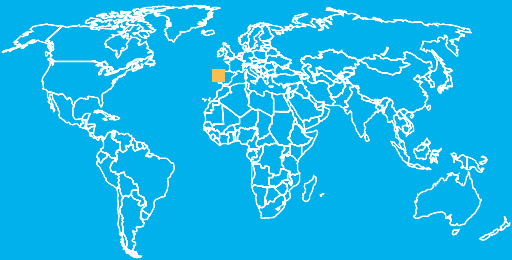


CARVALHELHOS IS A BENCHMARK IN THE WATER SECTOR IN PORTUGAL AND ONE OF THE LEADERS IN THE EXPORT MARKET. THE BOTICAS-BASED COMPANY FOCUSES ON THE ENVIRONMENTAL SUSTAINABILITY OF ITS PRODUCTION PROCESSES, WHICH WILL BE FURTHER IMPROVED THANKS TO THE INSTALLATION OF A NEW EBS 8 KL ERGON STRETCH-BLOW MOULDER BY SMI, FOR THE PRODUCTION OF NEW rPET CONTAINERS WITHOUT PLASTIC LABELS.

# CARVALHELHOS

- **SECTOR: WATER**  
ÁGUAS DE CARVALHELHOS  
Beça, Boticas, Portugal  
carvalhelhos.pt
- EBS 8 KL ERGON Rotary Stretch – Blow Moulder



GEO LOCATION





# CARVALHELHOS

## QUALITY WATER FOR OVER A CENTURY

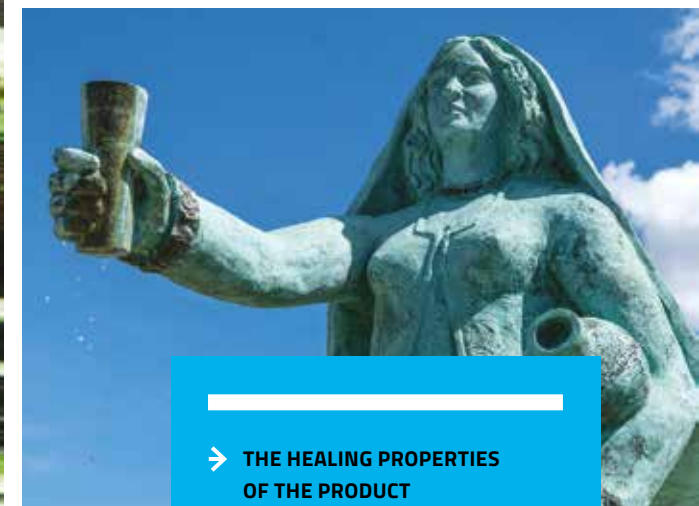
Nestled in the pristine Barroso region of northern Portugal — an area revered for its lush landscapes and natural spring — lies a remarkable story of healing and heritage. Among these springs, the waters of Carvalhelhos have long been celebrated for their therapeutic virtues. First discovered in 1915 by a shepherdess who found relief from her injuries by washing her feet in the spring, the miraculous nature of the water was quickly brought to national attention, thanks to a photographer from Porto who documented her recovery. What began as a quiet tale of healing soon became a national phenomenon.

The shepherdess, a true Barrosã, remains a symbolic figure to this day. Her image continues to embody the soul of the brand and features prominently in the logo of Águas de Carvalhelhos, the company that has proudly bottled this natural treasure for over 110 years. From the beginning, Águas de Carvalhelhos has upheld a deep respect for the purity and origins of its mineral waters. Bottled at the heart of a UNESCO-protected

heritage region, the company applies stringent environmental criteria to preserve the nobility of its aquifers. This dedication ensures that the water retains the same remarkable properties that first captivated Portugal over a century ago.

In alignment with its mission to blend tradition with innovation, Águas de Carvalhelhos has partnered with SMI for the supply of a cutting-edge EBS 8 KL ERGON rotary stretch-blow moulder. This technology supports the production of PET bottles — with and without labels — enhancing efficiency while honoring the brand's sustainable values. Today, the unique character of Águas de Carvalhelhos natural mineral waters remains unchanged, a testament to the enduring quality of the region's aquifers. With two state-of-the-art facilities in Beça, within the municipality of Boticas, just 35 kilometers from the historic Roman city of Chaves, the company operates advanced bottling lines for both PET and glass containers — solidifying its leadership in both national and international markets. Águas de Carvalhelhos' unwavering commitment to excellence has

earned it distinguished recognition over the years. In 2000, the company was awarded the ISO 9002 certification by APCER, a milestone that was later elevated with the prestigious ISO 9001 certification — testaments to its rigorous quality management systems. Further affirming its reputation as a steward of natural purity, the company has also received honors such as the Aquallia Award for Best Water, among other accolades that celebrate its dedication to delivering nature's finest to consumers. With every bottle, Águas de Carvalhelhos carries forward a legacy over a century in the making — sharing the pure essence of Portugal's natural heritage while inspiring a life of wellness, vitality, and harmony with nature



### ➤ THE HEALING PROPERTIES OF THE PRODUCT

Thanks to a unique mineral balance, Águas de Carvalhelhos has remarkable healing properties.

This gift of nature is especially suitable for treating disorders of the digestive and circulatory systems and for dermatological diseases. It also helps prevent kidney stones from forming naturally and maintain the correct hydration.

The quality of the water bottled in the Beça plant is the result of the combination of two extremely important factors: on the one hand, the purity of the source, uncontaminated and curative, and on the other hand, the use of a rigorous production process by the Águas de Carvalhelhos company, which makes use of exemplary industrial plants, filling lines equipped with the most modern technologies and internal laboratories capable of carrying out any analysis on a wide range of parameters, to ensure water quality and compliance with HACCP standards.





## LUCY & STELLA, SPRINGS OF WELL-BEING

The Carvalhelhos brand is associated with the town of the same name, located in the Barroso region, a preserved environment in the heart of the Serra do Barroso mountains in northern Portugal, at an altitude of 750-800 meters.

Here, the product bottled by Águas de Carvalhelhos flows naturally from the two traditional mineral water springs, called Lucy and Stella, in honor of the daughters of the company's founder.

The Lucy and Stella springs have been known for more than 150 years, although it is documented that the therapeutic and medicinal properties were already known in the period of the Roman Empire, as demonstrated by some archaeological discoveries

that have brought to light the remains of the Castro Romano of Carvalhelhos and numerous spas.



## 110 YEARS OF CARVALHELHOS: A LEGACY OF PURITY, A FUTURE OF POSSIBILITY

The origins of Águas de Carvalhelhos trace back to 1915, with the founding of Caldas Santas de Carvalhelhos.

From the very beginning, this iconic Portuguese company has stood out for its unwavering commitment to quality and well-being, offering consumers the pure excellence of naturally bottled mineral water.

In its early years, bottling was performed manually, and distribution was primarily through pharmacies, reflecting the water's recognized medicinal value.

A turning point came in 1961, with the installation of the company's first automatic filling line — boasting a then-unprecedented capacity of 6,000 bottles per hour — positioning it as the most advanced facility of its kind in Portugal.

As demand for bottled water surged in the decades that followed, the company responded with bold investments in production infrastructure.

A major milestone was reached in 1975 with the construction of a modern 15,000-square-meter facility, which remains a benchmark in the industry to this day. Over time, production capacity expanded dramatically, first to 33,000 and later to 40,000 bottles per hour.

Anticipating shifts in consumer packaging trends, Águas de Carvalhelhos became one of

the pioneers in Portugal to adopt PET plastic for food-grade containers. Recognizing its potential early on, the company invested heavily in technology to support large-scale PET production.

In 2004, the company embraced product innovation with the introduction of new offerings aligned with evolving market preferences, such as the launch of "Carvalhelhos Limão".

By 2015, the brand celebrated its centennial with a refreshed corporate and brand identity, unveiling a modern logo and redesigned label to mark the occasion.

Today, Águas de Carvalhelhos continues to blend tradition with innovation.

The latest example is its collaboration with SMI, reinforcing its leadership in sustainable packaging.

The introduction of new PET bottles — available in 0.33L, 0.5L, and 1.5L formats — features a label-free design made possible by advanced moulds from SMIMEC, installed on the EBS 8 KL ERGON stretch-blow moulder.

This cutting-edge process customizes each bottle with an embossed Carvalhelhos logo and essential product information, including Braille, directly engraved onto the packaging — eliminating the need for paper labels and reaffirming the brand's role as a pioneer in environmentally conscious solutions.





# INVESTING IN FRIENDLY SOLUTIONS FOR THE ENVIRONMENT

The entire activity of the Águas de Carvalhelhos company revolves around a quality policy based on customer satisfaction, employee involvement and the promotion of activities to improve production processes and aim for product excellence. To achieve this, the Portuguese company continuously invests in clean technologies, promoting energy savings, circular economy and waste reduction. From these concepts comes the idea of developing, in collaboration with SMI, a new rPET bottle without the application of traditional paper or plastic labels. An increasingly trendy solution among the main bottlers in the sector, which allows to improve and facilitate the recycling of materials as it does not have labels that must be separated from the container during recycling operations. In addition, the bottle can be 100% recycled and the use of glue required for label application is eliminated.



## SMI SOLUTIONS FOR ÁGUAS DE CARVALHELHOS

The Portuguese company has involved SMI for the supply of a new rotary stretch-blow moulding system from the EBS 8 KL ERGON series and for the study and development of new PET and rPET containers with and without plastic labels. It is a state-of-the-art, intelligent and interconnected system, equipped with the most modern automation and IoT technologies, with strong eco-compatibility characteristics.



### ➤ ROTARY STRETCH – BLOW MOULDER EBS 8 KL ERGON

**Functions:** stretch-blow moulding of PET bottles for natural water at a maximum speed of 18,400 bottles/hour (format 0,33 L).

**Bottles worked:** 0.33 L, 0.5 L and 1.5 L cylindrical containers

#### Main features:

- compact design, which, in a single module, integrates the preform heating section with the stretch-blow moulding section
- fully automated, ergonomic and “user-friendly” system, capable of interconnecting with digital networks and meeting the criteria of Industry 4.0 and Transition 5.0 in terms of flexibility and operational efficiency
- solution that promotes sustainable production for a future oriented towards the well-being of man and the planet.





# BENEFITS

## ➤ BENEFITS TO SAFEGUARD THE ENVIRONMENT

The blow moulding machine installed in the Carvalhelhos plant, in addition to producing traditional PET and rPET bottles that require the application of a label, is equipped with special moulds made by SMIMEC for the stretch-blow moulding of bottles without paper or plastic labels.

It is an innovative solution that respects the environment, as it does not require the use of glue and paper or plastic labels, ensuring greater purity of the recycled PET material.

The area of the bottle reserved for the label has been eliminated by removing the ribs present in traditional solutions and, thanks to an innovative combination of reliefs and bas-reliefs on the body of the bottle, a larger space has been created used for the embossing engraving of the Águas de Carvalhelhos logo and a series of information (also in Braille) generally present on the label.

The new label-free bottle also meets the aesthetic and image objectives of the Portuguese company, as it differentiates itself on the shelves of points of sale by attracting the attention of consumers.



## ➤ MANAGEMENT AND CONTROL BENEFITS

The system supplied by SMI uses an advanced automation system called MotorNet System®, which ensures the constant maintenance of the optimal processing parameters during the entire production cycle, allows the direct modification of the machine settings from the operator panel, simplifies format change operations and offers the possibility of temporarily disabling one or more moulds if necessary. The Posyc® operator interface is simple and intuitive, ensuring quick parameter adjustment and facilitating routine and scheduled maintenance tasks. The EBS 8 KL ERGON stretch-blow moulder is also equipped with the latest generation of instruments to detect, monitor and compare the system's energy consumption.



## ➤ ENERGY – SAVING BENEFITS

The stretch-blow moulder purchased by Águas de Carvalhelhos is equipped with a system of energy-efficient thermo-reflective panels in composite ceramic material, positioned both in front and behind the lamps, which allow uniform heat distribution.

The stretch-blow moulding carousel is equipped with motorised stretch rods controlled by electronic drives, which guarantee precision in operations and energy savings (no compressed air is needed and the power consumption is lower than solutions with linear motors).

The compact design of the machine ensures significant savings on transport costs as it is easily transported in a container and quickly installed at the customer's site.



## ➤ PRODUCTION EFFICIENCY BENEFITS

The EBS 8 KL ERGON stretch-blow moulder is equipped with high-performance valves and low dead volumes (-50%) which ensure reduced pre-blowing and blow moulding times and better quality of the bottles produced. The blow moulding machine also adopts a series of measures capable of reducing the level of wear of the components to the benefit of production efficiency, such as the gripper handling system based on springless preform grippers/bottles equipped with desmodromic cams and plastic bearings.



## ➤ BENEFITS FOR OPERATOR FLEXIBILITY

Thanks to the preform feeding system equipped with adjustments by means of numerical position counters, format changeover operations are simple and fast.

Even the format change operations, to switch from the production of traditional bottles to bottles without a label, are extremely simple and fast as it is sufficient to replace the graft section in the mould.





# BARROSO: RURAL HEART AND WONDERFUL KINGDOM FULL OF WATER SOURCES

The Barroso is a region located in Northern Portugal, on the border with Spain, in the province of Trás-Os-Montes and extending between the districts of Vila Real and Bragança. It is an area rich in healthy waters and one of the most remote areas of the country, with a strong rural and community spirit. Identified by the FAO as an area of World Heritage of Agriculture, the Barroso region was also one of the first places to have received this recognition thanks to the daily agricultural

activities, carried out in a full collaborative spirit between all the locals who share their flocks, machinery, seeds and warehouses; a social organization that has no equal in Europe. Of particular interest in this area of northern Portugal is the Biosphere Reserve, where you can breathe clean air. Another unmissable stop is the small mountain village Boticas, famous for the “fumeiros” (smoked meat), and for the meat of the barrosa cow. In addition to food, Boticas has an important winemaking tradition, like almost all of

northern Portugal.

Here, in fact, the “vinho dos mortos” (the wine of the dead) is prepared, a custom that dates back to the period of the second French invasion (1808) when the inhabitants of Boticas got into the habit of hiding goods in unusual places.

For example, the bottles of wine were buried and remained there until the return of the owners, who, to their surprise, were so enraptured by its taste when they tasted the wine contained in them, that the bottles are still buried today.



➤ **RECHARGE YOUR BATTERIES  
WITH A HOLIDAY  
IN NORTHERN PORTUGAL**

Investing in your physical and mental health is essential for overall well-being. Portugal offers a wide variety of options for you to take care of yourself, recharge your batteries and get rid of everyday stress. In first position are the wellness centers that combine the benefits of the sea and thermal waters, such as the Thermal Baths of Carvalhelhos, Chaves, Pedras Salgadas and Vidago. Located 800 meters above sea level, at the foot of a pre-Roman fort and surrounded by the lush and magnificent park of the Serras do Barroso, the Carvalhelhos Thermal Spa is appreciated for the exceptional healing properties, to the point of being called "saints". Medium-mineralized waters are suitable for restoring the body's natural balance and for treating skin diseases, as well as disorders of the digestive and circulatory systems.



➤ **AVANÇO TECNICA, LDA**

Professionalism and experience, gained in over 30 years of activity in the field of plants for the food, beverage and pharmaceutical industries, are undoubtedly the winning key of the company Avanço Tecnica Lda, SMI's historic partner in Portugal that ensures fast and efficient support to the numerous customers in the area, including Aguas de Carvalhelhos.

*"High performance, maximum reliability, construction robustness and competitive solutions are the requests we receive from every customer who relies on our advice when they have to make a new investment"* - explains Pedro Marcos, CEO of Avanço Tecnica.

*"Without forgetting the importance of responding quickly to any request for assistance or availability of materials."*

This is how we can summarise the main needs of bottling and packaging companies located in Portugal, which require increasingly sustainable technological solutions, product quality and long-lasting after-sales support.

Thanks to the local support of Avanço Tecnica, SMI provides both a commercial service and technical assistance to the machines installed in the area.

Commenting on the recent project carried out at the Carvalhelhos plant, Pedro Marcos said: *"We are proud to have contributed to the installation of the new EBS 8 KL ERGON stretch-blow moulder and to be able to ensure greater competitiveness to the customer for the production of the new bottles without the application of labels, an increasingly trendy solution in Portugal and in line with the Carvalhelhos' goal of meeting the needs of consumers in terms of sustainable products."*

**From left to right:** Fernando Macedo, maintenance manager at Carvalhelhos; Manuel Nascimento, CEO of Carvalhelhos and Pedro Marcos, Director of Avanço Tecnica.

