



SMI

Hall 14 | Booth B69

TRADE SHOW PREVIEW

New serie of fully electronic stretch-blow moulders EBS Ergon

The new EBS (Electronic Blowing System) Ergon series is the result of a challenging two-year long research & development project which introduced concepts for the design and manufacture of SMI's new machines.

The first Ergon EBS model was presented to the sales network in October 2015 at the inauguration of the new showroom set up at the SMI headquarters in San Giovanni Bianco, Bergamo, Italy. The current Ergon EBS range includes seven models, from 4-16 cavities, suitable for the production of PET containers up to 3l running at the max. speed of 2,300bph per cavity for the 0.5l format (still water). There are also three HC models, from 3-6 cavities, for the production of containers up to 10l, running at the max. speed of 1,200bph per cavity for the 5l format.

Top-notch reliability and efficiency

The new Ergon EBS series originated from SMI's twenty years' experience in the manufacture of rotary stretch-blow moulders is claimed to be sturdier, more compact, more flexible and more technologically advanced. Its performance has improved with respect to its predecessor, thanks to a series of technical improvements applied to the stretch-blow moulding process. The blow moulding module of the Ergon EBS range is equipped with motorised stretching rods whose functioning is controlled by electronic drives with no need of mechanical cams. This technology enables a precise descent of the stretching rod, an accurate control of its position and energy savings. It enables to adjust the stretch-blowing speed without mechanical interventions (cams replacement), and reduces the vibration stress that the blow moulding carousel undergoes in the traditional solutions. The Ergon EBS series features high performance, low dead volume valves system which has reduced the pre-blowing and blowing times with the subsequent great advantage in terms of machine efficiency and quality of the final bottles.

A fully "cam-free" stretch-blow moulding process

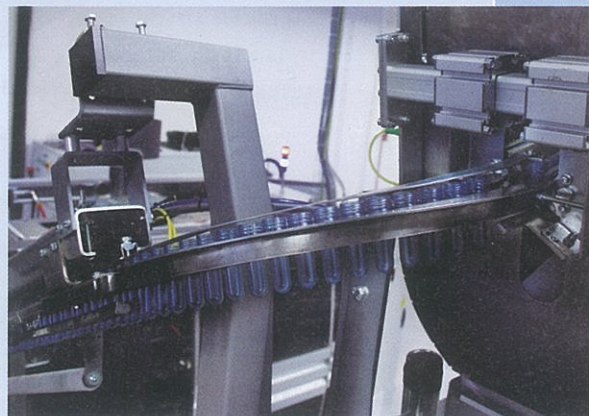
Another improvement implemented by SMI design engineers is the motorisation of the mechanical mould unit that has turned the Ergon EBS stretch-blow moulders into a real "cam-free" system through its integration with the electronic stretching rod. This led to a greater kinematical accuracy, less maintenance, less vibration, less noise and longer system life. With one servomotor, the new configuration handles both the up & down movement of the bottom of the mould and the opening & closing of the mould-holding unit, reducing mechanical stress and noise, which this machine section is subjected to in the traditional cam-equipped solutions. Thanks to this new technology, the dead angle of the stretch-blow moulding carousel has been reduced by as much as 10° if compared to the previous range, making the structure much more compact.

The mould-holder's opening/closing movement has been optimised according to the effective diameter of the bottles to be produced. Since this leads to a gradual reduction of the opening/closing stroke, the stretch-blow moulding cycle is shorter as the container's size decreases.

New preform heating module

The stretch-blow moulders of the Ergon EBS range feature a new preform heating module, characterised by compact dimensions, horizontal frame of the preform-holding mandrel chains (37mm pitch for bottles up to 3l and 54mm pitch for bottles up to 10l), and an optimised ventilation system. The concepts used in designing the new range of Ergon machines allow shortening the heating module by 50%,

thus reducing the number of preforms that are in transit in front of the heating panels at a given time. The new preform heating module is equipped with heat-reflecting, energy efficiency panels made of composite materials positioned both on the front and to the rear of the heat lamps in charge of preforms heating. This solution ensures a high reflection of the heat generated by the lamps and its more uniform distribution on the preforms surface. The new configuration allow to eliminate the star wheel between the exit of the preform heating module and the inlet star of the stretch-blow moulding carousel, with advantages in terms of shorter preform transfer time, less heat dissipation and greater simplicity of the mechanical movements.



Easy and economic running, cleaning and maintenance

The stretch-blow moulding systems of the Ergon EBS series are characterised by their compact, ergonomic and functional frame, which considerably simplifies machine running, cleaning and maintenance operations. It is said to ensure space saving in the bottling line. Since the safety doors of the new Ergon EBS stretch-blow moulders have a rounded shape, there is more space inside the machine for cleaning and maintenance, which the operator can perform easily and safely. The ergonomics of SMI's new stretch-blow moulders is further enhanced by the advanced technology used by the Motornet System automation and control system, which ensures the constant keeping of optimal working parameters during the whole production cycle and directly adjusts the machine's settings, simplifying format changeovers.

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