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# innovations

*Technics - Markets - Trends*

*Volume 9 - 1/2015*

*Reaching new heights  
with WITTMANN*



**Battenfeld**

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## WITTMANN innovations (Volume 9 - 1/2015)

Quarterly magazine of WITTMANN Kunststoffgeräte GmbH and WITTMANN BATTENFELD GmbH. Appears to meet the informational demands of staff and customers. Editorial office: WITTMANN Kunststoffgeräte GmbH, Lichtblaustrasse 10, 1220 Vienna; tel. +43-1 250 39-204, fax +43-1 250 39-439; [bernhard.grabner@wittmann-group.com](mailto:bernhard.grabner@wittmann-group.com); <http://www.wittmann-group.com>  
Issue 2/2015 of "WITTMANN innovations" will appear at the beginning of the second quarter 2015.

# Editorial



**Michael Wittmann**

Dear Reader,

We are looking back on a fiscal year which actually had some surprises in store for us in the way it developed, since it far exceeded our expectations. Compared to the previous year, we will be able to close the year 2014 with a 7% increase in sales. We are particularly pleased about the fact that this growth is fairly evenly distributed among the various regions of the world – with North America and the East European countries showing particularly strong growth rates.

While in 2013 all our activities were invariably focused on the K in Düsseldorf, we made use of 2014, “the year after the show,” for relentless product development. As a result, we were able to present numerous new products in October at this year’s Fakuma in Friedrichshafen. The first *SmartPower* injection molding machines drew special attention. The models from this new series are equipped with servo pumps as standard, and they immediately were met with lively interest as one of the few real innovations in the injection molding sector shown at the Fakuma.

Also on display at the fair were the new robot models by which the *W8 pro* series has been extended most recently. Numerous pieces of auxiliary equipment, which had again been further developed, were exhibited at the booth of the WITTMANN Group as well. For instance, we presented to trade visitors our new segmented wheel dryer models *Aton basic* and *Aton plus*, and the newly developed, intelligent *FLOWCON plus* flow controller. Several more presentations of new products are already planned for the new year, so please visit our trade fair booth again in 2015 and let us surprise you!

*WITTMANN 4.0* – this name (derived from the designation “Industry 4.0”) stands for the concentrated effort of our developers across all product lines to advance the overall networking of production equipment. Pooling of the various development activities within the WITTMANN Group aims at complete integration of robots and auxiliary equipment into the *UNILOG B6* system of the plastics processing machine.

The first presentation of such an integration including several appliances already took place at this year’s Fakuma. At the subsequent trade fairs in 2015, we will present all of our progress achieved in this area. This will again confirm our traditional motto of the “one-stop shop” in a very specific way.

Sincerely, Michael Wittmann

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# Impressive results in energy saving

*The HM 300/1330 ServoPower injection molding machine model delivered by WITTMANN BATTENFELD greatly impressed the customer Heibel Formplast, based in Heuchlingen/Germany, when put to the test. In addition to very easy operation, high precision and performance, this WITTMANN BATTENFELD model scores with its unparalleled energy efficiency. The newly acquired injection molding machine further strengthened the bond of a long-standing partnership between the two companies.*

**Marcus Reichl**

**A**t the beginning, Mr. Heibel couldn't believe it: "I could hardly believe it, but this machine actually uses two thirds less energy than its predecessor model. We purchased a measuring device for this particular purpose and checked it twice ... but it is really true." These words come from Stefan Heibel, Managing Partner of Friedrich Heibel GmbH in Heuchlingen, a well-known plastics processor. And the machine he praises so enthusiastically is an HM 300/1330 ServoPower molding machine from WITTMANN BATTENFELD.

*Manfred Nerz, Sales Engineer of WITTMANN BATTENFELD, and Stefan Heibel, Managing Partner of Heibel Formplast in Heuchlingen. The business relationship between the two companies has been in existence since 1978. Heibel is one of WITTMANN BATTENFELD's most loyal customers.*



## **A long-standing partnership**

The business relationship between WITTMANN BATTENFELD and Heibel Formplast has existed for many years. Founded by Friedrich Heibel as a mold-making company in 1960, the company headquarters was moved to its present location in Heuchlingen nine years later. Its specialization in injection molding, which had already become its main line of business at the beginning of the 1970s, had resulted from the fact that mold-making invariably involves prototyping of plastic parts, too. While second-hand machines were used initially, the first brand-new injection molding machine from BATTENFELD was finally acquired in 1978. This marked the beginning of a long-term business relationship that still continues to this day. Now, 15 of the 18 injection molding machines, which are currently operating in three shifts at Heibel, are from WITTMANN BATTENFELD.

Since the turn of the millennium, Heibel Formplast has been active as a 100% plastics processor. The company currently employs 35 associates. One of its main business segments is the production of molded parts for well-known manufacturers of power tools and electric tools. Moreover, its business with automotive suppliers has seen a very posi-

itive development in recent years. Heibel works for well-known OEMs like Magna and BOS. Parts from Heibel are incorporated in vehicles of virtually all well-known German automobile brands. Other customers come from the medical industry, the furniture industry, makers of ventilation technology and the food industry. The company's modern machinery, which was completely renewed in 2004 and also includes three two-component machines, covers a clamping force range from 30 to 450 tons. All thermoplastic materials, whether non-reinforced or reinforced, can be processed with molds up to 1,200 × 800 × 810 mm in size.

Heibel can handle any desired batch size, from small lots of 150 units right up to "long-run" series. On the newly acquired HM 300/1330 injection molding machine, for example, a housing component for a brush cutter is produced in an extremely high number of units. Impact resistance and extreme colorfastness are the vital attributes of this cover – requirements which can be fulfilled by the machine's extremely accurate temperature control system. According to Stefan Heibel, the quality of the finished parts leaves nothing to be desired.

### The new HM ServoPower from WITTMANN BATTENFELD

“We recently had to replace a long-running machine after 27 years in operation because procuring spare parts was becoming increasingly difficult. In response, we naturally contacted our long-standing, reliable partner WITTMANN BATTENFELD first concerning this new investment,” says Stefan Heibel. “Energy efficiency was our top priority, firstly, because electricity costs are becoming more and more significant, and secondly, because there are opportunities in this area to make use of government funding already earmarked for this purpose.”

controlled, air-cooled servo motor in combination with a fixed displacement pump is used for the drive system. During breaks, the system is shut down completely. In this way, significant energy consumption reduction can be realized compared to conventional drives.

The *ServoPower* design principle further increases the machine's efficiency, because the lower energy input also leads to less heating up of the hydraulic oil, which, in turn, reduces the consumption of cooling water. Simultaneously, the load on the hydraulic oil is lessened, which increases its service life. There is also a significant reduction in noise emission. Finally, the lower idle power rate (due to the servo motor's higher degree of efficiency) leads to additional sav-



15 of the 18 injection molding machines at Heibel Formplast have come from WITTMANN BATTENFELD.

One of the molds used at Heibel is operated alternately on three different injection molding machines. Since the molded part and the general conditions were identical in every case, a comparison of the energy consumptions of all machines used was simple.

The energy consumption of the model with the oldest drive technology was measured first – a TM 350/2800 built in 2005, and this value was set at 100%. The first comparative value, which was measured on an HM 270/1330 (same year of manufacture, but with a more modern drive technology), revealed an energy consumption of only 40.5% of what had been recorded for the TM model. An even more impressive result was achieved with the HM 300/1300, most recently acquired in April 2014. Thanks to latest drive technology and a servo motor with a higher degree of efficiency, this machine required a comparative energy input of merely 27%.

This spectacularly low energy consumption was achieved by using WITTMANN BATTENFELD *ServoPower* technology. Here, instead of a conventional 3-phase motor with constant speed and delivery pump, a highly dynamic, speed-

ings in electricity costs. “The performance of this machine has encouraged us to persevere in our pursuit of energy efficiency,” says Ulrich Stelzer, Technical Manager at Heibel Formplast.

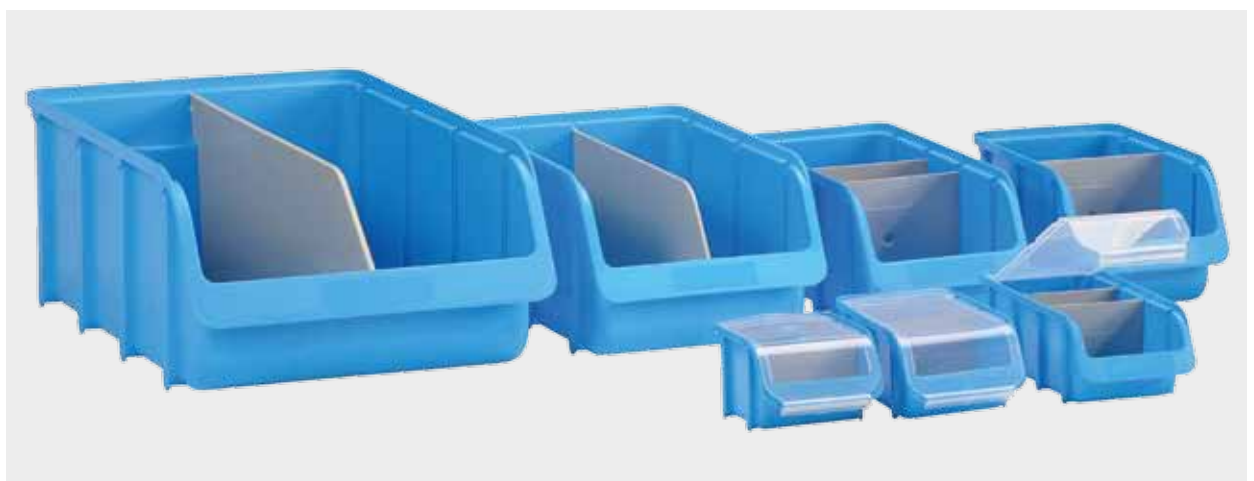
### Loyalty to WITTMANN BATTENFELD

Stefan Heibel sums up the relationship with “his” machine supplier as follows: “We have always been loyal to WITTMANN BATTENFELD. We are completely satisfied with the machines and the customer support. At times when the technical differences between suppliers are becoming smaller and smaller, these are the decisive factors in favor of partnership. So I can see no reason to make a change here. Last but not least, the integrated automation is another vital consideration in favor of this supplier. And in addition to machines and robots, we also rely on products from the WITTMANN group for our peripheral equipment, that is, for material loading, drying, dosing and temperature control. It is important for us to procure everything from a single source, so that our processes are perfectly coordinated.” ♦

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# Premium-quality plastic products with WITTMANN BATTENFELD

*hünersdorff GmbH based in Ludwigsburg, Baden-Württemberg/Germany has made a name for itself in Germany and beyond as a top-quality plastics processing specialist. With some 40 injection molding and blow molding machines, it manufactures plastic products to meet all conceivable needs. For injection molding, the hünersdorff company relies 100% on WITTMANN BATTENFELD.*  
**Gabriele Hopf**



*Examples of parts manufactured by hünersdorff: measuring beakers made of PP, assortment boxes made of PP or PS, PP storage bins with accessories.*  
*(Photos: hünersdorff)*

**T**oday, hünersdorff GmbH can look back on a long history. The company was founded 185 years ago, producing household goods and galley equipment made of copper. About 100 years later it was taken over by its present owners, the Schiemann family. It started processing plastics as early as 1940.

Currently, the company employs 125 workers and realizes about 20 million EUR in annual sales. hünersdorff's primary market is Germany, contributing to 75 to 80% of the total business volume. Most of the remainder comes from neighboring countries. hünersdorff's product portfolio is diverse and includes products such as jerry cans and filling systems, bottles and containers, storage bins and assortment boxes, fittings, buckets, storage containers and barrels, scoops, funnels, jugs, cans, graduated oil cans, storage cabinets and shelf boxes, with reserve fuel cans and storage bins being their main product lines. In fuel cans, hünersdorff is the market leader in Europe. The products are delivered mainly to specialist distributors, but go to OEMs and DIY building centers as well. hünersdorff's formula for success is top quality combined with diversity, extremely short delivery times and excellent customer support.

***hünersdorff relies on WITTMANN BATTENFELD***

On the production floor, a total of some 40 machines are in operation. Half of these are blow molding machines required for making fuel cans, and the other half are injection molding machines. For its injection molding machines, hünersdorff relies 100% on WITTMANN BATTENFELD. The first machines were delivered during the 1990s. The company's current machinery outfit consists mainly of toggle machines from the TM series with

clamping forces ranging from 40 to 450 tons. In 2013, a machine was installed from the hydraulic HM series with a servo drive, an HM 65/210 ServoPower. This model stands out with its energy efficiency in operation. "The new HM is really sensational when it comes to power consumption,"

says Steffen Rühling, Production Manager at hünersdorff. Energy management is an important issue for the company. Its consistent application of an effective energy management system has been confirmed by successful certification according to DIN EN ISO 50001.

Most of the larger machines are equipped with BATTENFELD or WITTMANN automation systems. In this way, one person is able to operate 2 or 3 machines, which contributes to streamlining production and stabilizing cycles.

Apart from energy efficiency in operation and the ability to acquire machinery and automation systems from a single source, hünersdorff appreciates WITTMANN BATTENFELD primarily for its good price-performance ratio as well as excellent quality, durability and easy operation of the equipment. Moreover, the machines' compact design is an important consideration for hünersdorff, since space is a critical factor there. And the machines must be capable of fast setup and mold change. Andreas Schiemann, Managing Partner of hünersdorff, comments: "We are using up to 30 different

molds annually on each machine. This means that we need machines on which changing the setup is possible without losing a lot of time." Schiemann also expresses satisfaction with the support received from the WITTMANN BATTENFELD sales and service team. "All in all, WITTMANN BATTENFELD's high quality standards have proved consistent and reliable over many years." ♦



*For injection molding, exclusively WITTMANN BATTENFELD machinery is used.*

*Injection molding machine with WITTMANN automation.*

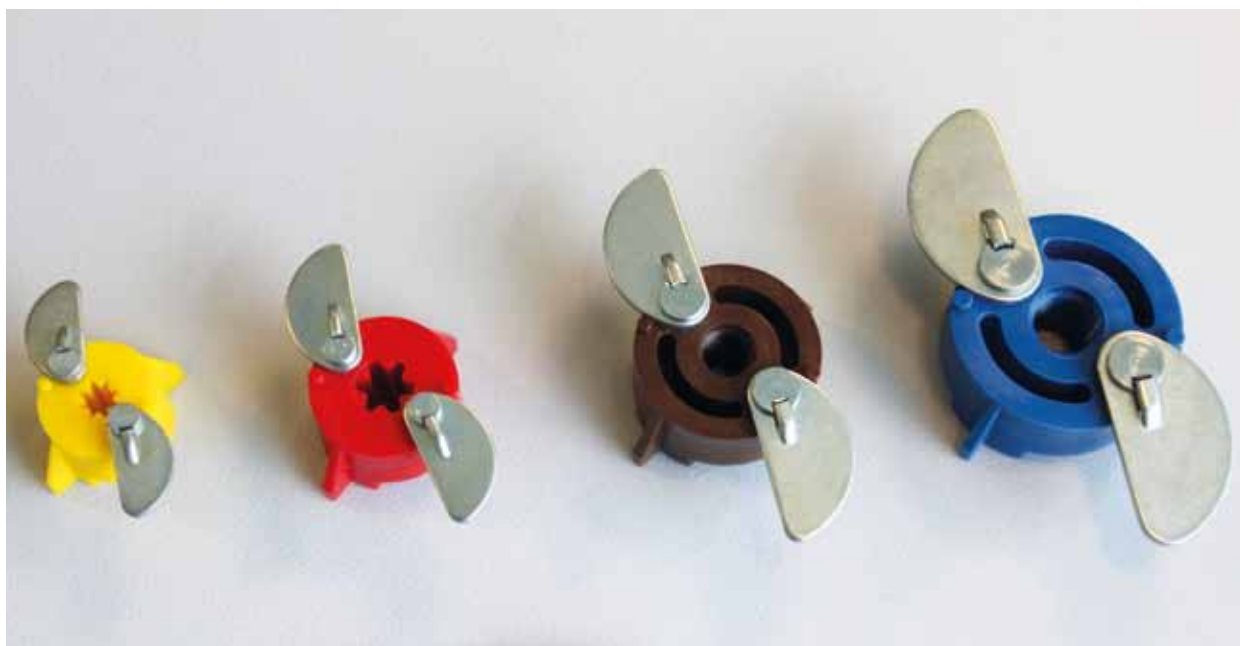
*From left to right: Erwin Neugebauer, WITTMANN BATTENFELD Sales Department, Andreas Schiemann, Managing Partner of hünersdorff, Steffen Rühling, Production Manager at hünersdorff.*

*Gabriele Hopf is the Marketing Manager of WITTMANN BATTENFELD in Kottlingbrunn, Lower Austria.*

# Thornbury Manufacturing Limited and the Grip It Fixings success story

*Thornbury Manufacturing Limited (TML) in Plymouth, UK, is working with WITTMANN BATTENFELD injection molding equipment, and is currently gearing for full production of a product range that scooped success on the BBC TV Dragon's Den program.*

**Adrian Lunney**



*Some highest quality parts from certified TML, molded with WITTMANN BATTENFELD machinery. The picture above shows the revolutionary new Grip It Fixings for the building trade in different sizes.*

A recent episode of the popular UK television program saw panelist Deborah Meaden invest a stake of £ 80,000 into Grip It Fixings in exchange for a 25% stake in the fledgling company.

19 year old Jordan Daykin of Grip It Fixings is one of the TV program's youngest winners. He presented a revolutionary new fixing for the building trade, primarily designed for use in plasterboard. Plasterboard installations have, to date, been notoriously difficult to drill for strong and adequate fixing and hanging solutions. The new Grip It Fixing provides a ready answer to the problem and has been gaining ground in UK DIY chains such as Wickes.

### *An exciting new product*

The association and product development work with Plymouth-based TML dates back to the spring of 2010 when TML founder and director Dick Walsh began work on the design and manufacture of the molding with the Daykin family. Jordan's grandfather Stan Daykin is an inventor and experienced engineer and all three men were able to collaborate on bringing the new product to market. Walsh recalls "that a good amount of fine-tuning and engineering – in both plastics and metals – was required in order to mold and machine the product into the solution that it is today"



The Grip It Fixings plastics component is molded in acetal and 100% recyclable. The mild steel zinc-coated back plates, catches and other componentry all required precision machining by TML in order to produce a lock-tight mechanism and thus fully guarantee the load-bearing performance of the new product.

Deborah Meaden tested this tough specification for herself on the August 17 TV program by sitting in a chair suspended by chains from the Grip It Fixings. "As the Dragon's Den TV program showed," notes Walsh, "the performance



of the product is truly ground breaking. We are now molding a range of four Grip It Fixing sizes and are anticipating a steady market uplift from all corners of the building and DIY trades.”

**Quality machinery for quality processes**

Earlier in 2014 TML needed to be ready with volume molding production in order to match anticipated consumer demand. The company’s plastics machinery supplier WITTMANN BATTENFELD was on hand to deliver the company’s second HM 65 injection molding machine of 2014. “All credit to Paul Dummer and the WITTMANN BATTEN-



FELD UK team,” says Walsh. “Our new molding machine was ready and waiting at the start line of this project.” Walsh adds that “this is our fourth consecutive BATTENFELD purchase and the second new BATTENFELD machine purchased this year. The performance never lets us down and the service is always good, timely, knowledgeable and efficient. We look forward to the on-going partnership and more such new business arriving.”

Plastics trade molding, plastics-to-metal bonding and fixing and medical device manufacturing are all key components of the TML portfolio. All TML’s measuring equipment is calibrated and recorded and SPC (static process control) and AQL (quality level) checks are also carried out as requested by TML’s customers. Energy saving measures and green initiatives are also a key part of TML’s successful modus operandi. The company has worked successfully with the Carbon Trust in commissioning equipment to reduce energy cost and a recent LED lighting program has also reduced energy outgoings in that area by some 400%.

The company has also invested heavily in qualifications for medical and dental-based manufacturing. TML is now five years qualified to the ISO 13485 standard. Dick Walsh reflects that attaining the standard has been one of the most valuable achievements of the business to date. “A good percentage of TML’s manufacturing output is located in the growing medical and dental markets. There is no doubt that gaining ISO 13485 has helped focus and project our general excellence in technical molding to the right kind of medical and dental purchasers and specifiers.”

Helped by success in medical and dental areas TML has outpaced the revival in the UK’s SME manufacturing performance over the past three to four years with double digit growth posted for the business over that time.

**TML and WITTMANN BATTENFELD**

Investment in new WITTMANN BATTENFELD injection molding machinery and other equipment has also helped TML to raise its production volumes in recent months. “We value our partnership with WITTMANN BATTENFELD UK,” notes Walsh. “Our customers expect continuous and fault-free engineering and production from TML – and these are the qualities that we find mirrored in our growing fleet of WITTMANN BATTENFELD injection molding machines.”

To achieve ISO 13485 TML built upon the existing design and manufacture capabilities already encapsulated in its ISO 9001 standard, the business having been certified in this manner since January 1997. Walsh notes that the ISO 9001 standard was “a helpful pre-requisite for ISO 13485, since the disciplines for a clean, quality assured mold shop had been long established before we went further and took the plunge into ISO 13485, adding further processes to guarantee safe and capable product management.” ♦

*View of the TML premises in the UK’s South West in the Plymouth area. TML was founded nearly 20 years ago in order to match ongoing growth in technical trade molding. TML has grown from strength to strength since and now employs some 30 people operating on a site footprint of nearly 20,000 sq. ft.*

*View of the TML production hall.*

*TML founder and director Dick Walsh with WITTMANN BATTENFELD machinery.*

**Adrian Lunney** is a press and public relations agent specialized in media work for companies in plastics, chemicals, packaging, recycling, and general manufacturing sectors.

# Temperature control technology for first-class results

*In the temperature control technology industry, Julius Blum GmbH based in Höchst, Austria has emerged as one of the WITTMANN Group's key customers. This long-established company has been relying on temperature control technology from WITTMANN ever since the first appliances were developed – all the way from the space-saving dual-circuit appliances from the Compact series in 1985 to the latest TEMPRO plus D model launched in 2014.*

**Walter Lichtenberger**

**F**ounded in 1952 in Höchst, Vorarlberg (the westernmost Austrian province), Julius Blum GmbH is a well-known international manufacturer of hinge, lift and runner systems for the furniture industry. The family-owned company employs about 6,400 associates worldwide, and most recently achieved 1.44 billion EUR in annual sales, 97% of which were realized outside Austria. Blum operates seven facilities in Vorarlberg, production plants in Poland, the USA and Brazil, and 27 subsidiaries and representative offices around the world as well. The company ships its products to more than 120 countries.

*The highest quality standards have made Blum one of the world's most renowned manufacturers of hinge, lift and runner systems for the furniture industry.*



## *Customized solutions in temperature control*

High quality standards have always been a top priority for Blum, which is why in temperature control technology, too, only appliances that meet the company's high expectations have been used. Blum is currently operating more than 200 TEMPRO plus D high-tech temperature controllers from WITTMANN.

Special features were defined for the temperature controllers in accordance with Blum's specific requirements. Through extensive communication with the customer's engineering departments and machine operators WITTMANN was then able to tailor the appliances to meet the needs of Blum.

The final result of this cooperation was a high-performance temperature controller model custom developed for Blum. And, as a side-effect, the implementation of several special requirements ultimately also led to these being defined as a general standard for WITTMANN temperature controllers.

The temperature controllers made for Blum are each equipped with a 5.7" color touchscreen and the latest controller technology. They come with a closed circuit without an oxygen tank, a maintenance-free ultrasound flowmeter, an unlimited mold purging function and an injection molding machine interface. Moreover, special pumps ensure optimal flow even with narrow cooling channels. The design is rounded off by robust castors and special paintwork in the corporate colors of Blum. Since two dual temperature controllers are required to manufacture the highly complex injection-molded parts used by Blum, a special two-level transport cart was developed to minimize space requirements.

## *Challenges in production*

In the production of high-precision parts, permanent flow monitoring is a vital issue. For this, WITTMANN relies on non-contact ultrasound flowmeters. Due to technical requirements, narrow cooling channels are not uncommon

at Blum, which means that the pressure loss in temperature control can be extremely high. Consequently, there is a definite need to handle flow rates falling below two liters per minute. The newly developed ultrasound flowmeters from WITTMANN provide permanent, precise measurement of flow rates below one litre per minute. The data is continuously recorded over 24 hours, and it can easily be saved on a USB stick and then analyzed with a special software developed by WITTMANN. In this way, continuous monitoring and recording of the entire production process has become very simple.

To solve the problems arising from narrow flow channels in a mold, namely high pressure loss and uneven heat distribution, special features were incorporated in the appliances made for Blum. In cooperation between WITT-

For exact monitoring of the individual flow quantities, WITTMANN also uses a device integrated in the appliance to control both cooling circuits, each of which is equipped with two separate mold inlet and outlet gates. Blum decided to use this flow distribution concept for complex molds, where parallel connection to the mold is given preference over serial connection.

Wherever more than two mold circuits need to be monitored, WITTMANN offers a solution with an external WFC (Water Flow Control) distribution system. This multi-circuit flow control unit can be mounted directly on the clamping plates of the injection molding machine, which minimizes the length of hoses and, consequently, pressure loss. Each WFC unit is able to control eight circuits. Here too, connection to the injection molding machine is possible via a serial interface.



WITTMANN TEMPRO plus D temperature controllers installed at Julius Blum GmbH in Höchst, Vorarlberg. Transport carts with two levels serve to minimize space requirements. Besides ultrasound flowmeters, the dual-circuit appliances come with several other special features.



Picture on the left: A plastic cover protects the 5.7" touchscreen of the temperature controller. Picture on the right: Inside view of the TEMPRO plus D: the new dual ultrasound flowmeter from WITTMANN.

MANN and its pump supplier, a special pump was developed for this purpose, with higher pressure and lower displacement rates in liters. In this way, the pump's coefficient of performance has improved substantially, and cavitation inside the pump body has been largely eliminated. Distribution of the displacement volume among two or more circuits has also had a positive effect in terms of constant heat distribution and better perfusion in the mold. All of these steps taken together have led to significant improvements in the surface of molded parts, and shorter cycle times have been achieved as well.

### A successful cooperation

The close cooperation with Blum, which has been ongoing for many years, enables WITTMANN to respond promptly to any new special requirements and develop appropriate solution proposals as fast as possible.

The Blum company is currently pursuing some new approaches to reach further improvements in surface attributes of molded parts, and here WITTMANN is again contributing its many years of experience in temperature control technology. ♦

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

# Slovenian tool maker and molder relies on the WITTMANN Group

*Orodjarstvo Knific d. o. o. based in Tržič, Slovenia, a fast growing company in tool making and plastics processing, is offering their customers a direct path to success from concept to the finished product, including design, production, assembling, and packaging. The highly experienced processor relies on the wide product range of the WITTMANN Group.*

**Peter Zajc**

It has been 26 years since the Orodjarstvo Knific company started their activities in mold making and the injection molding of plastic parts. Today, the company is a highly regarded supplier of plastic parts and molds to both local and foreign customers. The company handles a wide range of products, is staffed by knowledgeable employees, and has many years of experience in the field of plastics processing to support it. Orodjarstvo Knific stands for quality and reliability, and these factors are the main basis for their successful cooperation with their customers, who represent a wide variety of industries.

Among other things, the company Orodjarstvo Knific is a highly reliable manufacturer of quality metal tools for the injection molding of polymers and polymer products. The company works primarily for customers that are active in the fields of electronics, household appliances, cell phone industry, and automotive parts.

Orodjarstvo Knific is especially strong in the manufacturing of a wide variety of molds for the injection molding of thermoplastics and aluminum die-cast. These molds range in sizes of up to 800 × 600 mm. As an additional service, the company can also manufacture injection molded parts, giving full support that ranges from product design to the delivery of the finished plastic part. In recent years, the company has achieved a remarkable annual growth of 20–25%, and subsequently has invested considerably in new molding machinery and other equipment.



*A small selection of the plastic parts that are molded by the company Orodjarstvo Knific d.o.o. in Tržič, Slovenia, using equipment from the WITTMANN Group.*

## *A fruitful cooperation*

Orodjarstvo Knific has worked with BATTENFELD for more than 20 years. Over the years they have ordered a variety of different BATTENFELD machines, such as TM and



HM models (ranging from 35 to 160 tons of clamping force), as well as different WITTMANN auxiliary equipment, like TEMPRO basic C140 temperature controllers, Minor 2 granulators, and DOSIMAX MC 30 dosing units, to ensure an optimal production environment for the steadily growing business.

Since 2008, Orodjarstvo Knific has worked with Robos d. o. o., the representative of the WITTMANN Group for Slovenia, Croatia, and Bosnia-Herzegovina. The two companies have established a very close and authentic relationship that has strengthened Orodjarstvo Knific's trust in the products of the WITTMANN Group. For Robos d. o. o. – as the representative of the WITTMANN Group – strong service support, as well as competitive and innovative solutions for new projects, has always been the first priority.

In 2014, Orodjarstvo Knific decided to renovate a part of their injection molding production plant. Some older machines were replaced by two new HM 45/130 machines and one HM 65/210 machine, all of them *ServoPower* models. This also proved to be another step towards a significant reduction in energy consumption.

### *The new material handling system*

Furthermore, Orodjarstvo Knific wanted to install an optimal and cost effective centralized material handling system that included the drying of the material, as well as the conveying of the resin to 6 processing machines ranging from 35 to 65 tons of clamping force.

This project was realized with the assistance of Markus Wolfram, the Austrian Sales Manager of the WITTMANN Bulk Materials Department. The solution now consists of a WITTMANN DRYMAX Aton<sub>2</sub> F120 material dryer, with three SILMAX Compact material hoppers of a volumetric capacity of 100 liters each. The hoppers are equipped with controlled vacuum take-off adapters.

The complete installation – including blower and XS B Filter station – was set up on a mezzanine outside of the production hall, to have a clear spatial separation of the material from the injection molding machines. The WITTMANN FEEDMAX loaders on top of each drying hopper are equipped with integrated dual proportional valves, thus enabling the system to add specified quantities of regrind material directly on the dryer.

Controlled by means of the WITTMANN eMax/24 network control system, the dried material is distributed via a coupling station to FEEDMAX B206 hopper loaders on the machines.

Planning and completion of the entire installation – including all the tubing – was done by the Robos team of service technicians. Thus, it was possible to keep the overall price of the system at a very competitive level. Additionally, the WITTMANN eMax/24 network control system provides the opportunity to further enlarge the materials handling system by adding loaders and pumps if this should be necessary in the future.

The WITTMANN Group has proven once again that their wide portfolio of products and turnkey solutions can be adapted to the special needs of any customer, all while keeping the costs within the estimate. ♦

*Žiga Thomas Kogoj, co-owner and Technical Manager at Orodjarstvo Knific d.o.o. in Tržič (right), and Peter Zajc, Robos d. o. o. Managing Director. In the background, the material drying system is visible.*

*The WITTMANN eMax/24 network control is monitoring the material conveying process.*

*HM injection molding machines from WITTMANN BATTENFELD with WITTMANN material loaders; the picture below shows the ServoPower drive technology.*



# Jones Plastic & Engineering, Mexico

*Founded in 1961, Jones Plastic & Engineering Company, LLC, is a privately held company and a full service solution provider capable of offering turnkey product development to its customers, including a broad range of excellence from basic commodity resins to complex engineering thermoplastics. For more than 10 years now, Jones has worked with WITTMANN robots.*

**Rodrigo Muñoz**

With five molding facilities in the United States and Mexico, Jones Plastic serves a wide variety of customers throughout North America. Headquartered in Louisville, Kentucky, Jones' Product Design Center offers its customers true "art to part" design assistance, mold filling analysis, FEA services, solid modeling, advanced visualization & rendering, and in-house rapid prototyping. Additionally, its Tooling Engineers

*One of the WITTMANN stack mold robots installed at the Apodaca (Mexico) plant of the Jones Plastic & Engineering Company – a W844D model with a payload of 20 kg. The picture shows the robot in position over the stack mold. After the mold has opened, the removal sequence starts from this position.*

provide oversight for the design and construction of molds fabricated both domestically and globally using only certified mold builders. Jones has custom molding operations in Williamsburg, KY, Camden, TN, Apodaca, Nuevo León, Mexico and Ciudad Juárez, Chihuahua, Mexico. It also has a captive molding operation at its Louisville headquarters for a proprietary product line. The company has approximately 135 molding machines with a wide array of sizes ranging from 65 to 1,800 tons.

Jones serves a variety of customers from many different industries as both a tier 1 and a tier 2 supplier. These industries include appliance, automotive, consumer products, medical and packaging. Specialized manufacturing processes and finishing techniques include in-mold decoration, insert molding, gas assist, painting, laser etching, hydrographic, and chrome plating.

Jones Plastic consistently ranks as one of the largest privately held customer molders in North America. All of its facilities are registered to an ISO standard, and Jones is committed to lean manufacturing practices to support its continuous improvement goals and to maintain its competitiveness in the global economy.

**Rodrigo Muñoz**  
is the President of  
WITTMANN  
BATTENFELD  
México S.A. de  
C.V. in Querétaro,  
Mexico.



## High-class automation rules

As part of its commitment to remain competitive, each year Jones invests heavily in automation for part removal, robotic assembly, electronics assembly, custom assembly and different kitting applications. WITTMANN has been a long-time partner and strategic supplier to Jones Plastic & Engineering de Monterrey in Apodaca (Mexico).

This facility, located near the

Monterrey Airport, has 37 molding machines ranging from 90 to 1,100 t. Jones de Monterrey offers many different secondary process capabilities and has significant automation and robotics expertise as a result of working with WITTMANN over the years.

Steve Miller, Vice President Technology, and Pedro Castillo, Maintenance Manager at Jones de Monterrey, unanimously: "We have bought robots from WITTMANN since 2001, and we have installed over 50 robots in Mexico. Our experience with WITTMANN robots has been they're reliable, durable, easy to program, and come at an excellent price".

In its last project Jones purchased six robots for stack molds, four of the W844D and two of the W846D model robots. Eng. Pedro Castillo says: "We bought these six robots for custom stack mold applications, however these models offer us the flexibility to run conventional molds in the same machines."

Castillo also mentions that "our technical and maintenance departments are very satisfied with WITTMANN robots, because programming is easy, the icons are friendly, and it is easy to train new technicians." ♦

# 10,000<sup>th</sup> W8 robot reaches its destination

*The 10,000th W8 robot was recently delivered to the plastics processor Plzeňské dílo, výrobní družstvo, at its plant in Plzeň in the Czech Republic.*



*At the official presentation of the handover document for the 10,000<sup>th</sup> WITTMANN W8 robot in Plzeň: Michal Slaba, Managing Director of WITTMANN BATTENFELD CZ; Michael Wittmann, Managing Partner of WITTMANN Kunststoffgeräte GmbH; Ladislav Folk, President and CEO of Plzeňské dílo, výrobní družstvo; Vladimír Mourek, Regional Sales Manager of WITTMANN BATTENFELD CZ (from left to right).*

A medium-sized WITTMANN W832-0812 robot bears the serial number 10,000 in the successful W8 linear robot series. This jubilee appliance, certainly a symbol for the sustained success of the robot series made by WITTMANN, was officially handed over to the customer, based in the Czech Republic, on 5 November 2014.

The W832 is equipped with a vertical arm made of rigid aluminum with two linear bearings and a maximum stroke of 1,600 mm. It is used for injection molding automation jobs with heavy-duty insert grippers.

## *A model Czech enterprise*

Plzeňské dílo, výrobní družstvo was founded in 1945. The facility in Plzeň is mainly equipped with state-of-the-art machines and presses to ensure absolute top quality for its products. On 25 injection molding machines, with clamping forces ranging from 25 to 400 tons and a maximum shot

volume of 1,600 cm<sup>3</sup>, a great variety of thermoplastic materials (mainly PE, PP, PS, ABS, PA, PBT and PC) are processed into premium-quality parts. The majority of its customers are located in EU countries and can be found in the electronic industry, the automotive and household appliances industries, and among manufacturers of cases and toys. The company's quality management is ISO 9001/2000 certified, and in the ranking of the best Czech enterprises from 2005, Plzeňské dílo, výrobní družstvo was classed among the top 100.

The corporate headquarters and the injection molding plant are located directly in Plzeň, with excellent transport connections and only about 80 km from the German border crossing at Waidhaus. The department responsible for thermoset pressing is located in Verhartice, 60 km south of Plzeň, also not far from the German border. Here, parts are produced which serve as components for metering appliances and dashboards, distributors

and isolators; the materials processed are SMC, BMC and Bakelite. Plzeňské dílo also has its own mold making shop, where repairs and maintenance work on molds can be carried out. The company currently employs about 150 associates.

## *Cooperation with WITTMANN BATTENFELD CZ*

The cooperation with Plzeňské dílo has existed since the foundation of the Czech WITTMANN subsidiary in 2003. Auxiliary equipment and automation systems from the WITTMANN Group were purchased regularly over the years. In addition to various robot models (W811, W821, W823, W832), Plzeňské dílo also has twelve WITTMANN temperature controllers of various types in operation. The company also uses a total of eight DRYMAX compact dryers and battery dryers, as well as five WITTMANN plastics granulators from the Junior and MAS series. ♦

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