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PRESS RELEASE

WITTMANN at the Plast Eurasia 2023 in Istanbul

The WITTMANN Group with energy-efficient and sustainable technologies at the Plast Eurasia

From November 22 to 25, 2023, the WITTMANN Group will present to visitors at the Plast Eurasia in Istanbul ultra-modern injection molding technologies, high-tech automation and state-of-the-art auxiliaries at its booth No. 823 in hall 8.

With over 1,000 exhibitors from more than 40 countries, the Plast Eurasia ranks among the world's largest plastics trade fairs. The WITTMANN Group, too, has been exhibiting at this fair for many years jointly with its local subsidiary, WITTMANN BATTENFELD Plastik Makineleri Ltd. Sti.

At the Plast Eurasia 2023, WITTMANN will show two interesting applications in the area of injection molding machinery.

On a machine from the all-electric EcoPower series, an **EcoPower 110/350** equipped with the new B8X control system, processing of an alternative material including inline recycling will be demonstrated. A bio building block made of Fasal will be produced with an 8-cavity mold supplied by Bioblo, Austria. The 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.

To ensure top quality for the parts, the HiQ Flow application software package for multimodal compensation of viscosity fluctuations will be combined with the software packages HiQ Metering for active closing of the check valve, as well as HiQ Melt for monitoring the MFI. The resulting MFR (melt flow rate) reveals the material's flowability.

The second machine to be presented at the Plast Eurasia will be a model from the servo-hydraulic SmartPower series. On a SmartPower **120/350 LIM**, an optical lens for motor vehicle headlamps, known as SMARTlens, will be manufactured with a single-cavity mold supplied by the Austrian company Elmet, made of DOW Corning MS-5002, an injectable 2-component silicone, for Adaptive Driving Beam (ADB). This material was specially developed for highly transparent optical applications. The lens weighs just 10.38 grams. The mold comes with ventilation and overflow mechanisms for smooth production and maximum performance. What is more, SIGMASOFT mold flow technology is used for mold analysis, which enables a preliminary simulation, to shorten the design and sampling phase. In preparation, the simulation software has been used in designing the mold. The dosing pump, which also comes from Elmet, is a SMARTmix TOP 7000 pro, the latest model. With a footprint of only 1,150 x 790 mm, it features the lowest space requirements of all dosing systems suitable for 200 liter barrels currently on the market. This also reduces the quantity of LSR present inside the system, which, in turn, increases process reliability and reduces the rinsing volume.

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 Plast Eurasia.

The low energy consumption of the WITTMANN robot series will be demonstrated at the Plast Eurasia by an interactive showpiece known as the **ErgoRobot**. This application consists of a robot and a bike used as an ergometer. The trade fair visitor serves as the "power source". While riding the bike he sets the robot in motion. The robot used in this case is a Primus 14 in the standard version with an R8 control system, an appliance normally used for pick & place applications on machines with clamping forces ranging from 50 to 150 t. The moving bike pedals drive via force transmission a servo motor mounted on the rear wheel. In the ErgoRobot application, this motor functions as the robot's power supply. The electricity generated by the motor is transmitted to the robot and sets it in motion.

To enable the Primus 14 to move at 100% of its top speed, the bike rider must generate about 150 watts of power. This is roughly the power required by an average refrigerator with freezer compartment to suit a four-person household. If more power is generated on the bike, the surplus is used to light two floor lamps placed next to it. The brightness of the lamps then depends on the amount of additional power supplied.

In addition to this application, a Sonic 108 high-speed robot will be showcased, together with two W918 robots and a WX142 robot, which stands out, for example, by its compact rotary axes, as well as a Primus 48T. The Sonic 108 is designed for use on small injection molding machines from 50 t clamping force upwards. In contrast to the larger appliances from the Sonic series, the Sonic 108 comes with a fixed demolding axis, which has proved of great advantage with small injection molding machine models.

In the area of injection molding auxiliaries, the company will exhibit an extensive range of appliances.

For drying plastics granulates, a Drymax 300 dry air generator will be showcased, in combination with a Silmax 300 drying hopper – equipped with an automatic motor-driven SmartFlow air control valve as standard. From the of the full range of mobile dryer models on display, such as Drymax primus 30 and Drymax plus 60, Aton primus 120, and the compressed air dryers Card primus 10 and Card 10E, visitors will be able to familiarize themselves with the easy operation of this equipment.

Various appliances from the Feedmax series will be shown as tangible evidence of the WITTMANN Group's expertise in materials handling technology. The exhibits include the central loaders Feedmax basic and Feedmax plus for smaller and medium-sized materials handling systems, plus the Feedmax B for complete systems and high material throughputs. To cover short transport distances, the Feedmax S3 standalone loader will be presented. In addition, the new Feedmax Clean 208 loader will be exhibited. In developing this loader, particular attention has been paid to recycled plastic materials. By way of a special flow concept based on the cyclone effect, combined with material circulation, it has become possible to maximize the extraction of dust particles throughout the entire conveyor cycle. By this method, a separation rate of up to 80% (for particles < 1,000 µm) has thus already been achieved within a single conveyor cycle. In conventional material loaders, the maximum separation rate is not more than 10%, due to the lack of a continuous dust extraction process by means of a vortex chamber system.

The extensive portfolio of auxiliary appliances is rounded off with a gravimetric blender, the Gravimax 14, a Dosimax volumetric blender and an RFID-monitored Codemax coupling station.

Finally, the range of temperature controllers on display will constitute a significant cross-section of the extensive portfolio, illustrating the company's ability to cover virtually all possible applications in injection molding processes. Starting with the plug&play basic series, which meets the requirements for indirect cooling with Tempro basic C140, and for direct cooling with Tempro basic C120.

Technically demanding applications are completely provided for by the Tempro plus D series. Here, special emphasis should be placed on the extensive standard equipment of this series, which is complemented by further options in line with market demands, such as a choice of different pump models. Particularly noteworthy in this context are the speed-controlled EcoDrive pumps, which contribute to keeping the process running smoothly by their choice of possible control parameters, such as flow rate, pump speed, pump pressure and delta T. The frequency-controlled pumps belong to the energy efficiency class IE4. By using these pumps, energy savings of up to 50% are possible, depending on the application. All appliances of the Tempro plus D series are also able to communicate with the injection molding machines via OPC-UA.



Fig. 1: EcoPower 110/350 B8X designed as an Insider cell with an S-Max 3 screenless granulator



Fig. 2: SmartPower 120/350 LIM with Elmet mold and dosing pump

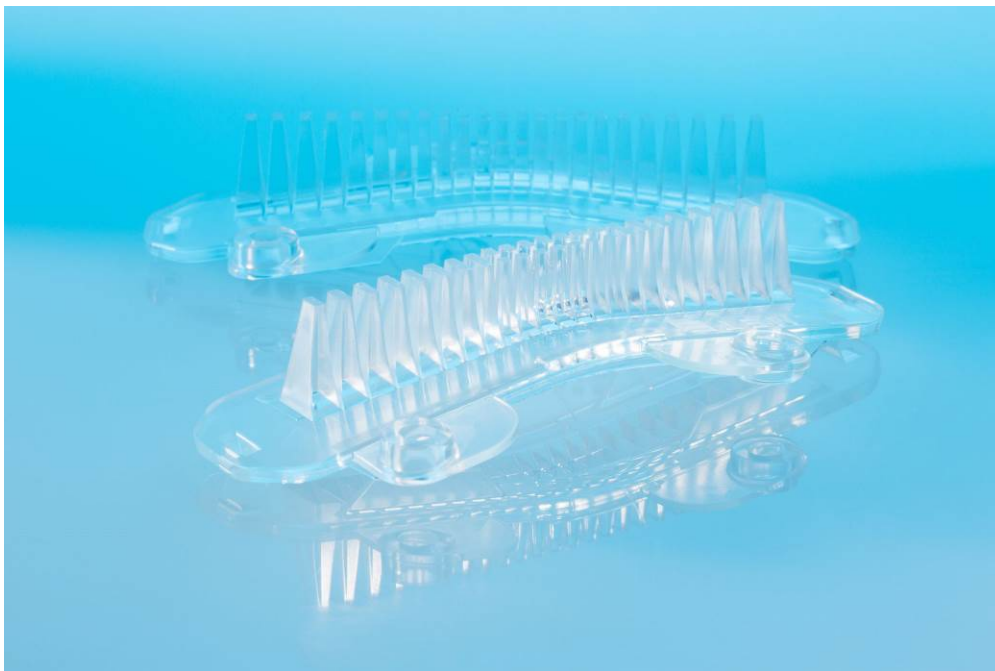


Fig. 3: Optical lens for motor vehicle headlamps, a so-called SMARTlens



Fig. 4: ErgoRobot with WITTMANN robot Primus 14



Fig. 5: WITTMANN robot W918



Fig. 6: Feedmax Clean 208



Fig. 7: Drymax plus

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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