

# PENACOVA

## WATER SECTOR

**Aguas das Caldas de Penacova S.A.**  
Mata das Caldas, Penacova, Portugal

- Rotary stretch-blow moulders  
Smiform SR 8 and SR 6 HC



VIDEO



GEO LOCATION



**A**guas das Caldas de Penacova is headquartered in the pristine environment of Serra do Buçaco where the company extracts, bottles and sells the natural mineral water called "Caldas de Penacova", using the best technologies available on the market in order to provide its national and international customers with excellent quality products at a reasonable price. The Portuguese company has relied on SMI experience and technology for the production of the PET bottles used in the bottling line. The collaboration between Aguas das Caldas de Penacova and SMI dates back to 2006, when the Smiform SR 8 stretch-blow moulder had been installed to meet the requirements of the 12,000 bottle/hour production line. The increase in sales in Portugal and abroad led to the investment of two more Smiform stretch-blow moulders: the SR 6 HC model dedicated to the 6,000 bottle/hour line for bottling high capacity



containers (5 liters) and a Smiform SR 8 for the 14,400 bottle/hour line for the 1.5-liter format.



# AGUAS Caldas de PENACOVA

## IN THE HEART OF A PRISTINE ENVIRONMENT

In the valley of the Mondego River, about 1 km from the town of Penacova and 0.5 km from Vila Nova, there are a number of water sources of excellent quality known as the "Caldas de Penacova" springs from which an exceptionally tasting, crystal clear water flows, much appreciated by the locals who ascribe remarkable therapeutic

properties to it, confirmed by its light weight, low degree of salinity and reduced minerals content.



This pure and uncontaminated water is bottled by Aguas das Caldas de Penacova that, in 2011, with a staff of about 50 persons, packaged almost 145 million liters of water (an 8% rise on 2010) and 160 million liters in 2013. During that time in Portugal, the bottled water sector had undergone a decrease of 2.87% at national level (data from AMPIAM association). In recent years, the Portuguese company's sales have grown significantly both in the domestic



market and in exports, not only to Africa (Angola, Mozambique, Cape Verde and São Tomé) but also the U.S. and Europe (Spain, Germany and Switzerland).

These results have encouraged Aguas das Caldas de Penacova to invest heavily in the modernization of its production facilities and subject the entire company organization to a series of improvements to

### WATER: ESSENTIAL ELEMENT FOR HUMAN SURVIVAL

Water is the origin of man: it constitutes 70% of the human body and contains all the necessary elements for its survival.

Water and its content of minerals are indispensable for the perfect functioning and development of the human body and essential for many metabolic functions such as digestion.

Unfortunately, the recent change in eating habits, characterized by low consumption of wheat, green vegetables and fruit, and the simultaneous intake of processed foods have contributed to a significant reduction in the daily intake of water and minerals, making those elements increasingly important for human health.

achieve compliance with NP EN ISO 22000:2005 certifications in terms





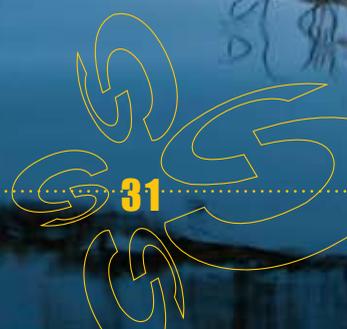
of safety and IFS (International Food Standard) in terms of quality. The primary objective of the Aguas das Caldas de Penacova organizational structure is to consolidate its position on the domestic and international markets. The three pillars of the company's strategy are the quality of the products offered, the satisfaction of the demands and needs of customers and salespeople, and the compliance with the legal regulations relating to

environmental protection. For this Portuguese company, it is crucial that even its suppliers agree to abide by the same aforesaid quality standards and the same environmental regulations, in order to create a "supply chain" able to operate efficiently and in an environmentally friendly manner.



## THE MAGIC OF SERRA DO BUÇACO

Serra do Buçaco is located just a few kilometers from Coimbra, in west-central Portugal. It is a large botanical garden with about 700 local and exotic species protected by a seventeenth century papal decree that threatened to excommunicate whoever damaged this garden. Among the protected species, the Caucasian fir, the Buçaco cedar and the evergreen sequoia (a giant tree that can grow up to 100 meters) are the trees that stand out. In the sixteenth century, the Vicar General of the Discalced Carmelites thought this would be the perfect place in which to build a retreat where monks could devote themselves to the contemplative life in contact with nature. After 1628 this idea turned into reality with the building of the convent, various hermitages and penance chapels scattered throughout the Buçaco forest that, even today, along with countless lakes and waterways, make this environment magical. Today, of the original convent you can visit only the cloisters, the chapel and some of the cells. In nineteenth century the area had been occupied by a palace in Neo-Manueline style and was then converted in the existing Hotel Palace do Buçaco. From the former convent's viewpoint, you can appreciate the incredible beauty of the surrounding mountains that reach the maximum height of 549 meters. The peace of this idyllic Portuguese place was deeply disturbed in 1810 when the Portuguese and the British fought the French in the Battle of Buçaco.





## ENVIRONMENTALLY FRIENDLY TECHNOLOGIES

For the expansion and modernization of its production facilities, Aguas das Caldas de Penacova has chosen only latest generation technology provided by SMI, which allows it to manage its business efficiently, respect the environment, preserve the natural resources of the surrounding ecosystem and reduce energy consumption as much as 20% compared to more traditional solutions. The Smiform stretch-blow moulders installed at the plant of Aguas das Caldas de Penacova are equipped with an innovative system that retrieves compressed air at high pressure (ARS - Air Recovery System), used in the stretch-blow moulding of PET bottles which reduces the plant's energy costs and cuts up to 40% of compressed air consumption during the production process. Thanks to this device, a part of the high pressure air used in the stretch-blow moulding circuit is recovered and reused to supply the low pressure pre-blowing circuit and the machine's

service circuit. The ARS installed on Smiform machines is essentially made up of two exhaust valves fitted on each stretch-blow moulding station: the first valve injects air into the recovery system tank while the second one discharges air that cannot be recycled. The working pressure of the pre-blow-moulding circuit is controlled by an electronic regulator while that of the service circuit is controlled by manual reducers. This innovative air recovery system can be fitted as an option on all Smiform stretch-blow moulders, adding value in terms of energy saving and eco-friendliness. Systems installed by SMI in the Portuguese company's bottling plant use the most advanced technologies in terms of flexibility, reliability and efficiency thanks to which the production capacity of its production lines can easily be adapted to market demands, with low operating costs and optimal use of resources.



# COIMBRA: THE CAMPUS ON THE BANKS OF THE MONDEGO RIVER



Coimbra is a quiet and pleasant city, gathered within the loop of the Mondego River, which gave birth to six Kings of Portugal and the first Portuguese dynasty, and hosts the largest university center in the country. Its origins date back to the second century BC, when the Roman Empire expanded to the Iberian Peninsula and founded numerous

colonies which would later become modern European cities as in the case of Coimbra (Conimbriga in Latin). Under the rule of emperor Caesar Augustus, (first century), the city had a remarkable development with the construction of the Baths and the Forum. In 711 the Moors invaded the Iberian Peninsula and Coimbra was occupied, remaining under

Arab influence until 1064, when it was finally re-conquered by the Christians. Among the major points of interest, besides the University (founded in 1290) and its impressive Baroque Joanina Library, there are the Old Cathedral, the remains of Saint Sebastian, the Botanical Gardens and several monasteries and churches. An original way to enjoy this

city is to take one of the boats that offer mini cruises on the Mondego River. From Coimbra you can also reach the shores of the Atlantic Ocean in less than one hour. This Portuguese city also boasts a long musical tradition: in this regard, the fado of Coimbra is one of the two variants of the Portuguese fado, together with that of Lisbon.