, due to the cold and damp environment and the strict hygiene standards. Therefore, the electronics of the machine were specially insulated. Furthermore, the robot and the complete frame of the **CFS RobotLoader** are made from stainless steel to allow for effortless cleaning at any time. Cleaning is also facilitated by sloping surfaces and an open design, which encourages drainage of the cleaning fluid.

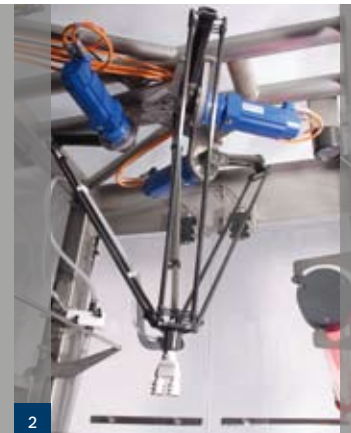
Configuration of the CFS RobotLoader for tray sealing and thermoforming

Together with the **CFS TwinStar®** for tray sealing applications, the **CFS RobotLoader** contains up to eight Delta robots in one line, which are synchronized perfectly with the packaging machine to offer highest system performance and reliability.

For the packaging of fresh and deep frozen products into deep-drawn trays, the **CFS RobotLoader** can be combined with the **CFS Powerpak** and the **CFS PowerPak^{NT+RT}** thermoformers. The almost full integration into the placing area of the thermoformer facilitates the accessibility and cleaning of the whole system.

The Delta robots' vacuum grippers handle a wide variety of products from sausages, frozen burgers, meat and roulades to chicken drumsticks and wings. They are also easy to clean, low maintenance and easy to adapt to new irregular-shaped products. Their low weight allows for high speeds. For sliced

- 1 Continuous inline-production with up to 800 products per minute
- 2 Newly developed Sigpack Systems Delta robot with hygienic design – easy to clean, safe inspection
- 3 Precise and gentle loading for an attractive and versatile product presentation
- 4 **CFS RobotLoader** for tray-loading in a unique hygienic design





Loading of pre-formed and breaded schnitzel into deep-drawn trays

portions and product stacks enhanced mechanical gripper tools are available.

Partnership with customers

The CFS lifecycle performance philosophy is the commitment behind the introduction of the **CFS RobotLoaders**. “Lifecycle performance is our driving force and offers customers the best possible solution. The partnership with the customer is an essential part of the philosophy of CFS,” says Joachim Hajek, CFS product manager.

CFS is located in Bakel, Holland, and specializes in achievement-oriented solutions for the food industry. Over the last year, Siggpack Systems has worked closely with CFS to present reliable, one-stop-shopping solutions for complete processing and packaging lines, along with excellent pre- and after sales services.

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