

➤ **SECTOR: WATER**

VALLEY WATER
Wadi El Natrun, Egypt

COMPLETE 36.000 BPH LINE WHICH INCLUDES:

- Blowing-Filling-Capping System ECOBLOC® 16-78-18 E HEVF
- Case Packer WP 600 ERGON
- Palletiser APS 3070 L ERGON
- Conveyor belts and sub-supplies:
compressor, laser marker, level control, labeler, wrapper.



IN THE DESERT AREA OF WADI EL NATRUN, MORE OR LESS HALFWAY BETWEEN ALEXANDRIA AND CAIRO, YOU FIND YOURSELF IMMERSSED IN AN UNUSUAL, RURAL, AUTHENTIC EGYPT.

WADI EL NATRUN IS A DEPRESSION ABOUT 23 METERS BELOW SEA LEVEL, IT WAS IMPORTANT FOR THE ANCIENT EGYPTIANS WHO EXTRACTED THE "NATRUN", THE SALT USED IN MUMMIFICATION PROCESSES.

TODAY THIS AREA IS FAMOUS FOR THE EXTRACTION OF ELANO WATER, A 100% PURE AND NATURAL PRODUCT, BOTTLED BY THE VALLEY WATER COMPANY, FOUNDED WITH THE AIM OF PROVIDING THE MARKET WITH HIGH QUALITY PACKAGED WATER AND FILLING THE GAP BETWEEN STRONG DEMAND AND CURRENT LOW SUPPLY.

VALLEY WATER

IN THE NATRUN VALLEY, THE SMARTEST PET LINE INSTALLED BY SMI IN AFRICA



To increase the production of 0.6 L and 1.5 L PET bottles, the Egyptian company recently turned to SMI for the supply of a complete line of 36,000 bottles/hour, which is currently the smartest plant installed by SMI on the African continent and is the ideal solution to ensure efficient, sustainable and high quality production. Together with the new PET line, Valley Water has entrusted SMI with the modernisation and automation of the end of line of an existing parallel plant, characterised by the presence of a SMI stretch-blow moulder supplied in 2013, also intended for the production of 1.5 L and 0.6 L PET bottles for the packaging of Elano water.

THE BOTTLED WATER MARKET IN EGYPT

The bottled water sector in Egypt is characterised by the presence of multinational brands and a significant growth of “private labels”.

Bottled water is one of the largest categories of soft drinks on the local market, so much so that in 2022 the annual consumption of this product grew by 4.3%, also thanks to the recovery of tourism after the restrictions imposed by the Covid-19 pandemic in previous years.

Thanks to features such as transparency, good protective barrier, recyclability, lightness and cost-effectiveness of the format, PET bottles are the ideal choice for many producers in the beverage sector, with peaks of use up to 99% for mineral water packaging.

Future forecasts drawn up by the main research institutes indicate a constant and lasting growth for this product category, also in the years to come, both in Egypt and in the rest of the African continent. (Source: Globaldata)



NOURISHMENT, QUALITY AND WELL-BEING FROM UNDERGROUND, THANKS TO INNOVATION

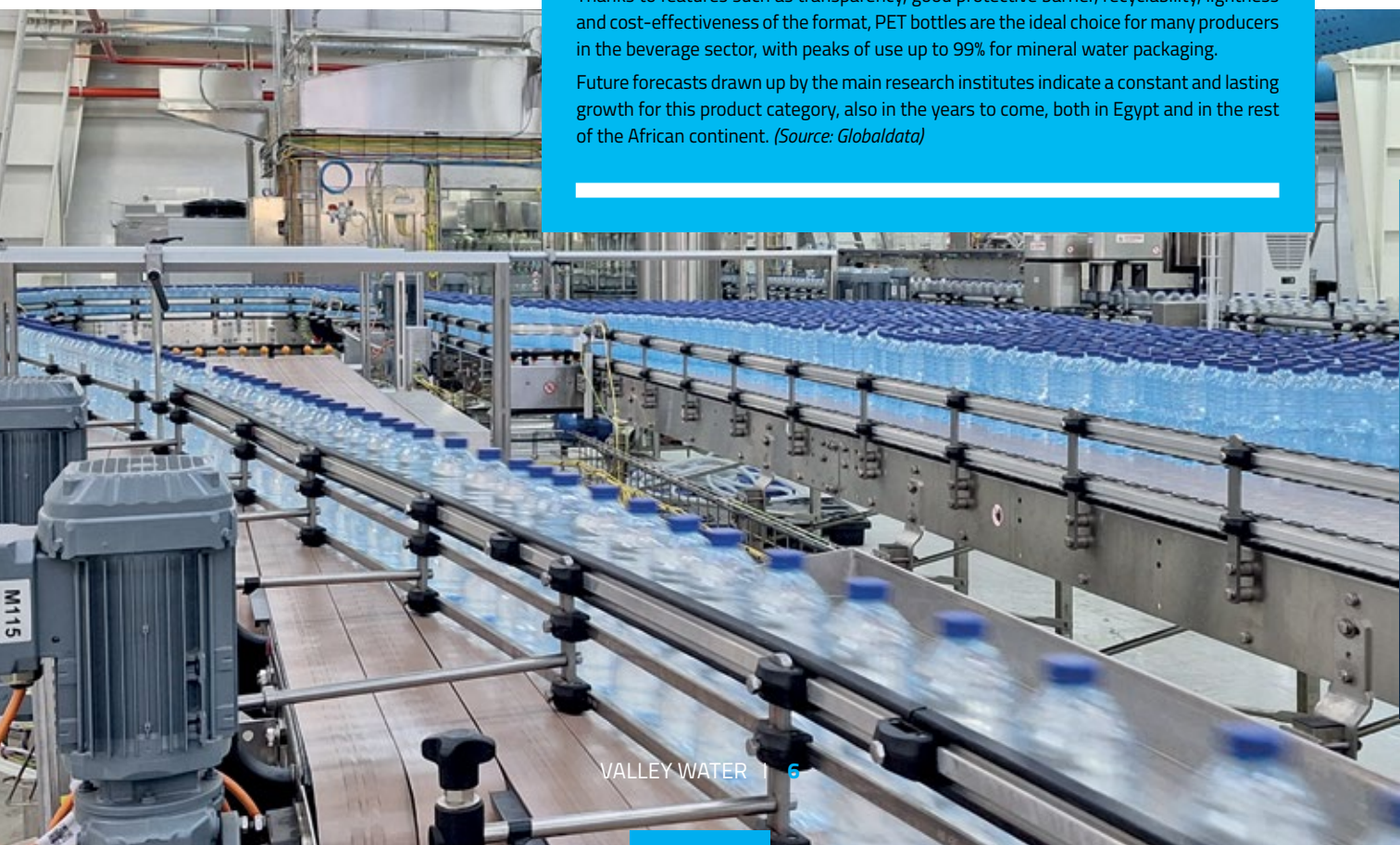
Elano water is extracted from wells in the subsoil of the western Egyptian desert of Wadi El Natrun, an area rich in minerals, natural salts and nutrients for the human body.

To preserve the quality of the water and offer consumers a pure, uncontaminated and healthy product, the Valley Water company pays great attention to every detail and invests in cutting-edge technologies

for every phase of the industrial process, from the extraction of the product from underground wells at a depth of 400 meters, to bottling and packaging operations on the surface.

The careful analysis of consumer expectations allows the Egyptian company to adapt its production facilities efficiently and quickly, in order to effectively meet the supply-demand dynamics of the market. Valley Water adheres to international and

European standards for the health and quality of bottled water and invests in new technologies to meet the growing market demands, as well as for bottled water, also for carbonated and non-carbonated beverages, which, in terms of quality, compete with the main international brands. To this end, it constantly collaborates with international experts in the sector, implementing sophisticated control systems in its latest generation plants.



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INVESTING IN NEW TECHNOLOGIES TO INCREASE EFFICIENCY AND PRODUCTION

The decision to rely on SMI for the supply of a new complete line of 36,000 bottles/hour for the bottling and packaging of Elano water in PET bottles ranging from 0.6 to 1.5 L is the result of a close collaboration between the two companies, in 2013 with the installation of a rotary stretch-blow moulder and a shrink wrapper from the LSK range, both are used for the packaging of 0.33 / 0.5 / 1.5 L containers in PET.

SMI supplied the Egyptian company with an LWP 30 ERGON case packer dedicated to packing at a speed of up to 30 packs/minute PET bottles of 0.33 and 0.6 L in wrap-around boxes in 4x5 and 1.5 L bottles in 3x4.

The end of line of this second supply was the subject of a modernisation process to automate palletising operations, thanks to

the installation of an SMI palletiser of the APS 1540 ERGON range, delivered to Valley Water together with the new 36,000 bph line.

The supply of the latter and the automation of the end-of-line of the pre-existing plant, allow the Wadi El Natrun plant to meet the growing demand for bottled water in Egypt, a market where there is one of the highest levels of consumption per capita of this product in the world and where consumers now tend to choose healthier drinks rather than sugary drinks.

The new technologies supplied by SMI ensure that Valley Water, not only have greater production capacity, but also improved market competitiveness, high energy savings and reduced environmental impact.



RESTYLING OF BOTTLES FOR BETTER PERFORMANCE

The main aspects considered by SMI designers for the Valley Water project were: on the one hand, the study of the line layout to ensure optimal use of space, high quality, production efficiency and plant flexibility; on the other hand, the analysis of the design of existing bottles, making the know-how acquired in the design of PET containers available to the customer.

Starting from the containers used by the customer and keeping the "core concept" unchanged, SMI's designers studied the restyling of the 0.6 and 1.5 L bottles, produced by the new ECOBLOC® integrated blowing-filling-capping system, aiming to emphasize the iconic image represented and to improve the resistance and stability of the containers.

These objectives have been punctually achieved by enlarging the maximum diameter of the bottles and lowering their height, with the result of optimising the center of gravity of the same.

The base of the bottle was also subject to a restyling process, with the aim of improving the mechanical properties of the containers during filling.

Thanks to these measures and the supply of new moulds for the stretch-blowing of 0.6 and 1.5 L bottles of Elano water, now also produced by the 6-cavity stretch-blow moulder supplied in 2013, the entire packaging and palletising process of the Wadi El Natrun plant has become more efficient and sustainable.



SMI SOLUTIONS FOR VALLEY WATER



Consumer purchasing choices are also strongly influenced by environmental issues.

To demonstrate its commitment to supporting sustainability issues, the Egyptian company Valley Water uses PET bottles as eco-compatible and recyclable packaging of Elano water, produced in factories equipped with the latest generation green technologies that allow reduced environmental impact and significant energy savings.

The complete line of 36,000 bottles/hour supplied by SMI to Valley Water for the bottling of Elano water, allows the customer to optimise the space within the production plant to have an efficient and performing line able to meet the growing demands of the Egyptian market for a high quality product.

The new turnkey system consists of an EBS 16 E ERGON ECOBLOC® stretch-blow moulder with a HEVF filling and capping system; a WP 600 ERGON case packer; an APS 3070 L ERGON palletiser; conveyor belts, labeling machine, encoder and control systems.



➤ ECOBLOC® 16-78-18 AND HEVF SYSTEM FOR BLOWING-FILLING-CAPPING

Bottles worked: 0.6 and 1.5L bottles in PET for natural water Elano

Speed: production up to 36,000 bottles/hour (0.6 L format).

Main advantages:

- Compact and flexible solution
- Reduced energy consumption
- High-efficiency rotary stretch-blow moulding system equipped with motorised stretch rods, whose electronically controlled operation, does not require pneumatic cams; precise management of the stretch rod stroke and accurate control of its position, as well as significant energy savings
- Preform heating module with energy-efficient IR lamps
- Stretch-blow moulding module equipped with a two-stage air recovery system, which reduces energy costs related to the production of compressed air at high pressure
- Fully motorised stretch rod, which allows you to easily manage the format change
- The machine groups the operations of stretch-blow moulding, filling and capping of PET bottles in a single block and therefore does not require the rinsing machine and the airveyors between the blower and the filler
- Filling system with high precision flow meters installed near each tap
- Compact frame, taking up less space in the filling line and reduced transport costs
- Filling chamber completely isolated from transmissions that do not come into contact with any type of liquid
- The machine frame is inclined towards the drainage points resulting in a higher level of hygiene
- The operator can access the various higher parts of the machine in extreme safety, with consequent reduction of maintenance times and costs
- Quick format change of bottle guiding equipment.



➤ **WRAP-AROUND CASE PACKER WP 600 ERGON**

Packs created: boxes of 4x5 for 0.6 L bottles and boxes of 3x4 for the 1.5 L bottles

Main advantages:

- Continuous packaging through a wrap-around system, which guarantees a smooth production process, without jerky movements
- Ideal solution to obtain impact-resistant packaging, able to protect the product during transport
- Better pack quality and reduced mechanical wear
- Possibility to graphically customise the cardboard box to capture the consumer's attention, offering the producer more opportunities for marketing and product promotion
- Extremely ergonomic machine structure
- Easier and safe maintenance operations
- POSYC® control panel, which slides along the entire length of the packaging machine, allowing the operator to have easy and efficient use of the system
- Highly intuitive, graphical interface, touch-sensitive screen and advanced real-time diagnostics and technical support.

➤ **AUTOMATIC PALLETISING SYSTEM APS 3070 L ERGON**

Product worked: cardboard boxes arriving from the WP 600 ERGON

Pallets created: 1000x1200 mm.

Main advantages:

- Single-column system with two Cartesian axes for palletising boxes, bundles, trays and packs in general
- Extremely flexible modular structure and easily adaptable to the logistical conditions of the line
- Ergonomic palletising system that allows the operator to easily and safely carry out all activities related to the use, cleaning and maintenance of the system
- High operational flexibility that allows the creation of multiple palletising patterns according to the specific needs of the customer
- Possibility to customise and adapt to the needs of format changeover, product change and / or layout of the system
- Eco-sustainable solution, thanks to the use of ICOS motors equipped with integrated digital servo-drive (driver), able to simplify the wiring of the machine and ensure greater energy efficiency, lower noise and reduced wear of the components
- TCO (Total Cost of Ownership) is optimised thanks to low management and maintenance costs.



WADI EL-NATRUN

Wadi El-Natrun is a small town, located on the edge of the Western Desert, located about 90 kilometers northwest of the city of Cairo, halfway between the capital and Alexandria in Egypt. It is a low lying area about 23 meters below sea level and 48 meters below that of the Nile, it was important for the ancient Egyptians who extracted salt, present in large quantities thanks to the presence of many lakes that periodically dried up. Wadi El Natrun in Arabic means "valley of natron" (sodium carbonate decahydrate). This semi-desert low lying area, in addition to being venerated by the ancient Egyptians because of the salt used in the mummification process, was and remains one of the most sacred regions for Christianity, whose first settlements date back to the third century AD. C.; Over the centuries, in fact, the area had hundreds of monasteries, the inhabitants of which, were mostly monks and hermits. It is said that in the fifth century this area hosted up to 60 religious settlements, which in the following centuries were plundered by the nomadic populations and then by the Arabs. Today, unfortunately, only four remain (UNESCO World Heritage Sites): the monasteries of Saint Macarius, the Syrians, Saint Pschoi and the Romans.

