Traditionally Keeping Up

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Dear Reader,

Some legends begin in such a way that from two bitter competitors who remain true to themselves in everyday competition meet again in the end and continue their path together. We may observe something similar in the Canadian plastics’ market where for the longest time two companies – Nucon Systems and Mould-Tek, both market leaders in the field of bulk handling systems – were in bitter competition. Indeed the maps were anew mixed with the takeover of Nucon Systems by our company in 1999 and the founding of the company Nucon Wittmann but the play remained the same. With the recent acquisition of the blending and bulk handling line of Mould-Tek by our company, two former competitors now form a common company, namely Wittmann Canada. From historical competitors in the market come two allies who now pursue the purpose to develop together clear supremacy in the Canadian market.

The transaction is for various reasons important to us. Primarily, we win access to a product – gravimetric blenders – which we have covered up to now from external sources. We could not fully realize our innovation urge with gravimetric blenders in the past. Now, faithful to our motto “Progress through Innovation”, nothing remains in our way to develop technical leadership in this area. We are glad about this challenge and want to warmly welcome the new employees of Wittmann Canada into our organization.

I would also like to continue on the topic of Canada where during the course of the Plast-Ex 2007 show – which took place from May 1st to the 3rd in Toronto – we had the honor to have in person on our booth NHL legend Johnny Bower. He was on hand each day of the show to autograph countless photographs. One sufficiently knows that Canadians have a special relationship with hockey. Our Canadians are no exception and it is not surprising that the locking disc on the material inlets of our vacuum loaders were affectionately called a “hockey puck”.

Geographically we proceed for the company presentations in totally other regions. On the one hand to France to introduce the structure of Wittmann France, and then to South-East Asia where three subsidiaries Wittmann Singapore, Wittmann Malaysia and Wittmann Thailand are active. The entire team of “Innovations” wishes you a great reading experience.

With best regards,

Michael Wittmann
The Ultimate in Process Security

From the quote and a selection process of only two months, the decision was made in favour of the WITTMANN drying and materials handling system, capable of managing a material throughput of up to 800 kg/h. Materials like polyamide, polypropylenes and ABS are stored in octabins or external silos and, according to demand, supplied to the drying system. The high abrasiveness of polyamide (high content of glass fiber reinforcement) is conveyed through stainless steel pipes and glass bends. Once a minimum defined storage level is reached the production personnel are automatically informed and can reorder material in precisely defined batches.

Generation of dry air

Two DRYMAX dry air dryers with a combined air flow of 1,800 m³/h form, in combination with 14 SILMAX drying hoppers, a drying battery containing 2,540 l of silo capacity. Based on the individual material demand the single silos range in size from 70 to 400 l.

Every SILMAX drying hopper features a separate process heater to allow the selection of individual temperatures based on the specific material. The drying process is optimized by means of powerful microprocessor controllers and an intelligent material protection function, all equipped as a standard. If less granules are conveyed to the drying hopper the heating power is automatically reduced by the control and the dry air supply adjusted accordingly. This is accomplished via a motorized valve controlling the SmartFlow valve developed by WITTMANN and supplying each hopper with the optimized air volume based on the material consumption. The dried material is released for conveyance to the injection molding machines once the programmed residence time is reached.

A purging valve is mounted on the vacuum take-off adapter under the discharge cone of the drying hopper, guaranteeing no material is left in the material tubes after the conveying cycle. This avoids remoisturization of the material (e.g. angle hair). The purge is performed via a motorized valve controlling the SmartFlow valve in combination with the implementation of the system 1.4 km of stainless steel pipe, 400 m of aluminium pipes and 180 glass bends were used.

A specialty of the installation is the integration of the pipes leading to the injection molding machines into the trapezoidal sheet panels of the roof. The use of claw pumps guarantees low conveying velocities even over 80 m in length, without the danger of damaging the material (e.g. single hair). The pumps and blower are located in a separate pump room. The material is supplied to the machine’s respective FEEDMAX vacuum loader ranging in volume of 4 up to 18 l.

The conveying system

The conveying system consists of 3 independent vacuum lines, 33 FEEDMAX loaders, two 5.5 kW pump stations, a 4.3 kW side channel blower and a monitored coupling station. For the implementation of the system 1,4 km of stainless steel pipe, 400 m of aluminium pipes and 180 glass bends were used.

A significant advantage of the system is that two vacuum lines can be supplied from the same material source. The material consumers send their requests to the control system and are placed in the correct order. This request queue is constantly processed so that a material shortage cannot happen.

Contributions to the production safety

The WITTMANN DRYMAX dry air generators operate with a dew point of -60˚C. This is achieved by switching the airflow between two separate drying canisters. While one drying canister adsorbs the moisture from the return air by means of a molecular sieve, the second drying canister is undergoing the regeneration cycle. The air from the regeneration heater flows in the counter direction through the molecular sieve thereby removing the stored moisture. The counter air flow guarantees the lowest energy consumption and is further enhanced by the dew point controlled canister changeover.

The drying process is completely monitored through dew point sensors and compared to the predefined dew point. If the actual dew point exceeds the entered value the changeover of the canisters is initiated.

During maintenance and to maintain safety requirements the two DRYMAX dryers can be configured for redundant operation. In this operating mode all individual drying hoppers of the drying battery can be supplied from a single dry air generator while the other dryer can undergo the necessary maintenance.

A further measure for increased production security is performed by the 7-day timer, allowing for the fully automatic start of the dryer. This allows programming of the pre-drying cycle without interference from the operating personnel, which helps avoid unnecessary delays in production.

The M7 network control system

In order to provide functionality and the highest performance, the use of the WITTMANN M7 control system was necesssary. The entire process of conveying from the material sources to the consumers is visually presented on the TFT display of the M7 network control system. Machine consumptions and other parameters can be changed only by entering a higher access level. Via a fast speed CAN-bus the control of up to 8 vacuum pumps, 240 loaders and 4 drying batteries is possible.
Automating Structural Foam Molding
– A Case Study

The ability of structural foam molders to produce larger parts than otherwise possible with the traditional injection molding process creates an additional challenge when it comes to parts handling.

Jason Holbrook and Jim Schmitz

It has been the practice to remove parts by hand with manual labor but the risks are much greater because of the part size and weight. Add to that multiple cavity molds or multiple molds in one machine, insert molding and specialized core pull sequences, and the complexity of part removal increases considerably. It also seems logical to apply robots for injection molding to structural foam molding applications to achieve the same benefits.

Objectives

To investigate the use of automation in structural foam molding to increase part quality, production capacity and operator safety. The use of automation in structural foam molding has generally been limited in the past yet there are many opportunities to increase the relability, add flexibiliy and reduce waste and cycle times. The use of multiple molds on a single platen and the increasing size of some structural parts may require more advanced automation in order to pull parts vertically through the tie bars instead of using side entry robots for example.

Specifying automation for flexibility

For one customer, their existing product was more complicated than other traditional structural foam parts as it required insert molding – which is rare for structural foam molding – and also needed specialized movements to re-move the part from the mold. Specifying the machine was straightforward, it was the automation that required more detailed consideration.

Although the product could be run by hand it was very labor intensive. With the robot they were able to reduce labor for the product by 33%. However, the robot and automation had to be designed not only for this application but with the flexibility to run other standard product molds as well.

Often the physical size and weight of the parts demands an automation solution to prevent personal injury to the operators and prevent unnecessarily increasing the cycle time, especially when there are multiple large parts being molded together and you have an operator going into the molding area to remove part from one or more molds. In addition, cycle savings and improved cycle consistency are needed to stabilize the process with multi-mold configurations. The WITTMANN robot was able to increase the machine output by 29% for one of the products and by 8% for the other. Because the machine runs the product with the greater cycle improvement 65% of the time, the cycle and labor savings were significant. The elimination of operator safety issues and the improvement in part quality further added to the benefits of automation.

WITTMANN looked at supplying a turnkey automation solution. Years of experience in supplying robots and automation to the injection molding industry combined with a dedicated team approach and local support provided WITTMANN with the knowledge to meet the challenge. Various set-ups with whatever configuration was necessary. Programming flexibility

Certain mold configurations needed special moves (i.e. some part locations require motion to clear the tie bars). The robot control units were programmed for the correct sequence, using sub-programs so each mold could be used and order to pull parts vertically through the tie bars instead of using side entry robots for example.

Programming and reliability

Reliability was important to the overall success of the project as the robot needed to provide the precise movements necessary to successfully remove the parts from the mold, especially the sidewall parts. Programming the robot steps was simplified with the fully programmable WITTMANN R7 Teachbox and graphical display. All the operator needs to do is step the robot through the process and then refer-ence and hit run to start the cycle.

Experience shows that the automation must be easy-to-use and simple to program to maximize the benefit of flexi-bility. Even with fairly complex motions required to remove the parts the WITTMANN R7 controls are straightforward.

Training is an important aspect of the system as well in terms of on-site training once the system is up and running with a focus on the machine and the particular application. Although safety was critical in the decision to add auto-mation the payback for the robot could be readily calculated based on cycle savings. Other cost savings included a 1% reduction in scrap from better processing and cycle consis-tency as well as 2% less machine downtime as the part could be removed from the mold without breakage. The customer achieved the projected ROI in less than 1 year.

This particular customer is now looking to achieve similar safety, cycle savings and processing improvements by adding robots to several other presses for even bigger parts. Not only do these applications include insert molding but they are even more challenging because of the different parts, the number of molds and the specific core pull se-quences. WITTMANN will accept the challenge and work to meet the specific needs of the customer.
Beyond the Boiling Point

To heat or cool resin in the mold, processors traditionally use water as the heat-transfer fluid for temperatures below 212 °F and oil for the higher ones. However, water put under pressure has a boiling point higher than 212 °F.

This makes water also suitable for higher-temperature applications. The decision to use oil or water is commonly based solely on temperature with little or no consideration given to the actual characteristics of the heat-transfer fluid.

It is important to determine whether water or oil provides better heat transfer. The heat-transfer capacity of water versus oil can be evaluated by quantifying heat capacity. Water has a density of 8.3 lb mass/gal, whereas oil has a density of 7.25 lb mass/gal. This means that one gallon of water will carry twice as much heat as the same quantity of oil.

Heat-transfer effectiveness requires that the fluid flows easily through the system. Water has a density of 8.3 lb mass/gal, whereas oil has a density of 7.25 lb mass/gal. This means that you pump 1.05 more lb mass per gallon of water than for a gallon of oil, which indicates superior heat transfer.

Differences between water and oil

One of the most significant differences between water and oil is thermal conductivity. Water can conduct more heat transfer than oil for the same volume. Note that the mold can be purged until the temperature is reduced to below boiling. This can occur more quickly with water than oil. Although water can be used at higher temperatures, there is a practical limit based on equipment design. We have identified 320 °F as an appropriate cut-off for water versus oil. A hot water system operates at an elevated pressure to prevent boiling. This pressure is relatively low compared to the operating pressures of an injection molding machine but could present a hazard without certain precautions.

For example, if there were to be a leak of the very hot, pressurized water, it will turn to steam upon contact with air. The heat of vaporization, the Btu/lb mass necessary to change the water from a liquid to steam, is about 970 Btu/lb mass. This energy is lost from the fluid as the water turns to steam and reduces the heat rapidly. On the other hand, oil will not normally “boil” or vaporize if it leaks. The hot oil carries all of its heat with it to the contact surfaces impinged on by the leak. It needs different pumping powers to move less-viscous water versus more-viscous oil.

In terms of a water system, the design must accommodate the higher pressures. This is true for both the tank and hoses, which typically are the same high-pressure and high-temperature hoses used in oil-oil systems. The ability of the system to cool quickly reduces the time required to reach a temperature where the mold can be evacuated.

Water systems designed for use over 212 °F require leak-proof pumps, e.g., magnetically coupled pumps, which can develop high head pressures as well. The higher head pressure will generate even more flow, and hence, further improve heat transfer through the narrow flow passages of the tooling. With no seals to replace and better heat transfer, water as a heat transfer fluid can be a better option. The savings can be substantial even before taking into consideration productivity gains from improved heat transfer, reduced floor space, and a more environmentally friendly solution. Water is inexpensive, can be easily disposed of, and does not degrade when exposed to air.

Cost Efficient Drying With WITTMANN Compact Dryers

Since the year 2000 WITTMANN Robot Systeme GmbH in Schwaig (Germany) designs and manufactures their own line of dryers for the needs of the plastics industry. The units are optimized for ease-of-use and high efficiency. (Andreas Vierling)

In general, processors utilize one of two methods for drying material:

Central material drying generally placed on a mezzanine in the production hall, or decentralized or mobile drying located next to the processing machine.

Centralized versus decentralized drying

The often stated disadvantage that decentralized drying is inefficient and expensive is proven with WITTMANN compact dryers. Both concepts are very common and co-exist equally next to each other. Whereas central drying is often linked closely to the storage of raw materials and shows its strength there, decentralized drying offers more flexibility for special production requirements as determined by the material and molding machine.

Quite often, decentralized drying results in material storage next to the molding machine. The often cumbersome material bags could however be moved to a central storage area and material centrally conveyed to save valuable floor space.

In general, decentralized or mobile drying with material storage next to the machine is common for production volumes of up to approximately 200 kg/h of material. The benefit is an independent manufacturing cell with the added flexibility to prevent a complete shut-down of production and therefore, has certain advantages over centralized material drying. Additionally, the installation of material lines over long distances is not required and therefore, offers lower investment costs.

The extensive offering of WITTMANN compact and beside-the-press dryers allows adaptation to different decentralized manufacturing requirements for various materials and molding machines. On long running production cycles product changes are rare and the drying hopper is often mounted directly onto the feed throat of the molding machine. This prevents re-moisturization of the material and offers added savings by eliminating the need for a conveying hopper.

For frequent product changes the drying silo beside the machine is a better solution. Material conveying to the machine can be accomplished with a FEEDMAX SPS, a Just-In-Time Loader, or with a compact dryer DRYMAX with PDC option. The Portable Drying Conveyor (PDC) provides conveying to the drying hopper and machine in addition to the dry air generator itself. Both conveying options are characterized by small material quantities (100-200 g) and conveying of the dried material with dry air. Thus, re-moisturization of resin for demanding materials e.g. PPA is effectively suppressed.

High energy consumption as a problem

Although the amount of heat required for the plastic resin to reach drying temperature is independent of the dryer type, there are however large differences in the energy consumption. Apart from passive characteristics like isolated desiccant cartridges, isolated drying hoppers made of high-grade steel, and process heating directly at the drying silo, compact dryers are equipped additionally with active energy saving functions.

Just-in-time Conveying: A sensor at the loader determines the minimum material storage and results in the immediate conveyance in case of material shortage.

The SmartReg function is based on the adaptation of the regeneration process to the absorbed water content during the drying process. Basically the exhaust air temperature is measured and then the regeneration period adjusted based on the water content. Optimization of the regeneration process with the SmartReg function saves up to 20% of the energy cost. Special attention has to be given to the return air cooler which is wasting energy and should be avoided as much as possible. If return air coolers are in the drying process then the amount of heat removed must be supplied again by the return air cooler which is wasting energy and should be avoided as much as possible. If return air coolers are in the drying process then the amount of heat removed must be supplied again by the return air cooler which is wasting energy and should be avoided as much as possible.
WITTMANN innovations – 2/2007

The integrated material saver function (MSF)

Particularly for lights-out operations, the integrated material saver function (MSF) is very useful. If the material flow to the machine is disrupted then the return air temperature measured in the drying hopper rises as a result. The material saver function lowers the drying temperature automatically to avoid over-drying the material.

The material remains in the dry air stream so that no ambient moisture can penetrate into the drying silo. The material saver function is available without the added cost of external wiring and returns independently to the adjusted drying temperature if the flow of material begins again.

WITTMANN organized a successful conference on the implementation of IML Systems

On April 24th 2007, under the leadership of their French subsidiary, the WITTMANN company held an in-mold labelling conference with live demonstrations of IML systems at their facility in Oyonnax, France.

On the agenda were numerous specialized presentations about „Implementation of IML Systems“ which explored in detail the requirements of automation systems, molds, labels and regrind, in terms of suitability for IML applications.

The sophisticated lectures were given by Product Managers and Specialists from WITTMANN France and experts from the partner companies, Verstraete and Borealis.

Following the presentations numerous IML systems were demonstrated, including those for the production of 3 and 5 l paint pails, as well as automation for various lids including 1 and 10 l paint pails. The different part sizes and cycle times required implementation of optimum automation systems using WITTMANN’s extensive product range. Series W727H horizontal robots were used for cycle times under 6 seconds, for the smaller buckets and lids. While for longer cycle times, the standard series of linear robots were used. All IML systems were equipped with molds from WITTMANN.

The day after the conference, visitors had the opportunity to visit Jers Imprimerie a label manufacturer. Besides presenting expertise regarding the successful implementation of IML systems this meeting also allowed the numerous visitors an opportunity to exchange information in person.

WITTMANN compact dryers offer the same cost-efficiency as the large battery dryers of central drying processes. All design features lead to particularly low energy consumption without losses in dew point. After regeneration, values of -60°C dew point can be reached.

WITTMANN compact dryers use 5 to 10 Watts per m² of dry air generated, depending on the water load. To determine the energy consumption of the dryer the power requirement for heating the plastic resin has to be added. For example, drying 25 kg/h of PA6 at a temperature of 80°C with a DRYMAX D60 uses 1.0 to 1.3 kW/h. 0.3 kW to 0.6 kW is used for the dry air production, which is a third of the total power consumption. The majority, about two thirds of the energy consumption, is used to heat up the plastic. If the material conveyed to the machine cools down because of long conveying distances or residence times, the mold machine has to introduce more energy for reheating. A small material buffer combined with conveying responsive to material demand, is therefore mandatory.

The MCP 100 central screened granulator by WITTMANN: Impressive measures but easy to handle, the picture showing the change of the knives.

The Model MCP 100 central screened granulator has been specifically designed for the granulation of purge, of any dimension up to a weight of 30 kg, resulting from the start-up of plastics processing machines. These purgings are also produced during material changes and when emptying the barrel of the injection molding machine. Nearly all kinds of plastics can be processed in the MCP 100 granulator, even those filled with glass fibers.

Only by reverting to the long-time experience of the Prodhab plastiques technical director Frédéric Durieux and the know-how of the WITTMANN Team, was it possible to design the granulator for such a challenging application. Before purchasing the MCP 100 granulator the customer was familiar with the performance and the reliability of the WITTMANN central granulators; Prodhab plastiques already has four MS 610 series screened granulators in operation.

The construction of the MCP 100

Operating five days a week around the clock required that all parts of the granulator be heavily reinforced to stand up to the demands of the application. The rotor pole and the walls of the cutting chamber, as well as the bearing blocks, were designed with larger dimensions than is common for standard screened granulators of the same size. With an engine power of 132 kW it is possible to reach a throughput up to 1,500 kg/hr – depending on the material, the shape of the parts, and the size of the screen.

An open, staggered rotor equipped with 3x5 rotating knives was selected as the open construction prevents thermal damage of the material and the staggered knives ensure low noise, reduced abrasion and energy saving operation. The knives are also slant mounted against the fixed knives to further lower the energy consumption. The result is a simple scissor cut which fundamentally contributes to the higher quality of regrind.

To be able to grind the very massive purgings (thickness up to 100 mm) the granulator is equipped with two flywheels made of special diecast material. This increases the inertia and results in even higher torques which make it possible to grind such compact plastic scrap.

Because of multiple material changes every day, the cleaning of the granulator had to be very simple. WITTMANN central granulators in this series offer ease of operation and good accessibility of the cutting chamber. The cutting chamber is opened by hydraulic cylinders for trouble-free cleaning.

On average, due to the high forces (caused for example by reinforced plastics) the knives have to be changed every two weeks. Like all the other WITTMANN screened granulators, these granulators are equipped with a knife gap pre-adjustment fixture to allow quick pre-adjust of the knife blades for optimized regrinding quality. To prevent damage to the knives from foreign materials as for example metal pieces, the purgings are checked for contaminations by means of a metal detector.

Finally, the regrind material is evacuated by a cyclone from the vacuum take-off adapter and packed in “Big Bags”.

The MCP 100 central screened granulator by WITTMANN: The Giant of Granulators: MCP 100

The Giant of Granulators: MCP 100

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The New WITTMANN Blender Line

With the acquisition of the M-Tek blending and material handling product line from the Canadian company Mould-Tek, WITTMANN is able to offer its own complete product range of gravimetric blending units. The official acquisition took place on June 8, 2007 at Mould-Tek in Scarborough, Ontario, Canada.

Michael Wittmann

Mould-Tek’s success has been through a policy of consistent development to bring extremely precise and the most reliable gravimetric blenders to the market. These blenders have met with high demand in North America which still represents the largest market for gravimetric blending.

The strong growing interest in gravimetric blending in Europe and Asia combined with the integration into a central and higher-layered control platform drew the attention of WITTMANN to the Mould-Tek blenders.

Within a very short time an agreement was signed between the two companies. WITTMANN will continue the many years of investment in development efforts and research projects and start the immediate integration of the blenders into the M7.2 advanced central control system.

RTLS technology...

The new WITTMANN GRAVIMAX blenders offer genuine gravimetric dosing (Real Time Live Scale = RTLS technology) which weighs each individual batch precisely and consistently achieves the desired weight. That means that GRAVIMAX blenders proportion each individual material component into the mixing process accordingly to the precisely required weight.

This is substantially different to common systems on the market which work with fixed times during a single dosing process and, only during the next dosing cycle, make a correction of the dosing times for individual components. Unfortunately, with fixed time methods the desired material proportions can only be achieved by statistical means and computationally over longer time periods which negatively affects the batch-to-batch accuracy, particularly in smaller material throughput applications.

... and other progressive features

In order to meet the high demands of RTLS technology, the GRAVIMAX blenders are equipped with fast, high quality electronics which make exact evaluation of the weight cells possible. Various software algorithms reliably filter out other influences or disturbances transmitted from the processing machines. The touchscreen control offers additional benefit as it permits simple access to the various functions of the GRAVIMAX blenders and makes available various equipment diagnostics. A comprehensive data acquisition over OPC provides all values and results of the control to a downstream ERP (Enterprise Resource Planning) system.

The GRAVIMAX line

The line of GRAVIMAX blenders range from the smallest model, the GMX 14 with 130 kg/h throughput and 4 components, up to the GMX 608 with 4,500 kg/h material throughput and 8 components. This comprehensive line of equipment can cover all the requirements of gravimetric blending usually found in the market.

For WITTMANN the acquisition of the M-Tek line of blenders and material handling products represents a further important step to be a complete supplier of peripheral equipment to the global plastics industry.

France:

WITTMANN France

Since January 2007, the world of plastics processors have been appreciating the efforts of the new WITTMANN France conglomerate, from a team consisting of 79 people managed by Joel Gourdol. Here is some insight into its formation.

The original WITTMANN France headquarters, located in the suburbs of Grenoble, has been part of the WITTMANN group since 2000. The original company was founded more than 50 years ago and specialized in the manufacture of granulators. In January 2007, CMB Wittmann was acquired by WITTMANN France and is now known under its present name as WITTMANN France, Département Broyeurs. The company has produced thousands of granulators for a wide variety of industrial applications and since 2000 has focused on the production of granulators solely for the plastics industry.

Within the past seven years, under the technical responsibility of Alain Laboissiere, the design of the entire range of conventional speed granulators has been reviewed. The SUMO series of low speed granulators has since been successfully introduced and the new MAS series is about to be launched. (View the opposite page to learn more about the latest outstanding achievement in the range of granulators.)

Département Broyeurs

In September 2006 WITTMANN France purchased the Paul REGAD company located in St. Claude (30 km from Oyonnax) and is now the Département Moules. This department, with a team of 24 directed by Michel Zaegel, has built molds for the injection molding industry for over 30 years. It has acquired a highly recognized know-how in the manufacture of molds for thinwall packaging products.

WITTMANN France as a supplier of IML robots, and REGAD as a supplier of molds for IML, have collaborated many times to achieve success with the most challenging projects in this field. Today, these divisions of WITTMANN France excel in developing IML turnkey solutions integrating robots and molds. Jerome Empereur, IML Export Sales Manager, speaks of an enjoyable development which he thinks of as the beginning. Paul REGAD once served customers located only within a radius of 100 km and today the Département Moules is producing molds for global customers because of the internationalization that took place of the WITTMANN group.

In order to bring these activities coherently together, the Mold and Granulator Departments will soon be moving into a new building located between Oyonnax and St. Claude. It will be possible to perform actual trials in the new building with injection molding machines.
Southeast Asia: WITTMANN Singapore, Malaysia, Thailand

Mr. Jimmy Teo is acting as the overall General Manager of the WITTMANN Southeast Asia (S.E.A.) subsidiaries and his motto is: “The only way to win is to kick the ball.”

Today, WITTMANN S.E.A. consists of three subsidiaries: WITTMANN Singapore, WITTMANN Malaysia and WITTMANN Thailand. In addition, WITTMANN S.E.A. has local agents dedicated and committed to represent WITTMANN for Indonesia.

WITTMANN Singapore

WITTMANN Singapore (established in 1999) primarily provides services to the IT, consumer, telecommunication, pharmaceutical, and biomedical industry, with a focus on mechanical and electrical design and the start-up of automation systems. The company is offering engineered solutions to meet manufacturing needs from design and process improvements to complete turnkey installations. Working together with customers and suppliers has allowed WITTMANN to access vast resources and generate a lot of ideas in order to support the Southeast Asia market.

The team of trained engineers is available 24/7, and there to support the range of high quality equipment. Over 60% of the business is a result of recommendations, a proof in itself of the strength of the partnership between WITTMANN and its customers.

Of increasing importance from a service aspect is the transfer of technical know-how to the customers. By the end of 2007, WITTMANN Singapore will move to its newly purchased premises that will include a complete in-house training facility for the entire product range. It will also have a well-equipped demonstration room.

In May 2008, ASEANPLAS will once again take center stage in Singapore. The ASEAN plastics and rubber industries will converge here for the 4-day exhibition from May 28 to 31 at the Singapore Expo. The timing is, as in the past, excellent as this gives all of us the opportunity to follow-up on business discussions and leads from K 2007.

WITTMANN Malaysia

WITTMANN Malaysia is committed to providing customers with the highest level of service and technical expertise to meet increasing demands and sophisticated technical requirements encountered by the wide range of companies that are served.

To further support sales and after-sales in southern, central and northern Malaysia, WITTMANN Malaysia (Puchong/Selangor) has offered direct coverage since 2001. The customer base consists mainly of the automotive, packaging, houseswares and electronics industry. Minimizing production floor space, fast robots in/ out time, total flexibility of any equipment, and availability of local after-sales service contribute to the success of WITTMANN Malaysia.

Increasing demand for two-shot injection molding applications has led to be one of the leaders in supplying side entry servo robots. Working closely with the German-Malaysian Institute, WITTMANN Malaysia employs advanced and practical hands-on training with an in-house injection molding machine. The product range includes the full servor traverse robots, low speed granulators, mold temperature controllers, desiccant dryers, vacuum loaders, and just-in-time (JIT) loaders.

WITTMANN Thailand

WITTMANN Thailand opened its doors in 2003 as a one-stop shop of auxiliary equipment for plastics processing. It continues to grow and evolve, and aims to always be the most reliable solutions provider. The experienced sales team, situated in Bangna, Bangkok, works closely with the customers from the inception to the completion of a project and to support it after the start-up. As one of the leading companies in auxiliary equipment, WITTMANN Thailand does not see its activities limited to the supply of auxiliary equipment, but provides all technology modules such as turnkey solutions for in-mold labeling (IML) requiring high speed side entry robot, molds, label magazines, and so on – for complete automation systems.

State-of-the-art production systems in the headquarter make it possible to be competitive and successful.

Outlook

By pooling the strengths, sharing technology and skills, and by cross-selling each other’s ideas, WITTMANN S.E.A. is offering its customers strong capabilities across the entire value chain. To sustain future growth, WITTMANN S.E.A. is sharpening its technical capabilities, widening the product range and geographical reach.

And is taking to heart Jimmy Teo’s motto by kicking the ball to win!

The Climate Chamber: What You Can Expect of Our Units

I n the WITTMANN climate chamber, a specially designed 20 m² room, shielded by a 50 cm thickness of insulation, robots and dryers are subjected to unthinkable conditions. This room allows the detection of any material strain caused by high ambient temperatures.

The room can be heated from 20°C up to 60°C. Dew points are reached from 10°C up to 35°C. (The dew point is an absolute measure of the surrounding humidity. It indicates at what temperature the humidity in the air will precipitate.)

Two kinds of tests are alternatively performed and the specific functional parameters permanently checked. The endurance test lasts for about three months and indicates the thermal wear of the components. Then there are specific functional tests that are performed over several weeks, especially with the dryers. High heat leads to signs of wear that exceed those resulting from normal operating conditions.

From the testing sessions in the climate chamber it is possible to get useful information about how long particular components can experience the additional strain before loosing their performance capabilities.

“Asian circumstances”

The robot and dryer models are exposed to the test in the climate chamber to first determine their fitness for the Asian market.

This is of special importance for the dryers because of the high humidity level of the air in Asia. The creation of dry air is much more difficult as the dryers also have to process to a certain extent the ambient air.

As a result of the tests in the climate chamber it has been determined that the WITTMANN DRYMAX models ES40 and ES80 are best suited for applications in the Asian regions.

Mr. Jimmy Teo is acting as the overall General Manager of the WITTMANN Southeast Asia (S.E.A.) subsidiaries and his motto is: “The only way to win is to kick the ball.”

Today, WITTMANN S.E.A. consists of three subsidiaries: WITTMANN Singapore, WITTMANN Malaysia and WITTMANN Thailand. In addition, WITTMANN S.E.A. has local agents dedicated and committed to represent WITTMANN for Indonesia.

WITTMANN Singapore

WITTMANN Singapore (established in 1999) primarily provides services to the IT, consumer, telecommunication, pharmaceutical, and biomedical industry, with a focus on mechanical and electrical design and the start-up of automation systems. The company is offering engineered solutions to meet manufacturing needs from design and process improvements to complete turnkey installations. Working together with customers and suppliers has allowed WITTMANN to access vast resources and generate a lot of ideas in order to support the Southeast Asia market.

The team of trained engineers is available 24/7, and there to support the range of high quality equipment. Over 60% of the business is a result of recommendations, a proof in itself of the strength of the partnership between WITTMANN and its customers.

Of increasing importance from a service aspect is the transfer of technical know-how to the customers. By the end of 2007, WITTMANN Singapore will move to its newly purchased premises that will include a complete in-house training facility for the entire product range. It will also have a well-equipped demonstration room.

In May 2008, ASEANPLAS will once again take center stage in Singapore. The ASEAN plastics and rubber industries will converge here for the 4-day exhibition from May 28 to 29 at the Singapore Expo. The timing is, as in the past, excellent as this gives all of us the opportunity to follow-up on business discussions and leads from K 2007.

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