

Press Release 02/2024

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Anniversary Appearance for BOY Machines Inc. at NPE, Orlando

Boy Machines, Inc. (BMI), the sister company of the German machine manufacturer Dr. Boy GmbH & Co. KG, will be participating in the NPE Show in Orlando, Florida (May 6th - 10th, 2024). This year marks the fiftieth anniversary of BOY Machines, Inc., based in Exton, Pennsylvania. The company will be showcasing a total of six injection molding machines at the exhibition. You are cordially invited to visit Booth W2101, located at the entrance of the West Hall.

The central themes of the NPE 2024 include digitization, automation, and the growing interconnectedness of the plastics industry. BOY will be presenting a range of innovative technologies and exciting developments. New to BOY is the Procan ALPHA® 6 control system. Featuring a 16:9 screen format, the control system is equipped with additional features, new visualization, and symbolism. The current Procan ALPHA® 4 will be gradually replaced by the Procan ALPHA® 6 control system.

BOY's E-series injection molding machines are highly energy-efficient, actively contributing to environmental conservation. They enable significant energy savings compared to machines utilizing older technologies, thus reducing CO₂ Emissions.

Additionally, BOY will be showcasing its in-house development of a new cooling water distribution system, which will become standard on all injection molding machines in the future. The set flow rate is digitally recorded and displayed on the machine's screen. The

preset target quantities and tolerances are visualized, monitored, and recorded in the process data. Optionally, this can also be implemented for the return temperature. Another innovation in the electromechanical ejector, enabling motion independent of hydraulics. The electromechanical variant offers a synchronized motion operating mode. Two operating modes are possible; the movement can be coupled with BOY Handling LR5 gripper hand, or synchronized inversely to the opening stroke of the mold when used without handling. This ensures that the molded part experiences no horizontal acceleration during extraction from the mold.

BOY offers an application-technically unique hybrid for its injection molding with the electromechanical injection unit (ESP). A benefit of the electromechanically driven unit is the possibility of simultaneous operation without the use of a double pump. The servo motor drive for injection and retraction of the screw operates independently of the machine hydraulics, which is particularly advantageous for short cycle times and high dosing quantities.

Furthermore, BOY will introduce a manufacturing cell developed based on LR5. This demonstrates the versatility of the BOY LR5. In collaboration with a BOY 35E-VV overmolding machine, an additional input terminal, the LR5 handling device, and another assembly automation, metal insert parts are overmolded into T-shaped handles, removed from the mold by the LR5, and fed to an assembly automation. There, the four bits individually selected by the visitor are inserted into the plastic handle. Subsequently, the assembled set are placed by the LR5 onto a conveyor belt, and the visitor received a self-configured set of tools. Should you have any questions or require further information, please do not hesitate to contact us. We look forward to welcoming you at the BOY booth during the NPE Show.

Solution with Modular System

Additionally, at the trade fair, an Operational Data Acquisition System (ODA) will be demonstrated. It will be connected to all exhibited BOY machines.

Operational Data Acquisition (ODA) with EUROMAP 77/87 is the interface between the injection molding machine and the Manufacturing Execution System (MES). It covers three central functional areas; production planning and control, quality control, and operating cost controlling. The ODA system software from ProSeS BDE GmbH accesses the internal machine control BOY Procan ALPHA® 6.

Machine settings, operating parameters, and production data such as injection quantities, temperatures, pressures, etc., can be captured and reused. This data can be queried via the machine's network interface and used for the desired ODA functional fields.

PDA connection optionally available

A PDA (Personal Digital Assistant) is an electronic handled device, i.e., a connection to a tablet / mobile phone via the BOY APP. BOY has included the interface option in its sales program, namely in the form of an interface kit, consisting of:

- RS232/RS485 (Temperature control units, dryers)
- Network/Ethernet/WLAN (FTP, OPC-UA, EM77 for MES, EM82.1 for temperature) inclusive license fees for the OPC-UA interface EM77/83 and EM82.1

“With ProSeS, we have a strong partner by our side, with whom all the wishes of our users regarding operational data acquisition and quality control can be realized,” says Thomas Kühr, Head of BOY Electrical Design. He adds, “The ability to access a BOY injection molding machine from anywhere, around the clock, during ongoing production, is particularly advantageous for employees in a two-or three-shift operation. However, this access is not limited to machine operators alone. Other departments such as production planning, purchasing, costing, etc., directly benefit from the data of the ODA system.”

The exhibited machines provide a good overview of the entire BOY product range.

- The new BOY XS E with efficient servo drive and patented control Procan ALPHA® 6 shows the processing of liquid silicone bottle caps. In cooperation with partners Nexus Elastomer Systems Inc., KIPE Molds, and Shi-Etsu.
- A BOY 35E-VV is shown with a sliding table in dry run and is intended for tool loading during process downtimes.
- Another BOY 35E-VV shows an automation cell in connection with an insert molding application, producing T-handles with different bits.
- The BOY 60E hybrid with electromechanical drive units for injection, dosing, and ejection injects closure caps for reusable lids, which are produced in parallel on a BOY 125E.
- The BOY 125E, the largest yet very compact injection molding machine from BOY with an installation area of only 5.22 m², produces reusable lids in ongoing operation.

Mrs. Helga Schiffer, shareholder (and chairman of the board at BMI), as well as Dr. Patrick Messer, head of application technology, will be present in Orlando on behalf of Dr. Boy GmbH & Co. KG, as well as Marko Koorneef, President, and his entire sales team from BMI.

Company profile

Dr. Boy GmbH & Co. KG is one of the leading worldwide manufacturers of injection moulding machines with clamping forces up to 1,250 kN. The very compact, durable machines work precisely, energy-saving and thus highly economically. With innovative concepts and solutions, BOY has proved itself again and again as a trendsetter. Automation, digitalisation as well as sustainability and CO₂ savings are particularly in focus. Since the company was founded in 1968 more than 50,000 Injection Moulding Machines have been delivered worldwide. The privately-owned company continues to put special emphasis on engineered performance and high-class "made in Germany" workmanship.

For further information visit <http://www.dr-boy.de/>



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