Press release
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Higher energy efficiency in the production of precision components

Volkswagen takes the first all-electric IntElect machine from Sumitomo (SHI) Demag into operation

At VW's Braunschweig plant, a fully electric IntElect 220-1100 injection moulding machine from Sumitomo (SHI) Demag was recently taken into operation for producing lighting dial trims. The machine increases energy efficiency in the production process and reduces the level of scrap.

Recently, Volkswagen AG took the first fully electric IntElect 220-1100 machine from Sumitomo (SHI) Demag GmbH, Schwaig, into operation at its Braunschweig plant. The machine produces lighting dial trims for the Golf VII. With its low energy requirement, the new machine magnificently matches the "Think Blue. Factory." concept with which Volkswagen AG is continuously increasing the sustainability of all production facilities. Furthermore, the IntElect machine offers shorter cycle times and a minimum scrap quota in manufacturing the precision components.

A significant advantage of the IntElect series compared to hydraulic machines concerns the low energy consumption of the innovative direct drives in the plasticisation and injection procedure, as well as when

opening and closing the mould. In addition, the braking energy from each main axis is temporarily stored in order to provide energy for the other axes. In this way, IntElect machines save up to 85% of the energy compared to conventional solutions. Direct drives convert less energy into heat than hydraulic drives do, so in addition they require less cooling power than comparable conventional machines.

Energy efficiency is more and more important

"In our production processes along the value creation chain, energy efficiency is playing an increasingly important role. The fully electric IntElect machine from Sumitomo (SHI) Demag makes an important contribution to this," explains Marco Heinemann who is responsible for project management of new start-ups in the Braunschweig plant. Jens Pedersen, a VW employee in the works technology department, adds: "By using the IntElect, we have been able to improve the cycle time by 15% compared to a hydraulic machine. At the same time, we are able to reduce scrap because of the increased precision and repeat accuracy." Karsten Goebel, another employee in the works technology department in Braunschweig, adds that the enormously smooth running of the machine is remarkable compared to a hydraulic machine.

The Braunschweig is one of the most important system suppliers for the vehicles of the Volkswagen Group. Parts from the Braunschweig plant are installed in almost all VW vehicles, and include front axles, rear axles, steering systems, axle modules, shock absorbers/pedals as well as an extensive assortment of plastic components. 60 tonnes of granulate are delivered every day to the plastics technology area at

Braunschweig, where they are processed into 500 different products, e.g. for the vehicle interior, on 132 injection moulding machines with 447 injection moulding moulds and two painting systems.

The Volkswagen brand has set clear targets for putting all its factories on a sustainable ecological footing with the "Think Blue. Factory." concept: By 2018, all Volkswagen plants are supposed to have reduced their energy and water consumption as well as the waste volumes and emissions by 25 percent. To achieve these ambitions targets, VW will continue to invest in fully electric injection moulding machines in the future.

Sumitomo (SHI) Demag Plastics Machinery GmbH
Sumitomo (SHI) Demag has consistently shaped the plastics industry from its inception. As a specialist for injection moulding machines for polymer processing, Sumitomo (SHI) Demag and its Japanese parent company are among the leading companies in this sector globally. 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 over 100,000 machines installed, Sumitomo (SHI) Demag is present in all important markets throughout the world.

With more than 5,000 machines sold each year, the Plastics Machinery Business of Sumitomo Heavy Industries counts as one of the largest Global 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 Japan 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 worldwide with its IntElect series with clamping forces up to 4,500 kN 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 1998. 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 Systec C product line with clamping forces of between 500 and 10,000 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.

www.sumitomo-shi-demag.eu

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The first fully electric IntElect 220-1100 machine from Sumitomo (SHI) Demag produces lighting dial trims for the Golf VII (from left to right: Marco Heinemann, Project Management Restart VW; Andreas Barth, Sales Engineer and Markus Hausmann, Senior Engineer Technical Sales, both of Sumitomo (SHI) Demag; Michael Ahrens, VW electrician; Karsten Goebel, mechanical engineering VW; Jens Pedersen, start-up and application engineering VW; Harald Alt, VW supply technician)

Photo: Sumitomo (SHI) Demag

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Using the IntElect increases the energy efficiency and the repeat accuracy in manufacturing precision parts

Photo: Sumitomo (SHI) Demag