SMI SACS line


Stella Alpina produces still and sparkling water

Water from the foothills

A new SMI SACS (Stella Alpina Cost Saving) line for still and sparkling water at Stella Alpina's plant in Mojo de' Calvi, Bergamo, Italy, was devised, designed and created by SMI over a surface area of just 800m². It produces up to 14,400bph.

The new line is made up of just two integrated machine blocks, which enable lower costs and energy consumption. The first block consists of the Ecobloc Plus primary packaging unit, which is an integrated system of stretch-blow moulding, filling / capping and labelling. Downstream equipment comprises a Pack Bloc packaging unit, a shrink-film packaging system that features high levels of integration between the shrinkwrapper and palletiser. This solution has a much smaller footprint than usual, because the number of conveyors connecting them has been reduced.

Reduced packaging material

The system has reduced both primary and secondary packaging material. PET usage has been reduced by up to 30% with the introduction of new "ultra-light" containers. The 500ml bottle weighs 11g, the 5l version weighs 23g. Savings of up to 50% in thermo-shrinkable film have been achieved by equipping the shrink-wrapping machine with a new knife, which uses with a motorized blade controlled by digital servo-drivers. This allows shrink film with a thickness less than 30 microns to be used, as against the 50-60 micron previously used by Stella Alpina for the 3x2 format of 0.5l bottles.

Reduced water and energy use

The plant's cleaning water consumption has been cut by 90% with the application of "baseless" technology to the filler. This allows the base of the machines to be "freed" from moving components and mechanical parts, where dirt and waste from the production process usually accumulates.

Energy consumption of the entire production line has been reduced by 15%, through the adoption of a number of measures. The compact footprint of the bottling line requires less conveyor belts for the connection of a low number of single modules; the air recovery system enables a 40% reduction in the use of high pressure compressed air. Heat recovered from the blow moulder and air compression systems is partly used for pre-heating the preforms and partly discharged to the shrinking oven in the end-of-line shrinkwrapper; and lighter preforms and thinner shrink films require less heat from IR lamps and electrically-heated resistances. The number of moving parts has been reduced, the line is made of more resistant materials and high energy-efficiency motors are used on the conveyors.

In the end an overall reduction in CO_2 emissions of 50% along the complete line has been achieved.

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The Stella Alpina bottle logo


PET bottles are packed on trays at the end of the line