



Self-Cleaning Russell Eco Filter® installed in peanut production line to recover cooking oil

Milhans replaces paper filtration method with innovative filtration system increasing throughput by 20 times and improving quality of recycled frying oil

Milhans Gıda ve Tarım Ürünleri is a leading producer of healthy, high-quality nut products and snacks in Turkey. Established in 2009, the company has grown rapidly to become a major manufacturer of private label products to some of Turkey's largest food retailers, as well as supplying its own range of Milhans snacks.

At Milhans' production site in Kocaeli, Turkey, a key area of production is the peanut processing line. With peanuts being used in a variety of Milhans brands and private label foods, it is imperative that the quality and hygiene of the final products are of the highest quality. Also, as the company continues to meet increasing demand for its products, the equipment used throughout the processing plant must meet high capacity levels without compromising product quality. When seeking a filtration system to optimize the recovery of cooking oil from the frying process, Milhans consulted Russell Finex for a solution.

The peanuts are cooked in an industrial frying machine at around 150°C using vegetable oil. Once a certain quantity of peanuts have been fried, the oil is removed from the fryer and filtered to remove contaminants, before being recycled and used again. Previously, Milhans was using a paper filtration system to filter the recovered frying oil. However, this system was not achieving the required throughput, nor providing consistent filtration quality.

Moreover, production downtime was caused through having to manually change the paper filter cartridges, which often became saturated and blocked with contamination. Changes would sometimes have to be carried out multiple times a day.

Alev Palabiyik, Milhans Production Manager, said, "The paper filters we were previously using to filter the cooking oil was not meeting our production needs. These filters were not able to produce the consistent, fine filtration required and we were experiencing high costs through having to continually change the paper filter cartridges. We also needed a filtration system with significantly higher capacity to meet the increasing demands for our peanut products."



Figure 1. The Self-Cleaning Russell Eco Filter® installed in the peanut processing line at Milhans' production site in Kocaeli, Turkey

- **Increase production rates** - Eliminate stoppages to change cartridges and slowing of throughput as filter elements block
- **Improve product quality** - Providing finer filtration and improving the quality of final products
- **Reduce production costs** - Eliminate the continual costs of replacing and disposing of used filter cartridges

Following consultation with Russell Finex, it was decided that the **Self-Cleaning Russell Eco Filter®** installed with a **Russell Filter Management System™** would be the ideal solution for recovering the used cooking oil. This filtration system was easy to install in the existing production line, capable of filtering high-temperature liquids and providing a significant upgrade on the previous paper cartridge filters.



Compared to the paper filters, the Self-Cleaning Russell Eco Filter® delivers 20 times the throughput rate of cooking oil, whilst filtering at a finer particle size – 50 microns compared to the 80 microns achieved previously. Therefore, as well as delivering increased throughput, the new filter ensures an even cleaner and more consistent quality of cooking oil. In addition, the unique self-cleaning design means there are no stoppages to change filter cartridges and no slowing of throughput to clean blocked filter elements.

Mr Palabiyik continued, “Our new filter from Russell Finex has significantly improved this area of production. We can expect to achieve a return on investment within

contamination from liquids. The self-cleaning design increases production rates through reducing downtime caused by having to replace filter cartridges, and eliminating the slowing of throughput as cartridges block with contamination. This results in a considerable reduction in production costs, eliminating the continual costs of replacing and disposing of used filter media, as well as reducing wasted liquid product, labor costs and downtime. The filters are totally enclosed, meaning no fumes and limited operator exposure to liquid. A range of high-flow, high-temperature and sanitary liquid filters are available to suit various applications. In addition, horizontal and vertical configurations and various sizes are available to allow easy installation into existing pipework.

The addition of the Russell Filter Management System™ allows complete automation of the Self-Cleaning Russell Eco Filter®. The system continuously monitors the filtration process, enabling the filter to run efficiently without operator involvement. This improves safety, eliminating operator contact with potentially hazardous products such as hot cooking oil. It also saves costs through reducing good product loss and reducing labor, as no manual supervision is needed.

Established in 1934, Russell Finex has over 80 years of experience in providing separation technology to food and beverage producers. Whether looking to optimize a processing line through saving on labor and wastage costs, reducing production downtime, increasing capacity or improving final product quality, Russell Finex has a range of sieving and filtration solutions to meet the needs of the food industry.



Figure 2. The Self-Cleaning Russell Eco Filter® with Russell Filter Management System™ provides an automated solution to filtering recovered frying oil.

eight months through savings made on not having to purchase replacement paper filter cartridges. The increased quality of the recovered oil means we can continue to meet the high standards expected by our customers.”

These filters feature a unique SpiroKlene™ wiper system to provide effective and continuous removal of oversize