



First fully automated chicken nuggets line installed at Danpo

Continuous production with almost no operator involvement - perfect!

Danpo A/S in Denmark is part of Scandi Standard, the largest chicken processing enterprise in Scandinavia. The group sells and markets refrigerated, frozen and processed chicken. The company has about 870 employees. Danpo opened its processing factory in Farre, South Jutland in 2000. The factory produces a wide range of fully-cooked chicken products over four production lines.

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High production with low labor costs

The fourth, fully automatic line was built in 2018, to manufacture a range of chicken nuggets under its ‘Your Chicken’ brand. The line includes the GEA MaxiFormer at its heart, providing high-quality nuggets in a fully automatic, high-level production process, using the minimum of labor. Per Ulrik Jørgensen, Product Technical Manager at the Farre factory has been working with Danpo for over 30 years. He is responsible for product and process development. He explained that, working in a country with high labor costs, it was essential to maximize the automation level in the new plant. “High capacity, with less labor, is the way to develop new products in a country such as Denmark,” he said. But the quest to minimize labor costs and increase production could not come at the expense of product quality. As a trained chef, Per’s focus on the quality of the food is second-nature to him and he knows that providing the quality his customers know and expect is often achieved by taking practical measures around the plant. “When improving a high-capacity line we need to look closely at the environment,” he said. “Whenever we choose new equipment we make sure it will provide a line that is tidy, easy to overview, clean and dry. It’s very important that customers feel safe with what we do.”

The GEA MaxiFormer

Per has had a very long association with GEA having worked with the company and its products throughout his long career at Danpo. He was intrigued by the GEA MaxiFormer having seen it demonstrated at the GEA Technology Center in Bakel. “I thought we needed to take a closer look at this machine,” he said. Following extensive testing, Danpo commissioned GEA to build its first ever, fully automatic line for chicken nuggets incorporating the MaxiFormer at its heart. “GEA helped us to develop the line machine by machine. I like working with GEA. I can speak to people and they understand what I am talking about. They provide a round-the-clock service with fast, easy solutions to improve the line capacity or performance.”

The Danpo process

The fully automated line, opened in 2018, includes recipe controlled grinding of the meat, mixing, forming, coating, cooking, frying and freezing in one seamless, fully automatic process. The meat is delivered in 500kg batches, ground, then mixed with water and a range of ingredients and chilled to -2°C in the GEA ProMix by using nitrogen. GEA’s patented step-fill system pumps the meat into the GEA MaxiFormer to create the desired shape. The nuggets are then moved by conveyor through a pre-duster, cooked to a core temperature of 73°C, breaded or battered as required then flash fried at 190°C, and frozen. The whole process takes just six minutes.

“With GEA delivering all the equipment on the line we knew for sure that each element would fit together and be compatible,” said Per. “We run 60-hours production shifts, with only a quick forming drum replacement and some light rinsing of the conveyors approximately every 10 hours. For the rest, the operators just watch and overview. When the operators can put their hands in their pockets, and have nothing to do, I know it’s working well.”



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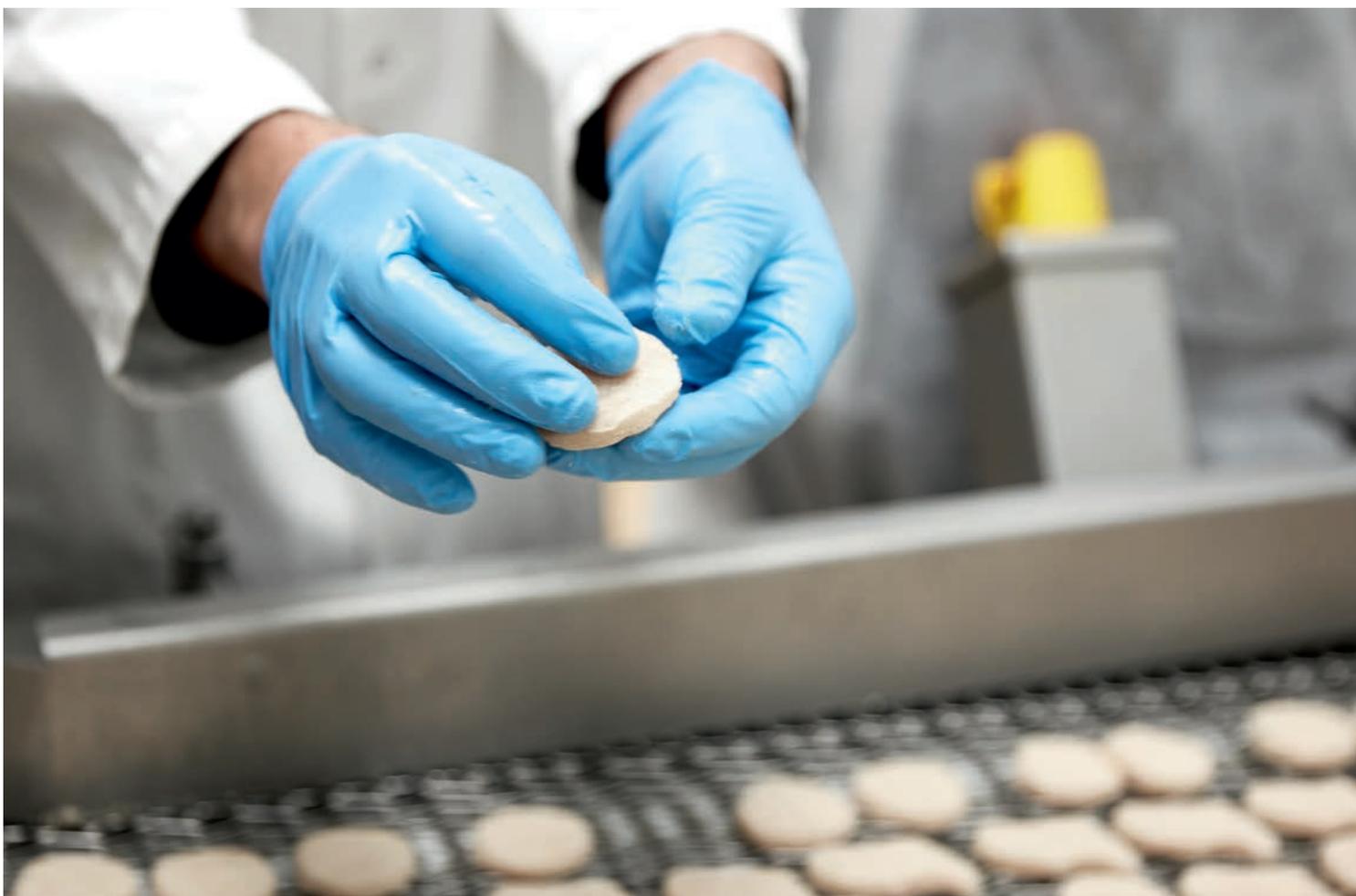
System benefits

“We have always had a strong collaboration with GEA,” said Per. “They provide us with quick feedback if I need help either with the design, the running of the machines or to help me find the best settings on the line.”

The MaxiFormer provides very high production capacity, better consistency, improved filling accuracy, less product waste and significantly lower operating costs. Its step-filling system minimizes the pressure used to fill each cavity carefully and progressively.

This, combined with its rigid drum design, reduces wastage, improves filling accuracy, creates a higher quality formed product with excellent shape retention, and minimizes down time for cleaning. It’s unique knock-out system uses dry air at high pressure applied only to the relevant cavities, not the whole drum. This significantly reduces air usage and, therefore, energy costs.

“The step-filling feature means that we can run with a slightly higher temperature on the meat prior to forming so we save energy,” said Per. “For us that’s an important innovation for economy in production.”





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