Press release
19 October 2011

Sumitomo (SHI) Demag is attending the Fakuma 2011 with all its series and a new controller version

Scoring points with precision and production efficiency

With increased precision, dynamic performance and efficiency in its injection moulding machines, Sumitomo (SHI) Demag Plastics Machinery GmbH based in Schwaig near Nuremberg, Germany, is delivering exactly what its injection moulding customers want. The Japanese-German company will be presenting its current new and advanced developments at the 21st Fakuma – International Exhibition for Plastics Processing – from 18 to 22 October 2011 in Friedrichshafen, at Stand 1105 in Hall B1, as well as on the stands of partner companies. Alongside sophisticated exhibits from all three machine series, the fully electric IntElect, the hybrid El-Exis SP as well as the hydraulic Systec, Sumitomo (SHI) Demag is for the first time presenting the new NC5 plus controller. This controller offers users not only much greater convenience but also an increased range of functions. In accordance with the guiding principle of the 21st Fakuma to be a platform for the future topics of the industry, Sumitomo (SHI) Demag is also focusing on injection moulding of optical parts.

Three years after the merger between the injection moulding activities of Sumitomo Heavy Industries (SHI)

and Demag Plastics Group, the Japanese-German company is presenting a harmonised range of machines which has been further optimised in terms of precision, dynamics and efficiency.

For instance, the fourth generation of fully electrical machines in the IntElect series is the result of a joint development between German and Japanese engineers. The IntElect offers high performance and availability, larger tie bar spacings and linear guides for high-volume and heavy moulds, making it ideal for the needs of the European market. Its excellent reproducibility with outstanding process capability values forms the basis for zero-error production. The series has been available with up to 4,500 kN closing force since autumn 2010.

IntElect: Zero-defect production for precision mass-produced articles from automotive electronics

As one highlight, Sumitomo (SHI) Demag is presenting a fully automated cell for plug production at the Fakuma 2011, including a quality checking sequence for implementing zero-defect production. The high process consistency is demonstrated on the trade show stand by inline statistical quality analysis including calculating the process capability analysis Cpk.

At the trade show, an IntElect 100-340 (1,000 kN) is manufacturing two-pin plug casings made from glass fibre-reinforced PBT in a four-up hot runner mould made by Fischer GmbH & Co. KG, Sinsheim, in a cycle time of 14.5 s. The component, weighing only 3.5 g, is intended for automotive electronics. It imposes very great requirements on precision and reproducibility.

The linear robot SDR 22 from the company's own product portfolio is used for removing the moulded

parts, and its operation is directly integrated in the new NC5 plus machine controller.

NC5 plus: New version with much greater convenience and functions

The Fakuma 2011 marks the start of the new NC5 plus controller version. In this case, Sumitomo (SHI) Demag has made the structure of the former NC5 controller with its immense bandwidth even clearer, as well as creating and adding new functions. The reinforced visual guidance for the user opens the door to much more streamlined usage at the same time as an extended range of functions.

One of these new functions in the NC5 plus controller is activeAdjust, for example: Using a slider, the operator can increase or – if required – reduce the dynamics of the mould movement to suit the individual application, without external help. At the same time, the activeAdjust function is not just restricted to mould movements, but to any machine movement such as ejector movement as well as changing over from injection pressure to final intensified pressure. The injection moulding machine is designed to cover a wide range of applications as standard, whilst this new feature offers the opportunity of adjusting the machine to the product and the process as effectively as possible.

El-Exis SP: Full-cover labelling offers new possibilities in the packaging industry

The individual adjustment option with activeAdjust makes it possible to obtain maximum performance from the machine dynamics above all when it comes to the high-speed production of packaging components. Based on many years of experience in the packaging

market, Sumitomo (SHI) Demag developed the new El-Exis SP (Speed Performance) series and presented it as the K 2010, thereby demonstrating greater dynamic performance and efficiency compared to the El-Exis S. In time for the Fakuma, a 1,500 kN model has been added to complement the series, which is now available in nine versions covering a closing force range from 1,500 to 7,500 kN.

The high-performance El-Exis SP series with hybrid drive is demonstrating its performance at the Fakuma 2011 with an innovative feature in process technology. Together with Marbach moulds & automation GmbH based in Bad Urach, Sumitomo (SHI) Demag will be demonstrating the manufacture of thin-walled shells on its stand, with the feature of full-cover labelling. The special feature of this new in-mould labelling process is that the sleeve label and the base label are inserted overlapping around a radius, thereby providing complete coverage of the plastic surface with the label up to a high level on the sealing edge.

The new development in in-mould labelling runs on a high-speed El-Exis SP 200 machine (2,000 kN) equipped with a double IML mould from Marbach. The production cell produces 250 g shells in a cycle time of approx. 3 s. Here too, the advantages of the new NC5 plus controller version come into play: As part of the activeEcon function, it is possible to produce a detailed energy consumption analysis of all machine movements for each shot, thereby enabling the process to be optimised from an energy standpoint.

Systec multi: fibre optic cables with two-component injection moulding for the automotive industry

Sumitomo (SHI) Demag now offers its fully controlled, hydraulic all purpose Systec machine in 19 sizes, with

closing forces from 350 to 20,000 kN: up to 1,200 kN with a fully hydraulic closing unit, from 1,300 kN onwards with a knuckle-joint closing unit. Optional, additional injection units from the modular product system can be adapted to enable the machine to be equipped as a Systec multi for multi-component technology.

At the Fakuma 2011, a Systec multi 160/520-310h/80v (1,600 kN) with a double turntable mould from HBW-Gubesch Kunststoff-Engineering GmbH, Emskirchen, is producing a 4.2 g fibre optic cable made from transparent PC. This cable is used for illuminating the gearshift pattern of a selector lever used in a passenger car. The second material component, a coloured transparent PC, is moulded-on at various points in order to give the emerging light the required colour. The particular challenge with this component lies in guaranteeing the defined light conduction in the component and that the light emerges at the required points. As a result, this demanding application clearly demonstrates the high precision and reproducibility of the fully controlled hydraulic Systec machine.

Systec 50-120 producing fibre optic cables for the consumer goods sector

On the trade fair stand of Sumitomo (SHI) Demag, an all-hydraulic Systec 50-120 (500 kN) is producing fibre optic cables made from polycarbonate (PC). Using the two-cavity cold runner mould from emz-Hanauer GmbH & Co. KGaA, Nabburg, the cables intended for the white goods sector are being produced with a cycle time of 37 s. The Sumitomo (SHI) Demag customer emz develops and manufactures electro-mechanical and electronic components, assemblies and complete devices as application-specific solutions.

Trend topic: Injection moulding of optical components

"Optical injection moulded components are becoming increasingly important. One main area concerns ambient lighting in cars. We will be casting light on this complicated topic in a separate information area and, in addition to our exhibited machine, we will be cooperating with experienced partner companies such as HBW-Gubesch to provide specific information about fibre optics," explains Bernd Tröger, the head of Marketing at Sumitomo (SHI) Demag.

Systec multi on the Sepro Robotique GmbH stand (Hall A1, Stand 1203)

Another multi-component Systec multi machine will be working on the stand of our partner company Sepro Robotique GmbH, based in Rödermark. The 2,100 kN version is producing ashtray trims made from a PC/ABS blend by injection moulding using a 1+1 mould from HBW-Gubesch. By overmoulding the back with a totally clear ABS, further functions are integrated.

The visible part for the interior of passenger cars imposes exacting requirements on the surface quality. The parts handling is performed by an S5-25 linear robot from the S5 series from Sepro.

Systec 130 with S-FIT technology on the CeraCon GmbH stand (Hall A1, Stand 1422)

As part of a complex production cell on the stand of CeraCon GmbH, Weikersheim, a Systec 130-600 is producing a doorstopper made from PP using the S-FIT process. The moulding is produced in a single cycle and equipped with a sealing lip made from 1-component PUR foam.

Sumitomo (SHI) Demag Plastics Machinery GmbH

Sumitomo (SHI) Demag Plastics Machinery GmbH, Schwaig/Germany, is one of the world's largest manufacturers of injection moulding machines for the processing of plastics. The Japanese-German company was formed in the spring of 2008 by merging the injection moulding activities of Sumitomo Heavy Industries (SHI) and those of Demag Plastics Group.

The global development and production network of Sumitomo Heavy Industries and Sumitomo (SHI) Demag consists of four plants in Japan, Germany and China with more than 3,000 employees. The product portfolio encompasses all-electric, hydraulic and hybrid injection moulding machines with clamping forces of between 180 and 20,000 kN. With almost 100,000 machines installed, Sumitomo (SHI) Demag is present in all important markets throughout the world.

With more than 4,200 machines sold each year, Sumitomo Heavy Industries counts as Japan's largest manufacturer of injection moulding machines. The main Sumitomo plant in Chiba produces machines with low and medium clamping forces. Around 95 % of all machines supplied by Sumitomo Heavy Industries have an all-electric drive.

The main Demag facility in Schwaig/Germany focuses on the hydraulic Systec and the hybrid high performance, high-speed El-Exis machines. Recognising the increasing importance of electric drive technology for injection moulding machines, Sumitomo (SHI) Demag has expanded the former Demag factory in Wiehe/Germany into an international centre of

competence for electric machines. Thanks to the new production capacities, Wiehe now supplies all electric injection moulding machines for the European and American market with its IntElect and SE series and also the hydraulic Systec series with clamping forces of up to 1,200 kN.

Sumitomo (SHI) Demag continues to operate the former Demag plant in Ningbo/China which has been active since 1999. Since 2007 the subsidiary located there, Demag Plastics Machinery (Ningbo) Co., Ltd, had its own, newly built plant and after reaching full capacity, moved to a larger factory with a production area of 11,000 sqm. Injection moulding machines from the Dragon and Systec C product lines with clamping forces of between 500 and 8,000 kN are produced here for Asian markets.

In addition to injection moulding machines, Sumitomo (SHI) Demag offers customised and standardised systems for the automated handling of moulded parts, technical solutions for special applications in process engineering, tailor-made service concepts and various forms of financing for investments in injection moulding machines.

With its seamless sales and service network of subsidiaries and representations, Sumitomo (SHI) Demag is present in all major industrial markets.

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<IntElect_100-340>

The all-electric IntElect 100 is being presented at the Fakuma 2011 in a fully automated cell, including quality checking sequence, to demonstrate zero-defect production of plug casings
Photo: Sumitomo (SHI) Demag

<El-Exis_SP_200_Marbach>

Hybrid high-performance cell built around an El-Exis SP 200 with IML automation and IML mould from Marbach for full-cover labelling
Photo: Sumitomo (SHI) Demag

<3D-Becher_Marbach>

Full-cover labelling is the name if the new in-mould labelling process from Marbach. In this, the sleeve label and the base label are inserted overlapping around a radius, thereby providing complete coverage of the plastic surface with the label up to a high level on the sealing edge.
Photo: Marbach moulds & automation

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Two multi-component machines from the hydraulic Systec series are in service at the Fakuma: as well as a 1,600 kN version for producing 2-component fibre optic cables, there will also be a model with a 2,100 kN closing force producing ashtray trims on the show stand of Sepro Robotique GmbH
Photo: Sumitomo (SHI) Demag