

A close-up photograph of a child's hands holding a shallow, light-brown paper bowl filled with roasted, textured nuts and seeds. The child's face is partially visible in the background, looking down at the bowl. The image is overlaid with a large, semi-transparent circular graphic in shades of green and teal. A white, rounded rectangular box is positioned on the left side of the image, containing text.

Nuts and
Seeds.

**Dry Roasting and
Cooling Solutions.**



Drying Technology.

Consumer Appeal and the Science Behind Roasting.

Nuts and seeds are high energy foods widely recognized for their nutritional value and health benefits. As this appeal resonates with consumers, inspired food processors are creating sweets and snack formulas that begin with roasted nuts.

Roasted nuts stay crisp inside confections, and can be salted, spiced or flavored with a variety of coatings. The roasting process adds depth to the color and texture of nuts and seeds, which combine with their crunch to make a pleasing and satisfying snack.

Bühler knows roasting and the science behind it. Based on decades of thermal processing experience and research, our roasting technology solutions enable food processors to safely produce high quality products at very high capacities, while reducing product and energy waste.

AeroRoast.

Dry roasting for peanuts, tree nuts and seeds.



Consistent roast, color, and texture.

Bühler engineers both the processes and the machinery to produce the perfect roast, every time. Processing considers the unique characteristics of raw nuts and seeds. Whether the differences are subtle or significant, moisture uniformity is key to a high quality roast.

Dual plenum and energy efficient.

The high capacity AeroRoast has a unique dual plenum reversing airflow, with individually controlled process zones, to ensure product gets an even exposure to heat from left to right across the conveyor, as well as top to bottom through the product bed depth. The AeroRoast also helps to minimize operating costs with energy efficient components like direct drive recirculation fans and high efficiency drive motors and burners.



Designed for high sanitation.

Stainless steel construction and an open design give the Aero-Roast the ability to run clean, and make cleaning easier, for more production uptime, while reducing the risk of allergen contamination. Large doors and removable panels provide complete access, allowing cleaning to be done quickly and thoroughly. Dryer conveyor side guides are sloped and smooth to allow product to flow without becoming a safety or sanitation risk.



Rinse in place systems.

Bühler's dedication to the highest levels of sanitation is reflected in countless other design features that enable superior access for cleaning and maintenance. Dryer roofs and floors are continuously welded for maximum sanitation, with collection troughs for thorough wet washes using optional rinse-in-place or clean-in-place systems.



Bed cleaning brushes.

Bed brushes help to reduce fines and improve cleanability, operating in conjunction with the roaster's conveyor bed by brushing away small particles on the outside return of the conveyor after the product has been discharged. Bed cleaning brushes excel at keeping perforations clean, ensuring consistent airflow and helping to reduce energy requirements.



Food Safety and Digitalization.

Consumer health is always top of mind as Bühler food scientists and engineers work to advance a growing body of research that verifies how processors of nuts can use heat treatment in the roasting process to kill pathogens.

Bühler published the first industrial guidelines for achieving a 5-log salmonella reduction in peanuts using a conveyor roaster, which offers practical guidance for interpreting data from microbial validations, performed on specific process parameters.

Additionally, Bühler's ProcessPro provides processors with an accurate, reliable, and connected solution to the increasing need to monitor, store and report on kill steps in their process.

This digital solution offers real time process monitoring, and using data analytics, provides continuous verification of a validated kill step versus a single "point in time" check, sending alerts when proper conditions are not met. Process data is recorded and stored automatically, thereby eliminating the vulnerabilities associated with human-based manual systems, while providing the ability to quickly recall data for reporting purposes.

Expertise and collaboration. **Support at every step.**



Food science and innovation.

From standalone solutions to integrated production lines, Bühler's unique know-how in the science of modern food production is proven out at laboratories and food innovation centers around the world. Food technologists help customers create food products, scale them for production and engineer value-added sources to manage food waste sustainably.



Global presence, local support.

Twenty-four hour support draws from the expertise of more than 1,200 field engineers around the world. Along with conducting field evaluations for drying processes and mechanical performance around the world, Bühler also offer parts, retrofits and expansion support for conveyor dryers, regardless of make or model.



Processing education and training.

Bühler knows the drying step like no other. Specialized seminars help processors learn the theory of drying and how to apply it, to ensure product yield and profit margins. Customers frequently discover opportunities to improve processing operations and this results in new bottomline profits.

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