

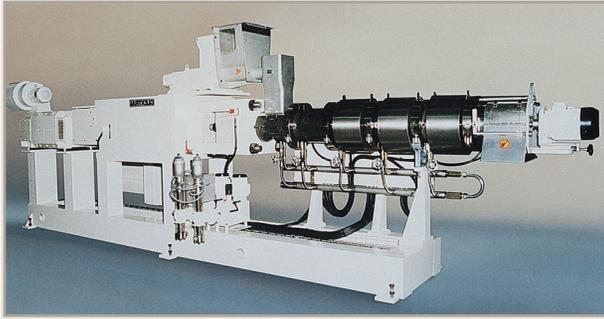
Expanded Breakfast Cereals

Crispy, crunchy expanded breakfast cereals delight consumers of all ages, fueling the worldwide growth of this market. Processors trust Clextral to supply the technology, expertise and hands-on help in their quest for new techniques and fresh ideas in breakfast cereal production.



To stay ahead in the competitive breakfast cereal market, processors need the right ingredients. The economy and efficiency of Clextral twin screw extruders, the company's processing expertise and impressive record of success are the recipe for creating products that satisfy consumers' growing appetite for breakfast cereal treats.

- A leader in breakfast cereal extrusion, Clextral has installed over 150 systems throughout the world
- Complete flexibility to process a variety of products:
 - From many cereal grains; yellow or white corn, wheat, rice, wheat barley, oat flour or grits
 - Sweetened cereals with novelty shapes, textures and colours
 - Fiber-enriched and multi-grain extruded breakfast cereals with healthy appeal
- Clextral's breakfast cereal experts achieve desired product characteristics with infinitely variable production parameters
- Expert die design for many variations including tri-dimensional, bi-colour, bi-texture and filled products
- Modular design provides true flexibility to process multiple products with one extruder
- High quality, low maintenance design and construction
- Output from 100 to 3,000 kg/h



Highly flexible CLEXTRAL twin screw extruders

A typical breakfast cereal processing line includes bulk ingredient storage and feeder; twin screw extruder; primary dryer; coating drum with dryer and packaging equipment.

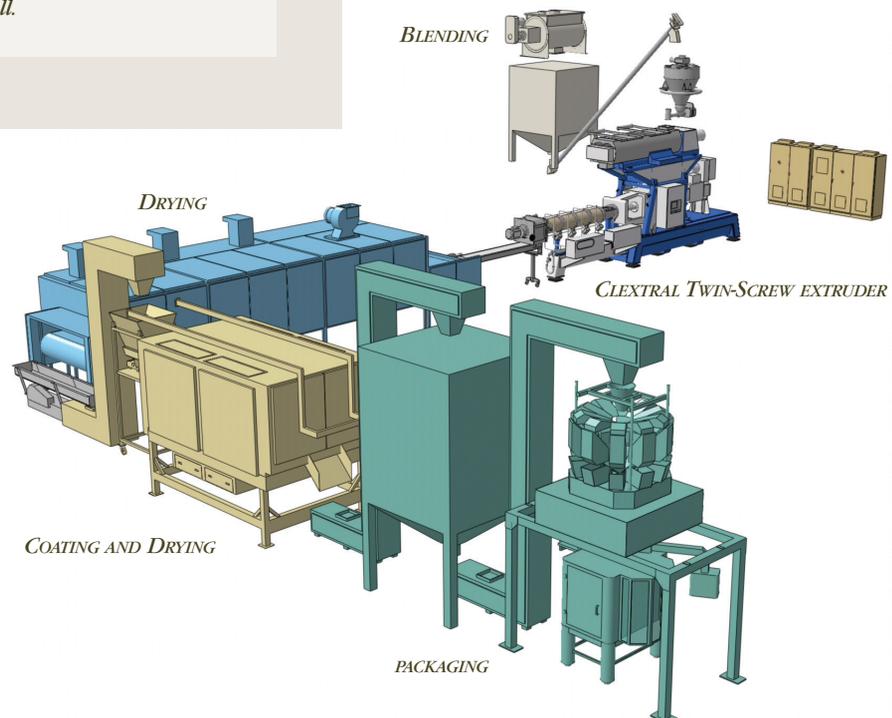
Complete processing lines include equipment, engineering services, commissioning, product specifications, on-site training and maintenance.

CLEXTRAL provides automation control systems which offer programmed start up and shut down, monitor line performance, generate production reports and provide automated recipe storage and recall.

Expanded breakfast cereal processing lines

The dry ingredients are blended in a mixing vessel and metered into the extruder along with the liquid ingredients. The co-rotating screws form a homogenous dough. The extrudate is subjected to heat and shear to optimise the starch conversion according to the quality profile of the final product. Processing temperatures are precisely regulated through individual heating and cooling systems in each section of the extruder barrel.

Expansion takes place when the water in the extrudate flashes off as the product is forced through the die. The product shape is determined by a combination of the die aperture, expansion and the die face cutter. The product enters a belt dryer which reduces and stabilizes the moisture content. If a sweetened cereal is desired, the product may enter a coating unit for a liquid confectionery application, followed by a final drying procedure before packaging.



CLEXTRAL

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