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New Cost Saving Bottling Line

A strong commitment to innovation and respect for the environment brought SMI to design "ex-novo" a complete bottling plant for still and sparkling water at Stella Alpina plant in Mojo de' Calvi (Bergamo). The new SACS (Stella Alpina Cost Saving) line was devised, designed and created by SMI over a surface area of just 800m2 - to produce up to 14,400 b.p.h in a more efficient and economical way compared to the pre-existing bottling plant.

Advanced technical solutions have significantly lowered the costs of production of every Stella Alpina bottle. Compared to the previous bottling line, SACS has delivered huge results in terms of compact footprint, energy saving, production efficiency, operating flexibility and TCO.

Up to a 20% reduction in the purchase, running and maintenance costs of the machines

The new line is made up essentially of just two machine blocks which, conveniently integrated, allow for lower costs and consumption. The first block consists of the primary packaging unit ECOBLOC® PLUS, an integrated system of stretch-blow moulding, filling / capping and labelling, thus providing consistent savings in terms

of initial investment, maintenance costs and energy consumption. The secondary packaging unit, designed by SMI from scratch and named PACK BLOC, is an innovative shrink film packaging system which includes high integration between the shrinkwrapper and the palletiser; this solution has allowed for the area occupied by the end-of-line machines to be much smaller than usual due to the reduction in the quantity of conveyors connecting them.





Lighter packaging material

SACS project stands out for the considerable reduction of primary and secondary packaging material:

- » up to a 30% reduction in the PET used to produce bottles, thanks to the design of new "ultra-light" containers, one for 0.5L and the other for 1.5L, obtained by stretch-blow moulding preforms of 11g and 23g respectively;
- » up to a 50% reduction in thermo-shrinkable film, achieved by equipping the shrinkwrapping machine with a new knife with a motorised blade controlled by digital servo-drivers, which allows for the use of shrink film with a thickness less than 30 micron (as against the 50- 60 micron previously used by Stella Alpina) for the 3x2 format of 0.5L bottles.

LOPMENTS



Low water and energy consumption

The consumption of water used for cleaning the plant has been reduced by **up to the 90%**, thanks to the "baseless" technology applied to the filler, which allows for the base of the machines to be "freed" from moving components and mechanical parts, where dirt and waste from the production process usually accumulates.

Also the energy consumption of the whole production line has been lowered by **up to the 15%**, thanks to the application of state-of-the-art technology solutions: compact footprint of the bottling line, requiring less conveyor, air recovery system, assembled as standard on the blow moulder, allowing for **up to a 40%** reduction in consumption of high pressure compressed air, so requiring a smaller compressor.

Continued



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New cost saving bottling line - continued

Heat recovery from the blow moulder and air compression systems, partly used for preheating the preforms and partly discharged to the shrink oven in the shrinkwrapper.

Use of lighter preforms and thinner shrink films which require less heat from IR lamps and electrically-heated resistances; with less wear on the components, thanks to the reduction in moving parts and the use of more resistant materials and lastly the use of high energy-efficiency motors on the conveyors.

Thanks to the use of integrated machines, of high energy-efficient motors, of air and heat recovery systems, as well as to the lightening of primary and secondary packaging material, a reduction in CO2 emissions of up to the 50% has been accomplished.

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LINKING LABELLERS WITH SAP

Standard software that allows pallet labellers to communicate directly with SAP factory management systems - drawing off label data automatically - has been announced by Logopak for its range of machines.

PC-based, Synchro-SAP software employs standard SAP web services for data exchange with the labelling machines which, as Logopak UK sales manager Steve Hancock points out, contributes to faster installation and reduced complexity.

"The new software provides a seamless link between labeller and factory or warehouse management system with no need for specific inhouse expertise. This avoids the cost and time involved in writing one-off application software and ensures greater security."

Two variants of the Synchro-SAP solution are available. The first uses a shared file created by the SAP system for Logopak Synchro-SAP to access independently, allowing the main factory system to operate without the need for constant communication with the labellers.

This is used primarily where manufacturers have multiple lines, each producing a different product, and reduces the load on the host computer.

The second variant allows direct real time connection between SAP and the labelling machine and is aimed at installations where a single packaging line takes pallets from multiple production lines and pallets can arrive at the labeller in random order.

In this case, Synchro-SAP connects to the manufacturing line

PLC via the Logopak labellers to monitor the position and the origin of each pallet anywhere on the conveyor system, before making real-time requests for label data to the main SAP program, using standard SAP web services.

The first application of Synchro-SAP is now running at a major spirits producer in Scotland where label data is being sent on demand to three production line pallet labelling systems.



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