Spotlight

blow moulding machinery

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New "BFS HC" Series of Integrated Systems For Blowing-Filling-Capping of High Capacity Containers

Smiform, an Italy-based packaging group, has recently conducted research from its SMI laboratories that has resulted in the launch of innovative integrated systems for the stretch-blow moulding, filling and capping of PET containers. The new BFS series is a new addition to the range of Smiform products dedicated to the liquid food and beverages sector. BFS 4-14-4 HC and BFS 6-18-4 HC integrated systems can be employed in the bottling lines for still water and edible oil. Their compact modular frame and the integrated technology ensure a perfect synchronisation between the dry environment of the stretch-blow moulding module and the wet environment of the filling module. Moreover, Smiform claims to offer an excellent price/quality ratio and dramatic cutback of operating costs, making the BFS series the ideal solution for manufacturing, filling and capping PET containers with a capacity from 4 to 10 liters up to 6,600 bph (depending on the machine model and container characteristics). Combining stretch-blow moulding, filling and capping operations in one single machine offers major benefits if you are looking for a cost-cutting, space-saving solution and for easier maintenance operations. The direct connection between the blowing module and the filling module reduces the number of machines installed, as there is no need for a rinser, accumulation conveyors or conveyors between the blower and the filler.

Each container's manufacturing parameters are stored in the operator control panel, from which the machine operator can conveniently select the required format by a simple touch onscreen. While in the filling module the changeover doesn't require any mechanical part replacement, and in a few minutes the machine operator can complete the stretch-blow moulding module's mechanical adjustments, the mould and the equipment replacement (if necessary) using the toolkit included in the machine supply.

Thanks to the baseless technology from Smiform, the BFS integrated system features a compact and operator-friendly design, as the area underneath the bottles is completely clear, allowing for operator access to the machine for maintenance and cleaning operations.

The stretch-blow moulding process is based on highly reliable CAM-controlled technology; furthermore, the direct control of each single blowing station from the POSYC operator panel provides, in case of failure, the possibility to stop the specific failed stations in isolation without interrupting the bottle manufacturing process.

All BFS integrated systems are equipped with an air recovery system, an eco-compatible and cost-saving solution which provides up to 40% in cutbacks on compressed air consumption as some of the high pressure air circulating in the blowing circuit is recovered and recycled.

Smiform BFS integrated systems rely on an electronic filling process, which can be either volumetric, based on magnetic flow meters, for conductive liquids such as flat water, or massic, with mass meters based on the Coriolis principle, for non conductive liquids such as edible oil.

The filling process is carried out without any contact between the bottle and the filling valve, thus reducing the amount of moving mechanical parts (there is no need for jacks to lift the bottle) and preserving the integrity and quality of the liquid being bottled.

The filling module of Smiform BFS systems has been designed as a filling room, where the absence of moving parts underneath the bottles allows the operator to keep the equipment clean and safe. Motors are placed in a totally dry spot of the machine's upper section, fully insulated from the working environment, in order to protect them from any damage caused by liquids or powders and to prevent the fall of lubricants on the underlying filling and capping modules.

The capping module of Smiform BFS systems is equipped with servo-motorised control of the capping heads, so as to grant high precision in the application of screw caps. The cap feeding hopper is positioned outside the machine, at an easy-access height for the operator. Caps are fed to the capping module through an air-thrust horizontal channel to ensure a quick reset of the capping module operation in case of cap jam and to provide an effective cap accumulation buffer capable of balancing machine breakdowns.

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