



NPE 2018 South Hall 16085

Internet of Things (IoT) connectivity for productions of up to 8,800bph

SMI embraces Eco and Industry 4.0

SMI has announced the extension of its Ergon EBS (Electronic Blowing System) range of stretch-blow moulders with the launch of the Ergon EBS K and Ecobloc Ergon 4-12-4 K EV models. New new models offer advanced technology in a compact modular footprint. The machines were presented for the first time at Interpack 2017 and will make their North American debut at NPE.

The K designation in the new series stands for the German word "Kompakt", which means the same as it sounds in English: compact. The design of the new machines builds on the advances and innovations introduced with the original Ergon EBS range. Available in two, three and four-cavity versions, they can produce bottles of up to 3l in capacity. Bottles of 500ml capacity can be produced at a rate of 2,200bph; maximum output for smaller packages is 8,800bph.

Efficient preform heating

The preform-heating tunnel module is integrated with the stretch-blow moulding carousel into a single, very compact module. SMI says that this allows the machines to be installed even in small bottling lines. The tunnel has a horizontal preform feeder chain and an optimised ventilation and aeration system and its infrared heating units have a system of thermo-reflective panels, made of highly energy-efficient composite material and located both in front of and

behind the lamps. These are designed to facilitate high levels of heat reflection and thus achieve more uniform temperature distribution over the entire surface of the preform. The inside of the module is also equipped with an aluminium diffuser, to provide optimal temperature control and prevent overheating.

The machine frame that contains the tunnel and blowing-wheel features slightly rounded safety doors. These provide a wide opening, enabling easier access to the interior of the machine for cleaning and maintenance operations.

Electric motors for efficiency and accuracy

The stretch-blowing wheel is equipped with motorised stretch rods, controlled by electronic drives. The elimination of mechanical

cams enables precise control of the stretch rod's path and position, and energy savings as well. The stretch-blow moulding system itself uses high-performance, low dead-volume valves that reduce pre-blowing and blowing times. This is designed to improve both machine efficiency and finished bottle quality.

Because it is equipped with its own motorisation, the mould's mechanical assembly is able to ensure high standards of precision for both the up/down motion of the mould base, and the opening and closing of the mould-holder unit, the company states.

Automation for cost savings

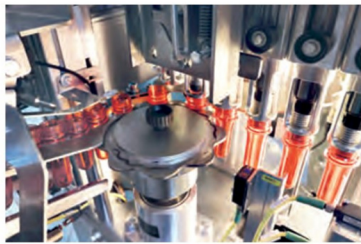
The Motornet System, which provides control and automation, is designed to ensure the constant maintenance of optimum processing parameters throughout the entire manufacturing cycle, as well as the direct modification of machine settings. These features help to simplify format changeover operations.

SMI says that the automatic adjustment of blowing pressure, according to bottle format, offers significant advantages over comparable manual adjustment solutions employed on other linear blow-moulders operating in the same market segments. The new machines also come with a two-stage air recovery system as standard.



Add filling and capping module for an integrated Ecobloc

The company further maintains that combining the Ergon EBS machine with a filling and capping module, to form an integrated Ecobloc Ergon K system, integrating the three main wet area operations into a single bloc, helps to achieve optimum performance at reduced costs for the production, filling and capping of rigid containers of up to three litres. This solution does not require connecting conveyors between the stretch-blow moulder and the filler and, in most cases, does not even require a rinser, as the empty bottles are blown, filled



and capped on the same machine, thus eliminating risk of contamination from the external environment.

Various models of Ecobloc Ergon K systems are available for use on bottling lines of still water (EV) and edible oil (EM). The electronic control of operations provided a filling technology that uses high-efficiency valves, controlled by flow meters, is designed to ensure a very precise and fast process. Preparation times for the machine wash cycle have been reduced by integrating dummy bottles into the valve. The filling and capping module, a new design featuring a modular, seamless frame, is equipped with access doors made of highly resistant and durable tempered glass. The transmission system of the filling module utilises independent axes, using brushless ICOS motors equipped with an integrated driver. The automation and control system, equipped with a very simple and intuitive human-machine interface, permits operation by a single line operator.

SMI says that the new EBS K Ergon series of rotary stretch-blow moulders offer attractive quality/price ratios. The system's compact design means that the machines can be installed in as little as one day, thus offering further savings on installation and start-up costs.

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