STARCH DRIYING PROCESSES

Highly efficient dryer for native starch

- Excellent heat and mass transfer
- Compact design
- Hygienic design
- Minimum maintenance required

For many years flash and ring dryers are used for drying native starch. A disadvantage of these types of dryer is the floor space they require which results in extra costs for the size of the building that houses the starch drying process line. To avoid this problem Royal GMF-Gouda developed a highly efficient dryer for drying starch: the Spiral Flash dryer. The dryer combines a compact size...
with a high level of energy efficiency. The Spiral Flash Dryer is a mature, patented system that is perfectly adapted to the starch industry. The unique design achieves excellent heat and mass transfer rates way beyond those of conventional processors. Perfect for treating native starch products.

**Special features**

The Spiral Flash Dryer has a very compact construction and is designed for fast and uniform product treatment. The dryer supports handling products with a wide particle size distribution. The toroidal product motion allows an extremely high heat and mass transfer while the excellent control over product temperature and moisture content enables an uniform product treatment.

The installation has no moving parts and -combined with the compact construction- is maintenance and inspection-friendly. The cylindrical chamber of the dryer eliminates dead corners and makes the installation suitable for CIP (cleaning in place). The dryer fulfills the requirements according to the ATEX 95 equipment directive 94/9/EC.

**The process**

The Royal GMF-Gouda Spiral Flash Dryer features a highly efficient convection drying process. The heart of the system consists of a cylindrical processing chamber, in which the product follows a unique toroidal motion, which realises an intensive mixing with air guaranteeing a homogeneous treatment and very fast processing. The wet product is dosed continuously through the ceiling of the processing chamber and drops onto fast circulating product already present in the chamber. All incoming process air is filtered. A radial fan supplies the air via the special blade ring arrangement in the dryer. The energy for drying is extracted from hot air, which is created with the help of a heater (direct heating of air with gas). Dried particles leave the rotating bed moving upwards in a spiral flow to the top of the processing chamber to be separated at the base of a cyclone or filter unit.

**Royal GMF-Gouda**

For more than 100 years Royal GMF-Gouda realizes total process solutions for the environmental, chemical and food industry. Being machine manufacturer as well as process solutions expert, Royal GMF-Gouda is able to handle all stages involved in designing and building plants, including engineering, service, installation and commissioning.

Royal GMF-Gouda has several pilot plants available to test new materials, generate design data and provide representative product samples. The proven calculation model for scaling up to industrial size ensures successful application to real life processing.