



NEWS RELEASE

WITTMANN at the K 2019

The WITTMANN Group once more used the K in Düsseldorf to present its numerous new product developments in many different areas. From 16 to 23 October, the company showcased its latest innovations in the fields of automation and auxiliaries on its booth A04 in hall 10.

CIRCULAR ECONOMY

Inline recycling solutions from WITTMANN

As a complete system supplier of automation and auxiliary equipment – and in particular as a manufacturer of granulators – WITTMANN is in the unique position to be able to offer functionally optimized work cells for recycling and immediate re-use of plastic materials: inline recycling fully in line with the principles of a circular economy, which was the main theme of this year's K in Düsseldorf. Here, users can choose from a wide range of possible equipment and model variants for effective sorting and regrinding of sprue and rejects, and returning them to the production process in a targeted way.



*Drawing of an inline recycling cell
with sprue picker, granulator and material loader*

The basic version of a WITTMANN inline recycling cell consists of the **WP80** pneumatic sprue picker from WITTMANN, the new **G-Max 9** granulator and a **FEEDMAX S3** standalone loader with a metering valve. For grinding harder and fiberglass-reinforced plastics, a screenless granulator from the WITTMANN's **S-Max** series is used. Depending on the required degree of accuracy for the dosage of regrind, the WITTMANN inline recycling cell can be extended by adding a **GRAVIMAX** blender. Using a WITTMANN **GRAVIMAX** ensures that the machine is not fed an excessive amount of regrind at any time. Another option is using a servo picker instead of the **WP80** sprue picker equipped with pneumatic cylinders as



standard – for example a WITTMANN **WS80**, or the small servo-driven **PRIMUS 10** machine. A WITTMANN BATTENFELD injection molding machine from the **PowerSeries** will compensate any fluctuations in process behavior during metering and injection with the help of the **HiQ-Melt** and **HiQ-Flow®** process technologies. One of WITTMANN's exhibition highlights at this year's K will be the presentation of the numerous options offered by the inline recycling cells.

RECYCLING **The new G-Max 9**

The **G-Max 9** granulator is suitable for inline recycling of soft to medium-hard rejects and sprue consisting of TPU, PP or PE – to be used on injection molding machines with clamping forces of up to 90 tons. Depending on the type of application, there are three material hoppers of different heights to choose from for the **G-Max 9**. This modular design concept enables adjustment of the beside-the-press granulator to the varying process technology requirements it has to meet.



G-Max 9 granulator with low, medium-height and standard-height material hopper

G-Max 9 material hoppers and their applications:

- Low material hopper for use below a chute connected to the machine. The granulator is fed directly from the machine; no further handling is required here.
- Medium-height material hopper for use below a conveyor belt or drum separator. For small to medium-sized sprue.
- Standard-height material hopper for a beside-the-press application with a sprue picker or robot.

For optimal cutting performance and maximum efficiency, the cutting rotor of the **G-Max 9** comes with 3 × 3 knives arranged in a staggered position, which produce a clean, uniform granulate. Changing knives is extremely easy and comfortable. The material sifters of the **G-Max 9** are available with holes in different sizes, that is, with diameters of 4, 5, 6 or 8 mm. This ensures suitability for varying materials and throughput rates. The tiltable material hopper facilitates cleaning and servicing of the appliance enormously. So, changing a sifter can be carried out without tools, and the maintenance periods are shortened to a minimum. The new **G-Max 9** can handle a material throughput of up to 20 kg/h (depending on the form of parts, pieces of sprue, sifter size and quality of material); it operates with a low noise level and is extremely energy-efficient.



MATERIAL HANDLING I **New GRAVIMAX gravimetric blender**

At the K 2019, WITTMANN demonstrated the latest new development of its gravimetric blenders from the **GRAVIMAX** series. At the beginning, material throughputs of up to about 60 kg/h could be achieved, but the latest models of the **G** series are now designed for applications requiring material throughputs of more than 700 kg per hour. While the two smaller appliances can process metering quantities of 1kg and 3kg respectively, which may consist of up to four components, the new **GRAVIMAX G76** is able to handle 7 kg per dosing cycle and to blend in up to six components.



GRAVIMAX G76

In spite of the large quantity of material, **RTLS** real-time weighing technology makes it possible to reach a reproducible dosing accuracy of 0.05 % in the ratio of virgin material to additive. The material containers of the **GRAVIMAX G76** are virtually free of interfering edges, so that they do not obstruct the free material flow. From these material containers, each component is metered into a weighing container by pneumatic dosing sliders. Depending on the material, the dosing sliders can either be opened for a set period of time to let the material flow freely, or they are opened in pulsed intervals until the desired quantity of material has been reached, which particularly favors constant dosing results. After weighing, the materials flow into a spherical mixing container, where they are mixed into a homogeneous blend by a spiral-shaped device. Thanks to the **GraviLog** software developed in close cooperation with WITTMANN customers, various different material quantities and dosing deviations can be documented, and compound formulations can be administered. **GRAVIMAX G76** is also capable of bidirectional data exchange via OPC UA.



MATERIAL HANDLING II

Extension of the ATON segmented wheel dryer series

WITTMANN has been successful for more than ten years in the field of material drying with its segmented wheel technology, a technology continuously refined over time in order to adjust it to changing needs and requirements on the market. While the original overriding goal was to achieve a constant dew point behavior even under the most difficult conditions, users very soon started to demand particularly energy-efficient solutions. To cater to the increasing trend towards production equipment integration, an interface solution was created for **WITTMANN 4.0**, and the WITTMANN dryers were also equipped with larger touch screens. WITTMANN **ATON** segmented wheel dryers were laid out as compact beside-the-press appliances which could handle a dry air volume ranging from 30 to 120 m³/h.



ATON H1000 battery dryer

The experience gathered over the last ten years has now led to the development of a battery dryer model with a segmented wheel, which was presented for the first time at this year's K. The **ATON H1000** battery dryer, already frequency-controlled in the standard version, is the first segmented wheel dryer for central plants. It can handle a dry air volume of 1,000 m³/h, which is capable of drying 500 to 600 kg of plastic granulate per hour. The **ECO wheel** drying wheel, consisting of numerous segments, is loosely filled with a desiccant. Similar to the compact appliances, it is rotated via a low-maintenance chain drive. In this way, a molecular sieve which is always fresh is available for the air to be dried, in order to maintain a constant, low dew point.



Front of the ATON H1000, close-up view

The **ATON H1000** comes with several different adjustment options, including dew point-controlled drying. The different **ambiLED** light colors inform operators in the simplest way and at a glance about the current status of the dryer. The appliance is extremely easy to operate via its plain text touch screen user interface, where the temperatures and the dew point are displayed clearly and easy to read.



TEMPERING

New TEMPRO plus D100 temperature controller

Industry – and especially the injection molding sector – is very strongly influenced in this age of digitization by the fact that most customers require from their suppliers not only absolute high quality but also thorough documentation. Due to continuous further improvement, the high-end temperature controllers of the **TEMPRO plus D** series from WITTMANN, with an excellent reputation worldwide, have been able to satisfy all of these requirements. Here, the 16,000 **TEMPRO plus D** temperature controllers shipped to all parts of the world so far speak for themselves.

Requirements analyses in a great variety of production sectors have pointed to a demand for pressurized temperature controllers for a maximum temperature of 100°C. To meet this demand, WITTMANN will introduce the new temperature controller model **TEMPRO plus D100** at this year's K in Düsseldorf. With this appliance, WITTMANN underscores once more the significance of this series and its expertise in product development.



TEMPRO plus D100

The new **TEMPRO plus D100** belongs to the range of temperature controllers recommended for use as components of **WITTMANN 4.0** production cells.

WITTMANN 4.0 is the name of the solution from the WITTMANN Group, which leads into the world of *Industry 4.0*. Consequently, **TEMPRO plus D100** can be fully integrated in the control system of a WITTMANN BATTENFELD injection molding machine.

The new temperature controller is capable of 9 kW heat output and stands out by its magnet-coupled stainless steel pump, which ensures sufficient flow quantities. The pump capacity is 0.5 kW, with a maximum flow quantity of 40 l/min and a maximum pressure of 4.5 bars. The **TEMPRO plus D100** is equipped with a wear-resistant, maintenance-free flow quantity measurement device as standard. Like all other WITTMANN temperature controllers, **TEMPRO plus D100** also offers an extensive choice of additional equipment options in order to configure the absolutely perfect temperature controller tailored to fit every conceivable application.



AUTOMATION

PRIMUS 16T

In addition to various other novelties in the robot sector, WITTMANN rolled out two new appliances of the **PRIMUS** series at this year's K. The smaller of the two appliances from this series is called **PRIMUS 16T**. The Z and X axes of this appliance are based on the already well-known **PRIMUS 16**, what makes the difference is the Y axis, which is telescopic. This is why the **PRIMUS 16T** is specially recommended for use in confined surroundings. Thanks to its telescopic system, it is possible in most cases to dispense with external protection of cranes, which saves costs. With its nominal load capacity of 5 kg, the **PRIMUS 16T** enables safe handling of heavy grippers for six or eight cavities.



PRIMUS 16T

PRIMUS 48/48T

In 2018, WITTMANN presented for the first time a **PRIMUS** robot with a movable X axis. The **PRIMUS 26/26T** introduced then combined the advantages of two appliances and made it possible to install **PRIMUS** solutions on injection molding machines with up to 900 t clamping force. Now the series is being extended once more. With the start of the K 2019, the **PRIMUS 48/48T** was released for sale. This appliance is laid out for injection molding machines ranging from 500 to 1,200 t in clamping force. Its horizontal strokes can reach a maximum of 9 m, which means that several pallet bays can be arranged beside the injection molding machine, or a place for parts depositing can be positioned behind the machine's clamping unit. To further enhance its flexibility, the robot comes with a continuous drilling pattern as standard. The demolding axis offers a maximum stroke of 1,200 mm, the vertical range is from 1,400 to 2,000 mm, with the vertical axis made telescopic from a stroke of 1,600 mm upwards to provide a further increase in stability. Within the range from 1,400 to 1,600 mm, customers can choose between the **PRIMUS 48** single axis and the **PRIMUS 48T** telescopic version.

Both versions have the same load capacity of 20 kg. The **PRIMUS 48/48T** comes with a completely re-designed vertical tube, whose rigidity values are comparable to those of the **WX** appliances. On the vertical tube of **PRIMUS 48/48T**, only the quick couplers for vacuum, compressed air and gripper feedback are visible, the hosing is concealed inside.



AUTOMATION II – R9 Robot Control

The **R9** control system, already shown at the K 2016, offers an enlarged display screen of 10.1" in portrait format (compared to 8.4" on the manual input terminal of **R8**) and has a capacitive touch surface in line with the current tablet trend. This surface now also supports gesture commands (wiping for page change and zooming with two fingers), which makes the operation of the appliance even more intuitive. **R9** is also equipped with several multi-core processors for improved performance through optimal division of tasks. Time- and safety-relevant processes can now be completely detached from the visualization level to ensure top-quality operational safety and fastest possible response to critical incidents. In consideration of these innovations, WITTMANN has developed some new approaches to provide even better support for machine operators. The new possibilities include visualization of the programmed sequence. Based on its programming, the control system generates a virtual production cell, parts of whose visualization can be zoomed with freely selectable perspectives, which can be altered at any time. In this way, a digital copy (twin) of the actual production cell and/or the robot is present in the control system. This twin has the same attributes and characteristics as the equipment existing in reality and thus enables simulation of the application-specific processes.



Start screen and the screen displaying the digital twin of a working cell.

As soon as the relevant parts of a robot program have been created, it is possible to enter the simulation mode via the test menu of the control system. To distinguish the virtual twin unmistakably from the real equipment, a luminous frame appears on the screen of the **R9 TeachBox** in this mode, and the virtual robot is shown in the form of a schematic image. This mode also enables simulation of the injection molding machine based on recorded key parameters. The simulation mode thus enables the operator to detect any serious faults in the robot program very quickly without having to take the risk involved in a real test run. Highly complex sequences consisting of up to six simultaneous movements – such as movements of all robot axes together with additional rotational axes – which could cause the robot to collide with the protective frame or the tie-bars of the injection molding machine, are no longer such “terrifying” programming tasks. Especially since errors in the sequencing logic and potential synchronization problems with overlapping and simultaneous functions can be detected. (For instance, the exact position of a pneumatic axis is only known when it is in its end position, therefore here the issue of a movement command should always be followed by checking whether the end position has been reached before a new command is given. – By contrast, a servo axis signals its position automatically at extremely short intervals.) The digital twin is available for the entire process in every operating mode, including “dry operation”, manual operation or step operation. In addition to using the digital twin on the **R9** control system, it can also be started on a PC. If the relevant device definitions are available there, a simulation run can already be carried out before the program is entered into the robot, and possible sequencing errors are detected at an early stage.



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WITTMANN BATTENFELD at the K 2019

WITTMANN BATTENFELD presented itself at the K 2019 for the first time in hall 15

At the K 2019 in Düsseldorf, WITTMANN BATTENFELD exhibited its products and applications under the motto “Enjoy Innovation” for the first time in hall 15 at booth C06. WITTMANN BATTENFELD had thus an additional 120 m² of exhibition space at its disposal, and from 16 to 23 October the company presented its innovative injection molding technologies, processes and applications right next to its key competitors.

Innovation has always been a top priority at WITTMANN BATTENFELD. The company's product developments are designed to offer customers maximum benefit and simultaneously to protect the environment and preserve it for future generations in a sustainable way. Apart from further development and optimization of machinery and equipment, which are setting benchmarks in the market in terms of energy efficiency, this is achieved primarily through the development and continuous improvement of the adaptive HiQ application and process technologies and use of ultra-modern software systems and technologies to enable the integration of machines, robots, auxiliary appliances and MES systems via WITTMANN 4.0, plus sensor systems for machine condition monitoring, abbreviated CMS. Furthermore, the company is working together with partners on processing materials which at the end of their product life are 100% recyclable and/or completely degradable.

Key topic: intelligent machines with adaptive algorithms

The main theme of WITTMANN BATTENFELD's presentation at the K 2019 was to showcase intelligent machines with adaptive algorithms, which adjust themselves to the ambient conditions.

This was demonstrated with an all-electric *EcoPower 55/350* equipped with the software packages HiQ-Flow, HiQ-Melt and HiQ-Metering. A W918 robot from WITTMANN and all auxiliary appliances connected with the machine, as well as the TEMI+ MES system, are integrated in the machine's UNILOG B8 control system via WITTMANN 4.0. The electronic mold data sheet will also be used on UNILOG B8. The production cell linked together via the WITTMANN 4.0 router is thus able to check whether the connected auxiliaries are sufficient for the selected product data set, or if additional equipment is needed.



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At the WITTMANN BATTENFELD booth, this production cell were used to present the HiQ functions in the form of specialist lectures and live demonstrations. On the *EcoPower 55/350*, polycarbonate clothes pegs were manufactured with a 4-cavity mold supplied by Lechner, Austria. Using this fully integrated production cell, the advantages of integration via WITTMANN 4.0 and the TEMI+ MES system could be clearly seen. In a live demonstration, the product HiQ-Flow automatically compensated the effect of material viscosity fluctuations, thus ensuring stable parts quality and eliminating scrap. To avoid plastic waste, pieces of sprue and bad parts deliberately produced for demonstration purposes were re-granulated in the new G-Max 9 granulator from WITTMANN, and then directly returned to the machine hopper via the vacuum conveying device connected with the granulator.

Launching of new VPower COMBIMOULD model with special automation package

At the K 2019, WITTMANN BATTENFELD showed its latest further development of the vertical machine in *PowerSeries* design in the multi-component version. On a *VPower 120/130H/210V*, a plug made of PA and TPE for the automotive industry was manufactured with a 2+2-cavity mold. The complete automation system for the machine is designed by WITTMANN BATTENFELD Deutschland in Nuremberg. In this application, a Scara robot and a WX142 linear robot from WITTMANN are used, which insert the wrap pins, transfer the preforms, then remove and deposit the finished parts.

Introduction of new EcoPower Xpress in medical version

Another new product at this year's K was a high-speed *EcoPower Xpress 160/1100+* in a medical version. On this machine with 1,600 kN clamping force, PET blood tubes were produced with a 48-cavity mold supplied by Pass Card, Taiwan. To meet the stringent requirements for PET plasticizing, this machine has been equipped with a modified high-performance screw. In addition, a special drying hopper has been mounted above the injection unit, where the granulate is dried by a frequency-controlled DRYMAX 300 dryer from WITTMANN. The tubes will be removed from the mold and deposited in transport boxes by the new WITTMANN high-speed robot. The robot controls a box exchange device, which removes every full box and replaces it immediately with one of the empty boxes held ready, to ensure uninterrupted production of the tubes.



Medical application on *MicroPower* 15/10 production cell

Another medical technology application was demonstrated on a machine from the *MicroPower* series from WITTMANN BATTENFELD designed for the production of micro parts in the clean-room version. Using a *MicroPower* 15/10 with 150 kN clamping force, a micro retaining ring for medical miniature tubes was produced from PC with an 8-cavity mold supplied by Wittner, Austria. This product has a part weight of only 2 mg.

The machine comes with a rotary unit, an integrated WITTMANN W8VS2 robot and a camera for complete parts inspection. Following removal and camera inspection, the parts are transferred to transport containers, separated according to individual cavities.

A novelty in the *MicroPower* is a further improved, 2-step screw-and-plunger injection unit now able to process shot volumes of up to 6 cm³.

Lightweight technology for the automotive industry

With an example from the automotive industry, WITTMANN BATTENFELD demonstrated at the K 2019 its competence in CELLMOULD[®] structured foam technology, which enables the production of extremely light-weight parts as are required primarily in the automotive industry to reduce fuel consumption and/or increase the battery range. On a *MacroPower* 1100/12800 with an energy-efficient servo drive, a seat bench support for a German sports car was manufactured from PP with a single-cavity mold supplied by Frimo, Germany. The machine is equipped with the SEDE combined nitrogen and pressure generator unit developed and manufactured by WITTMANN BATTENFELD. The nitrogen required for this technology is taken from the ambient air and compressed to the working pressure of up to 330 bar. The material processed will be a type of PP suitable for automotive applications supplied by Borealis. It is the type ME225SY, which contains 25 % post-consumer recycling material and 25 % talcum. With the use of recycling material in passenger car interiors, WITTMANN BATTENFELD makes a significant contribution to promoting the recycling economy in the automotive industry. The parts will be removed and deposited by a WX152 robot from WITTMANN.

On this machine, the CMS condition monitoring system from WITTMANN BATTENFELD was installed, too, which ensures continuous condition monitoring of the most important machine parameters. The current condition of the *MacroPower* 1100 could be read out from a CMS info and control station placed directly next to the machine. Beside this machine, there was also an AIRMOULD[®]/CELLMOULD[®] info



stand, where visitors could get detailed information about the processes being demonstrated.

High-tech sheet for the automotive industry

A second application for the automotive industry was presented on a machine from the *SmartPower* series in XL configuration. With a *SmartPower* 240 XL, a module for a car headliner with a functional surface was produced with a single-cavity mold supplied by Georg Kaufmann, Switzerland. The module consists of an operating section mounted at the center and lighting sections on each side. For the production of this module, the IMD VARIOFORM process developed by LEONHARD KURZ (hall 5, booth A19 – E09) is used. In this process, a partially translucent decoration sheet is combined with a functional sheet with a printed-on sensor structure on the inside of the molded part. The poly TC sensor demonstrated the touch operation of light on/off and dimming functions as well as setting of the color of the LED light source behind it.

The machine was equipped with an automation system from WITTMANN BATTENFELD Deutschland in Nuremberg. It consists of a WX142 robot from WITTMANN with a C axis and an infrared radiation heater on the Y-axis to heat the continuous sheet used for this application. The WX142 inserts the functional sheet with sensor structure into the mold. The next step is to pull the IMD VARIOFORM sheet through, heat it and then thermoform it using a vacuum. During the same production step, both sheets are overmolded. In this application, the sensor sheet can be optionally selected via a touch button. In this way, it is possible to injection-mold parts either with or without sensor sheet.

LSR application on *EcoPower* 160

One of WITTMANN BATTENFELD's main application technology themes at the K 2019 was silicone injection molding. WITTMANN BATTENFELD demonstrated its expertise in this area at its booth in hall 15 by producing a valve for medical technology from an LSR formulation on a machine of its all-electric *EcoPower* series, an *EcoPower* 160/350, with a 16-cavity mold supplied by Nexus, Austria (hall 12, booth E49-01). The injection unit in open design enables easy integration of the LSR metering unit. The Nexus Highline metering unit came with a new servomix metering system with OPC-UA integration. In the mold, latest cold runner technology was used including TIMESHOT needle shut-off control. Parts removal and depositing was handled by a WX142 robot from WITTMANN.



Recycling economy with a product from the packaging industry

“Circular economy” is not only a modern buzzword, but also a strategic focus of WITTMANN BATTENFELD. At the K 2019, WITTMANN BATTENFELD presented one of its current projects jointly with a partner company.

Here, cosmetic jars with lids were manufactured from a material completely based on natural ingredients on an *EcoPower* 240/1100H/130L COMBIMOULD using a 4+4-cavity mold. This material can be recycled without any loss of its functional properties. The jar was injected by the machine’s main aggregate, the lid by the L aggregate. The machine was equipped with a fully integrated W842 pro robot from WITTMANN, which took a round paper label from a magazine and inserted it on the clamping side for the bottom of the jar. Next, the W842 pro removed the parts from the nozzle side and passed the jars on to a W818 robot, which inserted them into a screwing station. The W842 pro then transferred the lids for the jars to the screwing station, where they were screwed onto the jars and deposited.

TEMI+

In addition to the AIRMOULD®, CELLMOULD® and condition monitoring system info stands, there was also be an info corner presenting the TEMI+ MES package at the WITTMANN BATTENFELD booth. TEMI+ is able to work with injection molding machines as well as robots and auxiliary appliances around the machines. This makes it possible to obtain complete, comprehensive data acquisition and analysis of the quality parameters from all appliances involved in the production of a part.

Info point for plasticizing systems

The plasticizing system of an injection molding machine is the central unit determining the quality of a plastic component. WITTMANN BATTENFELD supports its customers with tailor-made solutions in terms of geometries, materials and surface finish. At the K 2019, visitors had an opportunity to gather information about the latest developments at a separate info point.

Central material supply

The machines at the WITTMANN BATTENFELD booth were supplied mainly via a central material handling system from WITTMANN. In addition to a drying system for PET, mobile ATON dryers and GRAVIMAX gravimetric blenders were used.



FEEDMAX central material loaders and stand-alone material loaders completed the picture.

Machines at other companies' booths:

***EcoPower Xpress* at the booth of Blue Air Systems, hall 10 / H60**

A machine from the *EcoPower Xpress* high-speed series, an *EcoPower Xpress* 160/1100+, was shown in hall 10, at the booth H60 of BlueAir. On this machine, sealing caps were produced within 2.5 seconds cycle time with a 32-cavity mold supplied by HTW, Austria.

LSR applications at SIGMA Engineering and Momentive

At the booth of **SIGMA Engineering (hall 13, booth B31)**, the fully automatic production of potholders made of Silopren LSR 2650 will be demonstrated, with a shot weight of 83 g and 1 mm wall thickness over 135 mm flow length. The potholders will be produced on a *SmartPower* 90/350 from WITTMANN BATTENFELD, equipped with a W818 robot from WITTMANN and grippers for parts removal and depositing. The mold and cold runner block from EMDE MouldTec are combined with a pump and a mixing unit from Nexus, Austria and integrated in the machine's B8 control system.

At the booth of **Momentive (hall 6, booth B15)**, a cell phone holder made of PC and LSR was be manufactured on a multi-component machine from the servo-hydraulic *SmartPower* series, a *SmartPower* 120/130H/130S COMBIMOULD LSR, equipped with a W921 robot from WITTMANN and a WITTMANN TEMPRO plus D2 140 dual-circuit temperature controller, as well as an ATON plus H30 dryer and a 1+1 transfer tool with needle shut-off cold runner supplied by Elmet, Austria. The Top 5000P metering pump also came from Elmet. The LSR used was a Silopren LSR 2749, offering particularly good adhesion on PC. The material feeding system for the thermoplastic material was geared to processing extremely small quantities to ensure adequate material drying.

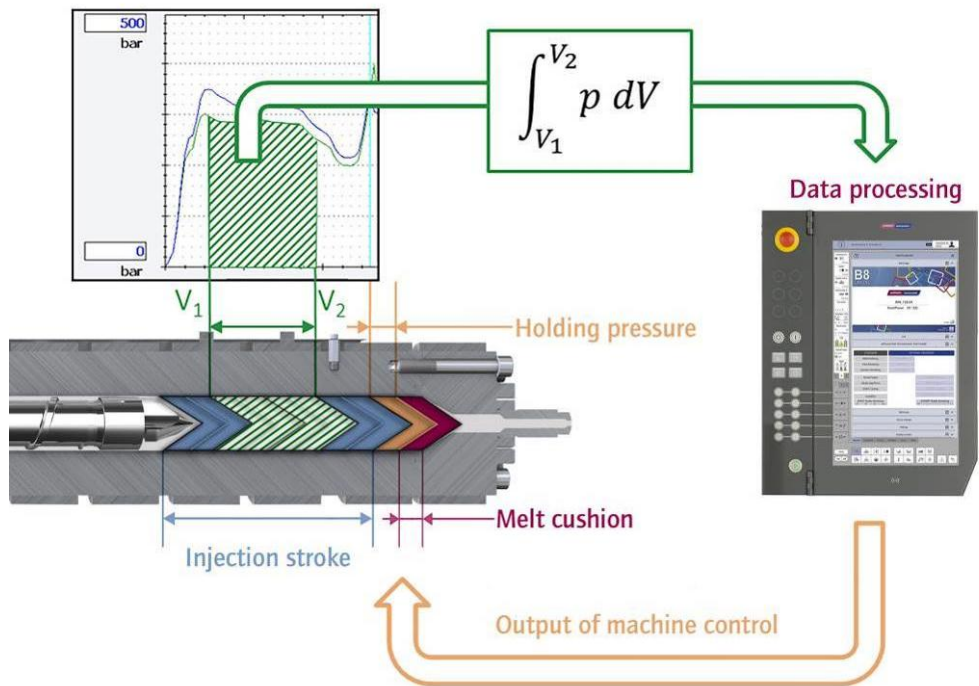


Fig. 1: Schematic diagram of material viscosity-driven injection control

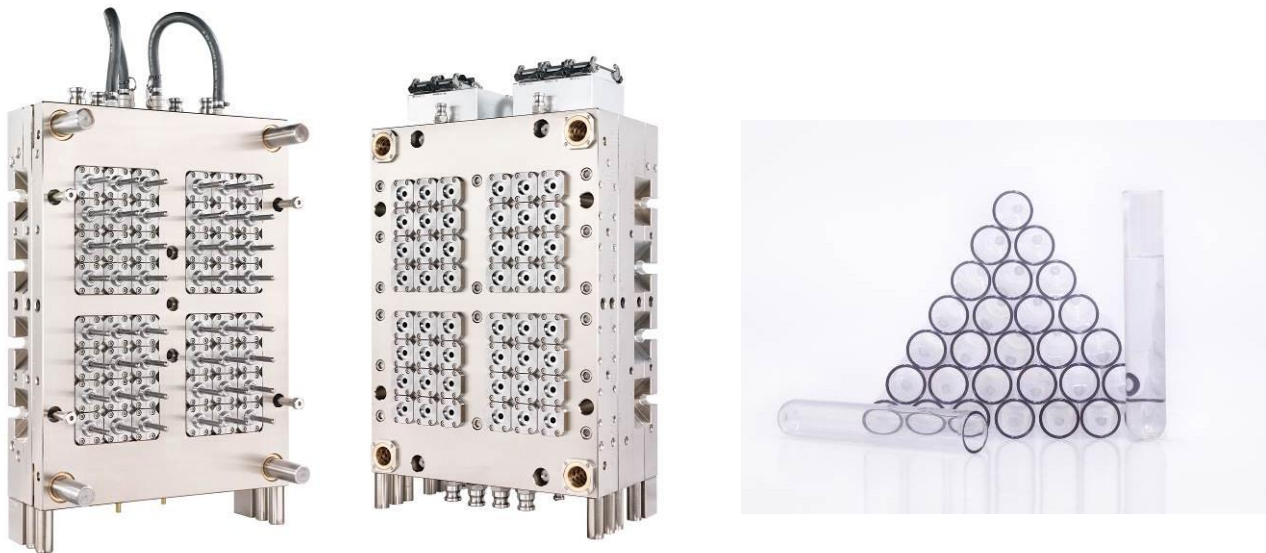


Fig. 2a, b, c: Mold for blood tubes – and finished product, manufactured on an *EcoPower Xpress 160*, in medical version



Fig. 3a: CELLMOULD® module on a MacroPower 1100



Fig. 3b: SEDE nitrogen and pressure generator unit

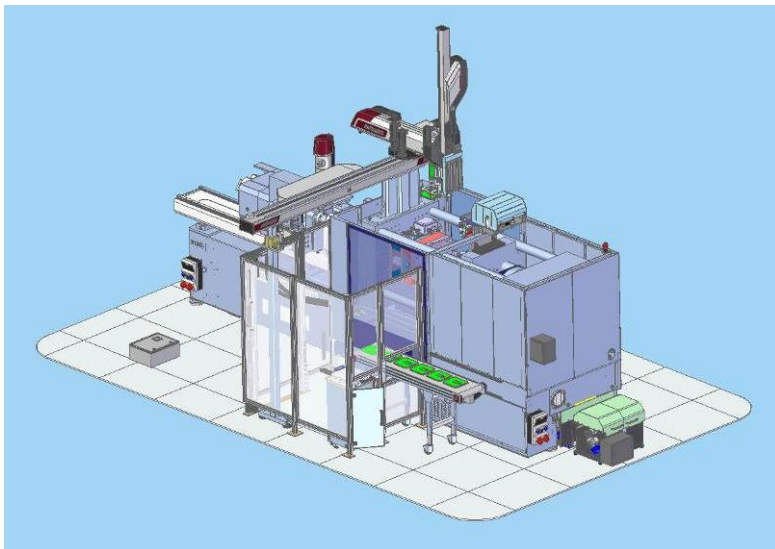


Fig. 4: SmartPower 240 XL with automation from WITTMANN BATTENFELD Deutschland, Nuremberg to produce sensor sheet



Fig. 5: Medical valve made of LSR



Fig. 6: Cosmetic jars made of a compound 100% based on natural materials

The WITTMANN Group is a worldwide leader in the production of injection molding machines, robots and peripheral equipment for the plastics processing industry, headquartered in Vienna/Austria and consisting of two main divisions: WITTMANN BATTENFELD and WITTMANN. These two divisions jointly operate the companies of the WITTMANN Group with eight production plants in five countries. Additional sales and service companies are active in 34 facilities in important plastics markets around the world.

WITTMANN BATTENFELD pursues the further expansion of its market position as an injection molding machine manufacturer and specialist for state-of-the-art plastic processing technologies. As a supplier of comprehensive, modern machine technology in modular design, the company meets both present and future market demands for plastics injection molding equipment.

The WITTMANN product portfolio includes robots and automation systems, material handling systems, dryers, gravimetric and volumetric blenders, granulators, temperature controllers and chillers. With this diversified range of peripheral units, WITTMANN offers plastics processors solutions to cover all production requirements, ranging from independent production cells to integrated plant-wide systems.

The integration of these various segments under the umbrella of the WITTMANN Group has led to complete connectivity between the various product lines. This integration has greatly benefited plastics processing users, who are increasingly looking for seamless production, including automation and peripheral functions.



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