

Netstal at the NPE: CAP-Line offers maximum productivity and efficiency to produce beverage closures

(Näfels, 06 March 2024) At the NPE (Booth W223), Netstal will be presenting injection molding solutions at its best. By means of a production system from the US customer Alltrista®, visitors to Netstal can experience the world's most efficient closure production system live. The 26 mm water closures are produced in a mold with 128 cavities. The system runs with a cycle time of 1.9 seconds.

The focus of this high-performance application is a CAP-Line with a clamping force of 4500 kN. With the CAP-Line, Netstal now offers injection molding machines specifically pre-configured for closure applications. The exhibition machine is based on the high-performance Elios platform and is pre-configured with various equipment features for the efficient production of beverage closures. The CAP-Line 4500's all-electric clamping unit with a dry cycle time of 1.4 seconds enables extremely fast cycle times of less than 2 seconds. Thanks to the optimized barrier screw, a smaller injection unit is used. The new design ensures a higher plasticizing performance and a better degree of homogenization. Further options are available for individual optimizations, such as the four-key Smart Operation control panel or the adaptive system pressure reduction for additional energy savings. Horst Kogler, Head of Business Unit Caps and Closures, says: "With the new CAP-Line concept, we are aligning our portfolio even more closely with our customers' applications. Closure manufacturers benefit from a customized system, while pre-configuration can speed up the consultation and quotation process so that delivery times for the machine are as short as possible."

World first: 128 cavities with a cycle time of 1.9 seconds and 25% less weight

The complete system running on the Netstal booth with a 128-cavity mold from z-moulds and Intravis peripherals is identical to production systems used by the US contract manufacturer Alltrista. 26 mm tamper-evident caps for still water are produced. Thanks to an innovative design, z-moulds was able to

make the mold as small and light as a 96-cavity mold. This results in decisive advantages for closure manufacturers. Compared to previous 128-cavity molds, the z-moulds mold fits into a machine with a smaller column distance. Due to the compact design, less mass must be moved, which has a positive effect on the cycle time: running a mold with 128 cavities at a cycle time of less than 2 seconds is a world first. At around 50 square meters, the complete production system also requires very little floor space. Horst Kogler emphasizes: "Alltrista is the first in the world to produce with 128 cavities and a cycle time of 1.9 seconds. They produce more than 3.1 billion closures with two lines. More output per square meter of production area is currently not possible."

In addition, there are further cost savings and a smaller environmental footprint thanks to the low power consumption of the more efficient and smaller machine. With 128 cavities, the CAP-Line 4500 consumes around 12% less electricity than competitor machines operating with only 96 cavities. Furthermore, Alltrista was able to make the closures themselves more sustainable by reducing the weight of the closures by roughly 25% compared to previous industry benchmark, without compromising performance. Over the 3.1 billion closures per year that this program produces annually, the total amount of resin being removed from the product exceeds 930,000 kg per year. This corresponds to the weight of around 160 African Bush Elephants.

Downstream with in-line quality laboratory ensures maximum customer satisfaction

Downstream, the finished caps pass through the equipment of system partner Intravis until they are filled into octabins. The central element is the CapWatcher Q-Line, which enables a comprehensive 360° full inspection of the closures. With an accuracy in the hundredths of a millimeter range, the system checks up to 80 closures per second for more than 40 quality criteria. The cavity-related inspection is carried out with up to nine high-resolution cameras. Sophisticated and unique tests, such as the patented temperature measurement and the non-contact micro-hole inspection, lead to complete quality assurance of closure production. The high level of performance always gives the user the certainty that the closures are flawless immediately after production and that only good parts find their way to the customer.

Alltrista: Innovative contract manufacturer from South Carolina relies on Netstal

All in all, the Alltrista production system for 26mm closures is the new benchmark in terms of speed, productivity, efficiency, and sustainability. Christopher Navratil, CTO at Alltrista's parent company, says of the successful joint project: "We were determined to be the first manufacturer to run a system with 128 cavities in under 2 seconds. In Netstal, z-moulds and Intravis, we have found the best system partners for this project. Each company is a leader in its field and the combination is unbeatable. With our 128-cavity systems, we produce more efficiently than ever before, can deliver at any time, and inspire our customers. This has given us an enormous competitive advantage."

At Alltrista, two identical system solutions for cap production are currently in operation. Alltrista Plastics LLC specializes in innovative, high-volume precision manufacturing. From rigid packaging and custom molded solutions to assembly, filling, and kitting, Alltrista supports customers in the medical, healthcare and consumer goods industries with a wide range of products and services. The company's ability to assemble strong teams around projects allows it to be flexible even on the most challenging assignments. Christopher Navratil affirms: "This cap application is a testament to our innovative strength and unbridled desire to keep pushing the technological boundaries. We are proud that in this project and together with the experts from Netstal, z-moulds and Intravis, we were able to increase productivity by at least 30 percent. For us, this is a prime example of how companies from the USA can work successfully with partners from Germany, Austria and Switzerland."

Alltrista attaches great importance to continuously improving its own sustainability. The company was audited by EcoVadis in 2023 and received the silver medal for its sustainability performance to date. Alltrista ranked in the 88th percentile of all EcoVadis-rated companies, and Top 7% among its peers. Alltrista will be present at the Netstal booth during the NPE with its own staff to provide information from the customer's perspective. For detailed information on all the company's services, we also recommend a visit to stand S22065 in the South Hall, where Alltrista will be showcasing their full offering of products and services in contract manufacturing and injection molding.



Your best choice

NET_PM_NPE_CAP_IMG1.jpg

The CAP-Line system solution from Netstal offers maximum performance and efficiency on a small footprint

NET_PM_NPE_CAP_IMG2.jpg

The Netstal CAP-Line 4500 with 128-cavity mold from z-moulds produces 26 mm tamper-evident water closures at a cycle time of 1.9 seconds

Further information and pictures in print quality can be found at: www.netstal.com

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Cultivating values, creating value

Netstal stands for globally leading high-performance injection molding technology. The Netstal brand goes back to our founding site of the same name in the canton of Glarus, Switzerland. We employ over 500 people at our headquarters with production plant in Näfels and in our subsidiaries.

We offer manufacturing companies in the packaging industry, beverage industry and medical technology high-performance machines which work extremely efficiently, with absolute precision and maximum reliability. We are continuously developing these solutions and deliberately incorporating innovative technologies. Because we feel jointly responsible for ensuring that our customers produce efficiently and sustainably. That is why we are driving the development of digitalization and the circular economy with our expertise and experience. We have focused our portfolio on performance, precision, and quality. Customers can find Elios and Elion series injection molding machines with clamping forces



Your best choice

between 800 and 10,000 kN, the PET-Line preform system for up to 144 cavities, and turnkey system solutions from a single source. Our quality management is certified according to ISO 9001 and our accredited calibration laboratory meets the requirements of ISO/IEC 17025:2017.

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About Alltrista Plastics LLC

Alltrista Plastics LLC specializes in innovative, high-volume, precision manufacturing. From rigid packaging and custom molded solutions to assembly, filling, and kitting, Alltrista supports customers in the medical, healthcare, and consumer markets with a broad offering of products and services. The company's ability to rally strong teams around projects allows them to be agile with even the most demanding tasks. For more information, visit Alltrista.com.