

Case story
Spain

New conveyor technology enables leading Spanish olive oil producer to overcome space restrictions and expand production

It is a fundamental challenge that many olive oil producers now face: how can they make the most of the growing global demand when they cannot physically expand the footprint of their processing facilities?



This concern is particularly felt in the traditional Mediterranean heartlands of the industry, such as at Saboroliva SL's facilities in Córdoba, southern Spain, where processing space is at a premium, and physical expansion is impossible. Saboroliva already processes around 50 million kilos of olives every year and to increase throughput, yield and quality, while enhancing the sustainability of its operations, the company needed the support of an expert partner.

This is when pioneering thinking and a flair for innovation comes to the fore, with sector experts like Alfa Laval rising to meet this challenge and develop processing equipment that can do more within the same footprint.

And at the space-restricted Saboroliva facility, Alfa Laval's industry-leading Oil Plus technology has proved to be an effective separation solution. It was implemented as a simple upgrade to their existing Foodec decanter, with its patented double-flight conveyor design providing greater capacity within the existing decanter. It also maintains the sustainability of the operations, boosts yield and delivers the highest product quality that this passionate family business rightly demands.

The Oil Plus upgrade is simple and fast to install, and can be achieved during a scheduled maintenance stop at the end of a processing season. In the first extraction it has already been shown with one customer to increase throughput from 12 tonnes of olives processed in an hour to 16 tonnes, while the second extraction at Saboroliva has risen from 25 to 40 tonnes per hour as a result.

In addition to boosting capacity, the upgrade increases the amount of oil extracted from each olive, with gains of 2 to 3% in the first extraction and 3 to 5% in the second. In fact, results show that for every 20,000 tonnes of olive paste processed, the Oil Plus screw conveyor system could boost profits by around 71,000 euros compared to a standard one. This is because at the end of the process, while there may be the same amount of oil, about 80,000kgs is high-quality extra virgin olive oil, which has a higher value.

"This is one of the most important olive oil-producing regions in the world, and at Alfa Laval we understand the challenges and the pain points because our team is based here too," says sales engineer Antonio Ortiz Cercos. "We have worked with this customer for a long time, and when they came to us looking to increase capacity without space to install new lines, we were ready for the challenge."

Alfa Laval's pioneering approach was based on a simple principle: when there is no space to expand the production area, then create more processing space inside the existing equipment in the same plant footprint. This is what is delivered by Oil Plus: an upgrade of the existing decanter conveyor design with double-flight, which helps move more product more quickly and increases the working area inside the machine.

Not only that, the extraction performance and quality is maintained and even improved, while the equipment's new wear protection also meets the customer's requirement for a more robust system requiring less maintenance.

"This is a very well-thought-through patented solution that I think will have a major impact on the industry," says service product portfolio manager Kenn Honore Jepsen. "The decanter itself is reversed, which gives a shorter feed tube, and at the same time the double-flight conveyor provides additional capacity. It is the kind of solution you can only develop if you have the deep industry knowledge of the local Alfa Laval team."

In terms of sustainability, the increased processing volume every day means less cleaning per tonne of produce, equating to water savings of up to 38%, while the lighter weight of the conveyor and higher capacity delivers energy savings of around 25%, going from 2.49 kWh/tonne with the standard screw to 1.87 kWh/tonne with Oil Plus.

The robustness of the solution is reflected in the reduced wear in the feeding area and on conveyor flights, which means longer equipment lifespans and extended intervals between corrective maintenance interventions, as wear caused by overfeeding is

nearly eliminated. "This is a very important development in olive oil production and continues our proud history of innovating and improving the industry's processes," says Kenn. "The conveyor can be installed in existing machines and have an immediate impact for fast and effective processing.

"For the service team, it is a great opportunity to continue working with the customer and show them the benefits of partnering with Alfa Laval. It shows that we are in it for the long-term and will support them all the way to make sure they get the most out of our equipment."

Built around the customer's challenge

It is through those deep relationships with customers that Alfa Laval stays on the cutting-edge, with the old adage that 'necessity is the mother of invention' driving new ideas and innovation.

"The relationship with the customer has been very important," says Antonio. "They came to us with a challenge and they needed to have that trust in us that the solution we devised would deliver for them. So this is a solution that was developed alongside the customer and the service team to ensure that we were providing the right answers to the right questions. This is how we work at Alfa Laval. We are very open to feedback and often customers will come to us with suggestions that we will implement; we are always looking to refine and improve."

For Saboroliva, it means they are in the perfect position to make the most out of a growing olive oil market, with rising demand from countries such as USA, China and Japan, while a global shift towards healthier lifestyles is turning people towards Mediterranean cuisine.

"I think Alfa Laval is the best in the world when it comes to supporting olive oil producers," says Kenn. "Our teams live and work in the key olive oil-producing regions, and we understand this market like no other. We are a true expert partner, whether we are upgrading existing equipment or supplying complete production lines."