

DBH offers a progressive new technology for the gentle drying of biologically active, food, pharmaceutical, chemical, organic and inorganic materials. The new type equipment combines micro/nanoparticle production by centrifugal micro/nanomaterial technology with technologies using supercritical CO₂. Spray nebulization drying technology (CASND) allows materials to be produced in native state with maximum conservation of biological activities or other original material properties.

Features and benefits of CASND

- Smaller particle sizes than e.g. spray drying (higher and faster solubility or dispersibility)
- Potentially new characteristic of micronized materials (e.g. micronized proteins have improved functional properties such as foaming and emulsifying activity)
- Drying takes place continuously and with less energy consumption compared to freeze drying and conventional spray drying
- The technology is modular, applicable to different types of industries
- Low drying temperatures (25 - 65 °C) allow for gentle and cost-effective processing of thermolabile materials

Potential applications and use

- Gentle drying of enzymes, vaccines, bacterial cultures, amino acids, vitamins and other food or pharmaceutical products
- Drying of components or materials for the food, pharmaceutical or cosmetic industry, e.g. different types of extracts or plant proteins for the food industry
- Drying and encapsulation of microorganisms
- Production of special composite nanomaterials, such as sustained release carriers and targeted delivery of biologically active substances (nutraceuticals, nutritional supplements, or drugs)

