

INJECT

Sumitomo (SHI) Demag – Magazine Issue 01/2014

New Hybrid Machine System SP:

The alternative for packaging and high-speed technical parts

Partnership Planning:

Aero Pump is successful with high precision dosage systems

Well versed in Terms of Efficiency:

activeDrive lowers energy consumption at Paul Henke

Think green – act blue:

Record visitor numbers at Sumitomo (SHI) Demag at the K 2013

Think green – act blue!





Dear Reader,

More than half the visitors to our trade fair stand at K 2013 were interested in electric drive technology - and there is a good reason for this: Drive technology is one of the core competences of Sumitomo (SHI) Demag. We develop and produce electric drive systems in-house. Over 200,000 produced units underline this expertise.

The synergies from the merger of Sumitomo and Demag develop their greatest effect in the fully electric injection moulding machine IntElect: It bundles the best solutions by our experienced engineers in a highly precise, dynamic and energy-efficient injection moulding machine. In doing so, our production solutions stand for high performance, cost-effectiveness in operation and responsibility for the environment. This is because injection moulding machines by Sumitomo (SHI) Demag ideally combine energy and production efficiency. We call this standard "BlueTechnolution".

Blue Technolution lets you profit from the decades of experience we have in all drive variants and injection moulding technologies – and of the particular cost-effectiveness of our machines. And we only reach our target when you as a plastics processor have the maximum gain for your production process from our solutions in every possible aspect. You increase output, save resources and at the same time reduce your carbon footprint. Simply Blue Technolution.

Dr. Tetsuya Okamura
Senior Vice President, Sumitomo Heavy Industries (SHI) Ltd. Japan
CEO, Sumitomo (SHI) Demag Plastics Machinery GmbH

Imprint

Publisher

Sumitomo (SHI) Demag Plastics Machinery GmbH, Altdorfer Straße 15, 90571 Schwaig, Germany
Phone: +49 911 5061-5005, Fax: -750, e-mail: info-dpde@dpg.com, www.sumitomo-shi-demag.eu

Editorial team

Bernd Tröger (responsible according to the German Press Law), Stefanie Lauterbach, Arnaud Nomblot

New management takes charge

Since June, Dipl.-Ing. Christian Renners and Dipl.- Ing. Andreas Schramm have been the management at Sumitomo (SHI) Demag. As Chief Sales Officer (CSO), Christian Renners is responsible for global sales, service, marketing and the daughter companies. Renners has worked in technical sales at Sumitomo (SHI) Demag in both Germany and North America. In 2009, he assumed responsibility for the business unit Sales & After Sales, and established a global sales and service network under the

umbrella of Sumitomo Heavy Industries Ltd. Japan. As Chief Technical Officer (CTO), Andreas Schramm is responsible for R&D, quality management and production. Schramm began in 2001 as a development engineer, later assuming responsibility as product manager, and then project management and custom-made orders, and finally the research and development department. The previous COO, Shaun Dean, left Sumitomo (SHI) Demag and has assumed wider tasks in the corporation. ■



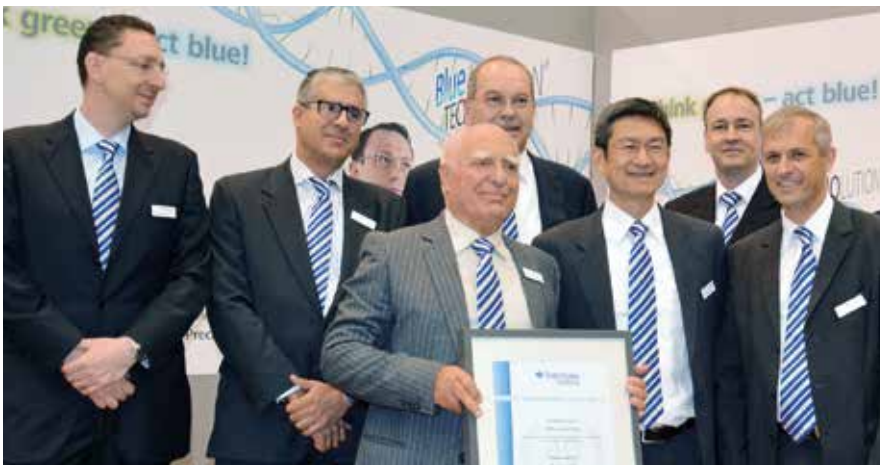
The new management (from the left): CTO Andreas Schramm, former COO Shaun Dean, CEO Dr. Tetsuya Okamura and CSO Christian Renners

Anniversaries of overseas representatives

Sumitomo (SHI) Demag celebrated three partnership anniversaries in the year 2013: For ten years, Odd Bjørklund, Managing Director of Hans Claussen AS

with its headquarters in Stabekk near Oslo, has been representing Sumitomo (SHI) Demag in Norway. The Finnish Jusuco Oy became the official representative of the

current Sumitomo (SHI) Demag in 1992 and has been now with the company for over twenty years. Pavlos Papapavlou, current Managing Director of the representative of Sumitomo (SHI) Demag in Greece, already began collaboration with the former company Stübbe and Ankerwerk in 1970. ■



An experienced team for Greece (from the left): Sebastian Dombos (Sales Manager Germany), George Papapavlou (Senior Engineer Technical Sales at Tecomer), Pavlos Papapavlou (Manager Tecomer), Rolf Zimmermann (Strategic Sales), CEO Dr. Tetsuya Okamura, Director of Sales Frank Schuster, CSO Christian Renners

Aid for Romania



Sumitomo (SHI) Demag has supported selected aid projects in Romania. Through the society "Tasuleasa Social", children and young people in Bistrita Nasaud were on the receiving end of a donation made by the company management and a parcel initiative by the employees. CEO Dr. Tetsuya Okamura (right) and Lorand Szűszner from the Knights of St. John (2nd from right) in the process of handling parcels from the employees in Wiehe and Schwaig filled with food, hygiene articles and writing materials destined for families in need.

More capacity in China

Sumitomo (SHI) Demag and its Chinese daughter company Demag Plastics Machinery (Ningbo) Co., Ltd. are investing around seven million Euro. Stephan Greif (Photo), CEO of Demag Plastics Machinery (Ningbo) Co., Ltd., is responsible for the development of the annual production capacity in China from 650 up to 1,000 injection moulding machines. ■



Systec SP for packaging and high-speed technical parts

New hybrid machine expands the production basis for high-performance applications

Sumitomo (SHI) Demag presents its new machine, Systec SP as an efficient and economic solution for the injection moulding of packaging and high-speed technical parts. With its hybrid drive concept, a screw advance of up to 500 mm/s and an extensive equipment package as standard, it is available in the clamping force range of 1,600 to 4,200 kN. It complements the successful high-speed, high-performance series El-Exis SP and is optimised for products with flow line - wall thickness ratios of up to 250:1.

The new Systec SP is built on the El-Exis SP platform. "SP" in the name is an abbreviation for "Speed Performance", documenting that this machine type fulfils the increased specifications for performance and speed during injection moulding of packaging.

Systec SP: Precise, fast and very cost-effective

In the meantime, like the repeatedly proven El-Exis SP, the Systec SP has an optimal drive system with regard to speed, acceleration, precision and energy efficiency.

The hybrid drive of the machine contains a powerful electric motor for the dosing procedure, and a hydraulic motor for moving the mould, the injection procedure and auxiliary movements. Equipped with the drive system activeDrive as standard, which connects a frequency-regulated high-performance motor with a hydraulic pump, the Systec SP works very quickly and energy-efficiently: All cycle-relevant axes can be moved in parallel.

A hydraulic accumulator and a fast position-controlled hydraulic valve ensure highly dynamic injection: The Systec SP offers an injection moulding speed or screw advance of up to 500 mm/s and is therefore, perfectly equipped for the application area. In a standard machine with a hydraulic accumulator, this is only 300 mm/s, which is insufficient for the named applications. Also, the dry cycle times of the Systec SP are further shortened in comparison with a comparably-sized hydraulic injection moulding machine. At the same time, the activeDrive drive system enables significant energy savings when compared with the classic hydraulic drives.

Active mould protection and individually optimised speeds

Further technological components integrated in the Systec SP range from the active mould protection system activeQ to the function activeAdjust. In this way, the highly sensitive active mould protection activeQ/activeQ+ immediately recognises every disturbance along the entire opening and closing path of the clamping unit. In case of disturbances, the reaction times are reduced to a minimum by active braking. With activeAdjust, the operator has the opportunity to optimise the injection cycle through individual controller adjustment for the ejector, clamping movement and injection process, and therefore, can increase the productivity of the Systec SP. At the same time, this technology module ensures a quiet, harmonious machine process in every machine run. The control platform for comfortable adjustment, monitoring and documentation of all the relevant process parameters is the refined NC5 plus control with its intuitively-usable, process-oriented operator interface.



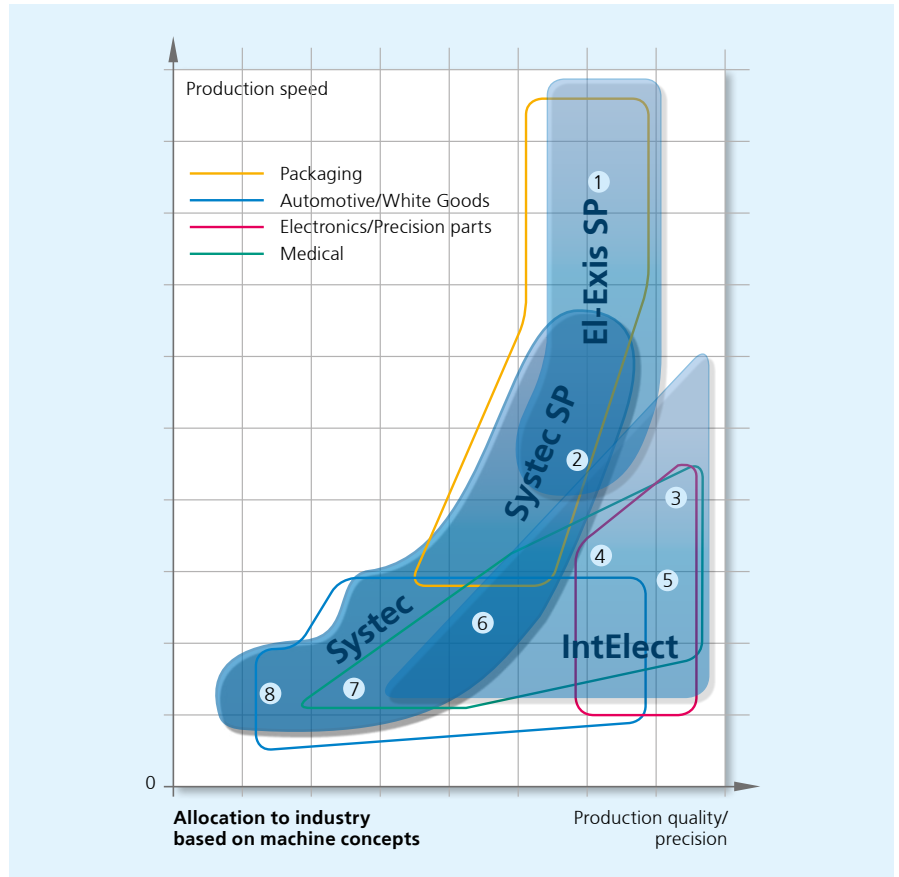
Systec SP injection moulding machine for packaging, here shown with clamping force of 2,800 kN

Flow line - wall thickness ratios up to 250:1

The target market of the new Systec SP by Sumitomo (SHI) Demag is the series production of products with a flow line - wall thickness ratio of up to 250:1. This is often the case in stacking boxes, lids and much more, with cycle times of between 4 and 12 seconds. This packaging materials segment does not always require the high performance of the El-Exis SP, which meanwhile has established itself in high-end packaging injection moulding. Now, for this, Sumitomo (SHI) Demag offers an extremely economical machine basis with the Systec SP, based on the Systec platform, combining high productivity and high quality of injection moulded packaging. The Systec SP covers the clamping force range from 1,600 to 4,200 kN and is always a good compromise where small production volumes are required, combined with high-performance requirements.

El-Exis SP: High-speed series for high performance

For even higher performance requirements regarding dynamics and speed, the El-Exis SP has set the standards for packaging injection moulding: This machine can perform the fastest process



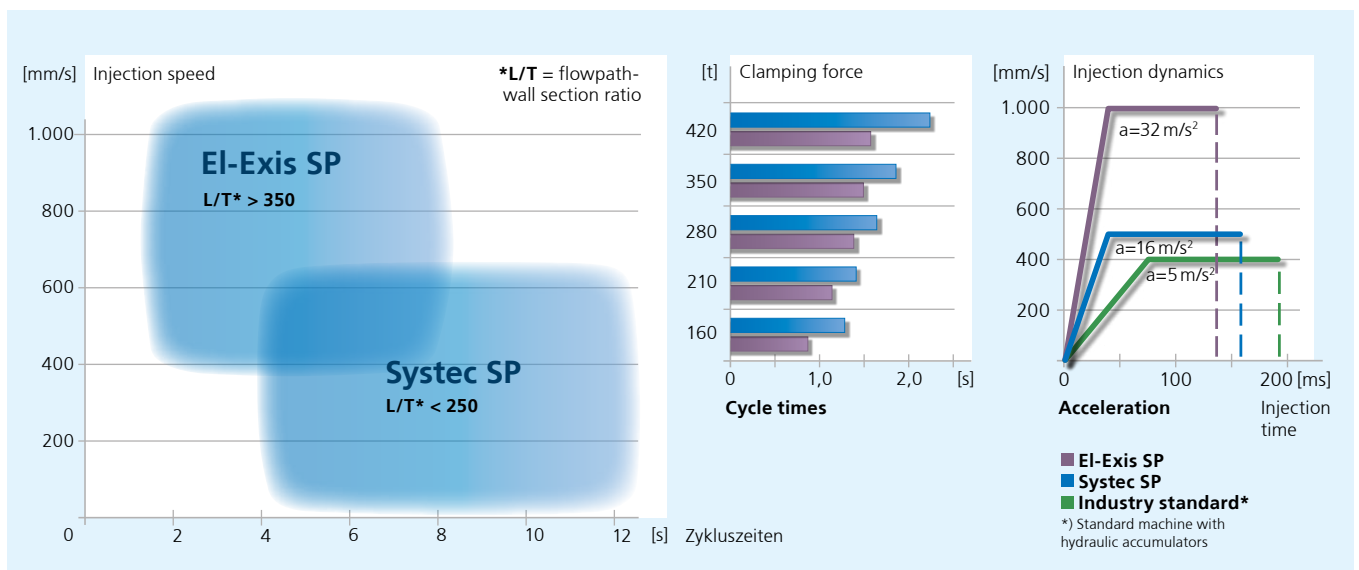
With its performance, the dynamic Systec SP lies between the hydraulic standard machine Systec and the high-performance, high-speed machine El-Exis SP.

and injection movements with high precision and safety - during the production of standard caps, as well as thin-walled and packaging parts with minimum tolerances, as well as precision applications with high injection

pressures in a clamping force range of 1,500 to 7,500 kN. ■

Author

Arnaud Nombrot,
Key Account Manager Packaging



Comparison of specifications of the machine series Systec SP and El-Exis SP.

Well versed in Terms of Efficiency

Paul Henke has already bought 330 injection moulding machines from Sumitomo (SHI) Demag

The furniture industry places high requirements regarding flexibility and quality on the manufacturers of hardware. Paul Henke GmbH & Co. KG in Löhne fulfils these not least through the reliability and efficiency of the injection moulding machines, which, for over 40 years, have been supplied by Sumitomo (SHI) Demag. Currently, the task is to increase energy efficiency during injection moulding.

Be it plinth feet systems, furniture feet, handles, buttons, fillings, crest systems, angles or back wall connectors – Paul Henke manufactures plastic fittings of every kind for the furniture industry. Nearly all the well-known

manufacturers in the furniture industry use products from the Bad Oeynhausen company – beginning with Alno, to Interlübke, Nolte and Poggenpohl to Rolf Benz. Paul Henke produces annually on average a total of 1.8 billion parts, of which 55 million are plinth feet alone, for his customers in 46 countries – and that without exception on injection moulding machines by Sumitomo (SHI) Demag.

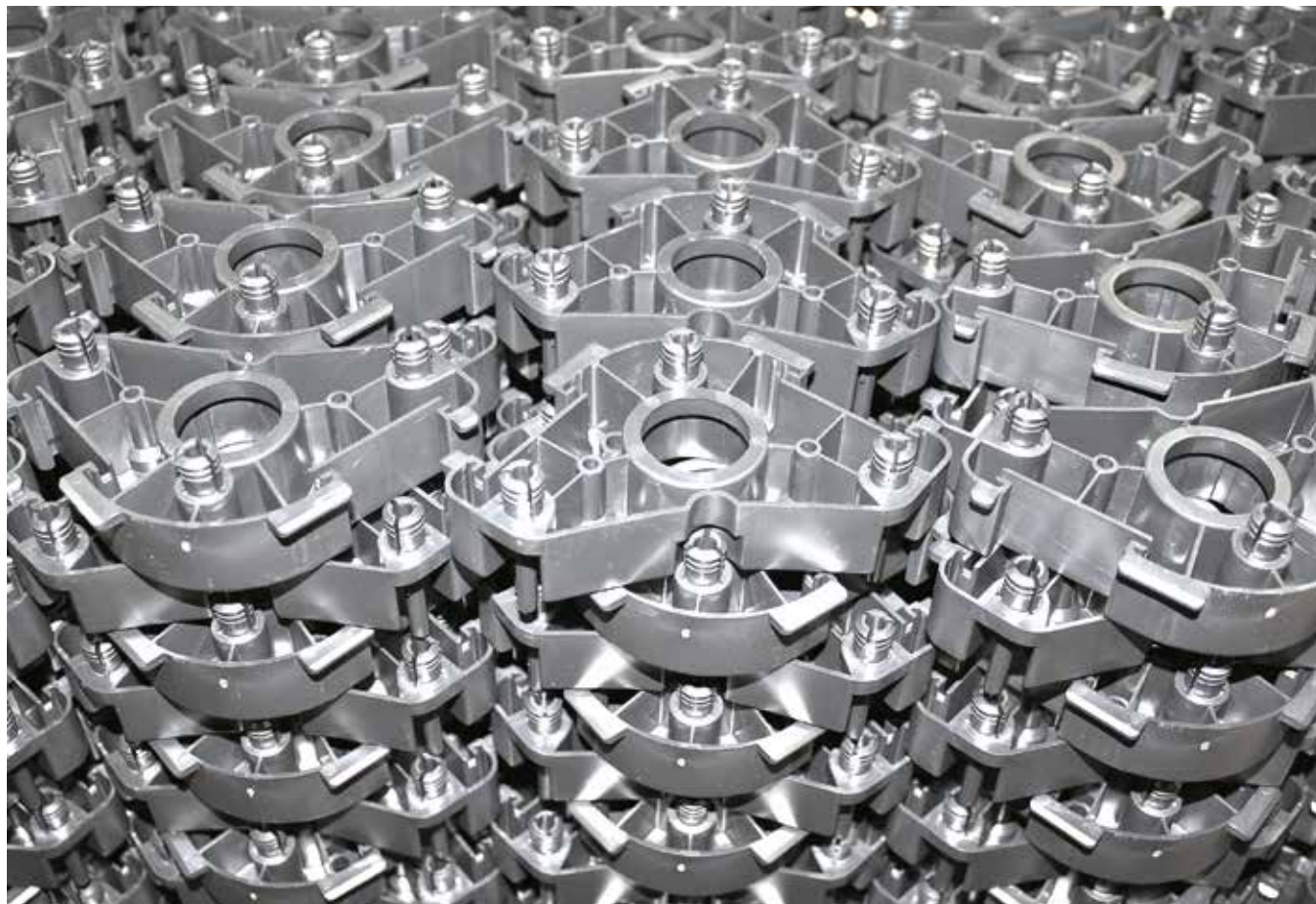
145 machines with clamping forces between 150 and 2,800 kN are doing their work today. Paul Henke only uses 2 injection moulding machines by a different manufacturer for small parts.

In 1971, the company bought their first Demag machine – and since then has stayed with the manufacturer: Each year, Paul Henke orders on average five to six new machines. A short while ago, the 330th machine was taken into service.

“We are running a three shift system, so that the injection moulding machines must run with perfect reliability. In this way, we can impress the customer with short delivery times and high quality”, says Dieter Henke, Managing Partner of the company.

“Our employees know the machines perfectly.” This is also true for the

Paul Henke produces 1.8 billion articles per year. Among those are these dowel feet.



unified control system for all the machine series: “No matter what machine it is: our employees in the injection moulding department can operate them all”, says Henke. At the moment, one employee looks after eight machines on average.

3,000 active injection moulds require constant mould changes

One of the main tasks is the changing of moulds. Henke: “At the moment we have more than 3,000 moulds – mostly built by ourselves – in active use. With the exception of some constant runners for feet, we change the moulds on the machines constantly. The machines by Sumitomo (SHI) Demag allow us this flexibility by their easy access.”

Production efficiency is a top priority at the Westphalian furniture hardware manufacturer: Some years ago, the injection moulding machines were connected to a central operating data logging system, which offered transparency within machine capacity usage. The management was really surprised by the results: It crystallised out that many injection moulding machines were not utilised optimally. At that time, the number of machines was reduced step by step by twenty.

“But regardless of this, we were able to increase our output in the last years continuously by consequent automation”, says Henke. For years now, the company has been receiving injection moulding machines delivered by Sumitomo (SHI) Demag complete with linear robots and sprue pickers. Henke: “The advantage is that we can start production immediately after delivery of the machines. Furthermore, the robot control is integrated into the machine control so that this data is also automatically transferred into the lead computer system”. To increase efficiency further, Paul Henke also has quality control, fitting and packaging systems integrated into the production cells.



Since 1971, Paul Henke has already bought 330 injection moulding machines from Sumitomo (SHI) Demag.



At the moment, 145 injection moulding machines are in use for 1- and 2-component technology in Bad Oeynhausen, of which only two are not from Sumitomo (SHI) Demag.

activeEcon measures energy usage before and after

The first step for an effective process optimisation is to visualise the energy usage analysis of the individual steps of the injection moulding process. The measurement and analysis tool activeEcon, which is integrated into the machine control, can be used to make a targeted assessment of the machine's energy usage and to determine the optimal machine setting using a before/after comparison. A particularity of this solution is that the program can automatically calculate the effects on production costs. In this way, the energy values taken per shot can be projected onto a production order and be integrated into the costs per piece and into the order calculation respectively.

activeDrive drops energy costs by 20 per cent

The latest project of the company in terms of efficiency targets energy. No surprise: The Westphalian company uses about 7 million kWh of power per year. Due to the German Renewable Energy Sources Act (EEG), which only allows tax exemption in case of an energy management system, the company now looks for means and ways to save energy in the injection moulding department. "Measurements by Sumitomo (SHI) Demag technicians have demonstrated that we have a large potential for energy savings with the hydraulic machines, if we have new machines in the future equipped with activeDrive", says Henke. Sumitomo (SHI) Demag has carried out comparative measurements between an Ergotech Compact 150-840 and a Systec 160-840. In both cases, a component with a shot weight of 368 g was manufactured in a cycle time of 27 seconds. The result: The machine with activeDrive used a good 20 per cent less energy per cycle.

The company has currently about 5,000 moulds in stock. Since 2012, they are housed in a 28 m high, modern mould storage unit.



Dieter Henke (right), Managing Partner of Paul Henke GmbH & Co. KG, and Andreas Herbers, Sales Engineer at Sumitomo (SHI) Demag.

Per hour, this saves about 6 kWh, which sums up to 36,000 kWh per year when running for 6,000 hours. "In this case, the purchase of activeDrive pays off quickly", says Henke. A further measure is the equipment of the older machines with cylinder insulation sleeves. These reduce energy losses due to heat radiation of the plastification cylinder. The insulation sleeves are simply fitted under the standard protection sheet of the plastification cylinder and adapted

to its heat zones. If required by the process, Paul Henke can simply take off the insulation of an individual zone. "We save a lot of energy with the insulation sleeve, that is clear", says Henke. "It is so much that we would have to rethink the heating concept for the factory buildings, if we were to use the sleeves on all machines. This is the only reason, why we have hesitated with this step during the winter months." ■



Energy check

The EnergyCheck service, offered by Sumitomo (SHI) Demag, can be used to measure the energy usage of an injection moulding process and its cycle phases. As a result, the user will receive information regarding the actual energy usage of its individual production steps. Furthermore, he can deduct in advance, how much energy he would save by installing an rpm-regulated pump drive.

Dynamic load capacity

activeDrive is an innovative drive concept for energy saving, comprising a frequency-regulated high-performance motor in combination with a hydraulic pump. The dynamic performance adaptation to all the requirements during the cycle leads to optimum degrees of efficiency, as only enough performance is provided as is used in the respective cycle sequence. The result: minimal losses and clear energy savings, especially in the areas of partial load and in idling conditions.

Everything from a single source

Paul Henke, with 140 employees, generated a turnover of about 35 million Euro in 2012. The company sees itself as a partner of the furniture industry and develops targeted solutions together with its customers. Apart from injection moulding, it offers various services from a single source: It starts with the idea and development in its

own development department, and continues to prototype construction and then on to performing the preliminary tests. In the mould building department, around 100 new moulds are built per year. The company has currently about 5,000 moulds. Since 2012, they are housed in a 28 m high, modern mould storage unit. In addition to the injection moulding machines, a plant for dust-free painting of the parts

is part of the production. The area of quality assurance has two devices for paint measurement, as well as materials testing facilities with regard to their viscosity, impact resistance or stretching. The logistics department picks, marks or labels the parts according to customer request, and the company's own fleet ensures punctual delivery of the goods.

www.henke-beschlaege.de





Aero Pump production site at Hochheim am Main

„Success needs partners“

Aero Pump GmbH: A battle well planned is a battle won.

Aero Pump GmbH is a well-known and respected partner of the pharmaceutical, technical/cosmetic industry when it comes to the supply of highly precise dosing systems. The core products of Aero Pump are atomizer and dropper applications for dosing without propellant. Aero Pump as independent family-owned enterprise produces high-quality products with about 240 employees – and that for the last 35 years.

Particularly when producing systems free from preservatives, the product portfolio of Aero Pump GmbH requires absolute asepsis. For best possible consumer protection, it is essential to warrant the highest degree of hygiene during production. This is achieved by a follow-on sterilisation process of the completely fitted pump system.

“The basis for the success of the company is a variable and standardised production construction kit, which meanwhile stands for an annual production of more than 180 million dosing systems. We are suppliers to

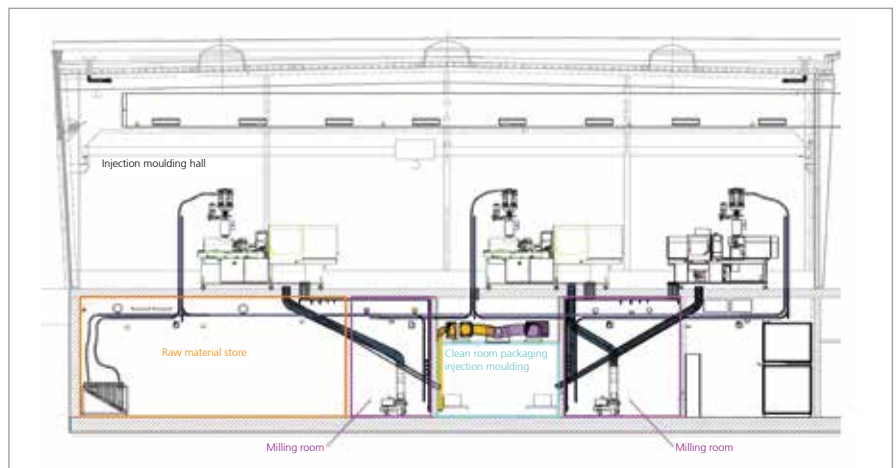
reputable manufacturers of pharmaceuticals,” describes Stefan Hüser.

Stefan Hüser started in the company 13 years ago as operations manager and, right from the start, had the opportunity to take part in setting the course for the company. In the year 2000, the discussion was raised about how the company could successfully expand further, master future challenges and reach the

highest possible degree in production efficiency.

One deciding factor for a new production facility was that there was poor and partially unsatisfactory communication over the two existing production sites.

Optimal coordination between logistics and production had to be achieved, to be able to implement future



Factory concept of Aero Pump with the injection moulding section on the main floor and product packaging and mills on the basement floor

requirements of the pharmaceutical industry. Short channels and a closed quality assurance system are decisive in ensuring consistent and high standards of hygiene and production safety. The long-term experience of Aero Pump during the production of dosing systems at previous sites, and the strategic planning for further production requirements, led to the decision to build a new factory, where injection moulding and assembly were joined. The owner family decided on the site of Hochheim am Main, where production began in the year 2001 with 17 injection moulding machines. Twelve of these machines were a new investment and came from Sumitomo (SHI) Demag.

Very detailed production planning was performed before the factory, built and equipped in 2001, was successfully brought into operation. After developing the basic concept, suitable partners for the realisation were researched. "We liked most the machine concept presented by Sumitomo (SHI) Demag", reported Stefan Hüser. The highly flexible injection moulding machines had the potential to fit perfectly into the planned production environment of Aero Pump. Therefore, it was decided to take the step into the new direction together with Sumitomo (SHI) Demag.

One of the decisive requirements was the separation of sprues and good pieces and to separate, via process control, the reject parts with the highest possible operational reliability. It was also required that parts needed for testing must be ejected on request. The perfect solution was to install the injection moulding machines on the ground floor, whereby the parts were transported to their destination on the lower ground floor, using a pipe system. Doing away with conveyor belts for the transport of parts was paramount for the factory concept. "Without the conveyor belt system, the risk of contamination of the parts can be easily and significantly reduced", explains Stefan Hüser as one of the driving forces behind this.

As it was foreseeable that the factory with the injection moulding section would reach the end of its capacity, it was extended considerably in 2009. In the context of the necessary repositioning of the injection moulding section, the concept of the 2-storey production solution with separate cleanroom boxes, today the good pieces are collected straight away in a cleanroom ISO class 7 whereby it is possible to reach an even



Modern and clear architecture in the interior of the Aero Pump production site

higher degree of safety with regards to possible particle contamination.

With the extension, the architecture of the building was adapted in such a way that the continued flow of materials is maintained starting with the delivery of the raw materials and outsourced items down to the dispatch of the manufactured systems.

Since the extension, the injection moulding section now comprises 52 single- and multi-component injection moulding machines of between 350 and 1,600 kN clamping force. The machines nearly exclusively delivered by Sumitomo (SHI) Demag produce around



Hygiene area with well accessible injection moulding machines, arranged in rows and slightly raised for easy floor cleaning

the clock in three shifts. Resulting from the strong growth of the previous years, extension of the machine capacity with a further 29 machines is possible via an additional extension module.

If you visit the company Aero Pump, the production site will strike you as being very modern and more than meeting the requirements of the pharmaceutical industry. "The design of the building really is just the icing on the cake of the company's performance", comments Bernd Tröger, Head of Marketing Sumitomo (SHI) Demag, after visiting for the first time.

The split of the production into hygiene rooms and cleanrooms divided by air locks, adapted to the respective production steps is convincing in terms of efficiency and safety. "This is clearly seen in particular when you are "just" following the production flow of the plastics production as a visitor", says Bernd Tröger.

The process already begins with the delivery of the plastic granules, which are initially stored in a quarantine storage area with restricted access. Only after the granules are released according to



Cleanroom in the lower basement for packaging of the products, which arrive there via transport pipes



Driverless transport system for the collection of containers at an intermediate air lock



Machine-assigned sprue mills sited on the floor underneath the injection moulding area

strict quality criteria, they are able to, or even allowed to, be brought into the material supply for processing.

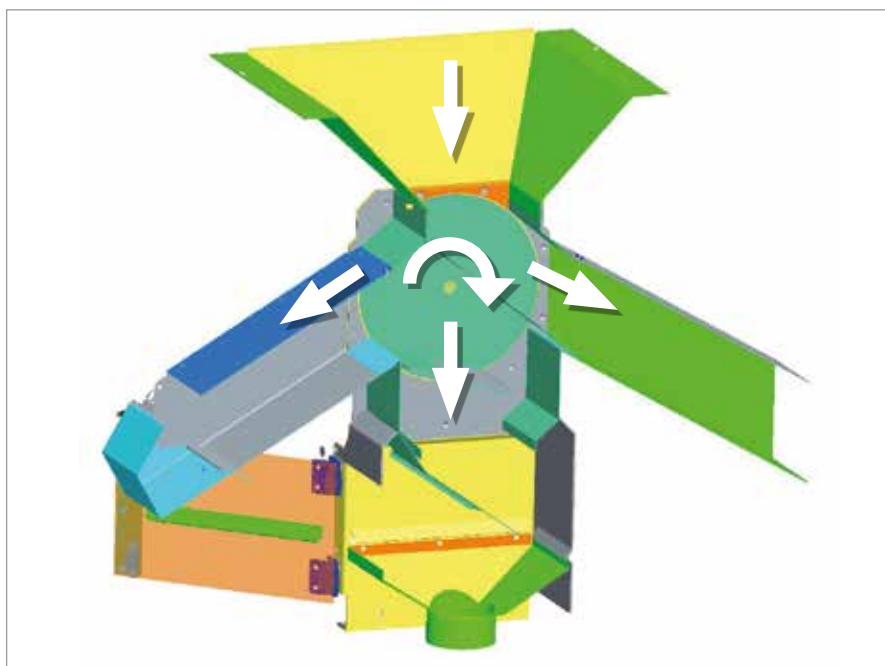
The injection moulding machines are placed on the ground floor in a hygiene area. Cleanliness has top priority here. To ensure this, any minute amount of dirt is instantly removed. In the case of an oil leak on one of the machines, this is remedied by exchanging the relevant system component.

For easy cleaning of the floors, the machines are raised and positioned sufficiently apart to ensure good access and avoid possible cross contamination. An injection moulding process is called stable at Aero Pump, if no more than five of 1,000 consecutive injection cycles are classified as rejected by the process data recording with its tight tolerances. Rejected cycles are safely removed by a quality screening system. To ensure that the mould has the necessary process temperature for quality production after possible production disturbances, a defined fixed number of start-up cycles is automatically declared rejected and directed to the plastic shredders for destruction. This results in the production mould being at the correct operating temperature again, a prerequisite for optimal production.

For the greatest possible protection from contamination by the machine surroundings, the good pieces are transported into the cleanroom in the basement via a transport pipe.

To prevent the creation of fine particles, the packaging within the entire production site is carried out without cardboard. The individual parts are, therefore, collected and packaged in plastic boxes, lined with foil, which are only used within the cleanroom.

Once the bags are filled, they are transported to an intermediate air lock, where they are repacked for transport within the factory. This system safely avoids contamination of the cleanroom boxes.



Rotary drum switch for the separation of sprues and reject parts, constructed jointly by Aero Pump and Sumitomo (SHI) Demag

Nearly all of Aero Pump's in-factory transport is carried out using driverless transport vehicles, which shuttle between the departments and the fully automated storage unit.

Optimal material usage is ensured by transporting reject parts and the inevitable sprue through a dedicated pipeline directly to machine-assigned mills in the basement. In order to utilise the regrind optimally, this is added to the process directly via automated dosing machines. Excess regrind is automatically moved into a central loading station. In this way, every year, a large amount of the resulting regrind can be reused in the own production process. Excess regrind can be sold directly for further reuse. Thus, explains Stefan Hüser, this Aero Pump zone is wasteless. A difficult problem of this 2-storey production concept was to develop an operationally safe and highly available quality sorter, which separates the sprue and the reject parts safely from the good pieces and routes them into the pipeline. There was also the requirement that the test parts for quality control were to be routed to the operator side of the machine.

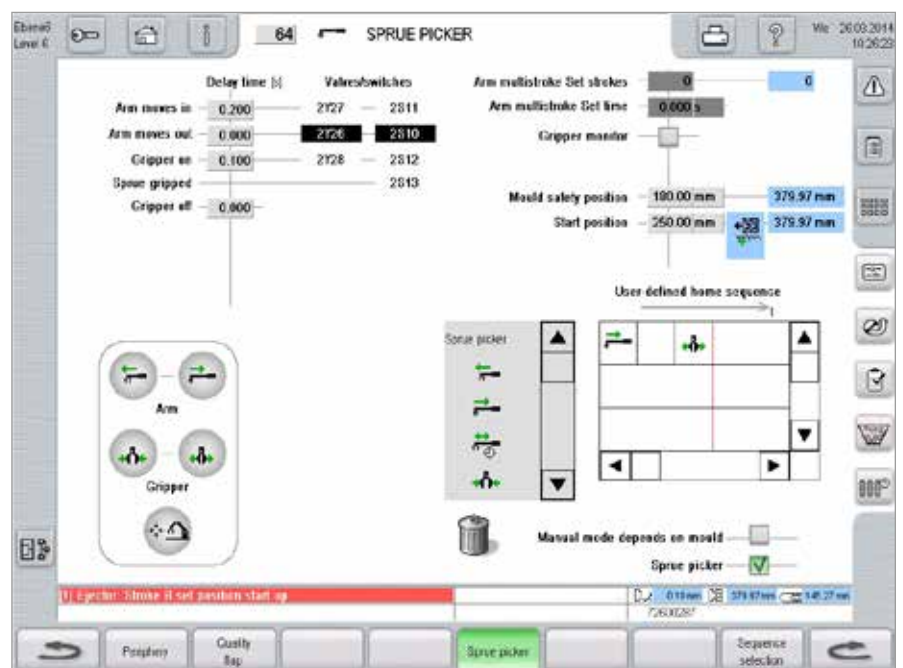
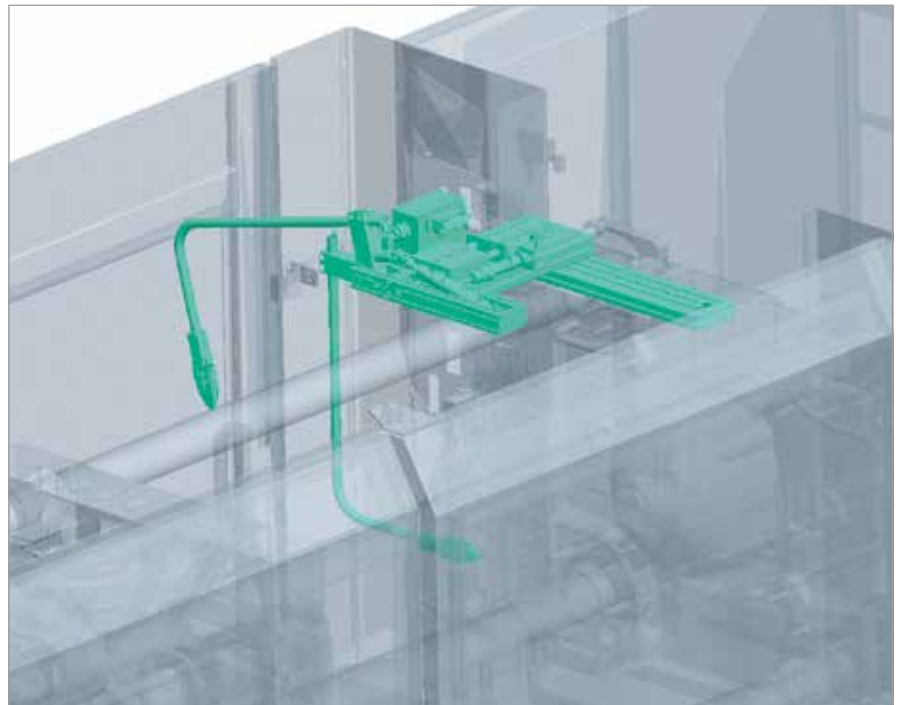
The requirements for safe separation were to be solved initially by a three-position belt separator. In the course of the internal project discussions at Sumitomo (SHI) Demag and the problems that were evolving, this initial solution was dropped in favour of a solution with two deflector sheets within the separator housing.

The real breakthrough, however, was the joint new development of a rotary drum switch. Aero Pump and Sumitomo (SHI) Demag decided on a completely new development, from the idea to construction of a prototype to long-term testing. This rotary drum switch, constructed specifically for very small parts and for loss-free transport into the lower basement, is a fixed part of each machine. The long-term durability is especially crucial, as the switch has to decide for each shot between good piece and sprue – and this for the entire duration of operation.

Through assigned segments and the respective position requests, the rotary drum switch ensures that the parts are always transported into the right position. Therefore, sprues and reject parts are moved towards the mills from the non-operator side. The quality shot can be moved to the operator side on request. By requesting the end positions, waiting times need not be entered for the subsequent mould movements. This ensures that there are no

cycle-determining dead times during selection.

The entire switch is designed in such a way that even the smallest parts are not damaged. There are no interfering edges of metal sheets or screws onto which the parts could fall. When the switch is activated, there is no relative movement between parts and the side wall, so that jamming of parts between flap and side wall can be safely



Integrated sprue picker (above) with screen shot (below)

prevented. All the functions of the rotary drum switch can be programmed quickly and user-friendly in the flexible machine run.

Moulds with runners require, particularly at the beginning, a sprue picker. One of the deciding arguments for the decision to buy was that Sumitomo (SHI) Demag has a highly functional sprue picker, which is integrated into the protective cover. Contrary to some other machine manufacturers, where the picker is fitted to the fixed machine plate, there are no disturbing peripherals during mould change.

The standard sprue picker was further developed over the course of time to meet the production requirements of Aero Pump. The main attention was turned to the creation of surfaces that are as smooth as possible, and to an improvement in the start-up precision for picking devices, which reach over the sprue grippers. For instance, using a simply activated venturi jet and a retainer with suckers, multiway distributors can be removed. The flexible processes required for the removal can be set on the function side of the NC5 control. A multitude of preconfigured and easily

called-up procedures make the adjustment quick and simple.

In recent years, Aero Pump's machine pool has developed towards fully electric technology for machines with a clamping force of more than 600 kN. "The high precision, low emissions and immissions and the low energy consumption are clear advantages of this technology. As especially with small machines, it is difficult to represent the economical amortisation just through energy usage, the physical influences of a hydraulic machine such as inertia of the hydraulics, and employee and environmental protection also have to be further included in the economical analysis," explains Stefan Hüser.

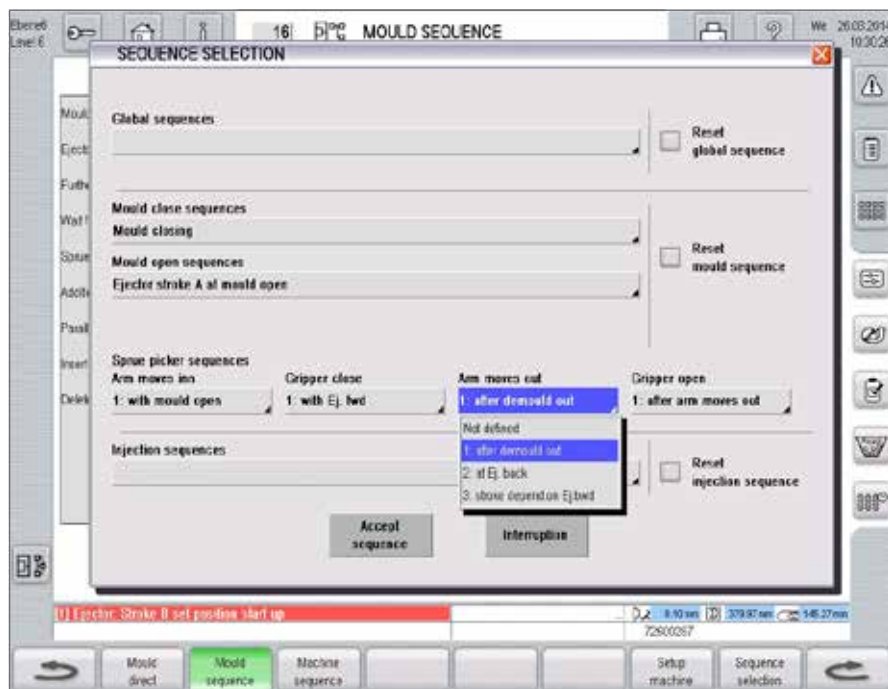
Stefan Hüser is very satisfied with the good services of Sumitomo (SHI) Demag. Not only when there is a disruption with one of the machines and spare parts are required, but also and especially when installing new machines. A service technician, who knows his way around the company building of Aero Pump GmbH, can considerably reduce the number of necessary adjustments and plays a great part in ensuring that the production runs smoothly, according to Stefan Hüser.

Individual solutions, adapted to customer requirements, which ease the daily work for the operator and increase production efficiency, are the daily challenge for the engineers of Sumitomo (SHI) Demag. Bernd Tröger remarks: "We support processors at any time through modification of our standard machines. Initially, it involved two-thirds mechanical optimisation and one-third in the software area. Today, the proportions have already moved to about 80% customised software adjustments. Thanks to the good collaboration, during every new installation, the machine is further optimised towards the production surroundings. The partnership development, existing since 2000, has also been responsible for machine investments in the subsequent years. Of course, perfecting such systems requires some iterations but the willingness among partners to follow a goal quickly and without red tape pays off for both Aero Pump and Sumitomo (SHI) Demag. As the products meanwhile are used by many customers, Sumitomo (SHI) Demag, in particular, has benefited from the many common efforts and developments. Especially the further development of the controls and operating strategies, which were co-designed by Stefan Hüser benefit many customers using NC5-controlled injection moulding machines.

Partnerships are beginning to play an ever greater role in an increasingly complex world. The example of Aero Pump and Sumitomo (SHI) Demag shows how to master obstacles together in order to serve the common end customer perfectly on a daily basis. ■

Author

Text: Dipl.-Ing. (FH) Bernd Tröger, Head of Marketing, Sumitomo (SHI) Demag



Definition of flexible processes in the NC5 plus

Fully electric machine increases precision

The Romanian Plastor S.A. produces components for cars, electronics, sports and garden

Plastor SA in Romania is one of the leading suppliers of plastic components for the automotive and electronics industry. Furthermore, Plastor also produces end products in the areas of sports equipment and gardening supplies. A further mainstay of the company is the construction and production of tools for the polymer processing industry. "In addition to activities in the Romanian home market, Plastor has close trade contacts with companies in other EU countries, such as Germany, France, Austria, Great Britain and The Netherlands", explains Plastor manager Dr.-Ing. Ion Sereş.

In the area of vehicle production, Plastor manufactures, for instance, housings for front and rear lights, small components for the vehicle interior, parts for the engine compartment and small parts for closing and locking systems. Further parts are blow-moulded plastic parts, such as wash water tanks for wiper-washer systems or hoses for ventilation and cooling systems.

Plastor also has many years of experience in the production of components for household appliances. The product spectrum includes knobs, handles, housings

and keyboards. During the production of these formed parts, the gas-assisted injection moulding process is also employed. The components can be decorated at Plastor by screen printing, dabber printing, hot stamping or lacquering.

"Particularly demanding is the production of end products for the areas of sports equipment and garden technology", explains Ion Sereş. "This includes, for instance, ski boots for Salomon or Atomic and lawnmowers for Brill or AL-KO. Here, apart from developing the product, injection moulding and



Component parts for Atomic ski boots are part of the Plastor product portfolio.

surface decoration, we also manage the fitting, packaging and dispatch of the products”.

Plastor was founded in 1914 as a manufacturer of hair pins and combs from natural raw materials. Already in the 1950s and 60s, polymer processing became more and more important. Today, in addition to injection moulding, Plastor also works with extrusion, and extrusion blow moulding. Within recent years, Plastor was restructured to a group, containing eleven companies with special task areas. The parent company of the group, the Plastor SA, employs around 750 employees.

The year 1993 was the beginning of the cooperation between Plastor and the French sports article manufacturer Salomon. Then, production capacities were moved from France to Romania. Among

other things, an injection moulding machine with a clamping force of 4,200 kN, produced by Demag, was taken into operation at Plastor. Due to the positive experiences with the reliability of this machine, Plastor decided to purchase further injection moulding machines from Sumitomo (SHI) Demag.

Solutions for customer service and servicing of the injection moulding machine could be found in close collaboration with Chorus Engineering srl, the Romanian representation of Sumitomo (SHI) Demag. The year 2003 saw the purchase of the first two injection moulding machines from Sumitomo (SHI) Demag with a clamping force of 4,200 kN. Now, Plastor has over 10 hydraulic machines by Sumitomo (SHI) Demag with clamping forces between 1,000 and 4,200 kN for the production of components of ski boots. “For this, it is neces-



Dr.-Ing. Ion Sereş, Managing Director of Plastor S.A.

Plastor produces component parts for ski boots on injection moulding machines by Sumitomo (SHI) Demag.



sary to have simultaneous movement of moulds and core pulling”, says Ion Sereş. “The machines can fulfil these requirements reliably”.

Plastor also benefits from the versatility of the machines. “The plastification units are suitable for working a wide range of thermoplastics and create a high quality melt. For instance, we get excellent results when we work with transparent and with translucent TPU’s coloured with liquid dyes”, says Ion Sereş. He adds: “The machines are also characterised by a highly precise repeatability. The five-point twin toggle system makes for highly precise tool movements. Furthermore, the NC4 and NC5 machine control systems are very user-friendly, as the parameters for the detail controls are grouped.”

With the IntElect 100-430 by Sumitomo (SHI) Demag, Plastor has purchased its first fully electric injection moulding machine in May 2013. “Background to the investment were the quality requirements for the manufacture of complex products from more than one component”, explains the Plastor managing director. “Furthermore, the low energy consumption was also an important argument in favour of the IntElect machine”. The fully electric injection moulding machine is used for the injection moulding of small insert pieces from TPE, which are then reworked to bigger 2-component or 3-component parts in larger injection moulds. These are ski boots parts made of translucent TPU. The soft and elastic parts from TPE, which have to pass very high precision requirements are inserted into these form parts. The production is fully automatic or semi-automatic on moulds with two or four cavities. The respective cycle times are between 30 and a maximum of 50 seconds. The injection moulding machine is equipped with a fitted dust exhauster and a gravimetric dosing device, which can dose up to four different components.

The electric injection moulding machine is used for form parts, which have to date been produced on a hydraulic ma-

chine, and for a range of new products, which are produced by Plastor within the framework of a development project. “Already during the first use in series production, we noticed that the machine movements of the IntElect can be carried out with high precision and high speed”, says Ion Sereş. “A further advantage is the low noise level of the machine. We also benefit from the many opportunities for fine adjustments, i.e. during opening

and closing of the mould, the ejection movement or during deaeration of the mould”.

Plastor aims in the long term to increase knowledge in the existing business areas and in parallel increase the complexity of the products. Therefore, in the future, the proportion of injection moulding machines with hybrid and fully electric drive systems will increase. ■



Plastor S.A. has bought ten injection moulding machines from Chorus Engineering since 2003.



Plastor was convinced by the high precision, high speed and low noise level of the fully-electric injection moulding machine IntElect.

Fast and resource-efficient

Packaging specialist Franz Henke improves its productivity with hybrid injection moulding machines

Efficiency is top priority at Franz Henke GmbH & Co. KG, Lohne, since the polymer processor underwent reorientation a year ago. Here, production and resource efficiency are both of equal importance – one of the reasons why the company has since then invested in 25 new injection moulding machines by Sumitomo (SHI) Demag.

Franz Henke is not happy with small fry: 1.3 billion parts have left the factory in Lohne in the past year, mainly food packaging: The company from the Oldenburg Munsterland produces, for example, ice cream tubs, bowls for deli salads, boxes for icing sugar and beakers for deserts. Much of that is manufactured in the Inmould Labelling process. And for all of them, Franz Henke also has the matching lids. The standard range covers the complete demand of snap-on lids and press-in lids for the closing and tightening of cardboard composite and tin cans. The automated insertion of card

board or foils with registered design for the protection of originality round off this range of packaging solutions for the food industry.

Apart from this, the polymer processor has two further mainstays: The business division Lonacap produces protective elements, protective caps, sleeves and caps for the technical area – in short, protective elements for everything that needs to be protected against dirt, contamination or against damage. The business division Topfit produces different products for the gardening area: pots, carriers, pallets or hanging baskets. “By having these three business divisions, we have, over the entire year, a consistent production load. This is because many articles, such as the gardening articles or of course the ice cream tubs, are articles with particularly seasonal peaks”, says Managing Director Jürgen Henke. “This mix is important for us to be able to effectively use our machine park.”

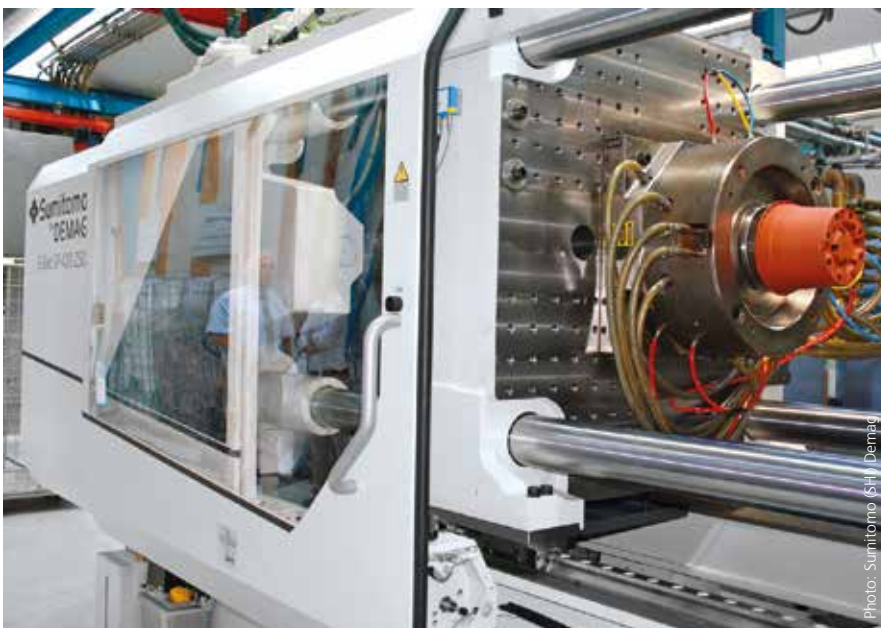
New strategic orientation

Efficiency is an important issue for the company, especially since Agenda 2012, which was introduced to forge new paths during the reorientation a few years ago. “We had some thoughts then: Where do we want to be in the future? Which products do we want to produce? And which investments are important to reach these goals?” remembers Henke.

The wider diversification in the packaging area was a result of the Agenda 2012; another one was the certification according to Standard BRC/IoP, which regulates the requirements for the manufacture of packaging materials for food and packaging materials. The contents are specifications for the general quality management (i.e.: documentation, internal audits, traceability), hygiene of the plants and operational surroundings, the personnel and the avoidance of contamination.

Added to this was a partial renewal of the injection moulding machinery as part of an investment of about 8 million Euros. “We required injection moulding machines that were able to be used flexibly in all three business units, according to orders and season”, explained Henke. “This means that they have to achieve the speed for the packaging area with cycle times of under six seconds.

On the other hand, they must be designed for the future requirements of our customers, so that we can produce new products with them and also increase the output when required, for instance, by fitting moulds with a higher cavity number. That means that the machines must be designed for the demands of tomorrow”.



One example for the resource efficiency in the Topfit business division: Plant pots are injection-moulded from recycled plastic waste material, accumulated from the production of packaging and protective elements.



Photo: Franz Henke

Every variety of lid for the food industry is part of Franz Henke's standard range. Lids for baby food are also produced in Lohne – but they have to conform with particularly high standards regarding hygiene, as the lid can come into contact with the food.

A total of 26 new machines by Sumitomo (SHI) Demag in two years

In 2008, Franz Henke already bought a first machine by Sumitomo (SHI) Demag, a hybrid EI-Exis S 550. The company has had good experiences with it, so that after the reorientation, they ordered a further 15 machines by the German-Japanese manufacturer.

"Sumitomo (SHI) Demag is the right partner for our requirements", says Henke. "The performance of the machines fits just as well as their price-performance ratio. And the service is very good. If required, the service technicians always arrive very quickly and also advise us very well in terms of new requirements". Currently, Franz Henke has 84 injection moulding machines in total, 26 of which are from Sumitomo (SHI) Demag: Apart from a hydraulic Systec with a clamping force of 600 kN, they are without exception the hybrid high-speed machines EI-Exis SP with clamping forces of between 1,500 and 5,800 kN, best suited

for the packaging area. In 2013 alone, 25 new machines were added. They are partly equipped with specific functionalities for the Inmould Labelling process (IML). These include the necessary interfaces for the connection of an IML plant and the facility of operating the machine with an open protective door on the non-operator side. A special IML production start program makes it possible to start the plant without label. Furthermore, all the specific safety features for IML operation have to be taken into account, such as the safe signal for Handling Enable. Air valves can also be activated via the IML automation.

Fewer machines, but higher frequency

"Through the use of the new injection moulding machines by Sumitomo (SHI) Demag we were able to considerably reduce the energy consumption in production. This was an important step towards the certification of the energy management system according to EN ISO 50001, which we were able to reach in

2012", says Henke. In total, the energy consumption of the machines has dropped by 600 kW to 1,500 kW – at higher performance capacity.

"Mainly through the new high-speed machines, we were able to reach a new output frequency in production. This currently is paying off in many new pro-



Photo: Franz Henke

Beakers for deserts are also typical products produced by Franz Henke.



Factory Manager Matthias Völker (right) and an employee from the production with another typical product by Franz Henke: Ice cream tubs.



The EI-Exis SP 350-30000 manufactures snap-on lids in a 24-cavity mould.



Standing in front of the largest Sumitomo (SHI) Demag machine of Franz Henke: (from the left) Andreas Herbers, Sales Engineer Sumitomo (SHI) Demag, Factory Manager Matthias Völker and Sales Manager André Bergmann.

jects”, says Henke. This includes, for instance, the production of the lid for the packaging of a large, globally active baby food producer on an EI-Exis SP 350-3000.

“The European manufacturers of baby food have enormous growth rates at the moment, especially in the Asian regions. This is caused by the population having lost trust in local producers after the latest scandals. We are profiting from this growth. The manufacturer has classified these lids as critical products as they come into contact with the baby food. Therefore, we have been entrusted with the production”, explains Sales Manager André Bergmann. For this, new quality assurance processes were introduced, and an external laboratory regularly performs tests on the parts.

According to Factory Manager Matthias Völker, the injection moulding machine is running very stably – and most of all very efficiently: “We have optimised it for this article. We have reworked the mould, including cooling and were able to reduce the cycle time by about 20 per cent in comparison with the previous machine”.

Should higher numbers be required in the future, this does not present a problem for Franz Henke either: Völker already has an eye on multi-cavity moulds with 48 mould cavities



Everything in view in the production: Factory Manager Matthias Völker and his employees can view the information about the state of production on the monitor.

on two or three levels: “Then of course, for efficiency we would need a machine with a clamping force of 7,000 or 7,500 kN.” The issue of resource efficiency for Franz Henke does not end with the reduction of energy usage. Recently, the polymer processor has begun checking the use of biologically-based plastics – for instance, those based on cornstarch. “This is a future area for us, with which we can distinguish ourselves on the market”, says Bergmann. There are mainly requests for such packaging by the manufacturers of wholefoods.

Furthermore, following a test, Franz Henke has ordered two electric IntElect machines with 1,000 kN clamping force from Sumitomo (SHI) Demag. Henke: “With them, we can drop the energy consumption again by about ten per cent. Furthermore, we can reduce possible problems with respect to hygiene and cleanliness. At the moment, we still do not need a cleanroom with air filtration, but customers, such as the manufacturers of baby food, will increasingly expect production to take place in a controlled area. The electric machines are best suited for this. ■

Franz Henke

The company was formed in 1924 by Franz Henke – initially as a manufacturer of natural corks and cork products for the drinks and pharmaceutical industry. In 1960, the step was taken into plastics manufacturing. The company has a wide standard range in its three most important business divisions: Packaging, Topfit and Lonacap. Besides this, individual solutions are developed together with the customer. As a packaging partner, Henke also realises customer projects from the initial idea to implementation in the in-house mould fabrication, to the production and market introduction.

A multitude of patents and utility models of articles prove the desire to innovate. Besides the company seat in Lohne, where the management, sales, production, mould fabrication, research and development are located, Henke has corresponding external logistics centres in Lohne. With over 100 employees, a turnover of around 25 million Euros was achieved in 2012, of which 40 per cent were generated on foreign markets.

www.henke-kunststoffe.de

Highest plant availability and increase in efficiency

Modern injection moulding technology today offers more than productivity. Customer service ensures that investments in machines can be counted on quickly and reliably - from the first day onwards and at every degree of utilisation. Sumitomo (SHI) Demag assumes the responsibility for this, among other things with a multitude of technical services and retrofitting options.

Save energy with adjusted motor speeds

The energy efficiency of existing injection moulding machines is becoming increasingly important for many customers in

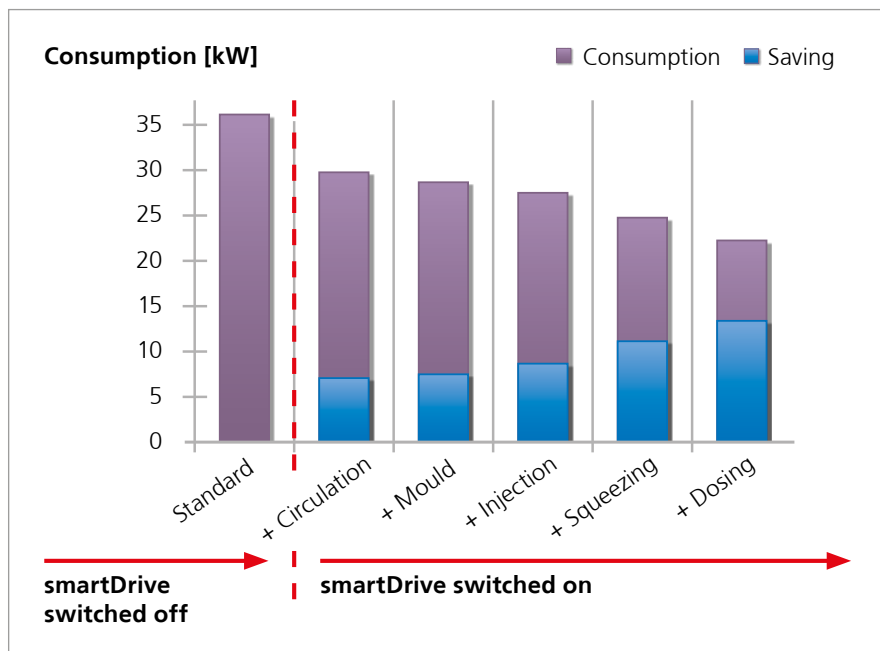
view of rising power prices. As part of its sustainability drive, Sumitomo (SHI) Demag has developed various retrofit solutions for optimisation of installed machines and for increasing energy efficiency. The energy-saving solution smartDrive automatically adapts the pump motor speed of hydraulic machines according to process requirements and especially reduces it in stand-by and partial load phases. This leads to energy savings of up to 40%. Retrospective cylinder insulation also minimises heat loss and furthermore, reduces energy use. Numerous software upgrades, like premature ending of oil prewarming, cylinder heating with



reduced duty cycle or oil prewarming with reduced performance, increase energy efficiency or prevent current peaks.

Additional functions through upgrading from NC4 to NC5 plus

The newest control technology NC5 plus is now also available as an upgrade for NC4 control. With this, the advantages of NC5 plus control can also be used for process stability, remote maintenance and cycle time reduction, as well as USB technology for mould data backup in older machine series. The new offer already generated a lot of interest among operators of older machines at the K 2013; the first retrofit orders for upgrading followed directly after the trade fair. Sumitomo (SHI) Demag has a long tradition of control retrofitting: For many years already, numerous customers have had their Ergotech machines upgraded from the long-standing NCIII to the NC4 control.



A practical example of an Ergotech 800 with 110 kW drive power at a cycle time of 55 s and an energy saving potential for the pump drive motor of 13.4 kW (= 37%).

New hoses for better safety

Hydraulic hoses with normal operational demands should be exchanged every six years. This has been recommended, for example, by the Employers' Liability and Insurance Association in Germany. As an experienced machine manufacturer, Sumitomo (SHI) Demag exchanges hoses for new, original quality examples, thereby always keeping the plants up to date. Furthermore, the service team supports machine operators with all the recommended and individual maintenance measures.

The retrofitting of NC4 machines with a CompactFlash module replaces the often still present disk drives. Constructed for heavy-duty use, the CompactFlash cards can be used with any PC, and the data can be saved with only a few clicks of the mouse.

Present mould discs are quickly converted using a conversion program and transferred to CompactFlash. Up to 100 conventional mould catalogue disks can be saved on one CompactFlash card. ■

Sumitomo (SHI) Demag at Trade Fairs in 2014

IKV Colloquium

› Aachen,
Germany
› 19.-20.03.2014

fitforJOB

› Augsburg,
Germany
› 29.03.2014

Technologietag

› Lemgo, Germany
› 10.04.2014

Chinaplas

› Shanghai, China
› 23.-26.04.2014

Plastics Closure Innovations 2014

› Berlin, Germany
› 28.-30.04.2014

MoldPlas

› Batalha, Portugal
› 07.-10.05.2014

Brasilplast

› Sao Paulo, Brazil
› 09.-13.05.2014

Schweizerisches Kunststoff-Symp.

› Aarau, Switzerland
› 14.05.2014

Peter Kesterke Technologietag

› Hohenwehstedt,
Germany
› 22.05.2014

Plastpol

› Kielce,
Poland
› 27.-30.05.2014

Engelskirchener Kunststoff Technologie Tag

› Lohmar,
Germany
› 06.06.2014

FIP

› Lyon,
France
› 17.-20.06.2014

Interplas

› Birmingham, UK
› 30.09.-02.10.2014

Fakuma

› Friedrichshafen,
Germany
› 14.-18.10.2014

IPF

› Tokyo, Japan
› 28.10.-01.11.2014

Emballage

› Paris, France
› 17.-20.11.2014

Plastimagen

› Mexico City, Mexico
› 18.-21.11.2014

Plast Eurasia Istanbul

› Istanbul, Turkey
› 04.-07.12.2014

Subject to change

New screw cap records at Chinaplas

With two production cells for the packaging and medical sectors, Sumitomo (SHI) Demag Plastics Machinery GmbH, Schwaig/Germany and its Chinese daughter company Demag Plastics Machinery (Ningbo) Co., Ltd. presented themselves on stand E3J01 in Hall E3 this year from 23 to 26 April 2014 at the Chinaplas in Shanghai.

With the El-Exis SP in the clamping force range of 1,500 to 7,500 kN, Sumitomo (SHI) Demag has meanwhile set the standard in packaging injection moulding, with regard to dynamics, speed and durability. It performs the fastest process and injection movements with high precision and safety - during the production of standard caps and thin-walled and packaging parts with minimum tolerances, as well as precision applications with high injection pressures. The performance was demonstrated with the production of 1.2 g light 28 mm PE-HD screw caps with tamper-evident protection for still mineral water using an El-Exis SP 420-3000 (clamping force 4,200 kN) with a 96-cavity hot runner mould. A barrier screw with an L/D ratio of 25:1 delivers the necessary dosing

capacity with sufficient reserves; a special backflow barrier ensures process safety and high reproducibility. Through its hybrid drive technology, with active-Adjust optimised movement of all axles and the further developed machine control NC5 plus, this application already achieved a cycle time of approx. 2 s at its premiere at K 2013. The application has been further optimised since then, and at Chinaplas achieved yet another decrease of the cycle time of around 10%.

Systec 120-200 C produces threaded rods for the medical sector

A hydraulic Systec 120-200C with 1,000 kN clamping force produced threaded rods from POM on the Demag Plastics Machinery exhibition stand. The 16-cavity hot runner mould from the Swiss KEBO AG, affords the Systec C high performance and precision at a 12-second cycle time. On this exhibit, a whole series of machinery contributes to the reduction in the specific energy consumption: The servo-pump motor offers high performance at low energy usage. A linear robot by Sepro Robotique removes the parts; a

quality inspection system from Avalon Vision Solutions takes over the job of 100% quality control and the verification of reproducibility.

The fully regulated, hydraulic all-purpose machine series Systec C is available in 12 sizes and is fully modular in the clamping force range from 500 to 10,000 kN – from 500 to 1,200 kN with full hydraulics, from 1,300 to 10,000 kN with hydromechanic toggle clamping unit. There are four sizes of injection moulding units on offer for every clamping force class. ■



The energy efficient, hydraulic injection moulding machine Systec C from the production range of Demag Plastics Machinery (Ningbo) – here as Systec 120-200 C

„Think green – act blue!“



Sumitomo (SHI) Demag presented itself oriented towards sustainability at the K 2013



For Sumitomo (SHI) Demag, the eight-day world leading trade fair K 2013 in Düsseldorf in October ended with twice as many visitors when compared to the trade fair in 2010, and a large demand for electrical drive technology. “Think green – act blue!” was the leading theme with “blue” as the symbol for the environmental awareness of the company.

Sumitomo (SHI) Demag presented itself at the K 2013 in Düsseldorf with 10 machines from its entire product portfolio, of which 7 were exhibits on its own stand. The most important novelty machine was the high-performance machine Systec SP (see article on page 4) for the production of packaging and of technical high-speed parts.

Production of 1 l buckets on the new Systec SP 280 with colour dosing and change system activeColourChange was shown for up to five different colours. The automatic connection and disconnection of the pigment dosing are integrated into the machine control NC5 plus. ■


 Simply scan the QR code with your smartphone and instantly experience the application video.
 

www.sumitomo-shi-demag.eu/m/2644?&L=1





An El-Exis SP 420-2500 with a clamping force of 4,200 kN has proven its performance during the production of 1.2 g light 28 mm PE-HD screw caps with tamper-evident protection for still mineral

water using a 96-cavity hot-runner mould: Through the hybrid drive technology, with activeAdjust optimised movement of all axes and the further developed machine control NC5 plus; this cap production



achieved a cycle time of approx. 2 s. A 25-D-barrier screw with a special non-return valve ensured high dosing performance at high process safety and reproducibility. ■



Compact production cell with a Systec 210 that combines IML and IMD technologies. This efficiently produces a multitouch display in a single shot. The frame of the 5" display is decorated with the IMD unit on the side of the moving mould half directly during injection moulding. ■

Six-cavity mould balanced with the technology building block activeFlowBalance for two of each of the upper and lower parts and the considerably smaller operating buttons: An IntElect 100-340 with 1,000 kN clamping force created a complete parts set for a key housing from PC/ABS in a cycle time of 30 sec. On the trade fair stand, it was practically demonstrated how the activation of activeFlowBalance has a positive effect on the formation of the smart-key elements in the individual cavities of the mould. ■



Simply scan the QR code with your smartphone and instantly experience the application video.



www.sumitomo-shi-demag.eu/m/2647?L=1



A radio faceplate for car interiors was produced from black PC at the project partner Stieler, which places high demands on the Class A -surface and dimensional accuracy. The combination of alternating temperature technology for the mould ("Variotherm") and external gas moulding (EGM) resulted in a brilliant shiny surface without visual faults, such as flow marks, shrink marks or shadows. The complex geometry with

ribs and domes on the rear side thus had no influence on the surface quality, and the important tolerances length, location and shape were tightly maintained within +/- 0.05 mm. The energy-efficient machine IntElect 50-110, its highly dynamic movements, its precision and the utilisation of the technology building blocks activeFlowBalance and activeLock result in an efficient production with this interesting process combination. ■



At Sepro Robotique, a multi inject robot for multi component injection moulding applications was presented on a multi-component machine Systec multi 210/610h-200v. Contrary to the normal linear robots, the new removing device does not conflict with the vertical carriage, so that the x-axis can move straight to the vertical injection unit. In this way, a two-cavity turner with two stations produced an ice scraper with soft-touch areas. The

robot took a decorative label from a pick and place unit and placed it in the first cavity onto the pre-moulded part, before the mould was closed and the soft component was moulded on. ■

Simply scan the QR code with your smartphone and instantly experience the application video.

www.sumitomo-shi-demag.eu/m/2645?L=1

Partner of the VDMA sustainability campaign “Blue competence”

Sumitomo (SHI) Demag advances energy efficient machine technology within the framework of its “Blue technolution” product range. This is in accordance with the aims of all the German machine and plant technology producers, who want to provide answers to the challenges of sustainability. The building blocks of its “Blue Competence” campaign are technologies and procedures which, for instance, use a minimal amount of energy at maximum productivity, preserve resources, reduce emissions to a minimum or sustainably improve human living conditions.

Throughout the duration of the trade fair, the VDMA produced a blue Playmobil horse, a widely known toy, symbolically and with great publicity in the middle of the city centre of Düsseldorf. In doing so, this demonstrated hands-on the improvements in production efficiency, preservation of resources, energy consumption and recycling during the last 20 years. In addition to the toy manufacturer Playmobil and Sumitomo (SHI) Demag, three further injection moulding machine manufacturers acted as project partners.

As a member of the Alliance Blue Competence, Sumitomo (SHI) Demag offers efficient retrofit concepts for the optimisation of existing installations. This was impressively demonstrated by the

production of the reins for the “Blue Horse” on an injection moulding machine 50/370-200, dating from 2004. The retrofitted RPM-controlled pump drive smartDrive not only improves the degree of efficiency of the nearly ten-year-old machine, but also leads to energy savings in the region of up to 40%. The reason for this is the intelligent regulation of the revolutions per minute that the pump turns at, always

Joschka Fischer (left), the former German Foreign Minister and Thorsten Kühmann, Managing Director of the VDMA Plastics and Rubber Machinery Industry Association



adapted to the current situation in the cycle. The smartDrive additionally improves the service interval of the hydraulic oil, reduces the necessary cooling output, and lowers the machine noise emission. This installation demonstrated how older existing machines can be upgraded with technology building blocks to reduce energy demand and at the same time improve productivity. ■

“Blue Horse”, manufactured within the framework of the sustainability initiative “Blue Competence” during the K 2013 in Düsseldorf city centre



“System solutions for ambitious targets”

CEO Dr. Tetsuya Okamura explains the strategic product focus areas

INJECT: Dr. Okamura, “Think green – act blue” was the theme of the presence of Sumitomo (SHI) Demag at K 2013. What was your motivation for this?

Dr. Okamura: “Blue” is symbolic for our self-concept: All our actions are based on environmentally-aware thinking, always taking into account the latest technological developments – keeping an eye on the resulting global effects.

INJECT: Against this background: What do you convey with “Blue Technolution”?

Dr. Okamura: “Blue Technolution” denotes system solutions that are suitable for reaching these ambitious goals.

INJECT: What solutions are you looking at in particular?

Dr. Okamura: Efficient, highly dynamic and high-precision fully electric and hybrid powered injection moulding machines constantly increase in market significance. Half of our visitors came to the stand to inform themselves about electrical drive technology for injection

moulding machines. For this, we are ideally positioned. Sumitomo Heavy Industries (SHI), our parent company, is one of the leading Japanese manufacturers of electrical drives and, among other things, develops and produces special high-torque motors and control systems for use in injection moulding machines. We will further advance our strengths in the area of electrical machine concepts and in doing so significantly increase our global market share. Already today, more than 85% of our machines feature an electric drive concept.

INJECT: That means for your customers, ...

Dr. Okamura: ... that we focus on system solutions for high-performance injection moulding of packagings, and the flexible and precise injection moulding with tailor-made solutions for telecommunications, automotive and medical technology. We meet the current trend, as we offer the highest flexibility with the hydraulic Systec, and highest precision for general and technical applications with the electric IntElect machines. This equally applies to our hybrid



Dr. Tetsuya Okamura, CEO Sumitomo (SHI) Demag

high-performance machine EI-Exis SP, which produces 96 screw caps with a cycle time of about 2 seconds. ■



Think green – act blue !

Blue
TECHNOLUTION®

"BlueTechnolution is a vital part of our DNA. It stands for our commitment to the environment, the efficient use of resources and intelligent future technologies."

Dipl.-Ing. Christian Renners, CSO



www.sumitomo-shi-demag.eu

 **Sumitomo**
SHI **DEMAG**