



LOVE FOR OTHERS AND RESPECT FOR LIFE AND THE ENVIRONMENT

SMI SOLUTIONS FOR PULMUONE COMPANY

In the bottled water sector, the South Korean company Pulmuone promotes the perfect harmony between man and nature; the motto "Love for others, respect for life" is what all the company's key decisions are based on, as demonstrated by the recent investment in an SMI SK 500 F ERGON shrink wrapper, a DV 500 S ERGON divider and a PSHA 60 pre-shrink handle applicator to process the label-free "Oh My Green" bottles, an innovative and increasingly popular solution.

Investing for the Future of People and the Planet

Based on the company motto "Love for Others, Respect for Life," in May 2022, Pulmuone Waters redefined its values, laying the foundation for its

corporate mission: creating a healthier future for people and the planet. This translates into the production of fresh, wholesome foods and the choice of eco-friendly packaging solutions, such as the bundles in film only for PET bottles containing Oh My Green brand water.

Packaged using an SK 500 F ERGON shrink wrapper supplied by SMI, the label-free Oh My Green bottles, are an increasingly popular innovative solution that reduces environmental impact, simplifies production, and respects the planet.

By eliminating labels, ink, and adhesives, post-consumer packaging recycling, becomes simpler and more efficient. Furthermore, the clean, minimalist design of the bottles enhances the product inside, strengthens

the brand identity, and creates a modern, elegant look that attracts the public's attention. From a production point of view, eliminating the labeller, reducing equipment maintenance, and reducing the use of packaging materials allows for a simplified bottling and packaging line. Pulmuone Waters has further streamlined the production process by installing a PSHA series pre-shrink handle applicator integrated into the SK 500 F ERGON shrink wrapper, a compact and space-saving solution that eliminates the need for conveyor belts between the two machines.

SMI Solutions for Pulmonary Waters

Thanks to continuous innovation, Pulmuone adopts packaging solutions that significantly reduce the environmental impact of its industrial operations. Among the most recent solutions adopted in this regard, is the SK 500 F ERGON shrink wrapper supplied by SMI, which, thanks to the advantages offered by digitalisation and automation in production processes, allows the company to address market changes efficiently and sustainably. The SK shrink wrapper installed at the Miryang plant adopts cutting-edge hi-tech solutions to reduce production and management costs and ensure high levels of plant flexibility and efficiency.

SK 500 F ERGON Shrink Film Packaging Machine

Product worked: 0.3 lt / 0.5 lt / 2lt bottles in PET. Packs formed: bundles in film only in formats: 5x4 (0.3lt and 0.5lt), 6x5 and 8x5 (0.5lt bottles) and 3x2 (2lt bottles).

Motors with Integrated Digital Servo Drives

SK ERGON shrink wrappers are equipped with ICOS Smitec motors with integrated servo drives, designed to ensure high performance and significant energy savings. The servo drives exploit the energy generated by the motors during deceleration, sharing it with the other devices installed on the wrapping machine. They also offer a space-saving solution that reduces the size of electrical panels and air conditioning systems.

Reduced Maintenance

The SK ERGON shrink wrapper purchased by Pulmuone Waters is equipped with special self-lubricating chains, which eliminate the use of lubricants (which could come into contact with the packaged food product) and simplify maintenance operations, as no operator intervention is required to add lubricant between the elements on the chain.

Simplified Format Changes

The SK packaging machines manufactured by SMI feature side rails on the infeed conveyor, equipped with new rollers and profiles, which simplify format changeovers and reduce the time required to switch from one pack configuration to another. This is an advantageous solution for companies that package different containers in various formats.

Energy Efficiency and Cost Reduction

The SK ERGON range of shrink wrappers is equipped with an energy meter with a digital LCD display, which,

by monitoring energy consumption, optimises the system's operational efficiency. The meter records and displays electricity consumption, voltage, current, and power over a given period. Thanks to these devices, SMI machines can benefit from the services offered by the SMYIOT platform, an interactive database that remotely collects, verifies, processes, and evaluates all system operating parameters, both at the individual machine level and across the entire production line, in order to improve operational efficiency and energy performance, schedule maintenance, and reduce overall production costs.

Pre-Shrinking Handle Applicator PSHA 60

Handle application on all the packs worked on the SK 500 F ERGON shrinkwrapper

Reduction of Packaging Material Used

Applying a pre-shrink handle is the ideal solution when packages are made with thin film, but the handle is a must; this system is also suitable for small bundles, as the pre-shrink application allows for a larger grip space.

Compact and Space-Saving Solution

The pre-shrink handle applicator is a particularly advantageous solution for those lacking sufficient space to install a stand-alone handle applicator downstream of the packaging machine and the associated conveyor belts that connect the two machines. The automatic PSHA (Pre-Shrinking Handle Applicator) handle applicator is installed on the outer edge of the SK 500 F ERGON shrink wrapper from Pulmuone Waters and applies a handle to a section of shrink film before the packs are formed and passed through the shrink wrapping tunnel. Depending on the machine configuration, the customer can decide whether to place this space-saving device on the operator

side, on the opposite side, or on both sides for twin-lane.

Production Efficiency at the Highest Levels

The PSHA handle applicator is perfectly synchronised with the packaging machine it is installed on, so much so, that the latter automatically switches to standby mode when the handle reel runs out. It is possible to load two reels, one running and the other in stand-by; in this case, a sensor detects the end of the tape on the reel that is running out and activates the automatic splicing device, which seals the adhesive tape from that reel to the reel in stand-by, thus avoiding interrupting the packaging process. The precise positioning of the adhesive handles on the shrink film ensures that, when leaving the tunnel, they are always in the correct position on the shrink-wrapped bundle.

The History of Pulmuone Waters

Pulmuone entered the bottled water industry with the establishment of Pulmuone Spring Waters, which, since first introducing spring water to South Korea in 1986, has become a leader in the domestic market with the motto "Pure, Clean Water for Our Families."

Pulmuone strong focus on environmental sustainability issues has been the basis for a series of initiatives to reduce the use of plastic, such as the use of increasingly lighter bottles and the introduction of rPET bottles. A further step forward was taken in 2024, when Pulmuone Waters acquired 100% of the shares of the Samsoseul company, a producer of bottled water under the "Ice Water" brand based in Miryang (South Gyeongnam), it is within these plants that the SMI SK 500 F shrink wrapper and the DV 500 S ERGON divider, have been in operation since 2021.

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