

A close-up photograph of a young child with dark hair looking intently at a white bowl filled with round, brown cereal pieces. To the left, a glass of white milk is partially visible. The image is overlaid with semi-transparent circular shapes in shades of yellow, green, and blue. The text is contained within a white rounded rectangle on the left side of the image.

Ready-to-eat  
breakfast cereal.  
**Drying and  
Cooling Solutions.**



Drying Technology.

## **The Science Behind the Crunch.**

Crunchiness is a complex attribute, an auditory sensation that consumers expect and associate with their favorite cereals. From the mixing of grains for cooking or extrusion, to the control of moisture and texture in the final drying, Bühler helps cereal manufacturers master the morning meal.

The final processing stage is key to achieving the ideal sensory combination, keeping a flaked cereal, a puffed whole grain, or an extruded cereal crunchy for many mouthfuls. Bühler knows this step like no one else.

Bühler began building ready-to-eat cereal dryers in 1959 through its Aeroglide and FEC subsidiaries. Today, collaborations with multi-national cereal processors help refine designs with innovations that set standards for food safety, productivity, and sustainability.

# Coated Cereal Products. **Ceres Plus.**



## **Uniform Processing.**

Coatings do more than appeal to consumer taste. They prevent moisture absorption and serve as a critical structural component that keeps a cereal crunchy.

For coated applications, such as granola and sugar-coated cereals, the Ceres Plus promises customers a competitive edge with the most consistent air flow ever. A dual plenum configuration with symmetrical all up-flow air ensures moisture uniformity for coated product requirements.



## **Clean operation with less downtime.**

A 2B stainless steel open frame construction features TIG welding for an exceptionally clean interior. This, coupled with continuously welded doors that contain 100mm insulation, guard against moisture, minimizing potential growth areas for bacteria.

Even the hygienically designed support system makes cleaning quicker and easier by featuring a round tube design that puts fewer feet to the factory floor, eliminating inaccessible locations. It also makes installation quick and easy.



## **Hygienically Engineered.**

Bühler knows coated cereal processors must remove sticky residue effectively with minimal downtime. That's why the Ceres Plus has dozens of features that help to ensure that the highest levels of hygienic requirements are being met, in dramatically reduced time compared to the standard.



## Continuous Belt Wash System.

The continuous belt wash system, located at each transfer, is self contained, and lets the operator easily clean the conveyor during production. The wash is followed by an air knife to dry the conveyor.

The Ceres Plus increases operational cleanliness with an insulated slab roof and floor that assist with water management, and bedplates with one-piece construction that reduce collection points for debris.



## Direct Drive Fan Configuration.

The highest processing efficiencies can be achieved with a direct drive fan configuration. This means the ideal air volume can be selected by adjusting the fan speed with the variable frequency drive.

Because direct drive fans eliminate the belt, pulley, and guard of the belt-driven style fan, they are more energy efficient, more hygienic, run quieter, and require less maintenance.



## External Burner Box.

The burner box, external to the dryer, ensures the safest processing operation, keeping the burner flame separate from the product areas where it could come in contact with fines. This design also eliminates the possibility of flavor contamination, as no product particles can pass through the heat chamber.

Standard modules offer multiple heat/process zones, as well as independent ambient air and conditioned coolers, to match product quality and capacity requirements.

## Uncoated Cereal Products. **AeroDry Multi-Pass and Multi-Stage Dryer.**



For extruded, flaked and direct expanded cereal applications, the multi-pass conveyor dryer is an ideal solution. The AeroDry uses zoned temperature control and alternating airflow to customize the thermal process and maximize the efficiency of heat/mass transfer, ensuring consistent product characteristics across the entire conveyor bed.



## **Unmatched Moisture Uniformity.**

Multi-stage configurations allow the product to be stacked deeper as it progresses through the drying cycle, resulting in longer retention times and more efficient and uniform drying. Even airflow with the dual plenum option provides unmatched moisture uniformity.



## **Highest Production Rates with the Smallest Floor Space Requirement.**

Plant owners with restricted floor space can double or triple production capacity with conveyor beds positioned one above the other in order to maximize capacity. These designs also set new standards in cleanability.



## **Sanitary Design Ensures a Clean, Food Safe Operation.**

Large doors and removable panels provide easy access. Dryer floors and roofs are pitched for easy cleaning, and continuously welded for maximum sanitation. Interior surfaces are sloped and smooth, so that product flow doesn't become a safety or sanitation risk. Hygienic doors provide continuously welded insulated door panels to prevent moisture from entering the panel. Clean-in-place systems help ensure the cleanest processing conditions.

# Toasted, Puffed, Expanded. **AeroToast Fluid Bed Toaster.**



## **The Right Color, Texture, and Taste.**

Bühler's air impingement technology is the perfect drying solution when color, texture, and taste are critical factors.

Ideal for rapid expansion and coloring of flaked and puffed products, the AeroToast provides consistent and efficient performance and reliable production.



## **Air Impingement Technology.**

Using a high-velocity air impingement airflow during the conveying process, AeroToast gently agitates the product, creating a fluidized product bed that ensures uniform processing. Precise time and temperature controls make quick and simple work of achieving the required product characteristics.



## **High Rate of Thermal Transfer.**

Impingement technology allows a very high rate of thermal transfer, imparting taste, texture, and color changes rapidly and in a uniform fashion.

AeroToast features unique airflow configurations designed to maximize the toasting process.



## **Custom Plant Configurations.**

Heat source, recirculation and dust removal configurations can be easily adapted to a customer's operating conditions to assure quicker installation, better plant integration and lower plant operating costs. Customized design and configuration also help reduce operating costs. AeroToast offers customized conveyor bed options to suit the customer's specific product type and handling characteristics for best operational performance.



## **Superior Sanitation, Energy Savings.**

The AeroToast has 100% fully welded internals for superior sanitation, and provides easy access for thorough cleaning. This is particularly important for processing ingredients that have sticky product characteristics. Energy savings are also achieved with a customized recirculated air design and accelerated heat transfer.



## **Integrated cooling.**

An integrated cooler provides a positive stop to the thermal process, maintaining the required product characteristics and preparing the cereal for packaging or any further downstream processes.

# Expertise and collaboration. Support at every step.



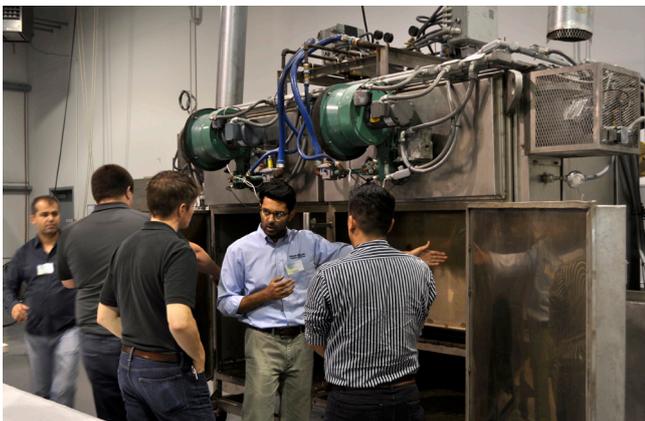
## Food Science and Technology.

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.

**Innovative process solutions for cereal production – from a single source, on a global scale.**

Bühler offers complete solutions covering all stages of ready-to-eat cereal production. From raw material handling, cleaning and storage, to flaking, extruding, coating and drying.

Visit [buhlergroup.com](http://buhlergroup.com) for more information.



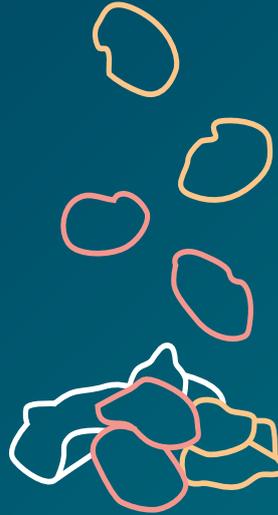
raw material handling



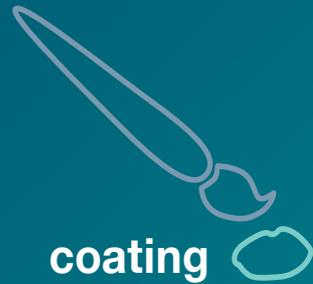
cleaning



extrusion



flaking



coating



drying



end product

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