

Snacks.
**Drying, baking,
toasting and
expansion.**



Snack food processing.

A taste for innovation and the science behind it.

Crunchiness is a complex attribute, an auditory sensation consumers expect and associate with their favorite snack brands. From the mixing of grains for cooking and extrusion, to the control of moisture and texture in the final drying step, Bühler helps processors engineer the taste, flavor and textures consumers crave.

For snack crisps, chips and pelleted products, we apply drying principles deeply rooted in science, combined with gentle handling that removes moisture, while keeping pace with the changing snack market driven by healthier-for-you varieties, new extrusion methods and novel ingredients.

Since 1959, Bühler has manufactured dryers for snack products through its Aeroglide and National subsidiaries. Today, engineers design custom processes for the snack food industry, and the technology solutions to scale them. With a fierce dedication to food safety, Bühler sets the standard in cleanability, moisture uniformity and energy efficiency.

For drying or dehydrating a wide variety of products. **AeroDry Single-Pass and Multi-Pass Solutions.**



Bühler conveyor dryers, impingement ovens and hot-air expanders are efficient and sanitary solutions to high volume snack production. Thermal processing is used for direct expanded (DX) snacks, half-product pellets, confectionery products, coated snacks, baked potato chips and value-added snack products.

Bühler's equipment is versatile, used to bake, expand, puff, dry, toast and cool a wide range of snack chips, crisps and pellets.

Responding to the growing demand for better-for-you snacks, technologies are engineered for baking, air expanding, drying and toasting top-selling snacks worldwide.

The full range of dryers include: single and multi-pass conveyor dryers, multi-stage conveyor dryers, impingement ovens and hot-air expansion systems. All feature easy access for cleaning, while consistently meeting the specific needs of snack industry.



Food safe processing.

Bühler's dedication to food safety is reflected in countless design features that enable superior access for cleaning and maintenance. Large doors and removable panels allow cleaning to be done quickly and thoroughly during routine operations. Dryer conveyor side guides are sloped and smooth to allow product to flow without becoming a safety or sanitation risk.



Integrated cleaning.

Comprehensive cleaning systems direct water and other cleaning fluids out of the dryer. Pitched dryer floors are continuously welded for maximum sanitation, reducing product accumulation points.



Hygienically engineered.

Dryer roofs and floors are continuously welded for maximum sanitation, with collection troughs for safer wet washes using rinse-in-place or clean-in-place systems.

Hot air expansion for healthy snack alternatives. **AeroExpander Solutions.**



Innovative air delivery.

Using hot air instead of oil for expansion, snack food processors can provide a healthier snack alternative. The AeroExpander employs air circulation and variable temperature control with a custom conveying system to ensure precise dwell time and product uniformity. This control benefits customers by boosting productivity and maintaining consistent quality in the demanding snack food market.



Unique heat transfer.

The AeroExpander expands the pelleted snack product during a continuous conveying process, providing a high rate of thermal transfer and precise control of expansion, bulk density, color and texture. A specialized air delivery system with dual plenum design provides consistent heat across the entire conveyor and 100% expansion of the product.



Controlled expansion.

The compartmentalized conveyor bed offers first-in/first out product tracking for consistent and efficiently controlled expansion.

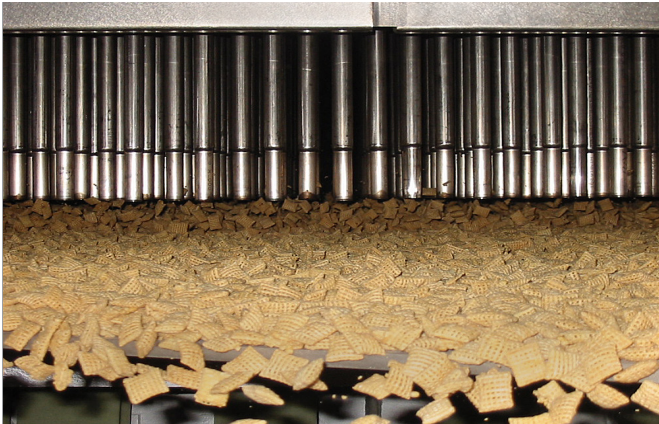


Hot air expansion can
reduce oil use up to

75%

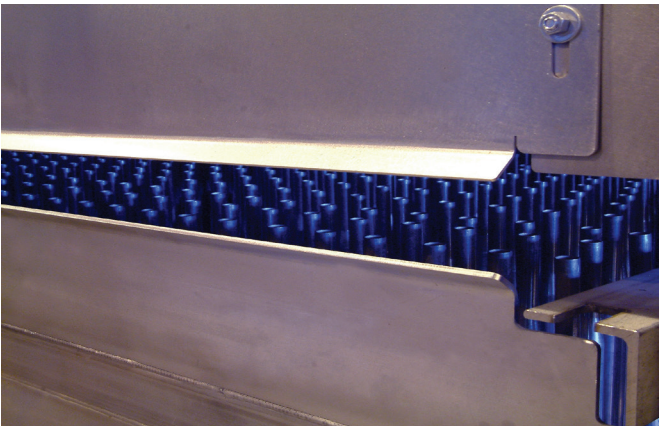


For roasting to achieve color and texture. **AeroDry Impingement Solutions.**



Faster processing.

Bühler's AeroDry impingement system is ideal for achieving the desired color and texture for snacks. During impingement processing, the boundary layer around the product is broken through high velocity pinging upon the surface. This turbulent flow process greatly accelerates heat transfer, reducing process time by at least 50% compared to lower velocity convection or through-air systems.



The right design for your product.

Air impingement systems are available with a variety of nozzles depending on the desired product characteristics. Radiused holes, V-nozzles, tubes and nozzle boxes can be configured to agitate or fluidize certain products.



Time-saving installation.

Impingement systems often require less floor space than conventional oven systems. And our modular construction makes installation easier and quicker.

Production boosters for moisture equilibrium. **AeroDry Post-Drying Solutions.**



Post Bake Dryers Boost Capacity.

Post bake dryers are production capacity boosters that provide a substantial return on investment. They can increase the capacity of a single line by 10-30%, depending on the product.

Product moisture equilibration, conditioning and final drying are ideal applications for Bühler's climate controlled post-bake systems.

Expertise and collaboration. Support at every step.



Food science and technology.

From standalone solutions to integrated production lines, Bühler's unique know-how in modern food production is deeply rooted in food science, proven out at laboratories and food innovation centers around the world. Here, food technologists help customers create food products, scale them for production and engineer value-added sources to manage food waste sustainably. Customers are assured the most hygienic and efficient processing possible. There is no room for compromise.



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 bottom line profits.

For more information on Bühler's thermal processing solutions, or to contact a Bühler representative, visit us online at buhlergroup.com/drying.

Bühler

100 Aeroglide Drive
Cary, NC 27511 USA

T +1 919 851 2000
F +1 919 851 6029

info.dryingsolutions@buhlergroup.com
buhlergroup.com/drying