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PRESS RELEASE

WITTMANN BATTENFELD Spain at the Equiplast in Barcelona

WITTMANN BATTENFELD with sustainable technologies at the Equiplast

From May 30 to June 2, WITTMANN BATTENFELD Spain will present latest energy-efficient injection molding and process technology to trade visitors at the Equiplast 2023 in Barcelona, in hall 3, booth No. 49.

The Equiplast in Spain is the most important plastics fair in Spain and a platform for manufacturers from across Europe and the American continent to showcase their products and exchange views and information. WITTMANN BATTENFELD Spain will use this platform to present the state-of-the-art technologies of the WITTMANN Group to a broad professional audience.

At this year's Equiplast, the main focus of the four exhibits from their range of machinery will be on the energy efficiency of this equipment and the opportunities to manufacture sustainable products by using ultra-modern process technology.

Combined process using Combimould and Cellmould

WITTMANN BATTENFELD will demonstrate the simultaneous use of two different process technologies, i.e. Combimould multi-component technology together with Cellmould structured foam technology, to produce a re-usable, 3-component coffee-to-go cup.

In this application, a cup with a lid made of Bornewables™ from Borealis is manufactured on a servo-hydraulic SmartPower 400/750H/210S/525L Combimould with a rotary unit and a mold supplied by HAIDLMAIR, Austria. The Bornewables™ material made of renewable raw materials (i.e., non-petroleum-based feedstock) is food- and dishwasher-safe. The feedstock for making Borealis Bornewables™ originates from bio-mass, waste and residual substances of the second generation, which are not in competition with the human food chain. The mold from HAIDLMAIR

is laid out optimally for processing Bornewables™ material. A special feature of this mold is the use of hybrid elements in the mold plate to optimize cooling.

The cup produced in clear optic in the first cavity is over-molded in the second cavity with a shell and provided with an additional insulating effect by foaming the melt with Cellmould technology. The lid for the cup is injection-molded in an adjacent cavity. It consists of the same material as the main body, but can be individually colored thanks to the special mold technology. The parts are removed and deposited on a conveyor belt by a WX142 robot, then passed on to a flow wrapping machine and packaged. The packaging material used in this instance also comes from the Bornewables™ product family from Borealis.

Injection compression molding with the high-speed EcoPower Xpress

WITTMANN BATTENFELD will present the ICM (injection compression molding) process on a high-speed EcoPower Xpress 160/1100+. With a 4-cavity mold supplied by GLAROFORM, Switzerland, a 230 ml cup made of polypropylene from SABIC, the Netherlands, with a wall thickness of 0.28 mm will be produced within a short cycle time. Thanks to the highly dynamic drive technology of the high-speed EcoPower Xpress, especially the short injection times required for the ICM process can be realized. The machine is equipped with a 4-fold IML system supplied by BECK Automation, Switzerland. This system stands out by its high speed and compact design. One of its special functions is automatic positioning of all four labels. Regardless of its position inside the magazine, every label is invariably placed into exactly the same position on the IML core. This reduces both reject rates and operating effort, since manual adjustment of the label magazines is no longer necessary. Quality inspection of the cups decorated with IML labels supplied by Verstraete, Belgium, will be carried out by a vision system with 10 cameras integrated in the production line, which comes from INTRAVIS, Germany.

Another specialty in this application are the IML labels supplied by MCC Verstraete, Belgium. These labels running under the name of NextCycle IML™ at MCC Verstraete detach themselves automatically from the PP carrier material during regrinding. In the subsequent washing and drying process, the lighter components, i.e., the NextCycle IML™ label flakes, are separated from the heavier carrier material, so that only the pure PP container flakes are extruded. Since NextCycle IML™ packaging products consist of mono PP material, no material losses during the sorting process nor any pollution of other material waste streams occur.

Quality assurance with HiQ software

On an EcoPower 110/350 equipped with the new B8X control system, a bio building block made of Fasal will be produced using an 8-cavity mold supplied by Bioblo, Austria. This raw material is a compound made by Fasal Wood GmbH, Austria, from wood flour and post-industrial polypropylene supplied by Borealis, Austria. The equipment is designed as an Insider cell, which has a W918 robot and an S-Max 3 screenless granulator from WITTMANN, a conveyor belt and also the protective housing all integrated in the production system. The molded parts and the sprue are removed by the W918 robot, and the sprue is passed on directly to the granulator, where it is ground and then returned to the process. The finished parts are deposited on the integrated conveyor belt, transported to a flow wrapping machine and packaged. The tubular packaging bags are made of the Bornewables™ FB4370 material from Borealis.

To ensure top quality for the parts, the software packages HiQ Metering for active closing of the check valve and HiQ Melt for measuring the MFI are used in addition to HiQ Flow. The resulting MFR (melt flow rate) is an indicator of the material's flow attributes.

Liquid silicone processing

WITTMANN BATTENFELD will demonstrate its expertise in liquid silicone processing on a machine from the servo-hydraulic SmartPower series. With a servo-hydraulic SmartPower 120/350 LIM, four different closing caps for beverage cans and bottles will be produced from liquid silicone in a single injection-molding process, using a 4-cavity mold from Nexus, Austria. The open design of the SmartPower's injection unit enables easy integration of the LSR metering unit. Die Nexus X200 metering unit comes with a new Servomix dosing system and is connected with the machine's B8 control system via Euromap 82.3 OPC-UA integration. In the mold, latest cold-runner technology with FLOWSET needle shut-off regulation is used. The parts are removed by a WITTMANN W918 robot and packaged by a flow wrapping machine.

Automation and auxiliaries

In addition to the robots and auxiliary appliances connected to the machines on display, numerous robots and auxiliaries from WITTMANN will also be shown as stand-alone solutions at the Equiplast in Barcelona.

In the area of automation, WITTMANN BATTENFELD Spain will showcase a range of new robot models with R9 control systems plus robots from the WX series, the ultra-high-speed Sonic robot, as well as several models from the low-cost Primus series and the WP 80 high-precision sprue picker.

The function of the high-speed Sonic robot will be demonstrated by playing chess with a Sonic 143. This robot comes with an A/C-Servo-combination axis and an L-shaped gripper equipped with two separate magnetic gripping units to handle the chess pieces. The second of these grippers is used whenever a chess piece is captured, that is, must be replaced by another on a certain field. The chess pieces themselves are produced on a 3D printer and have a metal core, so that they can be handled by a magnetic gripper. The robot, gripper system and chess software are all controlled by the latest WITTMANN R9 robot control system. Thanks to its open program interface, this system allows the integration of an open-source chess software. The Sonic 143 has the option of playing either against itself or against a challenger from among the trade fair visitors. At the WITTMANN booth, all visitors are offered the opportunity to compete against the Sonic 143 in a fast chess game with 3 min playing time, where they can enter their moves via a virtual chess board shown on the display of the WITTMANN R9 TeachBox.

In addition, WITTMANN BATTENFELD Spain will present to visitors to the Equiplast a wide range of WITTMANN auxiliary appliances. These will include a WITTMANN central material loading system with Feedmax plus, material loaders featuring an automatic 2-step filtering system, material dryers from the Primus series, several Gravimax 14 gravimetric blenders and the volumetric blender models Dosimax basic, Dosimax balance and Dosimax MC 12. The range of exhibits will be completed with temperature controllers from the Tempro plus and Tempro basic series, as well as granulators from the G-Max series and screenless granulators from the S-Max series.

Fig. 1: SmartPower in 3-component version equipped with Cellmould technology

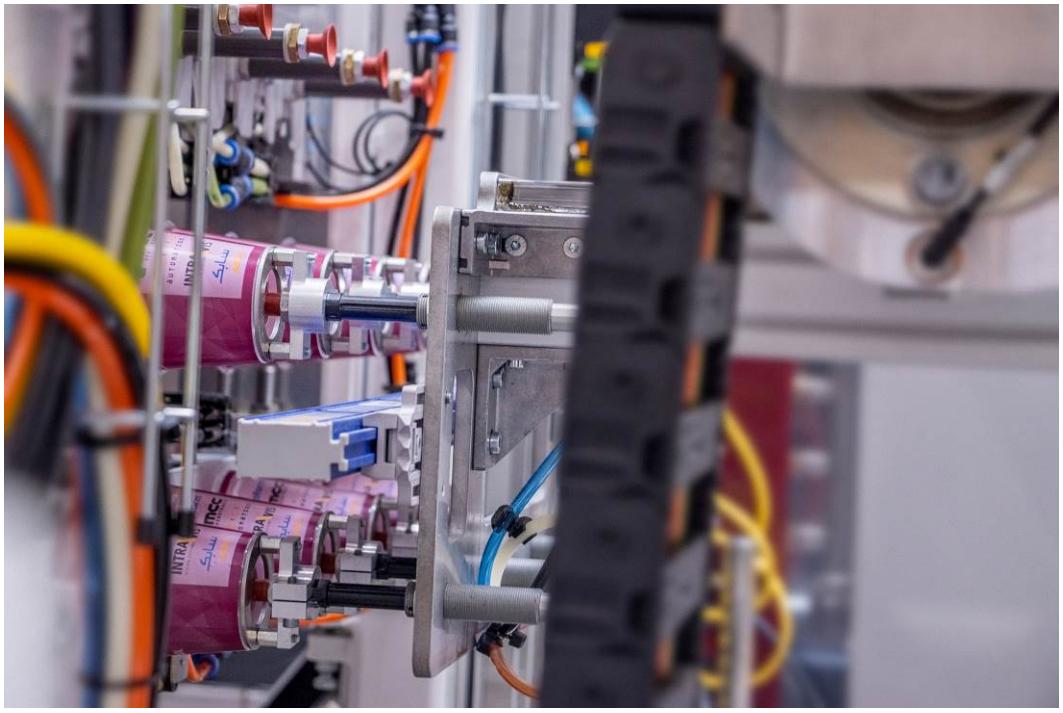

Fig. 2: Removal of the thin-walled cups produced by the ICM process using the BECK parts removal gripper

Fig. 3: Bioblo building blocks from Fasal (Photo: Bioblo)

Fig. 4: SmartPower 120/350 LSR with Nexus X200 dosing unit

Fig. 5: Sonic 143 robot at the chess board

Fig. 6: Gravimetric dosing unit Gravimax 14

Fig. 7: Tempro plus D temperature controller

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 36 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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