PLASTICS & RUBBER news

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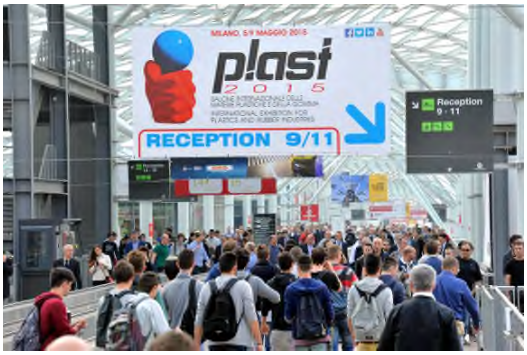
PLAST 2018 (MAY 29-JUNE 1ST) IS DRAWING NEAR!



More than 1,300 exhibitors wait for you in Milan with many innovative solutions for the plastics and rubber industry on display.

Need exhibitors list, show previews, tickets, help for visa and accomodation? Visit www.plastonline.org
Don't miss the chance to plan your business trip to Milan and visit the 5 concurrent shows joining The Innovation Alliance (Ipack-Ima, Print4All, Meat-Tech and Intralogistica Italia), a unique event providing professional operators from every industrial sector a wide array of machines, technologies and services.

L CONFIGURATION AND 7-METRE LONG ROLLS

At Plast 2018, Comerio Ercole will present, together with its subsidiary CKA, some important technological innovations recently developed for calendering machines and plants for plastics processing. In particular, the company will unveil Flexi, a multi-purpose calender with high-precision hydraulic roll positioning, designed to work with 4 or 5 rolls according to the type of processed product (plasticised or rigid PVC sheets), thus obtaining 3 and 4 lamination banks, respectively, while keeping the same downstream stretching, embossing and cooling units. The new inverted L calender configuration, designed and patented by the two companies, enables the calender to grant high quality performances for a wide range of applications.
During the show, a giant calender will also be exhibited, featuring 7-meter long rolls and designed for the production of thermal/acoustic insulation materials at process temperatures up to 260°C. The first giant calender has been commissioned and started up during 2017, and the customer, based on the results obtained in terms of process accuracy, has confirmed a new order for a second identical unit, to be delivered within the first quarter of 2018. It's a great result for Comerio Ercole to have designed and built this calender, as well as the satisfaction of the customer and his confirmation of the new order. These recent results were further strengthened on the basis of the service provided by the Comerio Ercole R&D team, which allowed the development of new and innovative composite products on behalf of the final customer.

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FOUR ROBOTS ON DISPLAY: AMONGST NOVELTIES AND CONFIRMATIONS

Plast 2018 has been chosen by Star Automation Europe, as they often did in the past, to launch several novelties, and in particular, the new ZXW-VI robots series. The two ZXW-1000VI and ZXW-1600VI models receive the baton of Fx series, introducing numerous enhancements, aiming above all to operation speed.
Being loyal to its 2018 motto, "Speed & Precision", Star succeeded in boosting the already high level of performance of Fx series, with a speed increase higher than 10% for both the machines, when compared to their predecessors. The technical new features include strengthened guides, modified belts and stronger motors, though maintaining a special

attention to design, aligning the new models' appearance to that of XW-VI series.
Design is obviously not the only thing associating XW-VI and ZXW-VI series: the new high-speed robots are as well as a standard supplied with STEC-520 controller, which possesses extraordinary potentiality regarding Industry 4.0, such as remote monitoring, production control, and integration inside the IMM display.
Alongside its new models, the company is also exhibiting two models from its XW-VI series, which has now been well-known for almost three years. The two machines will be a XW-1000VI, the best-selling model in the whole product range, and a XW-1800MVI, the giant of this series, for the first time shown in an international exhibition and particularly suited for big size moulded products in the automotive and electrical appliances sectors.
Visitors of recent exhibitions have surely noticed the attention Star is paying in order to offer to its users a product which is absolutely respondent to most modern standards of industry digitalisation, and Plast is the perfect occasion to move a further step towards the targets which the most demanding users intend to reach as far as technology is concerned.

Solutions for Industry 4.0
At Plast 2018, Star Automation Europe will move a further step towards the digitalisation requirements of the industrial production, which its most recent products are already designed to meet.
Smart Production will be embodied in a new software: SF-NET, regarding which demonstrations will be held at the fair. This system allows viewing all the information related to production which are contained inside the robot's controller, thanks to their upload to a server connected to the company network. Viewable production-related information kinds are for example production ratio, robot status, or alarm history. When this kind of information gets refreshed inside the controller, or after a time defined by the user, data get written in dedicated CSV files. Subsequently, these CSV files are loaded through FTP to the directory selected in the server. The viewing of this information is possible on a dedicated web page, thus making the correct functioning of the software independent from the operative system or the browser the user chooses to use.
A further innovation will be introduced at Plast 2018 also regarding the so-called Smart Service: from the beginning of 2018, in fact, all interventions of the Star Automation Europe technical service staff by customers, be they installations or maintenance activities, are organised through a new application: GoI. This allows the customer service to digitally organise all information, and also enables the customers to log in on a personal web page, where they will be able not only to check their service history, but also to directly ask for help or to be guided towards the autonomous individuation of the cause of the problem and its solution.

Ten years of Eins
Starting from the end of 2017, Star has been celebrating the tenth anniversary of Eins, its components for the realisation of EOATs for both cartesian and anthropomorphic robots. The four robots shown at Plast 2018 will perform automatic EOAT changes thanks to OX series tool changer system: all its models will be on show, thus allowing visitors to verify the incredible lightness which characterises them, and how these devices put only a minimum weight on the robots' wrist. Thanks to the cooperation with the Japanese group Vessel, several nippers and mini-nippers for EOAT will also be shown. Finally, another highlight will be represented by the new version of the Eins portal, configured like a true e-commerce website, where it is possible to purchase Eins products.

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INJECTION BLOW MOULDING FOR PERFECT NECKS

The latest development from Meccanoplastica is JET 85, a fully electric injection blow moulding machine designed for the production of small containers with closures that must be manufactured to very tight tolerances, and thus demand extremely precise neck finishing. JET 85 is a three-station injection blow moulding machine with a trigger bar length of 665 mm, a rotation radius of 620 mm, and a total clamping force of 850 kN (i.e. 750 kN on the injection mould and 100 on the blowing mould). The machine is ideal for the pharmaceutical and cosmetics industries, where quality and tolerances are two key considerations.
The critical mould opening/closing phases are based on a combination of electric drives, leverages and toggle joints that give these movements structure and reliability. This

Tuscany-based company is among the few manufacturers worldwide that produce this reliable solution, in which all the movements are completely electric.

Opening/closing and clamping
Mould closing/opening and clamping force are obtained by means of a four-point toggle system controlled by an electric servo motor with adjustable speed absolute encoder feedback and satellite roller screw with high loading capacity. The clamping force of the injection mould reaches 750 kN and is automatically adjusted during the calibration of the mould itself according to the pressure needed for the type of bottle to be produced, while the clamping force of the blow mould reaches 100 kN.

Rotary head
The 120° rotation of the head is obtained by means of an asynchronous electric motor driven by an inverter and a mechanical globoidal cam system, making it possible to reach the three positions required by the process (injection, blow moulding, unloading).
The system for unloading the bottles from the male moulds is controlled by an electric brushless motor with absolute encoder feedback and a rack and pinion transmission. A pneumatic cylinder allows the rotation of the bottles and their positioning on an output conveyor belt (optional). The speed and position of the translation travel can be set from the control panel.
Plasticizing and injection
The three-zone plasticizing screw with diameter = 60 mm and L/D = 24 is connected to an electric brushless servomotor with incremental encoder feedback by means of a belt-pulley transmission. The barrel has four heating zones: three thermoventilated ones for the screw and one for the primary nozzle. The injection movement of the material is obtained by means of a synchronized electric servomotor with absolute encoder feedback, with the encoder acting on a recirculating ball screw with high load capacity. The material can be injected at five speeds and with five screw positions that can be set by the operator. A probe is mounted on the primary nozzle to detect injection pressure and manage the transition to the maintenance phase.

Automatic lubrication and process control
The machine has a centralized automatic greasing system for lubricating the mechanical sliding parts. It consists of a 24 V electric pump managed by the machine PLC.
The entire production process, the diagnostics, the alarms and the 12-zone thermoregulation (three for the plasticizing cylinder, one for the primary nozzle, eight for the injection mould manifold) can be controlled through the machine's 15-inch Siemens Simatic HMI TP1500 Comfort touch panel. The UPS, which protects the PLC against breaks in the power supply, and a modem for online support, are both installed inside the electric panel, which is equipped with air conditioning for the drives.

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