

Press release

18 July 2013

Sumitomo (SHI) Demag at the K 2013

activeColourChange and SL plastification system – new technology modules from Sumitomo (SHI) Demag increase performance during injection moulding

At this year's K trade fair, held in Dusseldorf on 16 - 22 October, Sumitomo (SHI) Demag Plastics Machinery will be presenting two technical modules for injection moulding on Stand D22 in Hall 15. These are activeColourChange, a pigment dosing system with extremely short colour change times, and the SL plastification system, which works without the usual compression zone and therefore, offers advantages in comparison with conventional plastification systems.

Sumitomo (SHI) Demag provides injection moulders with a versatile assembly featuring tailor-made technology modules for efficient resource use. Here, the aim is to realise a high degree of production efficiency through interaction of the aspects durability, energy efficiency, availability and production performance. Two new technologies complement and expand the already existing very wide spectrum of technology modules.

activeColourChange – colour changes become extremely fast

With activeColourChange, Sumitomo (SHI) Demag has developed a new, liquid-pigment dosing system, specially designed for injection moulding processing. Here, the pigment is dosed in a closed system directly into the melt-filled metering zone of the plastification unit. In contrast to pigmentation with Masterbatch, for example, the upstream zones (feedzone and compression zone) remain completely free of pigment. Thus, a considerably shorter screw length must be rinsed during colour change; compared with the use of Masterbatch, colour changes with activeColourChange are, therefore, extremely fast.

The new pigment dosing and colour change system is designed for up to five colours. The switching on and off of pigment dosing is integrated into the machine control NC5 plus and is

automated. Only a few cycles after beginning pigmentation, uniformly coloured pieces can be collected.

Precise delivery pumps are used in activeColourChange so that even at high melt counter-pressure, the smallest pigment amounts can be added reproducibly. In order to ensure a very high homogenisation effect, the metering zone of the screw is equipped with a special mixing section. In this way, moulded parts with very high coverage can also be produced with low pigment amounts. This, in the end, has a positive impact on the cost. Additionally, less waste is generated through the considerably shorter colour change-over period required with activeColourChange - and, as a whole, the machine availability is increased for the profitable production of pieces.

The new SL plastification system – plastification without compression

The important process characteristic with which the new SL plastification system sets itself apart from the conventional plastification systems of an injection moulding machine, is the low feed plastification screw without compression zone. Material feed is controlled using an upstream dosing screw. The optimum filling level is determined by the material properties and the process parameters. The added granulate is melted almost exclusively using an easily controlled heat supply via cylinder heating of the plastification screw.

In comparison with conventional plastification systems, the SL plastification system offers considerable advantages. An important reason for this is that the controlled operation results in the production of a very homogeneous melt without variations in viscosity. As a result, process variations and thus variations in the product quality are reduced. In combination with a switch-controlled non-return valve, the plastification without compression is particularly effective during the production of technical precision-moulded parts. Further advantages are also offered by the SL plastification system when there is high demand placed on product purity, for example, during injection moulding of optical components.

The SL plastification system is currently available in serial production as an option for the fully-electric machines of the series SE-EV, which Sumitomo (SHI) Demag offers in the clamping force range of 500 to 1,800 kN. The new system will be demonstrated on the K trade fair stand as an example of precision injection moulding using an SE 180 EV (clamping

force 1,800 kN). With a double mould, housing components for a smartphone will be produced from ABS/PC blend; injection weight is 45 g, cycle time 25 s.

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 EI-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.

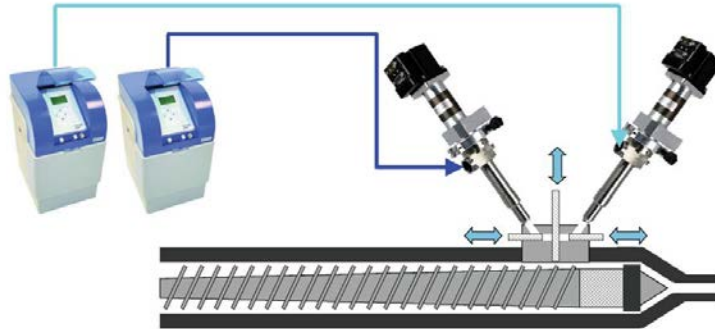
www.sumitomo-shi-demag.eu

Contact

Stefanie Lauterbach, Marketing
Sumitomo (SHI) Demag Plastics Machinery GmbH

Tel. +49 911 5061-2915
Fax +49 911 5061-750
E-mail: Stefanie.Lauterbach@dpg.com

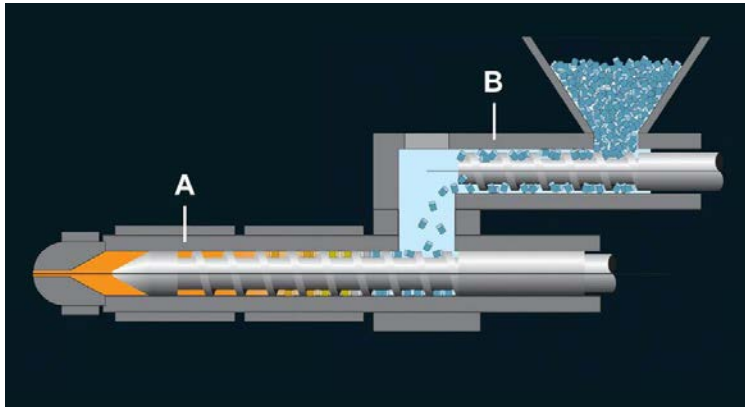
<activeColourChange>



With activeColourChange - presented here schematically for two colours - the liquid pigments are added directly into the metering zone of the plastification system; this concept leads to extremely short colour change times, among other things.

Photo: Sumitomo (SHI) Demag

<SL-Technology>



The new SL plastification system works with a fully heated plastification screw without a compression zone (A); the material feed takes place using an upstream dosing screw (B).

Photo: Spiral Logic