AQUAMARK
EAU DE SAINT-DIÉRY

IN THE HEART OF THE VOLCANIC REGION OF PUY-DE-DÔME, WITHIN THE AUVERGNE VOLCANOES REGIONAL NATURAL PARK, YOU CAN FIND SOME OF EUROPE'S MOST FAMOUS GUSHING SPRINGS, USED FOR THERMAL PURPOSES AND BOTTLING. IT IS IN THIS SETTING THAT THE AQUAMARK COMPANY OPERATES, AND FOR BOTTLING ITS SAINT-DIÉRY BRANDED MINERAL WATER, IT RELIED ON SMI AND ENOBERG FOR THE INSTALLATION OF AN INTEGRATED STRETCH-BLOW, FILLING, AND CAPPING SYSTEM FROM THE ECOBLOC® ERGON HEVS SERIES AND AN LSK 40 F ERGON PACKER, FAVOURING SOLUTIONS THAT ARE HIGHLY ENERGY-EFFICIENT AND ENVIRONMENTALLY FRIENDLY.

- **SECTOR: WATER**
  AQUAMARK - Gruppo E. LECLERC
  Saint-Diéry, France
- Integrated system ECOBLOC® 6-50-10 E HEVS ERGON
- LSK 40 F ERGON shrink wrapper
- Conveyors

VIDEO



GEO LOCATION

SAINT-DIÉRY WATER

A NATURAL RESOURCE AND A SOURCE OF WELL BEING AND VITALITY

For over 125 years, Saint-Diéry mineral water has captured the purity and properties of the volcanic land of Auvergne.

This naturally sparkling precious gift of nature, born in the heart of France, in the Massif Central (Puy de Sancy), where it springs pure from the Renlaigue source and is bottled by Aquamark for the E. Leclerc group.

Despite its renowned qualities, the product is mainly sold within France through large-scale retail.

From a chemical-physical point of view, Saint-Diéry water stands out for its abundance of magnesium, property that give it digestive, fatigue-relieving, and anti-stress benefits.

Through the close collaboration between the client and SMI, it was possible to perfect the design of the containers used for bottling Saint-Diéry water and to obtain high-quality rPET bottles blown at low pressure thanks to the use of the ReduxAir base.



HIGH-QUALITY GREEN CONTAINERS

Before making the moulds with the special ReduxAir bottom, the SMI designers made some technical adjustments to the shape and features of the containers previously used by Aquamark; in particular, the container designs were revised in the rib depth section of the bottle's spiral area, and for the 0.5 L container, the bottom support base was also redesigned.

Also, thanks to the use of sophisticated equipment, SMI labs carried out dimensional checks and tests on the preforms used by Aquamark, in order to accurately measure their thickness and the uniformity of the polymer they're made of.







CONCRETE ACTIONS
TO PROTECT THE ENVIRONMENT

Producing in full respect of the environment is no longer just an ethical choice, but a clear strategic path made of constant investments and technological innovation.

A clear example of this is the work done by Aquamark, a company strongly committed to protecting the planet, which works consciously to reduce waste, save energy, and offer consumers products that preserve the environment. To achieve these goals, the French company has recently upgraded its facilities for the production of Saint-Diéry mineral water, involving SMI, ENOBERG, and the SMI FRANCE branch, with the aim of implementing efficient and eco-friendly bottling systems.

The heart of the new plant is the integrated ECOBLOC® HEVS ERGON system, which handles the production and bottling of 0.5 L and 1.25 L bottles of sparkling water; inside this unit, the EBS 6 E ERGON stretch-blow moulding machine stands out, equipped with the ReduxAir system that ensures the customer lower energy costs and reduces the plant's carbon footprint thanks to optimized use of compressed air.

The focus on ecology is also reflected in the choice of packaging materials, as the 0.5 L and 1.25 L bottles are made from preforms made of recycled PET (rPET); depending on its production needs, the French company uses either 100% rPET preforms or ones with 30% or 50% rPET, achieving great results during the stretch-blow moulding process.



In the context of secondary packaging, the bottles coming out of the ECOBLOC® ERGON integrated system are grouped into packs of 6 by the LSK 40 F ERGON packer using a plastic (polyethylene) film that is 50% recycled.

Thanks to these recyclable packaging solutions, the Saint-Diéry mineral water is ready to hit the shelves of major retail chains – especially E. Leclerc stores – combining the purity of the spring with an increasingly circular and responsible consumption model.





FOCUS ON AQUAMARK

France is a highly competitive market, with hundreds of mineral water brands available; it was in this context that, in 2005, the E. Leclerc group founded Aquamark, a company dedicated to bottling spring water, mainly intended for the group's own stores.

Aquamark currently employs about sixty people and operates in two production sites in the Puy-de-Dôme region: a mountain spring water bottling plant in Laqueuille and, since 2013, a sparkling mineral water production plant in Saint-Diéry.

Aquamark's production plant is part of the wider strategy of the E. Leclerc Movement, which handles the production and marketing of its production lines in-house, to ensure consumers get low prices and independence in supply.





GREEN SOLUTIONS FOR AQUAMARK



Working with SMI and ENOBERG allowed Aquamark to set up an efficient and eco-friendly production system at the Saint-Diéry plant.

The proposed solution includes the integrated ECOBLOC® 6-50-10 E HEVS ERGON system and the LSK 40 F ERGON packaging machine.







ECOBLOC® 6-50-10 E HEVS ERGON INTEGRATED SYSTEM

Functions: stretch-blow moulding, filling, and capping PET bottles of 0.5 L and 1.25 L sparkling water at a maximum speed of 13,200 bottles/hour (0.5 L size).

MAIN FEATURES OF THE EBS 6 E ERGON STRETCH -BLOW MOULDER MODULE

The SMI blow-stretch moulder uses cutting-edge technologies that meet the sustainability goals of Aquamark and the E. Leclerc group; thanks to reduced energy consumption and costs, the system minimises environmental impact while ensuring highly efficient and sustainable production.

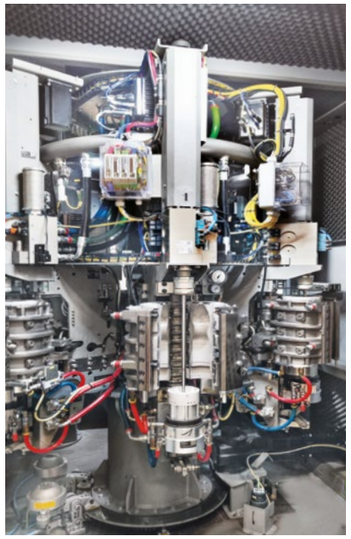
The key strengths of the EBS 6 E ERGON stretch blower are:

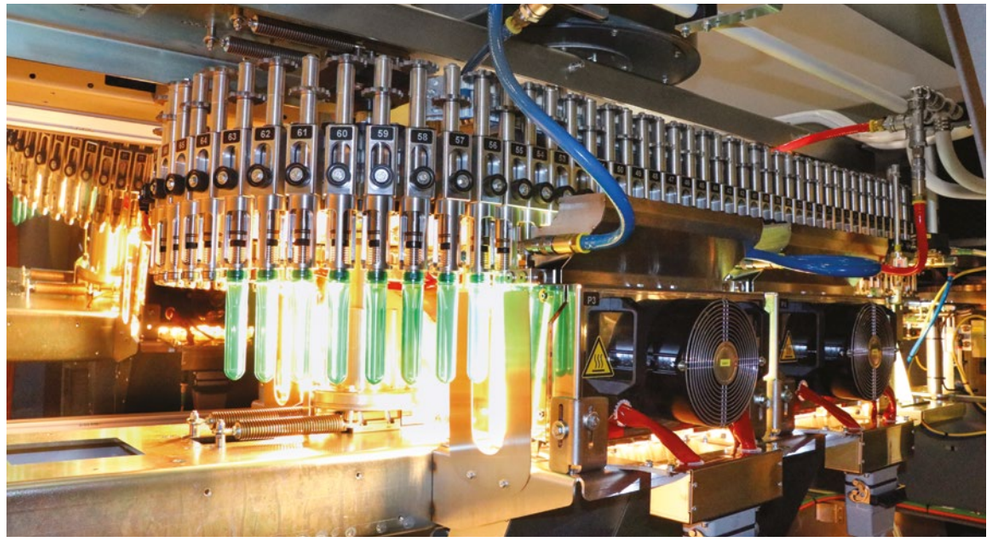
- **High-efficiency preform heating,** thanks to the fact that the preform heating module uses infrared lamps and thermo-reflective panels made of composite material (placed front/back) to boost the thermal radiation intensity and, as a result, cut energy consumption.

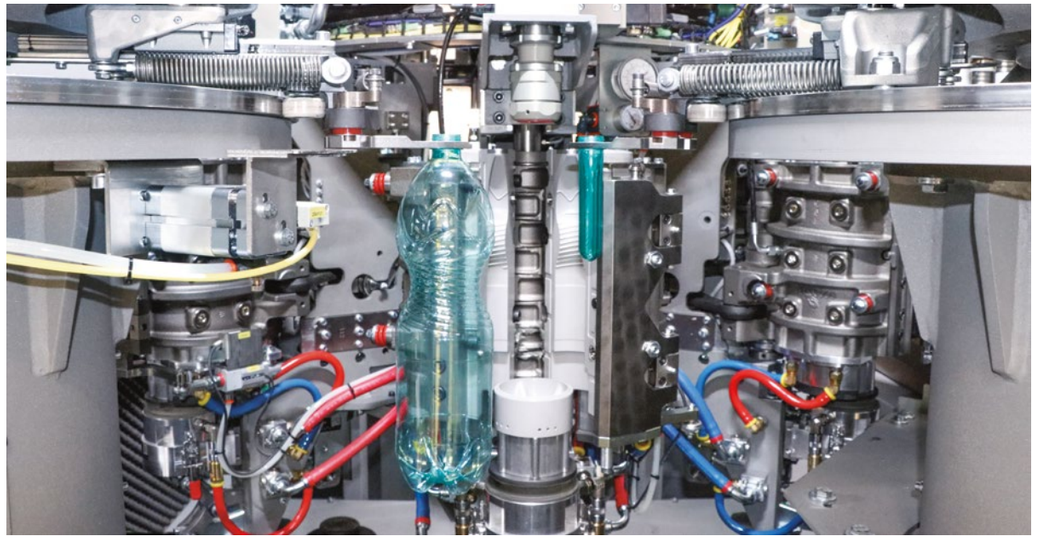
- **AirMaster double-stage air recovery system,** through which the stretch-blow mould module recovers air from the circuit; this significantly reduces compressed air consumption and the use of the high-pressure compressor

- **Moulds with special ReduxAir bottoms,** made by SMIMEC, a company in the SMI group, for the 0.5 L and 1.25 L sizes. These moulds are made with specific technical and design features that allow air trapped between the bottle walls and the mould surface to escape more quickly; as a result, rPET containers can be produced at lower pressures (27 bar) compared to the usual standard (around 35 bar), giving the customer an extra green advantage thanks to less use of compressed air and, therefore, lower electricity consumption by the machine.

- **Eco-friendly solution:** the stretch-blow moulder installed at Aquamark is suitable for producing containers made from rPET preforms, a choice that fully reflects the company's mission to protect the environment through the use of eco-friendly packaging.





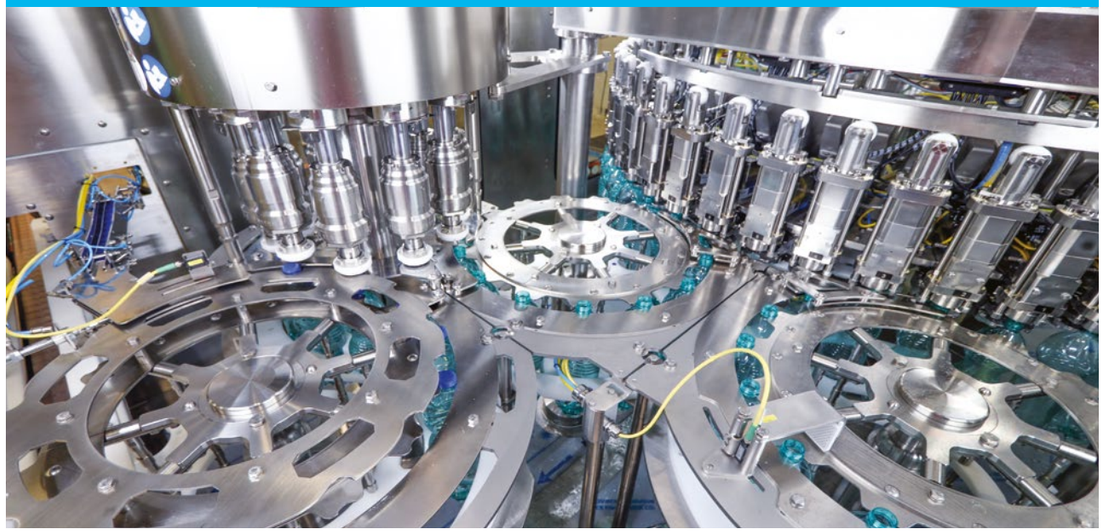


MAIN FEATURES OF THE 50-10 HEVS FILLING AND CAPPING MODULE

Every technical detail of the new ENOBERG 50-10 HEVS filling and capping system has been designed to ensure that Aquamark meets the highest standards of hygiene, safety, and cleanliness, completely eliminating the risk of product contamination.

The key strengths of the 50-10 HEVS filling and capping system are:

- **Hygiene:** the filling module is equipped with a sterile air blowing system with a HEPA filter in order to create a slight overpressure of sterile air in the filling environment.
- **Safety:** the machine is equipped with laminated glass doors so it can keep running even if the glass breaks; compared to tempered glass doors, laminated glass provides customers with significant benefits, especially when it comes to safety. Thanks to a plastic layer inside the glass itself, if it breaks, laminated glass doesn't shatter but stays attached to the PVB layer, reducing the risk of accidental falling shards. This allows customers to keep producing safely until the broken glass is replaced, avoiding machine downtime. The intermediate layer also offers excellent sound insulation.
- **Maximum accuracy:** the volumetric electronic filling system is extremely precise and ensures high accuracy in filling, with constant and complete control over every phase of the process.
- **No standing liquids:** thanks to the sloped base and the use of structural components specially designed to ensure continuous drainage of liquids from inside the workspace to the outside, no liquids accumulate inside the filling module, keeping the work environment clean and hygienic.
- **Simplified maintenance:** the lubrication of the gears, located in the motion transmission area, is centralised and automatic; moreover, the machine components are easily accessible.
- **Total isolation:** the filling chamber is completely separated from the transmission parts, which don't come into contact with the liquid being bottled and help maintain the product's hygiene and quality; the system also comes with an optional top cover device that further boosts hygiene and safety.
- **Rustproof and sturdy structure:** the frame of the filler is made entirely of AISI 304 stainless steel, with no iron parts.
- **Top-quality materials:** the filling taps are made of AISI 316 stainless steel; this is an optimal solution for machines intended for the food sector, thanks to resistance to corrosion from acidic foods and drinks, ease of cleaning, malleability, and long-lasting durability.
- **Smart automation:** easier washing thanks to the automatic insertion of dummy bottles.
- **Intuitive control:** easy management of parameters and settings directly from the POSYC® HMI touch panel.









LSK 40 F ERGON SHRINK FILM WRAPPER

Functions: packaging rPET bottles of 0.5 L and 1.25 L in recyclable shrink film in the 3x2 format at a speed of 40 packs/minute (0.5 L format)

Main features: SMI's shrink film packaging machines are the result of significant R&D investments, aimed at finding solutions that meet customer needs, including the use of green packaging materials like the recycled shrink film used by Aquamark for packaging Saint-Diéry water bottles.

Eco-friendly packs

thanks to the use of a fully recyclable 40-micron printed film, Aquamark creates packs that align with the company's policy of protecting the environment while meeting consumers' desire to buy pure spring water and at the same time supporting circular and responsible consumption.



Quality packs

at the outfeed of the shrink tunnel, the pack undergoes an immediate cooling process, which, thanks to a higher number of fans placed at regular one-metre intervals inside the oven, sets its shape, aesthetic quality, and rigidity to prevent deformations or breakages during the next packaging stages.

The machine also features an additional cooling belt to ensure the quality of the finished package.



Compact and functional

the LSK ERGON packaging machine is small in size and is the ideal solution to meet any layout needs within production plants; moreover, the film cutting unit has a compact design and the knife blade is powered by a direct-drive brushless motor, which makes the cutting operation more precise and simplifies maintenance.



Reliable and competitive

the LSK series is an automatic machine suitable for packaging different types of containers, featuring cutting-edge technological solutions and highly reliable components at competitive prices.





PRODUCING IN FULL RESPECT OF THE ENVIRONMENT IS NO LONGER JUST AN ETHICAL CHOICE, BUT A CLEAR STRATEGIC PATH MADE OF CONSTANT INVESTMENTS AND TECHNOLOGICAL INNOVATION

COMPETITIVE PRICES AND ENVIRONMENTAL PROTECTION: THE PILLARS OF THE E. LECLERC MOVEMENT



The E. Leclerc Movement is one of the main retail chains in Europe.

It started in 1949 in Landerneau, France, from a revolutionary idea by Édouard Leclerc: to fight post-war speculation and cut costs by limiting middlemen, with the goal of offering consumers great prices, initially for basic necessities.

Today, the areas of interest have expanded, and besides hypermarkets and supermarkets, E. Leclerc also runs gas stations, travel agencies, and cultural spaces.

At an organisational level, this important commercial entity is a cooperative of independent entrepreneurs, owners of their own stores who actively participate in the brand's decisions.

After gaining widespread popularity in France, the chain spread to other European countries; it currently has 766 stores (hypermarkets, supermarkets, and express stores) within France, as well as 74 stores abroad.

FROM A PAST OF FIRE AND LAVA, **A NATURAL SPECTACLE THAT TELLS THE STORY OF THE EARTH**

The department of Puy-de-Dôme, located in the French region of Auvergne (Auvergne-Rhône-Alpes), is home to the spectacular Chaîne des Puys, an extraordinary lineup of over 80 extinct volcanoes.

These puys (cone-shaped volcanic formations), formed from single eruptions and now covered in lush vegetation, create an amazing geological landscape that stretches over 30 km and has been declared a UNESCO World Heritage Site.

The tallest and most famous mountain is the Puy-de-Dôme, which rises to 1,465 metres and offers a 360° view of a unique area, renowned not only for its volcanoes but also for its water, biodiversity, and rich local cultural heritage.

All around, the vast natural plain contrasts with the hills and underground volcanic activity, which enriches the aquifers and feeds some of Europe's most famous springs, used both for bottling and for thermal centres.

The best way to explore the area is by following the network of hiking trails, enjoying breathtaking views until you reach the summit of the Puy-de-Dôme.

It was here, that the Temple of Mercury was built in the 2nd century AD, the largest sanctuary in Roman Gaul, while in modern times cyclists of the legendary Tour de France have cycled up it multiple times.

Today you can comfortably reach the top on a rack rail train, which, starting from the valley, runs along the side of the mountain for 5.6 kilometers.



