



Success Story: Pacific Nuts.

Chilean walnut exporter sees twelvefold reduction in shell contamination in just one pass with the SORTEX F

Since investing in Bühler's 'three-machines-in-one-solution', the SORTEX F optical sorter, leading exporter of nuts and dried fruits in Chile, Pacific Nuts, has reduced its input shell contamination from 5% to 0.4%. The company has also successfully adhered to the strictest quality export standards of a maximum of one shell per 250 kg of walnuts.

Often cited as the best quality walnuts in the world, Chilean walnuts are renowned for their distinctive light color, rich flavor and long shelf-life. Loaded with proteins, fatty acids, antioxidants and phytochemicals, regular consumption of these walnuts is believed to maintain cognitive function of the brain, reduce the risk of type 2 diabetes, and boost heart health and metabolism. In tandem with the ongoing healthy eating trend that's gripping consumers across the globe, demand for Chilean walnuts is rightfully increasing.

As one of the largest exporters of nuts and dried fruits in Chile, Pacific Nuts decided to invest in the SORTEX FB2 optical sorter with BioVision technology from Bühler in order to meet this growing demand and to maintain its high-quality standards in walnut processing.

Quality standards

Pacific Nuts has approximately 400 employees working across four processing facilities, each dedicated to a different commodity: walnuts, almonds, prunes and raisins. The company works hard to connect nut and dried fruit growers with consumers from all over the world. 20% of the products processed are grown from their own orchards.

Cristian Infante, General Manager for Pacific Nuts, says, "We studied the FB2 machine and we liked its performance and versatility; it was the perfect fit to fulfill our goal of having the greatest quality walnuts in the market.

"The Chilean walnut industry as a whole is expecting to process between 140.000-145.000 tons of walnuts in 2021, a volume that will, of course, be confirmed once the season is over. But so far it looks to be greater than the 130.000 tons we recorded in 2020. So we look forward to putting our FB2 to good use!"



Last season, the company exported 6.500 tons, but next year it is hoping to dispatch around 9.000 tons to its main European market and growing markets in Asia and the US. Subsequently, strict quality export standards must be met. “We must adhere to a maximum of one shell per 250 kg. With our SORTEX FB2 machine, we are able to meet this requirement. Our 5% input shell contamination is reduced to 0.4% after only pass through the SORTEX F sorter,” Infante states.

3-in-1 solution

The SORTEX FB2 is able to smoothly handle walnut halves of up to 8-ton capacities per hour in a 1200 mm tray. With Bühler’s unique ability to ‘split’ its machines for multiple re-sorting, both mechanically as well as at a software level, Pacific Nuts has benefited from a ‘three-machines-in-one-solution’, which consists of 600, 400 and 200 mm independent partitions.



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Cristian Infante

General Manager
for Pacific Nuts



The main partition is intended to quickly and efficiently process an average of 1.5 to 2.5 tons of walnuts halves per hour, removing not only color defects and foreign material such as sticks and stones, but also sorting the halves by shape – this allows Pacific Nuts to remove any large, medium or small pieces from its main product flow.

The remaining two partitions are used to re-sort the rejects online, helping to reduce good product losses and unnecessary bins/grain containers handling, and optimizing logistics and processing times within the plant.

Unique shape technology

“After the cracking process, a mixture of halves, quarters and quarts is obtained, which are selected in sieves but also with the SORTEX F. Having this system for the separation by shape and size is really helpful since it allows us to deliver with more than 85% halves. Reaching these values simplifies the task at the selection tables, which increases our efficiency, and allow us to get a “high quality product” Infante says.

This is all thanks to Bühler’s PROfile shape detection software. Unique shape recognition algorithms are able to detect any misshapen halves (3/4, large, medium and small pieces), as well as sticks and foreign material. “PROfile technology ensures that we have minimum product waste and maximum profits,” Infante mentions.



“The SORTEX F is a popular choice amongst nut processors in Chile due to its incredible versatility. With the ability to solve up to three different processes in the same sorter, the SORTEX F simultaneously combines our cutting-edge color, texture, and shape technologies for unmatched FM detection.”

Uriel Tosco
Sortechnology SpA
Managing Director



Challenges and opportunities

Like many businesses, in 2020 Pacific Nuts faced challenges that they could never have imagined: a world pandemic. Infante states, “Fortunately, the food industry and in particular our business did not stop. On the contrary, consumption of our products increased throughout the year, which allowed us to end the year on a positive note.

“In 2021, we will be taking the opportunity to update our machinery and increase our production capacity by 30%, meaning in this coming season we will have more and better-quality products to offer our customers.”

Nut optical sorting

Contact Us

Bühler UK Ltd

20 Atlantis Avenue
Londres, E16 2BF, United Kingdom
sortexsales@buhlergroup.com

T +44 (0)20 7055 7777
buhlergroup.com

