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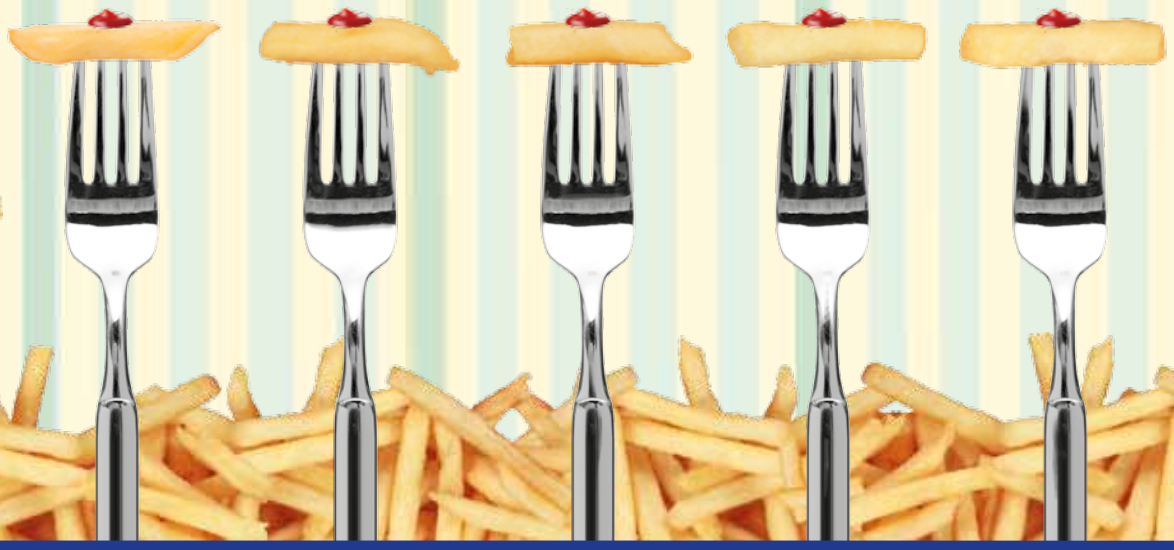
innovations

Technics – Markets – Trends

Volume 7 – 2/2013

Perfect Dosing
GRAVIMAX



Battenfeld

Articles that appeared in *WITTMANN innovations* so far

In-Mold Labeling

- WITTMANN IML stack mold systems *3/2007*
- The WITTMANN 2 + 2 stack mold *1/2008*
- ATM d.o.o. in Serbia grows with WITTMANN systems *3/2009*
- Quadrangular IML design at PLASTIPAK in Canada *4/2010*
- Tea Plast in Albania wants to become the Number One in IML *3/2012*
- EcoPower: fourfold IML *1/2013*

Temperature Control

- The advantages of pulsed cooling *1/2007*
- Comparing water to oil *2/2007*
- The new temperature controllers of the TEMPRO plus C series *3/2007*
- The new COOLMAX compact cooling units *2/2008*
- Temperature controller "guarding" injection molding machines *3/2008*
- Temperature controllers with DUO cooling *4/2008*
- Variothermal tempering *1/2009*
- The new TEMPRO plus C180 *2/2009*
- The new TEMPRO direct C120 [C250] *3/2009*
- WFC: WITTMANN Water Flow Control functionality *4/2009*
- TEMPRO plus C180 water temperature controller *1/2010*
- WITTMANN TEMPRO: The universal benchmark *2/2010*
- BFMOLD™ mold cooling system *3/2010*
- The new TEMPRO plus D temperature controllers *4/2010*
- Online-thermography *1/2011*
- Tempering and injection molding at Fuchs & Sohn *2/2011*
- TEMPRO plus D in the automotive sector *1/2012*
- Oscilloscope function *2/2012*
- Compact temperature controller *4/2012*
- Quality assurance through the optimal tempering process *1/2013*

News From The Subsidiaries

- Australia *2/2008*
- Austria *2+3/2008, 1/2010, 3/2011, 4/2012*
- Benelux *3/2008, 2/2009*
- Brazil *3/2007, 1/2009*
- Bulgaria *2/2009*
- Canada *1/2007, 1+2/2008, 3/2009*
- China *2/2010*
- Colombia *2/2012*
- Czech Republic/Slovakia *4/2009*
- Denmark *1/2009, 1/2013*
- Finland *4/2008+1/2012*
- France *2/2007, 3/2008*
- Germany *1/2007, 3/2012*
- Great Britain *2/2009, 2/2010*
- Guatemala *1/2013*
- Hungary *1/2008*
- India *2/2008, 3/2010, 2/2012*
- Israel *1/2012*
- Italy *4/2008, 1/2010, 4/2011*
- Mexico *3/2007, 3/2009, 1+2/2011*
- Russia *4/2012*
- Slovenia/Croatia *1/2010*
- Southeast Asia *2/2007*
- South Kores *3/2010*
- Spain *3/2007*
- Sweden *2/2009*
- Switzerland *1/2008, 2/2012*
- Taiwan *4/2009*
- Turkey *3/2008, 2+4/2011*
- USA *2/2008, 3/2009, 1/2011*

Conveying / Drying

- Central drying and conveying at Robert BOSCH *1/2007*
- Quality control of the WITTMANN dryers *1/2007*
- Drying and conveying system at Kromberg & Schubert *2/2007*
- Cost efficient material drying *2/2007*
- FEEDMAX conveying units fit for the clean room *3/2007*
- The new DRYMAX ED80 material dryer *3/2007*
- Focus on material feeding *1/2008*
- The WITTMANN network control at Arge2000 *2/2008*
- Changing parameters when conveying different materials *2/2008*
- Optimizing a material conveying system *3/2008*
- DRYMAX dryers complete with energy rating *3/2008*
- Metchem central material handling system *4/2008*
- Auxiliaries at Delphi in China *1/2009*
- The LISI COSMETICS central system *2/2009*
- Perfect planning of central systems avoids downtime *3/2009*
- Testing the WITTMANN energy claims at FKT *4/2009*
- The new FEEDMAX B 100 *1/2010*
- Greiner is saving energy by using WITTMANN dryers *2/2010*
- The A.C.S. conveying system *3/2010*
- The new FEEDMAX Primus material conveyor *4/2010*
- The new DRYMAX Aton *2/2011*
- The BKF conveying system *2/2011*
- WD Kunststofftechnik and its central system *4/2011*
- PET processor uses a WITTMANN conveying system *1/2012*
- The PLASTICOM system *2/2012*
- The NICOMATIC system *3/2012*
- Saving energy in material drying *4/2012*

Automation

- Production and quality control in medical engineering *1/2007*
- The handling of large structural foam parts *2/2007*
- The new R8 robot control *3/2007*
- High-end: The production of seat adjustment rods *1/2008*
- Drive engineering for robots *1/2008*
- Automating the production of transponder pins *2/2008*
- Automated production of remote control keys *3/2008*
- Automation at Carclo Technical Plastics, UK *4/2008*
- The flexible automation cell as ABA-PGT *1/2009*
- The cultivation of growth with WITTMANN robots *2/2009*
- Bruder toy wheel production *4/2009*
- Production of pallets at Georg Utz in Poland *1/2010*
- EcoMode helps getting energy efficient robots *2/2010*
- Automated production of oil level sensors *2/2010*
- Automating rotation welding *3/2010*
- The new R8.2 robot control *4/2010*
- Linear robots in the clean room *1/2011*
- Super-fast part removal *2/2011*
- Automation of cups and lids *3/2011*
- Superior mulit-component molding *4/2011*
- Automating insert molding *1/2012*
- The expert automation of lids *2/2012*
- LSR parts at Silcotech, Switzerland: Quality through automation *3/2012*
- Zero-reject production is possible *4/2012*

Injection Molding

- WITTMANN BATTENFELD: One stop shopping for injection molding *4/2008*
- Metal injection molding at Indo-US MIM *4/2008*
- Cost optimization: EcoPower by BATTENFELD *1/2009*
- IT assisted services *1/2009*
- Water injection for all-plastic parts *2/2009*
- Krona Indústria and WITTMANN BATTENFELD *2/2009*
- Molding micro-parts with the Microsystem 50 *3/2009*
- Multi-component process at wolfcraft *4/2009*
- Process data acquisition: partnership with Wille System *4/2009*
- The new all-electric EcoPower injection molding machine *4/2009*
- Thomas Dudley and WITTMANN BATTENFELD *1/2010*
- IML with TM Xpress *1/2010*
- AIRMOULD® and AQUAMOULD® Mobile *1/2010*
- Design Molded Plastics and their molding machines *2/2010*
- Stadelmann relies on Wille and WITTMANN BATTENFELD *2/2010*
- The new MicroPower molding machine *3/2010*
- AQUAMOULD® and projectile injection technology *3/2010*
- New benchmark in large machines: MacroPower *4/2010*
- STELLA relies on WITTMANN BATTENFELD machines *4/2010*
- The ServoDrive technology *1/2011*
- The 75th machine for Krona *1/2011*
- Packaging specialist TM Xpress *2/2011*
- WAVIN (Czech Rep.) and WITTMANN BATTENFELD *3/2011*
- SANIT molding a success *3/2011*
- WEPPLER Filter using BATTENFELD machines *4/2011*
- MacroPower for the production of cable ties *1/2012*
- The CELLMOULD® process *2/2012*
- ESMIN produces cases for cosmetics with 43 WITTMANN BATTENFELD machines *3/2012*
- Remote connectivity *3/2012*
- Foamed high-quality parts *4/2012*
- LECHNER and the MacroPower *4/2012*
- MacroPower at GT LINE *1/2013*
- Praise for the standard machine! *1/2013*

Blending

- The new WITTMANN blenders of the GRAVIMAX series *2/2007*
- The truth about blender economics *3/2007*
- The new GRAVIMAX 14V blender *3/2009*
- The art of blending regrind *3/2011*
- Dosing on the highest level *1/2013*

Granulation

- Inline recycling of sprues *1/2007*
- Giant granulator MCP 100 *2/2007*
- The new MAS granulator *3/2007*
- The challenging recycling process *1/2008*
- The MC 70-80 granulator at Centrex *2/2008*
- Gibo Plast enforces recycling *2/2009*
- The new AF auger feed for MC central granulators *4/2009*
- Grinding of ferrite *1/2010*
- Grinding critical material *3/2010*
- The TMP CONVERT solution *1/2011*
- Inline recycling with Minor 2 *3/2011*
- Granulators under the press *2/2012*
- Large solutions for large parts *1/2013*

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Editorial

Michael Wittmann

Dear Reader,

We are very pleased to be able offer you a real highlight in this year's springtime. On 24th and 25th April, we would like to welcome you again to our Competence Days, which is taking place at the WITTMANN BATTENFELD main production site in Kottingbrunn (Lower Austria). We really do believe that the power that is needed to cope with the challenges of the future comes from today's innovations.

Thus, under the motto "Power for the future", we will present to you innovative injection molding technology, automation and peripheral equipment – everything from a single source. A great variety of exhibits will give you a comprehensive overview of our "powerful", trendsetting products and processes. You are invited to experience 17 completely equipped work cells and numerous demonstrations of single components.

The molding machines of our *PowerSeries* will play a prominent role. For example, on display will be the new hybrid *MacroPower* with fully electric injection unit, along with a *MacroPower* 1000, an IML application with high speed part removal running on an *EcoPower* of 180 tons of clamping force, an HM *ServoPower* machine working off an AIRMOULD® application using an extremely large mold – just to name a few. Of course, we will also show our complete range of robots and peripheral equipment, especially the W818 and W821 UHS robot models, several DRYMAX Aton material dryers, GRAVIMAX blenders, temperature control units, and our entire granulators program.

Further special highlights of this year's Competence Days will be our expert presentations. Lectures on the most demanding technologies in the plastics processing industry are on our list. These will be held in German and simultaneously translated into English. Examples of what they will be focusing on include multi-component processes, high-gloss surfaces, light-weight technology, gas injection, packaging technologies, integrated production cells and ultimate precision for medical technology as well as other trendsetting technologies. – Two days, one program: you can choose the day which suits you best; many novelties are waiting for you!

Satisfy yourself with our production capacity that has increased anew: during our Competence Days you will also have the opportunity to see our brand new Kottingbrunn assembly hall, built for the assembly of our *MacroPower* machines. And last but not least, we will also offer you sightseeing tours to WITTMANN Kunststoffgeräte in Vienna on both days. We look forward to seeing you!

Sincerely, Michael Wittmann

Content

Success in the automotive industry with WITTMANN BATTENFELD

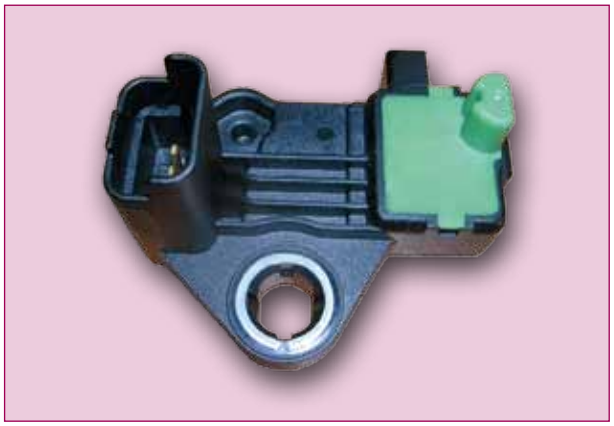
Electricfil Automotive, based in Beynost, France, is operating 50 machines from the Austrian injection molding machine manufacturer WITTMANN BATTENFELD. A new vertical rotary table machine was again delivered in 2012.

Gabriele Hopf

Actuator, produced by Electricfil on a WITTMANN BATTENFELD rotary table machine. *(Photo: Electricfil)*

Electricfil Automotive is a well-known player in the international automotive industry. The company was founded by Johanny Thollin in 1936 and is a family-owned company in its third generation. It first entered the automotive industry in 1952 by offering electrical ignition systems. Sensors were added in 1975. In 1999, the transition was made from delivering just products, to supplying whole system solutions for the automotive industry. Today, Electricfil Automotive Group has a workforce of 1,500 employees worldwide, with its main facilities located in France, Turkey, China and the USA. The company realized 165 million Euros in sales in 2011. France, its main market, took a share of 37%, with 63% of its total sales realized in the international markets.

Electricfil Automotive is currently focusing on three main fields of expertise: powertrain instrumentation, powertrain actuation and electrical energy management. As a tier one automotive supplier, Electricfil delivers systems, sensors and actuators, as well as mechatronic modules (mainly for IC engines, electronic transmissions, drivetrain and fuel injection) to the major automobile manufacturers and automotive suppliers worldwide.



Crank detector to detect the angular position of the crank of a motor. *(Photo: Electricfil)*

The company's most important products are ignition systems (in the 1950s and 1960s, Electricfil introduced the Bougicord® ignition cable), sensors to measure speed or the engine temperature, actuators for diesel injection, mechatronic modules and diagnostic modules to check the diesel particle filter. The most important insertion-molded parts are sensors, of which 30 million are produced every year, and actuators with an annual output of 11 million units.

The most stringent quality standards

Quality is the top priority for this automotive supplier. The company goal is a zero ppm rate. This ambitious goal requires, among other things, machinery of outstanding quality. Electricfil is currently operating 56 injection molding machines, 50 of which are from WITTMANN BATTENFELD. The vast majority of these machines are vertical rotary table machines with clamping forces ranging from 47 to 160 t. The most recently delivered rotary table machines are VM R 75/130H models with 75 t clamping force.

The successful cooperation between Electricfil and BATTENFELD dates back to 1988. Electricfil was the first European company to use a rotary table machine from WITTMANN BATTENFELD to manufacture its products. The purchase of this first rotary table machine was prompted by WITTMANN BATTENFELD's promise of reaching a 30% increase in productivity, a promise that was 100% fulfilled. Another argument in favor of the rotary

table machine from WITTMANN BATTENFELD was the possibility of removing the finished part from the same side of the machine on which the inserts are inserted. The ability for quick mold change was also of paramount importance for Electricfil. The only machine that was able to achieve the target of being able to change molds within 30 minutes at that time was the vertical machine from WITTMANN BATTENFELD.

Today, mold change is possible within 15 minutes, a very significant gain in time considering that Electricfil needs to handle up to 10 mold changes per day. Electricfil particularly appreciates WITTMANN BATTENFELD's great problem-solving competence with vertical rotary table machines.

Gérard Gouvernayre, Electricfil's expert plastics processing engineer, names as an example the development of thermoset machines at Electricfil's request: "In actuator production we need thermoset plastic materials with a heat resistance to withstand temperatures of 200 °C at 40 kg pressure. WITTMANN BATTENFELD has supplied us with a technology which enables us to process such materials with unparalleled precision." Electricfil also greatly appreciated the opportunity to get in touch with other customers with similar problems, which WITTMANN BATTENFELD offers.

The continuous further improvement of their machines is another argument in favor of WITTMANN BATTENFELD, according to Gérard Gouvernayre. For example, the originally very high rotary table was recently lowered to a more comfortable working height. Electricfil is also pleased with the machines' UNILOG B6 control system because of its outstanding user-friendliness. And last but not least, the good support provided by the sales team, combined with excellent after-sales service, have also been decisive aspects for Electricfil in its many years of successful cooperation with WITTMANN BATTENFELD.

Vertical rotary table machines from WITTMANN BATTENFELD

WITTMANN BATTENFELD plays a leading role in the industry in the development of vertical rotary table machines.

The company launched this machine technology at an early date and has continuously been developing it further ever since. For example, WITTMANN BATTENFELD was the first injection molding machine manufacturer to engage in series production of vertical rotary table machines. Another of the many "firsts" achieved by WITTMANNN BATTENFELD with these machines was lowering the rotary table to an ergonomic working height. The next improvement pioneered by the company was the development of a servo electric rotary table drive. At present, WITTMANN BATTENFELD offers a machine with the option of an electric injection unit, in which only the clamping force build-up is provided by hydraulics, in order to preserve the advantage of the low rotary table height.

The rotary table machines from WITTMANN BATTENFELD are available with clamping forces ranging from 40 to 270 t and rotary table diameters from 752 mm to 1,755 mm. The insertion and parts removal areas are protected by light curtains. This provides optimal access for parts removal and the implementation of additional automation concepts. Linear robots and jointed-arm robots are available to carry out simple pick-and-place tasks as well as complex and varying operations. ◆

The Electricfil production floor in Beynost, France.

From left to right: Hervé Gaillard (Electricfil Product Development and Process Technology), Arnaud Moisy and Fabien Chambon (Sales WITTMANN BATTENFELD France), Patrick Thollin (Electricfil CEO), Daniel Marchand (Electricfil Managing Director), Gérard Gouvernayre (Electricfil Process Engineer Plastics).

The latest molding technology at BECK Kunststofftechnik

BECK Kunststofftechnik, based in Vellmar near Kassel/Germany, supplies customers from many different industries quickly and reliably with high-quality plastic parts. They are manufactured exclusively using injection molding machines from WITTMANN BATTENFELD.

Gabriele Hopf

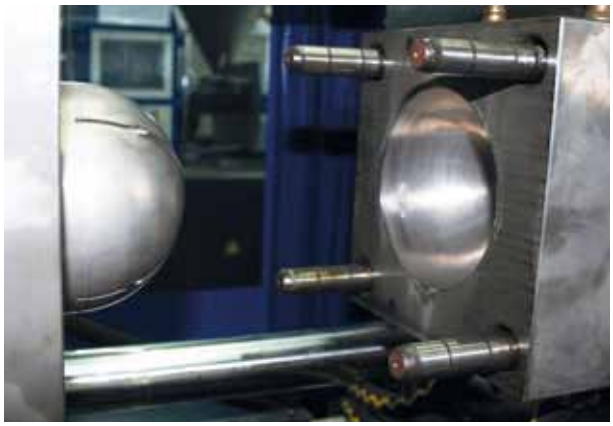
BECK's new production hall with injection molding machines from WITTMANN BATTENFELD.

BECK Kunststofftechnik, established in 1976, primarily follows a concept of flexibility and diversity in the manufacturing of its products. At BECK, everything comes from a single source, from product development and mold-making, right up to the finished plastic part. BECK is a family-owned company managed by Matthias and Anja Beck, who employ their son Florian, their daughter Carina and 6 additional staff members, most of whom have worked for this company for many years. With this team, assisted by temporary staff at peak periods, the company offers a wide range of products to its customers.

These customers hail from a great variety of industries such as the electrical, electronic and automotive industries, as well as manufacturers of transport equipment, household goods and advertising materials. BECK designs and builds the required molds in-house to their customers' specifications. This enables the molds to be produced within only a few weeks. Quick alterations to existing molds are also possible thanks to this in-house production. The range of molds includes 2-component molds, molds with collapsing cores, molds with several slides moving one above the other, and split molds.

More than a thousand molds are currently in use. Some 300 to 500 t of plastic materials are processed each year, and the types of materials processed are just as diverse as the molds. About 100 different materials are injection-molded at BECK.

The finished parts are also further processed in-house where necessary. In addition to assembling individual components and mounting more complex assemblies, BECK also offers screen printing, pad printing, and customized packaging of any kind, as well as pressing in gaskets and ball



bearings. The company also keeps its own truck for quick delivery of the finished parts. The company's vital success factors, besides flexibility and diversity, are speed and high quality standards. BECK Kunststofftechnik has been certified according to DIN ISO 9001. Its market is primarily in Germany, with some of its customers also operating internationally to a certain extent. One example of this is Expresso, a market leader in transport equipment, whose luggage trolleys can be found at airports and train stations around the world.

For injection molding, BECK relies 100% on WITTMANN BATTENFELD

On a 2,500 m² production floor, BECK now has 29 injection molding machines installed, all from WITTMANN BATTENFELD. The cooperation between BECK and BATTENFELD dates back to 1987. Matthias Beck remembers how BATTENFELD impressed him at that time not only with its machine technology, but first and foremost by its excellent customer support: "BATTENFELD has gone out of its way for us during boom periods, too, and taken great care of us as customers."

The injection molding machines currently installed at BECK range from 25 to 500 t in clamping force. The machinery consists mainly of toggle machines from the TM series. In August of last year, two 55-ton machines from the *EcoPower* series were delivered. The machines from the *EcoPower* series stand out mainly by their high energy efficiency, a feature of great importance for BECK, demonstrated by the fact that BECK runs its own combined heat and power plant on the corporate grounds. These heat and power plants generate twice the power the company needs for its own operations.

Apart from their high quality, Matthias Beck appreciates the BATTENFELD machines for both their flexibility in machine configuration and the excellent user-friendliness of both the machines and the control system. Today, as much as then, Matthias Beck shows himself to be more than satisfied with the excellent service and good customer support provided by WITTMANN BATTENFELD.

EcoPower and TM series molding machines from WITTMANN BATTENFELD

The *EcoPower* series stands out because of its high precision, speed and energy efficiency. Its extreme energy efficiency is achieved by completely utilizing the deceleration energy from its drives (which would normally be returned to the power supply network by an elaborate process) within the machine to provide the necessary voltage for the control system and for barrel heating. The savings potential compared to modern conventional hydraulic machines is between 50 and 70%, depending on the application.

The machines of the TM series come with a clamping unit offering the highest available precision and an ideal dynamic concept. One special feature is the free-standing tie-bars of the sturdy clamping unit. The moving platen moves along high-precision linear guides. This structure ensures exact parallelism during opening and closing as well as excellent repeatability. ◆

Plastic parts for luggage trolleys manufactured for Expresso.

Plastic parts for playground equipment manufactured for Espas.

A mold from BECK for the production of plastic parts for playground equipment.

The finished parts are packed according to the customer's specifications.

***Gabriele Hopf** is the Marketing Manager at WITTMANN BATTENFELD in Kottingbrunn, Lower Austria.*

Injection molding of plastic lenses pushing the limits of feasibility

Some components of optoelectronic systems are microscopically small. The plastic lenses needed for such systems are produced by micro injection molding. The small shot weight, combined with the highest possible precision to form contours in nanometer dimensions, as well as the production being under clean-room conditions, requires fully automatic manufacturing and handling processes. The molds for such lenses are developed and manufactured in JENOPTIK's mold making shop. The necessary automation technology and peripheral equipment have been developed in cooperation with the expert engineers of the WITTMANN group.

Walter Klaus

The automatic injection molding cell for producing optical plastic lenses.
(Photo: JENOPTIK)

At the JENOPTIK facility in Triptis, highest precision standards are the order of the day. Here, the optoelectronics group manufactures light, accurate optical components, such as plastic lenses weighing no more than 0.01 grams. The production of these almost microscopically small lenses requires ultimate precision in forming. A WITTMANN BATTENFELD *MicroPower* 5 injection molding machine, which combines injection molding with handling, has now been added to the JENOPTIK range of machinery and equipment. The entire cycle from preparation of the granulate to the depositing of the finished parts into trays runs fully automatically. An injection unit that is specially designed for short injection distances enables exact dosing of the small shot volumes.

The number of cavities may vary according to dosing volume, which means that single- or multi-cavity molds are possible, depending on the mold used and the size of the optical parts.

Injection molding machine and peripherals perfectly matched

The entire production cell – consisting of an injection molding machine with comprehensive automation equipment – has been conceived as a single unit. It was programmed and tested at WITTMANN Robot Systeme GmbH in Schwaig near Nuremberg. The automation technology owes its special design to the close cooperation between WITTMANN Robot Systeme and WITTMANN BATTENFELD on the one hand, and JENOPTIK on the other hand.

The essential components of this production cell are a mold-rotary plate module, a WITTMANN W818 linear robot with a multi-functional gripper, product carrier transport equipment and other peripheral appliances such as conveyor belts. The rotary plate module separates the injection process from parts removal, so that injection can take

place in the closed mold half, while the finished parts can be removed from the open bottom half of the mold. Parts removal is effected by the multifunctional gripper developed at JENOPTIK, which removes each part individually from the mold and transports it to the product carrier or tray. For parts depositing, the production cell is equipped with two product carrier buffers and one product carrier transport device, which are also able to handle the trays. This led to the necessity of providing variable positions for parts depositing. Consequently, the production cell has been equipped with a linear robot which reaches a high speed combined with precise and repeatable adherence to preset movements.

At first, the multifunctional gripper of the WITTMANN automation system removes the microscopically small injection molded parts from the mold and then transports them to the depositing position inside the product carrier, while the product carrier is taken from the supply stack and transported to the depositing position as well.

The equipment for automatic individual removal and depositing of the plastic lenses. (Photos: JENOPTIK)

Production under clean-room conditions

The servo drives have been fitted with absolute encoders so that the robot moves to the positions defined by the program with an accuracy of 0.1 mm without prior return to the home position, even at a renewed production start-up following a machine standstill. The *EcoMode* software module of the linear robot, integrated in the R8 control system, ensures that the robot adjusts the speed of its movements to the overall cycle. The production cell is also equipped with two ionizing bars to neutralize any electrostatic charges which could interfere with the handling of the lenses. One of these bars neutralizes the static charge of the lens during its transport to the depositing position, the second bar discharges any static electricity still remaining in the product carrier after it has been filled. Prior to removal from the production cell, the completely filled product carriers are covered with a lid in order to protect the lenses against contamination during subsequent transport steps. Until further processing, such as the application of optical coatings, the injection-molded parts are kept in the product carriers.

The entire production cell is surrounded by a protective cubicle provided with transparent Makrolon panels, which not only screens off the production process, but simultaneously ensures occupational safety. Linear flow boxes installed above the mold and above the product carrier filling station provide class ISO 6 clean air inside the production cubicle. ◆

Walter Klaus *works as a consultant and technical author; until 2008 he was the Technical Manager of WITTMANN Robot Systeme GmbH in Schwaig, Germany.*

Customized temperature controller solution at a customer's special request

Starlinger & Co. GmbH, based in Weissenbach on Triesting (Lower Austria), has been one of the most important customers for temperature control technology from WITTMANN on an international scale for more than 15 years. The company is using the third consecutive generation of WITTMANN temperature control equipment.

Walter Lichtenberger

The machine at Starlinger in Weissenbach/ Lower Austria, which is used to produce woven plastic bags. Here, the WITTMANN TEMPRO plus D temperature controller takes care of controlling the temperature of the cutting device and presser rollers.

Starlinger is a globally active, family-owned machine manufacturer with a workforce of more than 670 employees, and is the world market leader in machinery and process technology for the production of woven plastic sacks.

For its *ad*starKON SX* sack-making machinery, Starlinger uses WITTMANN's TEMPRO plus D in its two-circuit version with a maximum operating temperature of 90 °C. This temperature controller is equipped with a flow measuring unit, a serial interface, an alarm signal contact point and a service-friendly tank.

To ensure optimal processing (welding) of the PP-coated fabric tube into finished sacks, it is necessary to keep both the cutting device and the machine's presser rollers at a constant temperature with a maximum tolerance of ± 0.2 °C. The newly developed micro processor controller, which is operated via a color touch screen display, fulfills this requirement and ensures virtually trouble-free operation with an output of 85 sacks per minute.

In this machine, the open ends of the woven, PP-coated plastic tube are welded together with hot air.

The finished sack now comes with a specially folded closing mechanism, which closes it tightly after it has been filled.

Special functions provide added safety

The machines from Starlinger are used in all parts of the world, including regions where the use of unclean industrial water may present problems. If the water used for filling and cooling WITTMANN temperature controllers comes pre-cooled from cooling towers, significant cost savings can be achieved compared to other methods (such as chillers, chemical methods); but here, too, the challenge of more contaminated water must be overcome. In cooling towers, the water is cooled by ventilators and thus comes into direct contact with the ambient air. From the ambient air, the water absorbs solids that then

can form deposits in the tank of the temperature controller. These deposits subsequently enter the cooling circuit, where they gradually narrow the cooling channels and finally block them altogether.

The WITTMANN flow measurement unit provides non-contact flow monitoring, as well as the ability to check the functionality of cooling channels. Setting a flow tolerance with an upper and lower limit enables the operator to recognize even the gradual congestion of a cooling channel. In this way, it is possible to arrange the time schedule for necessary cleaning and/or repairs so that production downtimes can be mostly prevented.

TEMPRO plus D with its integrated serial interface offers yet another advantage. The interface enables data transfer between the machine and the temperature controller, for example communication of the process temperature and the corresponding tolerances. Parameter settings which normally have to be entered directly on the display of the temperature controller can now be entered and read much more comfortably on the screen of the machine.

The flow measurement and the interface are only two of the numerous features that facilitate work with the new temperature controllers from the TEMPRO plus D series for users, and issue early warnings in the event of certain production defects.

Tank cleaning made easy

In the course of introducing the TEMPRO plus D series of appliances, Starlinger's service staff expressed an urgent wish: they requested an easier way to clean the tanks, which repeatedly becomes necessary especially where contaminated water is used, and which invariably involves a great deal of effort.

The 90 °C variant of the WITTMANN TEMPRO plus D is specially designed so that all of its essential components, such as the pump, magnetic valves, flow measurement unit, etc., that are required for operating the appliance are mounted on a cover plate which, in turn, closes the tank. In conventional operation with extremely clean water, this type of assembly presents no real problem, since emptying the tank filled with contaminated water can be effected with next to no effort through an outlet screw mounted at the bottom of the tank.

Dismantling of individual components has never been necessary in such cases. Cleaning of the tank was a different matter, however, when large quantities of deposited solids had accumulated due to heavily contaminated water entering the appliance along with water from cooling towers or from other sources.

These solids accumulate at the bottom of the tank and gradually form a layer of sludge which makes transport of cooling water through the cooling channels impossible. This type of contamination was hard to remove through standard outlet screws. In such cases the entire tank unit had to be dismantled. The amount of work this requires is considerable, and in some cases this work had to be performed several times a year. Moreover, the fastening threads for the cover plate, which are cut directly into the plastic tank, may be damaged by frequent dismantling of the unit, which, in turn, leads to an increased need for spare parts. So the task was to develop a new concept for easy dismantling of the tank without the necessity to remove other components, and for simultaneously strengthening the threading on the plastic tank.

After the special tank screws have been unscrewed, the tank can be separated very easily from the temperature controller by simply lifting off the appliance.

In cooperation with the engineers from Starlinger, an optimal solution was developed to minimize service work and spare parts requirements. This special solution produced for Starlinger consists of an assembly plate which is now firmly attached to the frame of the temperature controller.

The connection to the plastic tank is made via stainless steel screws which can be unscrewed as required. The appliance can subsequently be lifted off with a lifting device, which separates the tank from the appliance. In this way, dismantling of the pump, magnetic valves, etc., can be dispensed with.

All cleaning work on the pump, the cooling coils and the tank can now be performed in much less time.

The connection threads are no longer cut into the tank, as was the case in the standard appliance, but provided in the form of press-in brass nuts. In practice, the simplified solution for dismantling the tank unit which has been implemented in this special TEMPRO plus D model has led to a noticeable reduction of both working hours required for this purpose, and of costly machine downtimes as well. ◆

Walter Lichtenberger *is the Temperature Control Department Manager at WITTMANN Kunststoffgeräte GmbH in Vienna.*

WITTMANN materials handling for optimum health

WITTMANN BATTENFELD UK has recently helped Kings Lynn based Bespak to build upon its recent production successes and has supplied materials handling expertise and equipment for an expansion of the Bespak molding operations.

Barry Hill

Bespak's new clean room with WITTMANN W823 robots mounted in L-configuration.

Bespak, a division of Consort Medical plc, is no stranger to WITTMANN BATTENFELD UK, the two companies having worked together some four years ago on automated polymer materials handling systems. Bespak recently expanded its clean room molding facility, principally to increase its production of metered dose dispensers.

Bespak is a world-leader in this technology, making over several hundred million polymer-based medical and pharmaceutical products for its clients around the globe. The previous WITTMANN BATTENFELD system had assisted Bespak in saving electrical power usage by rerouting material regrind use through the main conveying pump and had also dispensed with the previous arrangement of five regrind pumps. WITTMANN BATTENFELD was therefore called upon once more to help the company in equipping the new facility with polymer materials handling solutions. We are delighted indeed to be once more partnering Bespak in their molding technology needs.

WITTMANN DRYMAX dryer with a battery of 3 SILMAX hoppers located on a mezzanine floor just outside of the new cleanroom.

New equipment at Kings Lynn

The expansion at Bespak, Kings Lynn, required installation of seven injection molding machines in a new clean room environment. WITTMANN BATTENFELD UK was selected to provide the materials handling, drying and blending equipment together with all necessary robots and automation. The WITTMANN BATTENFELD equipment together with the M7.2 control technology had already proved its worth and the new expansion was therefore able to supply state-of-the-art performance.

The Bespak DRYMAX 100 dryer, for example, has been equipped with dew point measuring to ensure consistent drying and three SILMAX hoppers 2 × 150 liters 1 × 30 liters mounted on a common frame.

The Bespak SILMAX hoppers are also equipped with *SmartFlow* intelligent air distribution valves. These automatically adjust to differing throughputs of material flow and also prevent over cooking of materials. The DRYMAX was sized for optimum drying and providing dry air which was used to convey the materials over the lengths of pipework to the molding machines, and purge valves were fitted to pipe runs to ensure material was not left sitting in pipes after conveying. The DRYMAX technology is extremely energy efficient. WITTMANN BATTENFELD UK therefore set a precedent in the Bespak production environment by stating a kW usage per kilo of material on the front of each dryer. It was clear to the customer from Day One that WITTMANN sets great store in our leadership in the production of low-energy materials dryers.

Each new Bespak molding machine was also equipped with a B series loader sized for the appropriate machine throughput. Bespak's new WITTMANN hopper loaders do not use a troublesome flap and switch. Instead they utilize a bell-shape shut off which is pneumatically powered in order to give complete seal of the material flow. This configuration is ideally suited for clean rooms.

WITTMANN's innovative GRAVIMAX blenders were also installed for the accurate metering of master batch into the machines. Additionally, WITTMANN robots were placed on a total of five molding machines which were also equipped with downstream automation. The WITTMANN M7.2 control using CAN-Bus was linked to all of the equipment, including pumps and filters for easy configuration and for visual display of all functions and alarms and easy operation.

New M7.2 system control

Bespak dryers linked to the M7.2 therefore give a visual display of the drying cycle and desiccant regeneration. On commissioning, a material menu is automatically produced and all drying temperatures and drying times are set. This automatically prevents any given material from being used until its drying time is complete. Temperatures are also preset from the initial M7.2 menu, thereby eliminating operator errors and maintaining quality.

System expansions and/or setting modifications are very simple using the M7.2 control, and fresh data can be downloaded for use in various formats. The M7.2 system continues to lead the industry and is designed to be as easy to use as possible. The software gives molding customers complete monitoring, control and peace of mind, as well as superior energy and material savings. The plant monitoring functions alone from the WITTMANN M7.2 system enable Bespak plant managers to view the materials feed and handling situation on each molding machine in real time.

This facility can also be accessed through "palm pilot"/iPhone/iPad pendant devices by personnel on the shop floor and from office IT systems elsewhere on site. The M7.2 system therefore assists in maintaining Bespak production by predicting and avoiding any unwanted line stoppages and unscheduled downtime. Bespak runs a 6 Sigma program through its King Lynn facility. The features and advantages of the M7.2 system have been incorporated into the ongoing continuous improvement at the site. ◆

Barry Hill
is Managing Director of WITTMANN BATTENFELD UK.

Australia and New Zealand: WITTMANN BATTENFELD Australia Pty Ltd

WITTMANN BATTENFELD Australia and New Zealand is located in the southeastern suburbs of Melbourne and has been in business for over 35 years. An additional sales office was opened in Sydney to service customers in Australia's largest city.

Employing four fully trained service technicians, two sales representatives and a customer service team, WITTMANN BATTENFELD Australia and New Zealand offers its customers unparalleled technical and sales support across the entire spectrum of WITTMANN peripheral equipment and BATTENFELD molding machines.

"The Australian manufacturing industry is a diverse market with industries ranging from automotive, packaging, home wares and medical device manufacturing," says Managing Director Peter Lucas. The packaging industry has grown substantially over the past 5 years, placing WITTMANN's IML equipment into the forefront of manufacturers of packaging for food products such as dairy, beverage and processed foods. Recently, WITTMANN BATTENFELD Australia received an order from a natural food additive manufacturer in Queensland (Northern Australia) that molds all their packaging requirements in-house. "This allows the manufacturer to control all aspects of their product without relying on costly supply chains from overseas suppliers. With costs kept to a minimum, it means a more competitive product which can be sold globally", says Peter Lucas.

Customers see the benefits in long-lasting regional experience in both WITTMANN peripheral equipment and BATTENFELD injection molding machine systems. The service team has a combined technical experience of over 50 years, making WITTMANN BATTENFELD Australia and New Zealand a valuable resource for the customer.

The premises of WITTMANN BATTENFELD Australia Pty Ltd.

Managing Director Peter Lucas (left) and the greater part of his team.

The market structure

Australia has historically enjoyed close trading ties with the United Kingdom, Europe and the United States of America.

More recently, Australia has become a prominent trading partner with many countries in Asia, China in particular. For many years the country has exported commodity based minerals to China, receiving a wide range of plastic products and equipment in return.

For the Australian plastics industry to survive against such a large manufacturing country in this region of the world, Australia and New Zealand has had to automate the processes of plastic injection molding to compete against a lower cost market.

WITTMANN linear robots have been instrumental in providing the Australian and New Zealand market with robots that reduce the overall cost to manufacture plastic components in the region.

BATTENFELD injection molding machines provide local customers a reliable, technologically advanced European built option that promises to deliver many years of consistent, reliable plastic molding.

Future prospects

The Australian industry is renowned for its smart, innovative design skills. WITTMANN BATTENFELD with its extensive range of plastic injection molding machines, robots and peripheral auxiliary equipment offers the customer flexible options when manufacturing niche products. WITTMANN BATTENFELD is regularly involved in trade shows and industry networking events to grow market share and create new opportunities to showcase the extensive range of WITTMANN BATTENFELD. ◆

Polen (Part 1): BATTENFELD Polska Sp. z.o.o.

The name BATTENFELD has been known in Poland since the 1980s. The sole corporate objective of BATTENFELD Polska Sp. z.o.o. since the foundation of the agency in 1999 has always been to offer the highest quality injection molding machines (and related services) to the Polish market, where the company has become very successful.

Bogdan Zabrzewski (second from the left), BATTENFELD Polska Managing Director, and his team.

From the very beginning, BATTENFELD Polska has focused itself not only on selling, but also committed itself to providing excellent customer support as well. This support includes technical advice in the selection of machinery and equipment, comprehensive after-sales service and supply of spare parts.

BATTENFELD Polska is based in Grodzisk Mazowiecki, about 35 km from Warsaw. The company currently employs two salespersons and four staff members in logistics. Each of the company's five service engineers is engaged in field service in the north and in the south of Poland. Most of the technical staff are graduates of the "Plastics processing machinery" department of Warsaw Technical University. The professional attitude of the entire team, combined with their meticulous preparation for every task, ensures a targeted response to the specific needs of every customer.

The Polish market

BATTENFELD Polska has been able to deliver several hundred injection molding machines since its foundation. The number of regular customers has increased considerably over the last few years, which can be seen as a validation of the company's business policy.

In addition to the political changes which Poland has experienced in recent years, the market for plastics processors and their suppliers has also developed. The large multinational companies have already been active in Poland for a number of years, but the majority of BATTENFELD Polska's customers still consists of small, family-owned enterprises. Here, customer support means first and foremost establishing genuine relationships and partnerships with the owners of these companies.

1,200 companies which need injection molding technology for their production are currently in existence in Poland. Some 150 of these employ more than 100 people.

Most of the Polish BATTENFELD customers started their business with used, older injection molding machine models. The next step in many cases was to purchase new BATTENFELD machines. Today, many of these companies have modern injection molding plants with the latest automation systems and use special technologies to make sophisticated products. These companies are now well prepared to meet the competition from other European markets. Many of them are suppliers to major household goods manufacturers and the automotive industry.

Scope for development

The entry into the European Union in 2004 and several subsequent structural changes have had an overall positive effect on the development of small and medium-sized enterprises. Many injection molders, for example, have been able to implement new projects, and this development has resulted in a significant increase in sales for BATTENFELD Polska.

The subsequent integration of BATTENFELD into the WITTMANN group has finally made it possible to offer complete injection molding solutions. "One stop shopping" is now the motto of BATTENFELD Polska. Thanks to the combined product portfolios of WITTMANN and WITTMANN BATTENFELD, and the innovative strength of both companies, turnkey solutions can be made available today for any conceivable project. ◆

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