

Pattyn Packing Lines uses Beckhoff control technology throughout system

Perfection in a box: bag-in-box foodstuff packaging

As is the case with mechanical engineering in general, packaging machines are subject to increasingly higher customer requirements with regard to speed, flexibility and costs. In practice this means that the machine manufacturer must keep step with the respective market developments in order to survive in the competitive marketplace. Belgian packaging machine manufacturer Pattyn Packing Lines relies on a high degree of automation for its advanced foodstuff packaging machines. The company balances performance and cost on the basis of state-of-the-art PC-based control technology.

Packaging must fulfill various requirements, so that consumers receive packaged products fresh and in perfect condition. The Belgian packaging machine specialist Pattyn Packing Lines, which is based in Bruges, designs and produces fully automatic bag-in-box packaging machines for the packaging of bulk goods: foodstuffs ranging from fish, deep-frozen bread or vegetables and semi-liquid products, such as oils, greases or liquid sugar, to powders and granulates, all of which can be packed hygienically and freshly using a bag-in-box package.

Trends in packaging solutions: compact, efficient and multi-functional

The requirements for packaging machines essentially follow the general mechanical engineering trends: modular concepts, adaptability, ease of maintenance, reliability, high ease of operation and universal high-performance

control systems. "Over and above that, a packaging machine must integrate itself seamlessly into the production process so that no goods tailbacks occur leading to bottlenecks", explains Joeri Haegebaert, Software Manager and Quality Inspector at Pattyn Packing Lines, and he adds: "In addition, our customers can choose between standard machines or solutions tailored precisely to their needs."

With the new Ceflex-21, Pattyn combines the proven technologies of carton forming by vacuum suction and bag insertion into a single, compact machine, thus combining two significant processes. First of all the carton is isolated, fixed by vacuum suction, opened and the base flap is folded over and glued. Subsequently, film grippers pull the bag off the roll, open it and place it precisely inside the carton. The perfectly controlled bag enables the reduction of bag dimensions, resulting in film savings of up to 30%. The compact Ceflex-21 has an impressive production capacity of 12 cartons per minute.



Mechanical grippers pull the film bag off the roll, open it and place it precisely inside the carton.

Beckhoff EtherCAT Box modules with IP 67 protection allow use directly on the machine

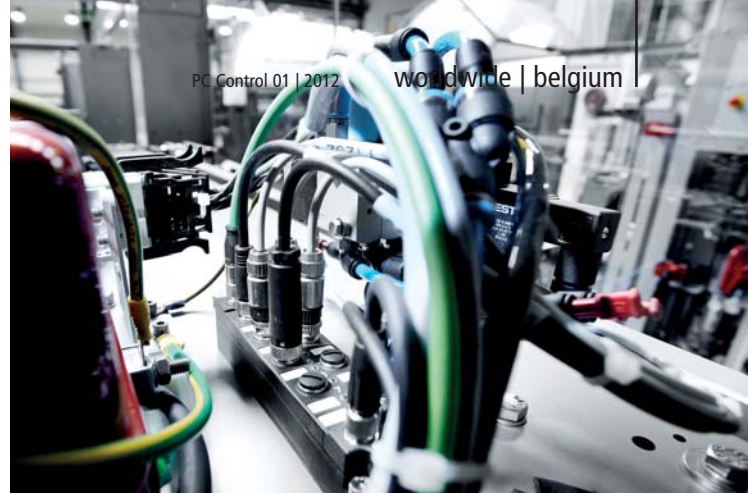
(from left) Joeri Haegebaert, Software Manager and Quality Tester at Pattyn Packing Lines, in conversation with Steven De Vlaminck, Sales Manager from Beckhoff Belgium

The integrated bag-in-box packaging machine is controlled by the Beckhoff CX1010 Embedded PC with directly connected EtherCAT Terminals. In addition to the standard I/O terminals, the Beckhoff EL7041 and EL7031 stepper motor terminals are used to control the Stepper Motors. "The Ceflex-21 clearly benefits from the modern drive and control solutions. The rigid compressed-air driven systems for carton forming and the opening and insertion of the bags are replaced today by flexible systems driven by Stepper Motors. The Stepper Motor exhibits a favorable torque behaviour for such applications", explains Joeri Haegebaert. The compact packaging module can be integrated easily into the fully automated Pattyn packaging line or the customer's existing packaging line.

The customer expects openness

"The pressure on machine manufacturers is continually growing. Increasingly complex functions must be implemented with ever increasing efficiency. In addition to that, it is important to find the correct price-to-performance ratio. That can only be achieved with a high degree of automation", says Joeri Haegebaert. "We decided to utilize Beckhoff's PC-based control technology because it gives us a number of advantages here: On the one hand, other vendors' systems and devices can be integrated without any problems; on the other, the openness of the PC controller makes it easier for us to manufacture custom machines. Also, our customers value the possibility to log directly into a PC environment."

Considering the experience that Pattyn has gained over the past few years with Beckhoff control technology, the company has decided to equip its entire machine portfolio with it. "The touch screens will also be sourced from Beckhoff in the future", says Joeri Haegebaert.



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Pattyn Packing Lines, based in Bruges, Belgium is a family-owned business with over 30 years of experience in packaging machines based on the bag-in-box principle. The company offers complete solutions – from the carton erector, bag placer and filler to the bag and carton closer. The foodstuffs are thereby counted, weighed, filled and packed in cartons or crates with a made-to-measure inner bag. The company constantly invests in the development of new technologies and machines which ensure a high degree of automation and provide all-round protection for the product.



Further Information:

www.pattyn.com

www.beckhoff.be