

Solutions from stretch blow moulding to conveying

# Bottled water from Cappadocia

A maze of towers, crevices, canyons, pinnacles and rugged castles; this is the fairy-tale landscape in the magical region of Turkey, in central Anatolia. It is in this region, rich with stone mines and marble quarries, that Badem Pinari, leader in the mining sector, decided to branch out and invest in the bottled water sector. To compete and diversify itself among other companies present in this market, Badem Pinari aims at high quality products and excellent service. To carry out these aims, the bottler turned to SMI for the project, creation and installation of a new production line of 22.500 bottles/hour to bottle and pack 0.33l, 0.5l and 1.5l PET bottles with natural mineral water.



Zafer Ozcan (third from left) SMI agent in Turkey with the staff of Badem Pinari

The Badem Pinari company is part of the Bademler group, and was founded after an idea of the owner Murat Badem, who wanted to expand his business activities in the mining sector by investing in a new sector: bottled water. Despite the large number of

soft drink and water bottling companies present in Turkey, the founder of Badem Pinari decided to become part of this sector thanks to the results of in-depth market research which highlighted a great opportunity for growth.

The bottling and packaging line at Badem Pinari was designed and created to satisfy the specific requirements of flexibility, control and management of a modern "smart factory". The installations supplied by SMI can be easily and automatically adapted to market demand for production flow and to switch quickly from one bottle format to another.

The proposed solution includes an integrated system from the Ecobloc range, an automatic labeller, a shrink-wrapper from the SK 600F range and an automatic palletising system, which fulfil the requirements of this Turkish

company to have a functional production line which is able to produce high quality products for a demanding market.

"The suppliers must be able to provide the best technical solutions that satisfy our requirements in terms of operational efficiency, energy savings and controlled production costs," says Murat Bardem. He chose an installation that was suitable to meet his aims, and today he is pleased to create water bottles in PET for still water that weigh only 9g. "They are very light containers that consumers are beginning to appreciate for their practicality, recycling and eco-compatibility and which will slowly take the place of the heavier, more rigid bottles that Badem Pinari are still using to bottle water," Murat Bardem believes.

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Integrated system Ecobloc Ergon 12-36-12 EV

- Functions: stretch-blow moulding, filling and capping of 0.33l/0.5l/1.5l bottles in PET with natural mineral water Badem Pinari, and a production capacity of up to 22,500 bph (0.5l).

#### Main advantages:

- The primary packing is carried out in an efficient and flexible way thanks to the integrated compact solution for stretch-blow moulding, filling and capping bottles in PET.
- Production of simple, light-weight bottles.
- Dual air recovery system, which allows to reduce costs tied to the production of high pressure compressed air.
- IR lamps mounted on the preform heating module to guarantee high energy efficiency.



#### Shrink-wrapper SK 600 F Ergon

- Packed products: 0.33l/0.5l/1.5l bottles in PET
- Packs worked: the 0.33l and 0.5l bottles in PET are packed in 4x3 and 6x4 film only; the 1.5l bottles are packed in 3x2 film only

#### Main advantages:

- Automatic machine suitable for packing different types of rigid containers.

- Rounded, anodised aluminium, sliding, protection doors, which allow all the motors (with low energy consumption) to be placed on the outside of the mechanical groups that they run.
- Infeed conveyor with a thermoplastic, low friction belt and a motorised system of oscillating separator guides.
- Film reel unwrapping controlled by a brushless motor which guarantees precise, constant film tensioning.
- Machine equipped with a system of film splicing with a heated blade, this allows the ends of the two reels of shrink film to be spliced without stopping production.
- Reduced energy consumption and low maintenance costs.
- Compact knife group with film cutting blade run by a brushless "direct-drive" motor.
- Shrink tunnel with cutting edge technology to contain energy consumption and guarantee environmental compatibility.
- High quality of final pack, thanks to the uniform distribution of hot air flow on all the pack surface inside the tunnel.



#### Automatic palletising system APS 1550 P

- Packed products: packs in film only in format 6x4 and 4x3 (0.33l and 0.5l bottles) and 3x2 (1.5l bottles) coming from the shrink-wrapper SK 600 F
- Pallets worked: 1,000 x 1,200 mm and 800 x 1,200 mm

#### Advantages:

- Single column with two Cartesian axes with SCARA technology, flexible and easily adapted to any end of line logistic condition within multiple industrial sectors.
- Reduction of maintenance and energy costs, as well as lengthening the life cycle of the installation, thanks to the machine's mechanical simplicity and the use of com-

ponents derived from robots.

- The automation and onboard management of the APS system is entrusted to technology based on sercos fieldbus, thanks to which the operator, using a simple, intuitive, man-machine interface can quickly and easily manage all the end of line, palletising operations.



### Conveyors


**Function: carrying loose and packed bottles in PET, in particular:**

- Moving bottles from the outfeed of the integrated system Ecobloc Ergon, moving in infeed/outfeed to the shrink-wrapper SK 600 F Ergon and moving in infeed to the palletiser APS 1550 P Ergon.



#### Main advantages:

- constant, fluid no-hitch movement of loose and packed bottles in PET;
- format changeover times reduced for the quick switch from one batch to another;
- modular, ergonomic structure, which can easily be adapted to different sizes of containers or production flows;
- energy consumption and running costs among the lowest on the market;
- low running and maintenance costs;
- product guides made from stainless steel and anti-friction UHMW plastic, which maintain the quality of the container.






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