

FSD-GRANULATOR™

Improved agglomeration for
precise control of essential
product quality and characteristics



New system delivers key to high-quality powders

The new FSD-GRANULATOR™ system from GEA Niro allows you to fine-tune your products – and improve your competitive edge. By extending the flexibility of GEA Niro's proven FSD™ spray dryers our proprietary system (patent pending) is the key to improving essential product properties, including: additional agglomeration, less fines, better flowability, and dispersability, low attrition and better visual appearance. The FSD-GRANULATOR™ can help you consistently produce the high-quality powders your customers demand.

For new plants or retrofits

This new GEA Niro system allows additional liquid to be added in the stationary fluid bed in order to achieve a variety of precise product characteristics not available with traditional spray drying equipment alone. Depending on your process requirements, the liquid added may be water, a liquid with the same composition as the feed, a melt or a solution containing different substances. The FSD-GRANULATOR™ system fits within existing FSD™ spray dryers and can be supplied with new plants or easily retrofitted to existing plants.

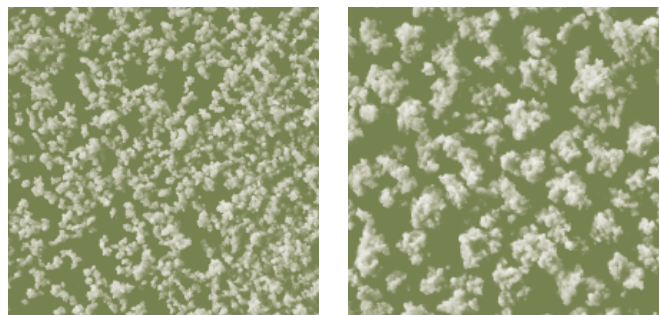
Test facilities

GEA Niro's test facilities and accompanying analytical laboratories are unique in the industry. A dedicated and highly experienced staff is available to help you determine whether the FSD-GRANULATOR™ is the right match for your product requirements. Using our test facilities to precisely adjust the spray drying and granulation processes also helps to reduce product development time and maximise product quality and competitiveness.

The FSD-GRANULATOR™ is suitable for products like agrochemicals, antibiotics, dyestuff, vitamins, chemicals for water-treatment and other applications. It is also ideal for milk and many other products for which agglomerates are preferred to powders.



The GEA Niro FSD-GRANULATOR™ system (patent pending)



The FSD-GRANULATOR™ has been successfully applied for several products. Test results show that the FSD-GRANULATOR™ delivers superior granulates and maintains bulk density. Normally, increasing particle size also causes bulk density to decrease.

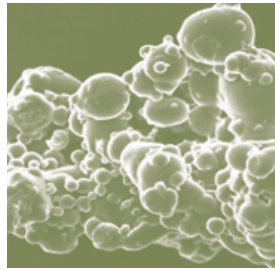
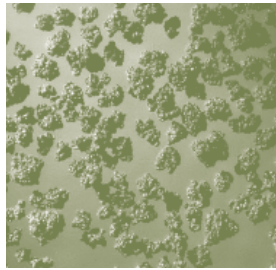
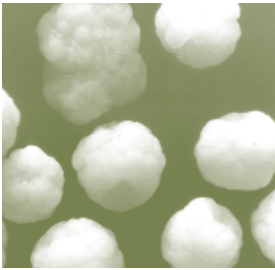
From left:

1. FSD™ Spray Dryer: Product d50: 180 µm

Bulk density (poured): 0.35–0.36 g/ml

2. FSD-GRANULATOR™: Product d50: 500 µm

Bulk density (poured): 0.36–0.37 g/ml

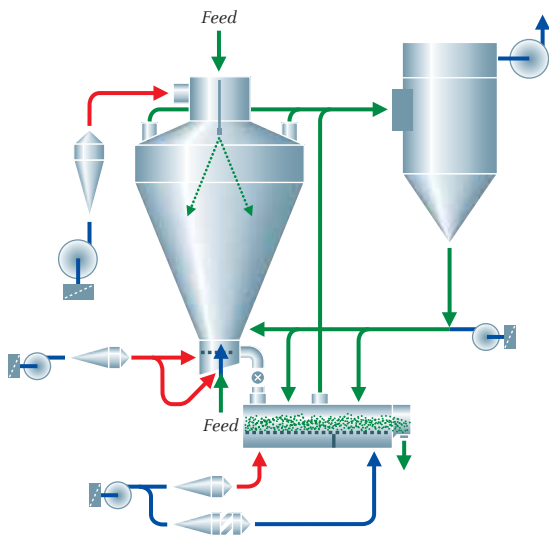


From left:
1. Compact particles
2. Agglomerated particles
3. SEM photo of an agglomerated particle

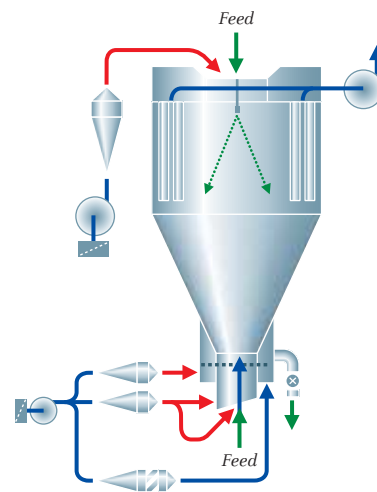
Spray drying systems

GEA Niro offers a wide range of chamber and system designs, which allows you to select the type of plant that best suits your product needs.

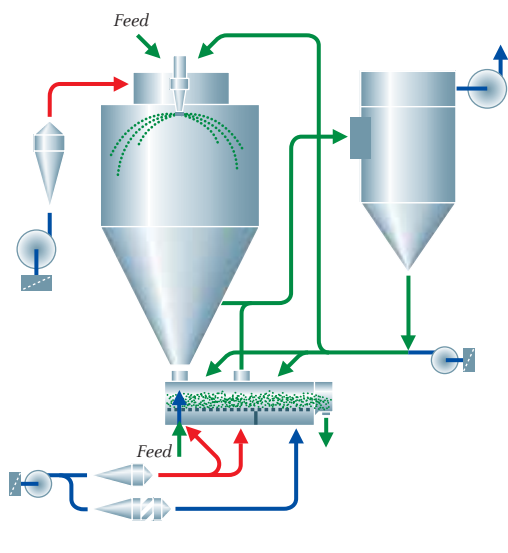
Fluidized Spray Dryer FSD-GRANULATOR™



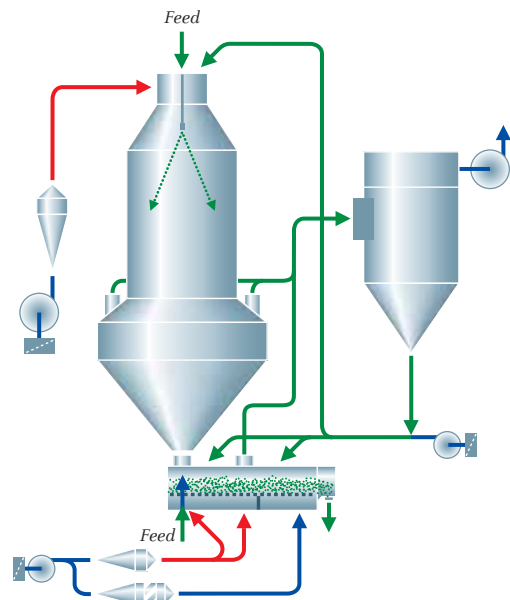
Integrated Filter Dryer IFD-GRANULATOR™



Spray Dryer with VIBRO-FLUIDIZER® combined with the FSD-GRANULATOR™ technology



NOZZLE TOWER™ combined with the FSD-GRANULATOR™ technology





Experience

GEA Niro has contracted and installed more than 10,000 plants worldwide

GEA Niro is a world leader in industrial drying, with spray drying, spray cooling/congealing, flash drying, freeze drying, granulation and fluid bed processing as core technologies. Having installed more than 10,000 plants around the globe, GEA Niro is known for delivering solutions that meet customers' exact requirements. The GEA Niro companies are part of the Process Engineering Division of the GEA Group.



Process Engineering

GEA Niro

Gladsaxevej 305 · PO Box 45 · DK-2860 Soeborg · Denmark
Tel +45 39 54 54 54 Fax +45 39 54 58 00
E-mail: chemical@niro.dk Website: www.niro.com