Press release
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The new NC5 plus control version for injection moulding machines from Sumitomo (SHI) Demag contains new features

NC5 plus enhances convenience and functionality

The new NC5 plus control version has been upgraded with new features for Fakuma 2012. The control impresses with its comprehensive breadth of functions, embedded in a clear structure and improved visual user guidance. Sumitomo (SHI) Demag Plastics Machinery GmbH in Schwaig near Nuremberg has now added nine functions to the NC5 plus, further extending its usefulness in a user-friendly way.

The control plays a decisive role as the communication interface between an injection moulding machine and the user: the control allows for access to the full range of performance of the machine, and therefore assists in maximising production efficiency. In the new NC5 plus control version Sumitomo (SHI) Demag has again succeeded in offering the user comprehensive functionality in an easily comprehensible and clear format.

Dr. Frank Balbach, Director of Control Development at Sumitomo (SHI) Demag, emphasises: “The name alone indicates that NC5 plus is not a new control, compared with the NC5, its tried and tested predecessor. However, we have perceptibly enhanced the visual guidance of the user and placed greater emphasis on

intuitive operation.” In addition, the current update will include further functions that make a significant breadth of the machine's capability intuitively accessible to the user. The NC5 plus thus achieves a unique combination of convenience and range of functions never previously seen on the market. One great benefit of the new NC5 plus control is the minimum amount of training required despite the comprehensive capabilities.

Rapid selection of favourites optimises navigation

As in the tried and tested version NC5, the border toolbars positioned around the actual touch screen display contain various function buttons, the soft and hot keys. The highlights of the NC5 plus control version, which makes working with Sumitomo (SHI) Demag injection moulding machines more efficient and more transparent, include the activeKeys which the user can use to define stand-alone favourites. In this way, the user can store up to five screens with which they work most frequently from the numerous operating screens using freely definable icons on a quick access toolbar on the right hand side of the screen.

Two-click approach for rapid navigation

To guarantee quick navigation to all screens, the experts in control development have implemented a consistent two-click strategy: this means that the user can reach any screen with a maximum of two clicks. A search function which is easy for the user to apply replaces previous special functions such as calling up screen lists and then having to scroll through them to the screen required. This means that noting down screen numbers is also no longer necessary. "The totally logical division into primary and secondary

groups, as well as the high level of consistency from the highest to the lowest level, simplify operations and create considerably quicker runs from the user's point of view", confirms Bernd Tröger, Director of Marketing.

Soft key layout completely revised

The soft key layout has also undergone a facelift and has been improved even further. As before, the soft keys located at the bottom of the screen guide the user through the stages of adjusting the machine. In the new NC5 plus version, however, the user receives an increased level of support in this process with bundled access to all screens related to a primary group. For example, if the "process optimisation" soft key is selected, all the screens logically linked to this primary group likewise expand as a soft key within a complete function group. In addition to the parameters which are displayed on the primary screen at a glance, such as speed, position, pressure, time and mould internal pressure, the functions linked to this automatically open, such as injection unit dynamics, machine adjustment values, intruding, shutoff nozzles, etc, which can then be used to fine-tune adjustments.

This principle is just as advantageous and convenient when entering the mould setting. In this case, speed, position and force have to be entered for the closing and opening movements and locking and unlocking positions must also be defined in addition. All the components required for setting up the mould, such as ejectors, cores, pneumatic valves, mould protection, etc, appear in the soft key toolbar and can be called up directly.

Simplified data exchange

The new NC5 plus control version is also more convenience for data exchange. The process, alarm and machine data can all be exported from every screen, i.e. printed, saved internally or onto a USB stick, without having to change the screen being displayed.

Display of the actual pressure curve in the injection profile makes adjustments easier

A new feature of the NC5 plus version is also that the course of the current injection pressure determined by the route being followed is overlaid as a curve in the screen displaying the injection profile. This allows the profile of the injection pressure limitation to be adjusted precisely to match a reference cycle. In addition, the cut off of injection pressure to hold optimization of the pressure is displayed in order to facilitate the transition from injection to hold pressure.

New functions with NC5 plus

The new version is not only more convenient for users, but also includes an expanded variety of functions depending on how the injection moulding machine is equipped. Among the new functions of the NC5 plus, for example, are the technology modules activeAdjust and activeQ+, as well as activeEcon.

activeAdjust: Individual adjustment options

Using a slider, the operator can increase or – if required – decrease 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; it can be used with any machine movement such as ejector movements as well as cut off from injection

pressure to hold pressure. This offers the advantage of being able to adjust the injection moulding machine, which has been set ex-factory to perform a wide range of applications, according to individual preferences and thus to match the product and the process as effectively as possible.

activeQ+: Mould protection when closing and opening

By comparison with the previous NC5 version, the active mould protection system has been developed further and has now been adapted for the mould opening sequence: the tried and tested activeQ function, which stops mould closure movement in the event of unusually elevated force, is supplemented further 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.

activeEcon: Built-in energy measurement and monitoring of production costs

Individualised opportunities for optimising performance are also available to users in terms of energy efficiency. This is where the new activeEcon function comes into play: by using detailed measurements of energy consumption for heating and drives, targeted improvements can be made over all cycle phases. A special feature of Sumitomo (SHI) Demag solutions 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 factored into the unit costs or calculation for the order. Since the user can also enter the material costs

and machine hourly rate in addition to electricity costs, current production costs can be monitored very easily.

activeRemote: NC5 plus as an integrated switching centre of the injection moulding cell with periphery

As with the previous NC5 version, external devices, which have a touch screen available, can also be incorporated very simply into the operating interface of the NC5 plus control by activeRemote. Devices which can be easily integrated include robots for part handling the moulding, production planning systems (PPS) or main computer systems, peripheral devices or systems for process regulation and quality assurance. The control interfaces of these peripheral devices and partner systems are integrated into the NC5 plus control via Virtual Network Computing (VNC) and can be operated there just as easily as on the control itself. Corresponding solutions were developed in conjunction with Wittmann Plastic Devices, Sepro Robotique, Wemo, T.I.G. Technical Information Systems, ONI Wärmetrafo, Kistler and Priamus System Technologies and others. Preparations are already being made for further systems to be implemented in collaboration with partner companies. This means that Sumitomo (SHI) Demag's customers are highly flexible in working together with further partner organisations on technology and systems.

Sumitomo (SHI) Demag Plastics Machinery GmbH

Sumitomo (SHI) Demag has consistently shaped the plastics industry since its inception. Being 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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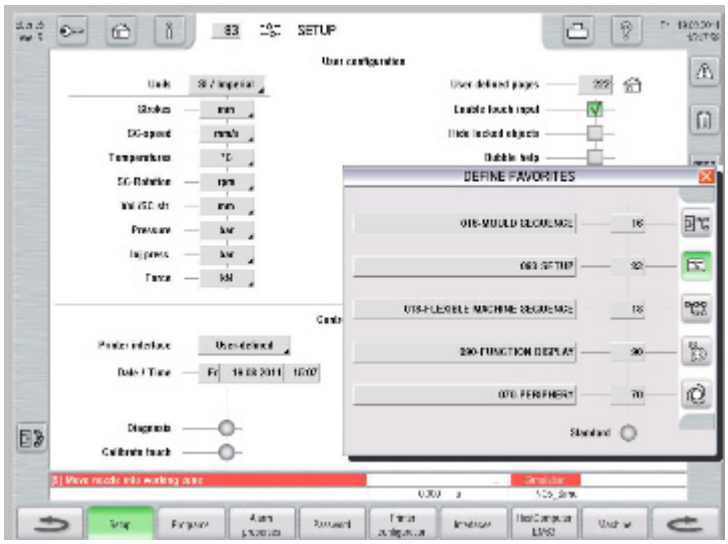

"activeKeys" enables rapid selection of frequently used functions, which users themselves can then define as favourites.
Photo: Sumitomo (SHI) Demag

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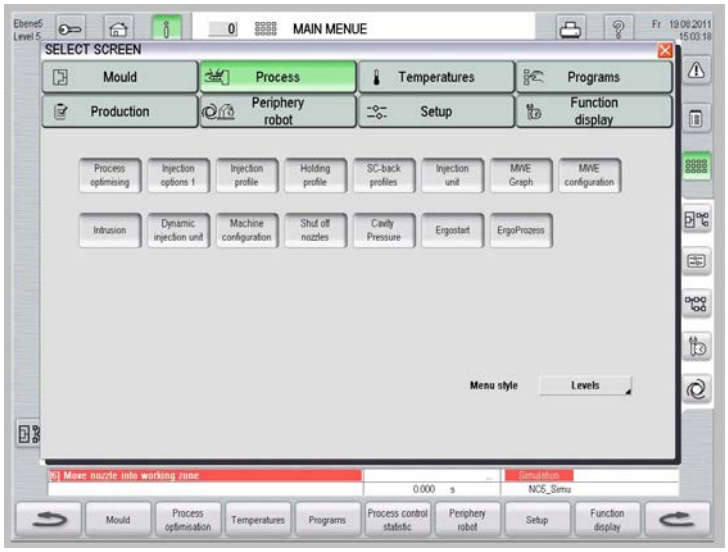

By consistently dividing all functions into primary and secondary groups, each screen can be called up with a maximum of two clicks; this eliminates having to call up screen lists and then having to scroll through them.
Photo: Sumitomo (SHI) Demag

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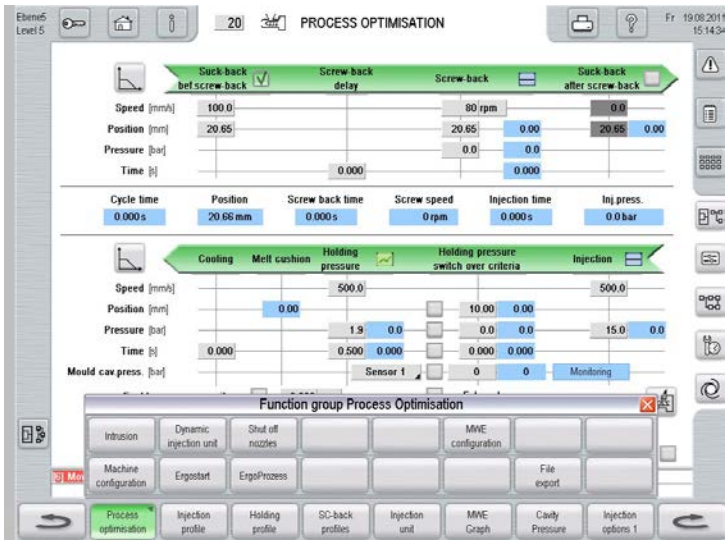

When calling up one of the soft keys located at the bottom of the screen, bundled access is possible to all screens logically linked to this primary group. They likewise expand as soft keys within a complete function group.
Photo: Sumitomo (SHI) Demag

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New activeAdjust function: Using a slider, the operator can increase or – if required – decrease the dynamics of the mould movement to suit the individual application, without external help.
Photo: Sumitomo (SHI) Demag

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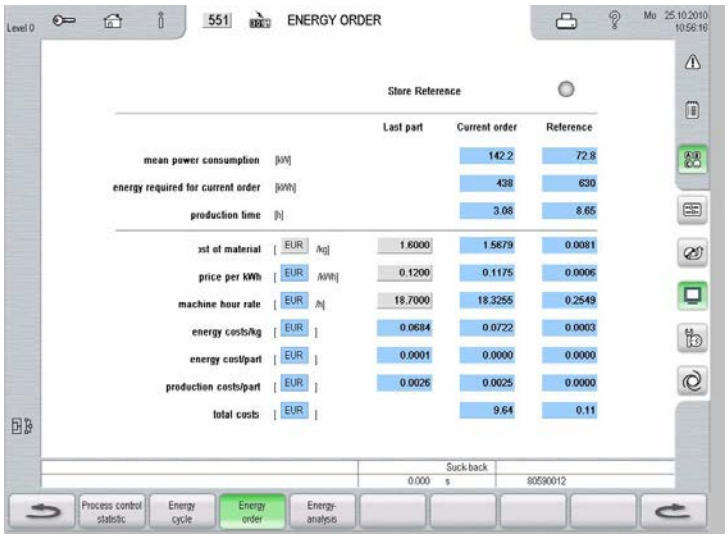

The new activeEcon function offers the user not only built-in energy measurement and analysis of energy consumption, but also direct monitoring of production costs by taking into account the costs of materials and electricity, as well as the machine hourly rate.
Photo: Sumitomo (SHI) Demag