Clextral awarded for its process innovation


The Extrusion Porosification Technology or EPT™ is a Clextral patented technology which consists in manufacturing porous powders by use of twin-screw extrusion technology. Thanks to its ability of intensive mixing under accurate temperature and shear control, the twin-screw extruder allows the processing of highly viscous and heat sensitive materials.

Developed in collaboration with partners from New Zealand and Australia, this innovative technology of intensified drying-texturization was first experienced for the manufacture of milk powders and then extended to many high added value products. It is an economical alternative to conventional technologies such as: spray drying, drum drying, freeze drying. EPT™ is by far more flexible, energy efficient, compact, and it allows better control of the particle size and creates new functional properties, particularly related to the rehydration characteristics. It increases the drying efficiency by accelerating the heat and mass transfers.

Indeed, the tests carried on the first line installed in Australia show that EPT™ provides -in addition to functional properties- significant advantages such as energy savings of 20 to 40% compared to spray drying, a flexible adaptation to various raw materials, wide application areas, simplified procedures for process starting up/shutting down and cleaning ...

Historically based in Firminy (France) and located on 5 continents through its 10 subsidiaries and offices, Clextral, division of Legris Industries group, is worldwide renowned for its ability to exploit the potential of twin-screw extrusion technology in industrial applications for food (extrusion-cooking), chemistry (continuous reactive extrusion, complex mixtures, green chemistry ...) and cellulose pulping (specialty paper). It is the trademark of Clextral’s history to see regularly the creation of breakthrough innovations carried out in partnership with international industry leaders. These technological advances supported by a dynamic R & D strategy have enabled Clextral to become a world leader.

The new EPT™ breakthrough is intended for potential applications in the food sector, including the numerous dairy ingredients and derivatives, protein-rich mixes, high fat content mixtures, temperature-sensitive products (flavors, bacteria, ..), instant drink powders, but also in some non food areas (fine chemicals, pharmaceuticals ..).

To enable its customers to evaluate the potential of this process, Clextral has designed and markets a pilot plant line with an evaporation capacity of 30 to 50 kg / h of water, based on the experience acquired in Australia.

About Clextral

Clextral offers turnkey engineering solutions applying twin-screw extrusion and advanced drying technologies in sectors that include food processing, paper pulp and specialty chemicals. Under its historic DKM brand, it also provides special pumps used in nuclear power plants and other applications.

Applications
- Human food and animal feed (breakfast cereals, snacks, crispy flat bread, pasta, couscous, pet food, fish feed, etc.);
- Fine chemicals and plastics (recycling, biodegradable materials, energetic materials, cosmetics, etc.);
- Cellulose: paper pulp for security paper, horticulture, biomass …
- Pumps for nuclear power, extrusion lines and other industries.
Together with related services.

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The Extrusion Porosification Technology EPT™ developed by Clextral allows instant porous powders to be manufactured by use of twin-screw extrusion technology.