

PRESS RELEASE

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7.647 Characters

Molding Solutions at K Show

Networking for Sustainable Production: männer®, FOBOHA®, Synventive®, Thermoplay®, Priamus®, and Gammaflux® in Hall 1, Booth C 50

"Share and Bundle" is the theme for the K Show in October. Convinced that the global challenge of more sustainable production can only be solved by working together, Molding Solutions – a business within Barnes – is bundling its expertise with partners and will be represented with its mold and hot runner technology and controls at the booths of Arburg, Netstal, Yushin, Fanuc, and KraussMaffei.

Digital Watermark Technology

At its own booth in Hall 1, the Molding Solutions network will show how digitization is helping to simplify recycling of packaging materials. Packaging made of a certified bio-based material is given a digital watermark so that recycling centers can automate the separation of these digitally marked products in the waste stream. The mold inserts were laser engraved to apply the digital watermark onto the mold, which then applies it to the part when molded. A special camera detects the watermarks in the plastic part. By scanning the product with a digital watermark app, consumers can access a digital product passport with recycling-relevant information.

Barnes Connectia™ Cloud & moldMIND®

moldMIND, the "digital cockpit" of the injection mold, is a recording system that documents relevant process data and events of an injection mold in real-time throughout the entire life cycle of the mold. The intelligent monitoring system detects problems quickly to minimize downtime. The data can be accessed directly on the device or in the Barnes Connectia Cloud, which will celebrate its premiere at the K Show.

Focus on hot runner process control at Synventive

Synventive will showcase a new electric valve gate. Synventive's new compact eGate™ Sync will complement the legacy eGate system. The cost-effective eGate Sync impresses with its plug-and-play installation and simple user interface. Quality is improved by increasing shot-to-shot consistency - all with significant energy savings compared to hydraulic systems.

hotrunner.shop - 3D data within minutes

With the new hot runner configurator, 3D data of 2-, 4-, or 8-drop hot runner systems with top-selling nozzles from männer and Synventive can be created within minutes. The step-by-step configuration can draw on a material database of more than 12,000 resins. Customers generate customized 3D data easily and quickly through the application check, which includes a follow up



with an application engineer for applications outside of guidelines. männer and Synventive's configurators are available today, while Thermoplay's is expected to soon follow.

New and proven hot runner and control technology for multi-cavity applications

männer is expanding its PACKAGING and SLIMLINE product range with additional valve gate nozzles. The PACKAGING range for high-speed molds is complemented by the "MCN-EP," with a small diameter and permanently centered valve gate pin. The design of the nozzle tip facilitates high-precision gating and enables the correction of tip protrusion without reworking (patent pending). Like the proven MCN 8 and MCN 6.5, the new MCN 5 valve gate nozzle from the SLIMLINE series is ideal for tight installation conditions in high-cavity molds. männer has not only the nozzle in mind, but also the optimization of the manifold. A 3D printed manifold designed using artificial intelligence is used to show how the design of flow bore helps a non-symmetrical 6-drop hot runner system achieve perfect balancing.

Thermoplay has added two nozzles to its "TFS" series – the open nozzle series for side injection – for larger part volumes. Additional Thermoplay innovation is aimed at special applications. For example, Thermoplay has created nozzles for a 45° gate to produce conical parts as well as multi-tip nozzles for small parts that are gated with several gating points. Thermoplay sees 3D printing as an option for fast delivery times and is introducing a new multi-nozzle with an additively manufactured collar.

Gammaflux rounds off the portfolio with its proven hot runner temperature control technology. With its in-house TRIANGULATED CONTROL TECHNOLOGY® and up to 192 zones, the G24 is the top seller among temperature controllers on the market.

Processing PCR and biomaterials with digital intelligence

Adding digital intelligence to high-precision mechanics is a high priority for Molding Solutions. When processing new PCR and biomaterials, injection molders struggle with material fluctuations, which makes process-reliable production difficult. The FILLCONTROL process monitoring system from Priamus identifies and corrects material fluctuations that contribute to decreased quality through dynamic process control by adjusting the manipulated variables of pressure and temperature signals.

External exhibition

The Molding Solutions network will display an additional five molds and several hot runner systems, as well as temperature controllers and process control systems at partner booths.

Closed loop recycling

KraussMaffei will demonstrate how material can run through several product life cycles in the future at its booth in Hall 15. Medical consumables are produced from PP in männer's 96-cavity mold, after which the material is granulated and fed to the production of automotive parts, also at the KraussMaffei booth.

Diagnostics Accelerated

Pipette tips are manufactured and removed under this specification at Netstal in Hall 15. The turnkey system consists of a 64-cavity pipette tip mold with hot runner from männer, a Netstal Elion 2800-870, and high-speed automation from MA - micro automation. The network of experts show that the close integration and coordination with product specialists can make it easy for customers to configure a high-performance production cell with a clear ROI.



High-speed production with lateral removal

At its booth in Hall 11, Yushin will rely entirely on lateral demolding robots. Blister packs are produced in a 16-cavity männer mold and removed laterally, in a Netstal Elion 800. Thanks to the cycle time-optimized männer mold, the performance of the Netstal injection molding machine and the high-speed robot from Yushin, cycle time can be reduced by up to 3.5 seconds.

Balancing and energy efficiency optimization

The development of FOBOHA's 48-cavity mold was the result of focused efforts to produce the best design of a high-cavity hot runner system in terms of balancing and energy efficiency. Each cavity has been equipped with a Priamus sensor to offer complete system monitoring and optimized use of the Priamus process control system. The 48 molded parts will be removed by a robot equipped with grippers from Gimatic, Molding Solutions' affiliated business within Barnes. This mold will run at Fanuc's booth in Hall 14.

CITI Technology

CITI stands for "Cube Inclusive Turning Inserts" – a technology patented by FOBOHA that is particularly suitable for producing multi-component parts, where the second material is desired on both sides of the basic body. A 3-component functional part is produced in an 8+8+8 cavity cube mold, where a frame of PP is first injected into the moving nozzle side. After a 2 x 90-degree rotation of the cube, the component is sealed with TPE on both sides of the fixed nozzle side and a functional element made of POM is molded on the part.

The Molding Solutions network will showcase molds from männer and FOBOHA, hot runner technology from männer, Synventive, and Thermoplay, temperature controllers from Gammaflux, and process control systems from Priamus at the K Show in Hall 1, Booth C 50.



Figures

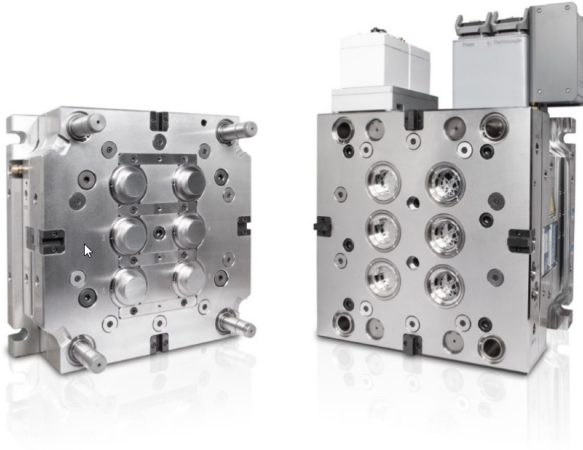


Fig. 1
Digital Watermark Technology: 6-cavity FOBOHA mold with laser engraved inserts to apply the digital watermark

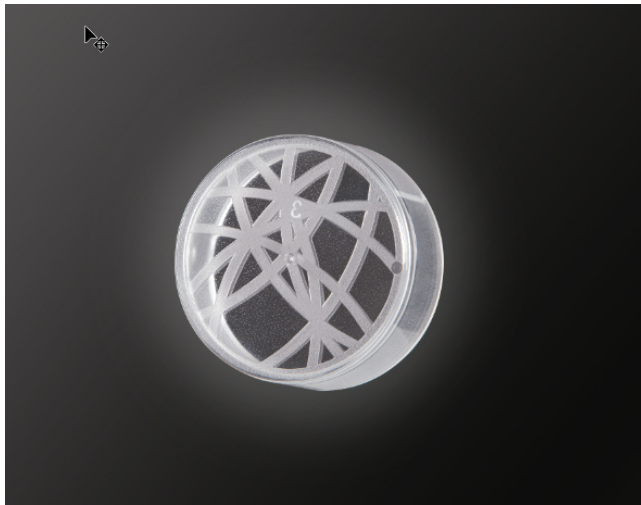


Fig. 2
Digital Watermark Technology: Closure with digital watermark

About Molding Solutions

Molding Solutions is a strategic business unit within Barnes, which includes leading plastic injection molding brands for tooling, hot runners, and controls: Synventive®, Thermoplay®, männer®, FOBOHA®, Priamus®, and Gammaflux®. Molding Solutions' comprehensive portfolio of advanced technologies and value-added services delivers best-in-class solutions where demanding specifications are required by global customers across a broad spectrum of applications.

For more information, please visit www.onebarnes.com.

About Barnes

Barnes Group Inc. (NYSE: B) pioneers technologies to help change the world. Leveraging world-class manufacturing capabilities and market-leading engineering, we develop advanced processes, automation solutions and applied technologies for industries ranging from medical and personal care to mobility, packaging and aerospace. Customers benefit from our integrated hardware and software capabilities focused on improving the processing, control, service and sustainability of engineered plastics, factory automation technologies and precision components.

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