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PRESS RELEASE

WITTMANN BATTENFELD at the Fakuma in Friedrichshafen

WITTMANN BATTENFELD at the Fakuma 2024 with top-performance energy-efficient injection molding technology

At the Fakuma from 15 to 19 October, WITTMANN BATTENFELD will present to its visitors high-performance injection molding technology with minimal energy consumption at booth No. 1204 in hall B1 under the motto of "Performance & Efficiency". The presentation's main focus lies on the SmartPower Combimould machine model with an electric injection unit.

At this year's Fakuma, WITTMANN BATTENFELD will present to its visitors a selection of machines of unrivalled energy efficiency combined with excellent performance. In addition to all-electric machine models from the EcoPower and MicroPower series, a servo-hydraulic SmartPower with an electric injection aggregate will be shown for the first time as well.

Electric injection aggregate for even more powerful performance and energy efficiency

With the optional electric injection unit, the machine combines the advantages of the servo-hydraulic SmartPower's generous mold space with those of the all-electric EcoPower to provide highly dynamic regulation with maximum shot-by-shot reproducibility.

At the Fakuma, this powerful machine will be shown in the Combimould version. On a **SmartPower B8X 120/350H/130S** with an electric injection unit, the production of a bottle opener made of PC and TPE will be demonstrated, using a mold supplied by FKT Formenbau und Kunststofftechnik, Germany. The **SmartPower B8X 120/350H/130S** comes as a compact Insider solution with a W918 robot from WITTMANN and a conveyor belt integrated in the work cell. The robot inserts the metal parts fed from a magazine into the mold, where they are over-molded with polycarbonate. The resulting base body is subsequently passed on to the second station by a rotary unit and there over-molded with TPE, to give it a better grip. The

finished parts are then deposited on the conveyor belt of the Insider cell.

Added efficiency by using direct current in the injection molding process

In addition, WITTMANN BATTENFELD will present at the Fakuma the next step in the **use of DC energy** as power source for injection molding systems. While only the machine and the robot were shown last year operating with direct current, it has now also become possible for the WITTMANN temperature controller to draw its energy from the machine's DC intermediate circuit. Further DC-compatible auxiliary appliances are in planning.

On an **EcoPower B8X 180/750 DC** Insider cell with an integrated WX142 robot in DC version from WITTMANN and also a DC-compatible Tempro plus D temperature controller, the housing of a plug-in connector for DC technology will be manufactured using a 2-cavity mold supplied by HARTING, Germany.

A finished connector of this type made by HARTING is built into the machine and used to connect the Tempro plus DC appliance to it. This component is a product from HARTING's Han® Lock & Light range of active connectors, which are able to connect flexibly and safely built-in and auxiliary appliances powered via the machine by DC voltage (600 – 750 V). An integrated and electronically controlled locking device ensures that the connector can only be disconnected after the machine's control system has signaled to it that the voltage from which it draws its power supply has been switched off. An additional lighting element on its base serves as a visual status indicator.

Where previously fixed wiring was usually required for safety reasons, a proven plug-in connection is now used instead – thus providing more flexibility for the appliances to be connected. Han® Lock & Light is currently going through the evaluation stage. The application of the HARTING plug-in connector solution shown at the fair demonstrates impressively how the temperature controller connected by it can be exchanged fast and flexibly without sizeable downtimes.

To supply the system with power, ultra-modern ecological salt battery technology on sodium-nickel basis from innovenergy will be used. The battery has a total capacity of over 45 kWh, more than sufficient for uninterrupted machine operation throughout an entire 8-hour trade fair day. In addition, electro-chemical capacitors, known as supercaps, will be used to complement the sodium-nickel storage units by balancing out short-term load peaks. Both the robot and the temperature controller will be powered directly via the EcoPower's DC voltage interim circuit. The injection molding machine as well as the robot will also return any excess deceleration energy from the axes to the interim circuit.

EcoPower B8X – high dynamism with low energy consumption

At the Fakuma 2024, WITTMANN BATTENFELD will also demonstrate the high performance of its energy-efficient EcoPower B8X by producing darts tips made of POM, using a 32-cavity mold supplied by Hasco, Austria, on an **EcoPower B8X 110/525.** The mold is equipped with a pneumatic needle shut-off nozzle. The parts will be removed by a WITTMANN robot and subsequently fed to a tubular bag system supplied by Ravizza Packaging, Italy, for packaging.

The machine's high dynamism is achieved by optimizing the toggle system in the new EcoPower B8X together with a further acceleration of the injection units' top speed. The encapsulated system filled with gear oil and a separate oil compartment for the drive unit and ball screw drive enable an increase in energy efficiency with a simultaneous reduction of wear. Added to this is the higher clock frequency of the machine's Unilog B8X control system developed in-house to enhance both the machine's precision and speed.

Efficient production of nano structures with new technology

Finally, the company will also present at the Fakuma its capacities in the field of **micro injection molding.** The MicroPower, designed for injection-molding micro and nano parts, comes with a two-step screw-and-piston injection aggregate able to inject thermally homogeneous melt with shot volumes ranging from 1.2 to 6 cm^3. This makes it possible to manufacture parts of outstanding precision in a maximally stable production process with minimal cycle times.

At the Fakuma, WITTMANN BATTENFELD will demonstrate the production of demo tiles measuring 8.5 by 8.5 mm, on which a world map showing the locations of the WITTMANN production sites is depicted, using a **MicroPower 15/10.** This is done with a 4-cavity mold with nano structures produced by 3D-printing and supplied by NanoVoxell, Austria. The main advantage of this new technology is the ability to produce minute structures within a short time and at low cost.

Silicone machine on a third-party booth

At the booth No. A6-6222 of Nexus Elastomer Dosing & Nexus Elastomer Molds (Austria), liquid silicone processing will be shown using an **EcoPower B8X 110/350 LIM**. With an 8-cavity series production mold, equipped with a NEXUS "Timeshot"

needle shut-off system, piston stoppers for disposable syringes will be produced from LSR and subsequently assembled fully automatically.

This application will also serve to demonstrate a central conveyor system for liquid silicone. Here, a Nexus Servomix X200 dosing system will handle the central LSR supply. A Servomix X1 booster unit will transport the liquid silicone from the main supply line to the injection molding machine.

Fig. 1: SmartPower B8X 120/350H/130S with electric injection unit

Fig. 2: Bottle openers made of PC and TPE

Fig 3: Tempro plus DC temperature controller capable of integration into a DC grid

Fig. 4: Salt battery on sodium-nickel basis from innovenergy

Fig. 5: Plug-in connector from Harting (photo: Harting)

Fig. 6: Highly dynamic EcoPower B8X 110/525

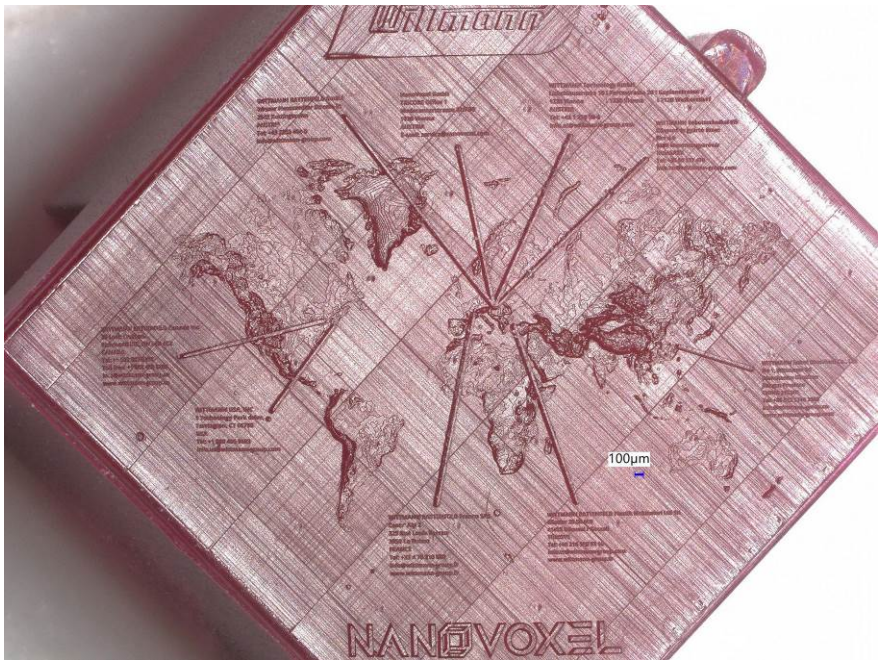

Fig. 7: Demo tiles 8.5 x 8.5 mm with nano structures – world map showing locations of WITTMANN production plants (photo: NanoVoxel)

The WITTMANN Group

The WITTMANN Group is a globally leading manufacturer of injection molding machines, robots and auxiliary equipment for processing a great variety of plasticizable materials – both plastic and non-plastic. The group of companies has its headquarters in Vienna, Austria and consists of two main divisions: WITTMANN BATTENFELD and WITTMANN. Following the principles of environmental protection, conservation of resources and circular economy, the WITTMANN Group engages in state-of-the-art process technology for maximum energy efficiency in injection molding, and in processing standard materials and materials with a high content of recyclates and renewable raw materials. The products of the WITTMANN Group are designed for horizontal and vertical integration into a Smart Factory and can be interlinked to form an intelligent production cell.

The companies of the group jointly operate ten production plants in six countries, and the additional sales companies at their 35 different locations are present in all major industrial markets around the world.

WITTMANN BATTENFELD pursues the continued strengthening of its market position as a manufacturer of injection molding machines and supplier of comprehensive modern machine technology in modular design. The product range of WITTMANN includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, temperature controllers and chillers. The combination of the individual areas under the umbrella of the WITTMANN Group enables perfect integration – to the advantage of injection molding processors with an increasing demand for seamless interlocking of processing machines, automation and auxiliaries.

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