Press release
19 October 2011

Sumitomo (SHI) Demag ups the game targeting efficiency with its "active" components

Taking active control of production efficiency

Production performance, availability, energy efficiency and durability – through the smart interaction of these four key aspects, Sumitomo (SHI) Demag Plastics Machinery GmbH, based in Schwaig near Nuremberg, manages to achieve maximum production efficiency for all the injection moulding machines in its product range. The Japanese-German supplier has developed a concept for this purpose, allowing the user to choose from a series of innovative production efficiency components. With their help, the user can actively influence the production efficiency of their injection moulding machine. At Fakuma, the measures (packages) geared to electric, hybrid or hydraulic drives will demonstrate their potential for targeting increased production efficiency in the machines of the three series being exhibited: the IntElect, El-Exis SP and Systec.

The activeEcon function allows a detailed energy consumption analysis to be produced for all machine movements for every individual shot. This allows an evaluation to be made of the effect the process adjustments have on the energy consumption of the machine. A special feature of this Sumitomo (SHI) Demag solution is that the programme automatically

calculates the effects on production costs. The energy values recorded per shot can thus be projected to cover a production order and can be factored into the unit costs or calculation for the order.

Like activeEcon, the cylinder insulation component is also available for all series produced by the supplier. Retrofittable cylinder insulation sleeves reduce energy loss through heat radiation on the plastic cylinder and reduce the warm-up times of the cylinder. The savings gained amount to between 15 and 40 % of heating performance.

Active mould protection also during opening of the mould

Sumitomo (SHI) Demag's active mould protection concept provides an important contribution towards availability and durability. The tried and tested activeQ function, which stops the mould closure movement in the event of unusually increased processing force, was recently further supplemented by the new activeQ+ function, ensuring controlled opening of the mould. This prevents the mould from being damaged in the event that parts are snagged during opening.

activeAdjust optimises cycle time of hybrid high-speed machines

The new activeAdjust function in the hybrid El-Exis SP series offers the user the possibility of accelerating each individual machine movement, and thereby optimising the cycle time, depending on the process and part: mould opening, ejector movement as well as cutoff from injection pressure to hold pressure can be accelerated or decelerated by increasing or decreasing the speed with the help of sliders in the control. The El-Exis SP injection moulding machine is designed to

cover a wide range of applications as standard ex works, while this new feature offers the opportunity of individually adjusting the machine and hence optimally matching the product and the process.

activeLock achieves maximum precision with all-electric injection moulding machines

The switchable activeLock nonreturn valve provides a strong means of further improving precision and reproducibility with all-electric IntElect machines. On screws with a diameter of 14 to 35 mm, it closes the melt runners before injection through a short abrupt turn counter to the plasticising direction and thus provides a very small and residual mass cap in front of the screw which remains consistent over the cycles. This produces a high process consistency, which has a positive effect on part quality, especially in terms of precision parts and very small shot weights.

activeDynamics minimises scanning times

The activeDynamics function also realises the potentials for precision and efficiency in all-electric injection moulding machines. By ensuring perfectly synchronised motors, frequency convertors and machine controls, the system achieves extremely short scanning times of the axis controllers. By means of activeDynamics, even complex injection profiles are adjusted dead-on in the ms area.

activeFlowBalance balances multi-cavity moulds

Sumitomo (SHI) Demag has developed its new activeFlowBalance function specifically for the use of multi-cavity moulds on its all-electric injection moulding machines. The screw is actively stopped for a defined time during the cutoff of injection and hold pressure and

a melt pressure balance is effected. This means balancing takes place within the various cavities between the internal pressures, fill levels and therefore of the component features, ensuring the part quality is improved and the rejection rate is minimised.

active-components utilise the efficiency potential of hydraulic machines to the full

Various means of increasing the efficiency of hydraulic Systec injection moulding machines are likewise available. The activeCool&Clean filter or oil cooling concept, for example, extends the lifetime of oil, ensures closer temperature control, provides lower wear and the development of less noise, extends intervals between servicing and thus reduces maintenance costs. In addition, an all-electric dosing drive can be used with the 1,300 kN upwards toggle versions.

Additional energy savings are provided by the dynamic performance adjustment of the hydraulic drive by means of activeDrive, a combination of frequency-controlled electric motor and highly dynamic control pump. Dynamic performance adjustment can be achieved even with older Systec machines using the NC4 control through this function. Under the designation of "smartDrive", Sumitomo (SHI) Demag integrates the pump drive controlled by rotational speed and offers this as a retrofit. Users of "smartDrive" profit from higher energy efficiency and the lower development of noise in their hydraulic machines.

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.

www.sumitomo-shi-demag.eu

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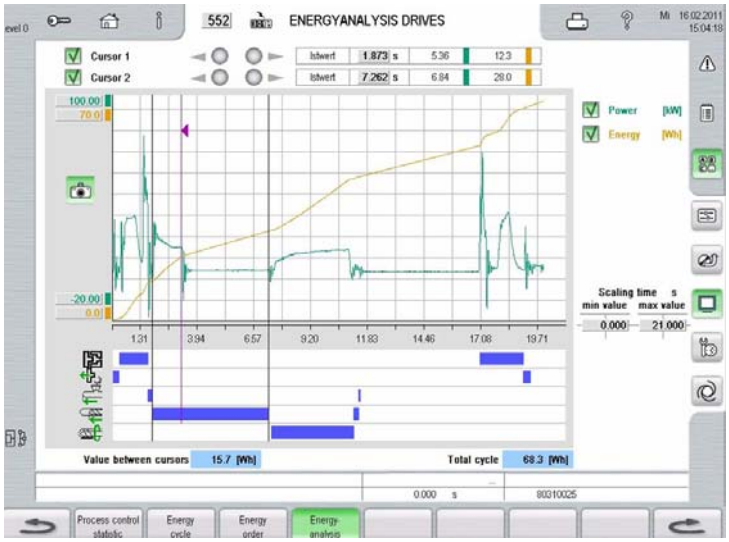

By means of activeEcon, the power consumption of individual loads as well as energy consumption over a cycle are shown.
Photo: Sumitomo (SHI) Demag

<activeLock>

The activeLock switchable nonreturn valve increases precision and exactness of repetition in the manufacture of technical parts.
Photo: Sumitomo (SHI) Demag

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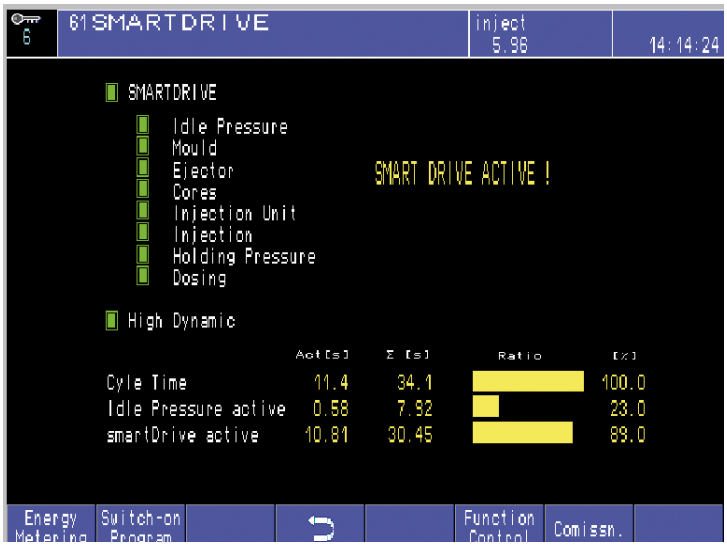

By using a pump drive controlled by rotational speed (activeDrive), the energy consumption of hydraulic injection moulding machines can be considerably reduced; the feature is also available under the name "smartDrive" as a retrofit for older Systec machines. Photo: Sumitomo (SHI) Demag