ENGEL packaging at NPE 2012

Fit for High Performance

York, Pa. – February 2012. All-electric injection molding machines are fast gaining ground in the packaging industry in the field of high-performance and fast running applications. This is further complemented by a high degree of process integration. During the NPE 2012, ENGEL North America will demonstrate how to use these trends to increase cost efficiency and competitiveness. The NPE 2012 will take place at the Orange County Convention Center in Orlando, Florida, USA, from 1 to 5 April.

Intelligent system solutions take center stage at the ENGEL fair booth in Hall A, rather than individual machines and robots. Two manufacturing cells for the packaging industry will be displayed, demonstrating the current challenges: highest throughput rate at lowest unit costs on the one hand, and the efficient production of attractively decorated thin-walled products on the other.

Thin-walled lids for newly developed ice cream cups are produced by an all-electric ENGEL e-motion 740H/310W/180 T combi injection molding machine using two-component injection molding and in-mold-labeling (IML). Once the label is inserted into the mold, the cover is at first injected from clear polypropylene; immediately after that, a colored edge – also from polypropylene – is added in the same mold. In series production, the color varies depending on the type of ice cream; a red edge for strawberry ice cream, a yellow one for banana. "The two-component injection molding, combined with IML, allows packaging manufacturers to easily switch from one ice cream kind to another," says Walter Jungwirth, ENGEL Global Business Development Manager at the headquarters in Schwertberg/Austria. "This makes it possible to produce even small batches in a highly economical way."

The manufacturing cell is fully automated. ENGEL’s system partner H. Müller from Conthey/Switzerland is in charge of the IML robot and the mold.
All-electric and energy-saving – a champion to beat accumulator machines

For the second exhibit, the ENGEL Business Unit packaging, it's all about speed. The all-electric ENGEL e-cap 3440/460 US injection molding machine uses a 96-cavity mold, letting it produce an hourly rate of almost 130,000 HDPE caps for water bottles. It does this by operating at a cycle time of 2.7 seconds. “All-electric injection molding machines are gaining constantly in importance, above all in the field of high-performance and fast running applications,” stresses Walter Jungwirth. “Cycle times of less than 3 seconds and injection speeds of 450 mm per second can be realized.” Until now, this performance class was a domain of accumulator machines, which are energy-intensive and therefore lack future orientation.

The ENGEL e-cap is based on the tried and trusted all-electric ENGEL e-motion machines developed to address the specific needs of cap and closure production. Shaped to achieve maximal output and process stability, the all-electric injection molding machine is able to save energy and cooling water at the same time. The machine accomplishes bridging this challenging gap thanks to an all-electric drive technology in combination with an especially productive injection unit in a premium model and to a rapid clamping drive. Compared to a hydraulic machine, the ENGEL e-cap reduces energy consumption by more than 40 percent. Delivering clamping force of between 100 and 420 tons, the e-cap is available across a comprehensive range.

For the NPE, the machine is equipped with a camera and image processing system by IMDvista, Brügg/Switzerland – for 100 percent quality control. Further system partners of ENGEL for this fair exhibit are the mold manufacturer Plastisud from Castelnaudary/France and the raw material producer Borealis from Vienna/Austria.

A single source to make full use of efficiency potentials

"In the field of caps and closures, plastic material will continue to prevail," explains Jungwirth the great potential of the ENGEL e-cap line. "Also, an increasing number of new cap and
closure concepts will reach the market.” To provide maximum support to its customers in new ways as well, ENGEL has consolidated its packaging know-how and project experience in this sector in a separate division.

Throughout the world, ENGEL is a one-stop source for turn-key solutions tailored to the respective industry and the customers’ needs – from injection molding machines through to automation, mold project engineering, training and services. “Efficiency potential can be exploited only when all system components interlock perfectly”, says Mark Sankovitch, President ENGEL North America in York. In this context ENGEL is always responsible for the overall system, including areas that are implemented jointly with system partners.

**ENGEL makes the difference – at NPE 2012: Hall A, stand 943**

Highly integrated yet extremely flexible: at the NPE, an all-electric ENGEL e-motion 180 T combi injection molding machine will produce thin-walled lids for ice cream cups using two-component injection molding and in-mold-labeling (IML). (Fig.: ENGEL)
The manufacturing cell is fully automated. ENGEL presents this exhibit in cooperation with its system partner H. Müller. (Fig.: Müller/Michel Martinez Sion)

Attractive product packaging in a single manufacturing step: two-component injection molding combined with IML makes it possible. (Fig.: ENGEL)
Geared toward maximum output and highest process stability, the all-electric ENGEL e-cap machines are increasingly replacing energy-intensive battery-powered machines in the field of high-performance and fast running applications. (Fig.: ENGEL)

At the NPE, the ENGEL e-cap produces almost 130,000 caps an hour. The machine in Orlando operates at a cycle time of 2.7 seconds. (Fig.: ENGEL)
**ENGEL North America**
From facilities in the United States, Canada and Mexico, ENGEL North America provides its customers a single source for design and manufacture of injection molding machines for thermoplastics and elastomers, a full range of plastics processing technology modules and a full scope of automation solutions. With eight production plants in Europe, North America and Asia (China, Korea), subsidiaries in 17 countries and representatives in over 70 countries, the ENGEL group provides its customers the global support they need to compete and succeed with new technologies and leading-edge production systems. For more information, visit www.engelglobal.com/na.

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