



GEA Niro US Drying Technology Center



GEA Process Engineering

GEA Niro Drying Technology Center



Successfully Dried Products

- Solutions
- Emulsions
- Slurries
- Melts
- Foods
- Pharmaceuticals
- Polymers
- Minerals
- Ceramics
- Pesticides
- Salts
- Organic & Inorganic
- Pigments & Colors
- Bioproducts
- Organic Solvents

Testing and Analysis

The GEA Niro North American Drying Technology Center has a wide range of equipment for spray drying, flash drying, fluid bed drying, and fluid bed agglomeration, as well as lab facilities for characterizing powders — backed by GEA Niro's more than 30 years of testing and development experience in North America and more than 75 years worldwide.

The GEA Niro North American Drying Technology Center includes:

- 4 open cycle spray dryers – for drying water based solutions, emulsions, suspensions and slurries
- 1 closed cycle dryer – for drying solvent based liquid feeds
- 4 fluid bed processors – for drying wet cakes and for agglomerating and coating of powders
- 1 flash dryer – for drying wet powders
- 2 agitated flash dryers – for drying pasty feeds
- 1 combined spray dryer/fluid bed agglomerator- for making agglomerated or “instantized” powders
- 1 Falling Film evaporator

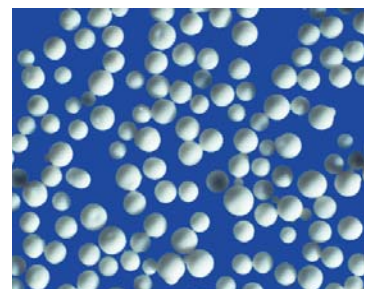
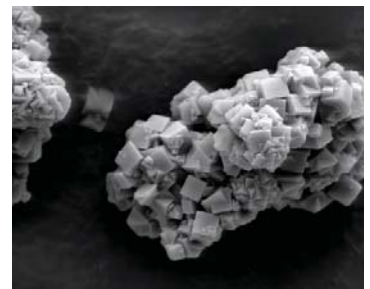
Bench Scale tests

Bench scale spray drying, fluid bed drying and evaporation equipment is also available for initial studies or where feed material is only available in limited quantities.

Niro also performs initial feasibility studies (usually at no charge) to characterize a feed material and determine which technology is best suited.

Atomization

Our spray dryers include capabilities for rotary, pressure nozzle or two fluid nozzle atomization. Nozzle atomization can be either concurrent (top spray) or countercurrent (fountain nozzle).



Agglomeration

Our fluid bed agglomerators include capabilities for conventional top spray agglomeration or GEA Niro's patented PRECISION GRANULATION™ technology.

Spray Congealing

Our spray drying equipment can also be used for “microprilling”, forming powders by spraying and congealing a molten feed.

Auxiliary facilities include:

- Dry flow aid addition
- Powder cooling and conveying
- Post drying

Feed Types

Together these units can handle feeds from solutions, suspensions and slurries to pastes, wet cakes and wet powders. Let us analyze your application and help you select the best technology for your needs

Several of our units are equipped to safely handle solvent based materials as well as aqueous systems.

Laboratory Capabilities

Our laboratory capabilities include:

- Particle size by laser diffraction or by sieving
- Feed and residual moisture by loss on drying or Karl Fischer titration
- Loss on ignition
- 120 X optical microscope with digital photography
- Viscosity
- pH measurement
- Hygroscopicity
- Bulk and Tap Density
- Hall flow cup and angle of repose measurements

Talk to GEA Niro

Unsure what technology best suits your application?

Talk to one of our specialists to determine how we can help you!



www.niroinc.com

Application Development in Our US Test Center

Located in Columbia MD, this is the largest drying and particulate processing test center in North America. The center features over 15 different pilot plants and a variety of auxiliary equipment for feasibility and pilot-scale testing various processes used in the manufacture of chemical, dairy, food and nutraceutical products.

Our test center is staffed by some of the most experienced personnel in the process equipment industry. From concept, through pilot trials and final analysis in on-site laboratories, the staff is available to consult with customers to determine the optimal process conditions for each specific product.



Process Engineering

GEA Process Engineering Inc., 9165 Rumsey Road, Columbia MD 21045-1991, USA
TEL 1 410 997 8700 FAX 1 410 997 5021 E-MAIL info@niroinc.com