PRODUCT DATA SHEET

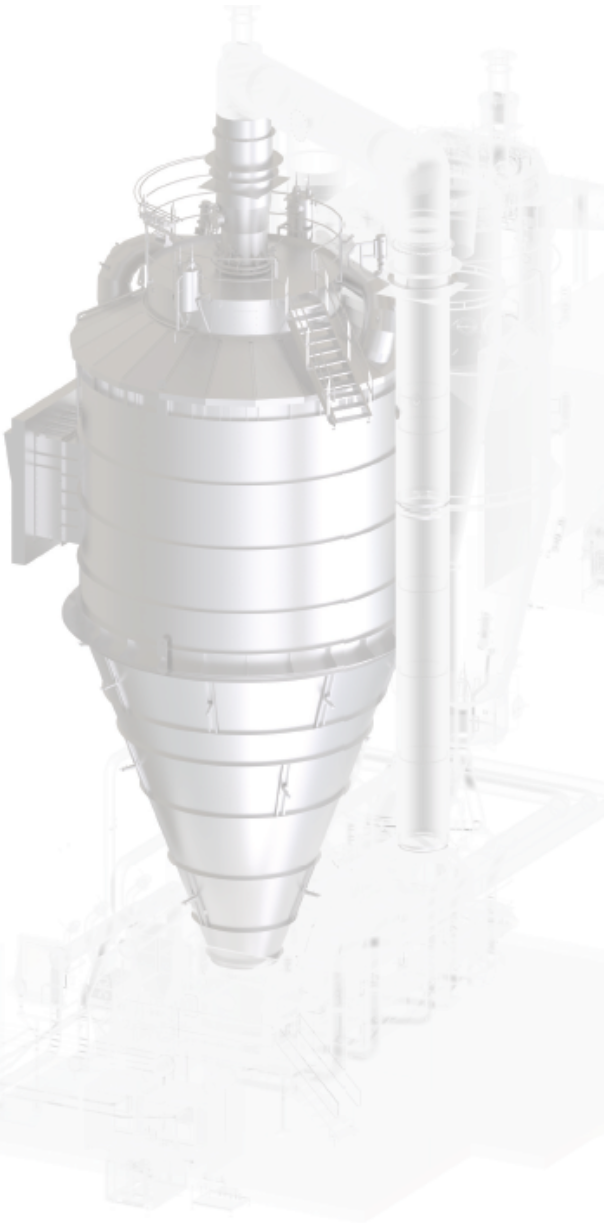
Wide Body Spray Dryer

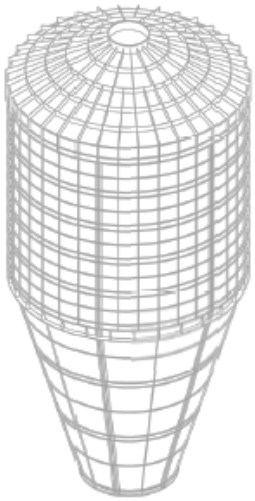
Overview

The RELCO Wide Body Spray Dryer is an advanced multi-stage drying system that integrates spray and fluid bed drying technologies to process high-value proteins into free-flowing, low-dust powders with excellent reconstitution properties.

The system features a wide-diameter, low-height chamber with exhaust outlets positioned at the top. A proprietary airflow pattern allows cooler process air to circulate around a central hot-air jet, creating a protective layer of fine particles. This design minimizes wall deposition, improves drying efficiency, and reduces maintenance requirements.

Highly customizable to meet specific applications and capacities, the Wide Body Spray Dryer supports up to three stages of drying. The system is engineered for optimal performance, energy efficiency, and user-friendly operation, making it a versatile solution for a wide range of drying applications.





Product Capabilities

- Up to **60,000 lb/hr** powder output

(dependent on product type, nozzle configuration, and air-neck design)

Powder Components

- Sifter
- Mixer
- Complete powder handling solutions

Key Features

- Automated Clean-in-Place (CIP) system
- Hygienic design with integrated monitoring systems to mitigate fire and explosion risks
- Designed for reliable 24/7 operation
- Energy-efficient configuration to minimize consumption and operating costs
- User-friendly operation, inspection, and maintenance
- Full integration with RELCO evaporation and powder handling systems

Safety Systems

- Explosion suppression
- Explosion rupture panels
- Fire deluge
- CO detection
- CO_2 suppression systems

Utilities

- Desiccator
- Air-to-liquid heat recovery
- Air-to-air heat recovery

Components & Options

- Feed Tank(s)
- Feed Pump
- Concentrate Heater
- Air Supply & Exhaust Systems
- Instrumentation & Automation
- Internal Fluid Bed
- External Fluid Bed
- High-Efficiency Cyclone with baghouse integration
- CIP-able baghouse
- Wet scrubber
- Lecithin unit
- Agglomeration
- Dual feed lines for continuous operation
- Multi-fuel indirect fired heater

Applications

Suitable for a wide range of applications, including but not limited to:

- Non-Fat Dry Milk (NFDM)
- Skim Milk Powder (SMP)
- Whole Milk Powder
- Buttermilk
- Dairy and vegetable protein concentrates
- Cheese powders
- Yeast extracts
- Infant Milk Formula (IMF)
- Maltodextrin
- Blood products
- Encapsulated powders
- Pharmaceutical Active Pharmaceutical Ingredients (API)
- Nutritional Powders

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