

How Eriez® Metal Detectors and Magnetic Separators Keep Tree Nut-Based Products Free of Contaminants at Cache Creek Foods

Beverages and foods from tree nuts are becoming a dietary delight in the U.S. and abroad. So it's not surprising that a California company, which started as a tree nut orchard, has blossomed into a multi-million dollar operation encompassing five processing centers.

Based in Woodland, CA, Cache Creek Foods has all of its processing centers located in a 60,000 square foot production facility. The third generation family-owned business churns out 50 million pounds of natural tree-nut based products annually, requiring constant attention detecting and eliminating any source of contamination, according to Carl Hartmangruber, plant manager.

Over the last several years, Cache Creek has installed a variety of Eriez® metal detectors and magnetic separation equipment to maintain the utmost in product purity. The Cache Creek system now includes two Eriez Xtreme® Metal Detectors, an Xtreme Liquid Line Metal Detector and a series of ProGrade® Grate Magnets, Plate Magnets and Liquid Line Trap Magnets.

"We have a continuous improvement program to meet our critical control points and all HACCP regulations; it's all about providing the highest quality food products possible," Hartmangruber says. "We installed the Xtreme Metal Detectors recently and have used the Eriez magnetic separation products for some time in many of our processing lines."

Cache Creek undergoes third party audits to guarantee the safety of its products and the ability to trace each ingredient and packaging material, and their transportation to and from the plant. Cache Creek is SQF 2000 Certified and meets the requirements of the Global Food Safety Initiative (GFSI).

Tree Nuts Free of Stray Metal Using Eriez Equipment

The spacious production facility processes more than 25 million pounds of tree nuts per year, according to Hartmangruber. The tree nuts--including almonds, cashews and hazelnuts—are conveyed through different processing lines depending upon their ultimate use. However, each processing line includes Eriez magnetic separation equipment for the removal of stray metal.

The milling line, for example, processes tree nuts that eventually become an ingredient in products like AlmondMilk, nutraceutical bars, non-dairy yogurts and fine desserts. The raw nuts are dispensed through a series of Eriez grate magnets which help draw out fine tramp metal.

After dry roasting, the nuts are milled into a paste form. Then, they are conveyed through Eriez ProGrade Liquid Line Trap Magnets, which further remove weakly fine ferrous contamination. The magnetic element, consisting of a group of magnetic tubes, is arranged to cause the material flow entering the body to impinge against the tubes and filter through the magnetic field, completely covering the open area. The magnetic circuit is designed so the entrapped iron will have a tendency to work around and cling to the downstream side of the tubes. This action prevents iron particles from being washed off by the continuous flow of material.

The viscous product is then sent through an Eriez Xtreme Liquid Line Metal Detector to remove ferrous metals not removed by the magnet, as well as non-ferrous and 300 stainless steel metals.

When metal is detected in the product flow, a reject signal is channeled to one of the available output relays. The output relay can be used to activate a ball valve, control a visual or audio alarm, or send a signal to a programmable logic controller (PLC).

“We were excited to get the Xtreme Metal Detector in our plant in the fall of 2014,” Hartmangruber says. “When you are dealing with health-style products, you utilize the best equipment to achieve the best quality food.”

Eriez Plate and Grate Magnets Help Maintain Product Purity

The other processing lines—including seasoning, confectionary, oil and dry roasting lines—use a series of Eriez Plate and Grate Magnets which provide basic tramp metal removal to help protect downstream equipment. “Eriez helped with positioning these magnets for optimum protection throughout these processing lines,” Hartmangruber says. “They also provided a pull testing service where they test all the magnets for pull strength to make sure the magnets are working at optimum efficiency.”

The Plate and Grate Magnets serve multiple purposes since they remove tramp iron, which left unchecked, could cause significant damage to milling grinding equipment, resulting in lost time and costly repairs. The magnetic separation equipment also prevents product contamination and improves product purity.

“We are dealing with food products going from field to fork, so there are many processing steps involved,” Hartmangruber explains. “Our nuts are picked off trees and brought into our plant for further processing. Here, you have conveyors and grinders, milling operations, and all sorts of moving parts that can increase the chance of contamination.”

Orange University Demonstrates Products On-Site

Hartmangruber and his crew were able to see demonstrations firsthand on the Eriez Magnetic Separation and Metal Detection equipment before making their selections. This was made possible through the Eriez Orange University Mobile Training and Education Center, a 38-foot Winnebago® stuffed with equipment and resources to facilitate hands-on learning.

The set-up is tailored to food and other light industry applications and includes an array of state-of-the-art magnetic separators, vibratory conveyors, screeners and metal detectors, as well as a high-tech multimedia system with mobile broadband and multiple monitors, including an interactive 42" touch screen.

"The nice thing about the Mobile Training and Education Center is that it brought a wide variety of equipment right to our front door, giving us a convenient opportunity to see it, touch it and feel it," recalls Hartmangruber. "It's so much better than looking through a computer or at a line card."

"When the vehicle came to our plant, it was not structured as a sales visit and there was no pressure to buy. Instead, it was a chance for us to see some things we have not seen before, ask questions and engage in a good dialogue with Eriez training personnel," he says. "I was able to get my quality control and maintenance people to talk with Eriez technicians to figure out how the equipment would work in our plant."

Eriez launched the Orange University Mobile Training and Education Center to give customers free access to on-site training and equipment demonstrations to help them find solutions to their day-to-day material handling and contamination challenges. "We personalize the Orange University experience to meet the needs of those who step aboard," says Jayne Corey, Orange University Team Leader. "They bring us their toughest product purity and material handling processing challenges and we work with them to determine the best and most economical solutions."

About Eriez:

Eriez is recognized as world authority in separation technologies. The company's magnetic lift and separation, metal detection, fluid filtration, flotation, materials feeding, screening, conveying and controlling equipment have application in the process, metalworking, packaging, plastics, rubber, recycling, food, mining, aggregate and textile industries. Eriez manufactures and markets these products through 12 international facilities located on six continents. For more information, call toll-free (888) 300-ERIEZ (3743) within the U.S. and Canada. For online users, visit www.eriez.com or send email to eriez@eriez.com. Eriez World Headquarters is located at 2200 Asbury Road, Erie, PA 16506

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