

Grolsch bottling plant upgrade goes with a swing, thanks to Festo automation

New servo technology from Festo is helping Grolsch to put the iconic swing tops on its bottles of lager. The 'swing-top transfer unit' was custom-designed by Festo in conjunction with system integrator MCA Linear Motion Robotics and is installed at the Grolsch Enschede plant in The Netherlands.

The 'swing-top transfer unit' provides approximately 3,800 swing-top bottles per hour with a porcelain cap and rubber ring. Bottles without clips are fed in on one side, while the swing tops are fed in from the other side. Before the tops can be positioned, a sensor detects where the hole in the bottle neck is as the bottle rotates. On the basis of this measurement, the bottles are rotated into the correct position via a servo motor located underneath. Afterwards, the swing-top transfer unit positions the swing top while the bottle is rotated again so the swing top can first be pressed into one and then into the other hole. The finished bottles are then transported to the filling line.

One of the most important changes in the new design is the replacement of the two electric and parallel positioned axes that carry out the horizontal movement (X-movement) by a heavy duty EGC axis. This has a double guide that is actuated by new servo technology in the form of Festo EMMT servo motors. The EMMT compact servo motor has a single cable for both motor and encoder signals. This means it can generate a very low holding torque, enabling it to synchronise several axes, even during lower speeds. In addition, the EMMT has a digital, absolute displacement encoder (single- or multi-turn) and is available in protection classes IP40 and IP67.

The existing Siemens PLC with Profibus was upgraded to Profinet using the Festo CPX-E automation system. The CPX-E is used as a central controller for both the servo and stepper motors and is configured as an EtherCAT master and motion controller. This solution delivers the required speed, accuracy and dynamic response needed from the swing-top transfer unit.

The new controllers and Profinet system also make gathering data really easy. This is helpful for process optimisation, fault finding and predictive maintenance: all aspects that Grolsch will focus on in the future in order to increase machine reliability and availability and reduce costs.

Steven Groot Zevert, a maintenance engineer in this part of the Grolsch factories says of the end result: "Thanks to the great cooperation between system integrator and automation manufacturer the project has been managed quickly and efficiently. I only really needed to let them know my requirements. These were then translated into a new, future-proof design that fits into our own automation system and was also configured and commissioned professionally by Festo and MCA.

"Everything runs according to plan and that's just as well, as next year the swing-top bottle celebrates its 125th anniversary and I think Grolsch will be paying some attention to that!"

20. October 2021

Responsible
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Christian Österle



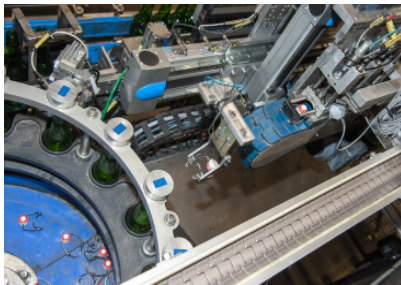
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Grolsch pic 1

New servo technology from Festo is helping Grolsch to put the iconic swing tops on its bottles of lager.



Grolsch pic 2

The Grolsch 'swing-top transfer unit' features the new Festo EMMT servo motor and CPX-E automation system and provides approximately 3,800 bottles per hour with a porcelain cap and rubber ring.

Festo GB & IE

About Festo

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Festo Industrial Automation's innovative strength is demonstrated through the launch of around 100 new products every year. The company invests over 8.5% of its turnover in R&D, resulting in over 2,600 patents held worldwide. For more information about the company's products and UK / Irish services, please visit: www.festo.com/gb and www.festo.com/ie

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