

# **Drying Solutions**

# The right technology for your product.

GEA's drying and particle processing plants are applied in the production of a wide range of products – from bulk products to the most advanced powders within chemicals and pharmaceuticals as well as food and dairy products. Our product range includes plants in all sizes; from small pilot plants for research and product development to the largest industrial installations.

Our fully customizable and highly reliable spray dryers deliver quality powders that enable you to meet your customers' needs today and tomorrow. GEA offers a complete range of system and chamber designs that give you the flexibility and control to maintain a highly efficient process and production.

Perfect for heat sensitive products, fluid bed drying can be an exceptionally useful addition to your spray drying production process or a highly effective standalone solution.

Working with GEA means having a solid partnership every step of the way, from product and process testing and design throughout project execution to the startup and operation of your plant until after sales service.

### The right process for your product.

GEA helps you to make the most of new opportunities across a full spectrum of products. The drying solutions are designed to convert liquids to powder by means of gentle drying in a highefficient range.

### Options are:

- Spray dryer
- · Fluidbed dryer
- Flash dryer
- Spray congealing
- Spray dryer reactor



## **Drying Solutions**

### Turn liquid into powder, agglomerates or granulates

Use spray drying to remove the moisture from liquid feedstocks such as solutions, emulsions and pumpable suspensions. This is an ideal approach when your end-product must comply with precise powder properties.

# Turn wet powder into dry powder, agglomerates and granulates

Use fluid bed drying for powders, granules, agglomerates and pellets with an average particle size of 50-5,000 microns.

### Turn wet solids or paste into powder

Use flash drying to obtain a fine, homogeneous and nonagglomerated dry product from pastes, filter cakes and highly viscous liquids.

### **Turn melt into powder**

Use spray congealing to transform melted feedstocks into freeflowing, spherical particulates of a controlled particle size.

#### **Create chemical reactions**

Spray drying can be used to allow chemical reactions in atomized droplets to create products with specific characteristics.

### **GEA** portfolio

Various types of fluidized bed dryers, e.g. CONTACT FLU-IDIZER, SPRAY FLUIDIZER, VIBRO FLUIDIZER® as well as high temperature fluidizer.



Small-scale spray dryers for product testing and production, available in different configurations and sizes, also in closed-cycle design which enables solvent recovery.



Spray dryers with different atomization modes from rotary atomization to a variety of nozzles including the patented COMBI-NOZZLE® for superior powder quality.



Spray Drying Evaporation (SDE), for achieving zero liquid discharge (ZLD). The heat source for effluent evaporation can be hot flue gas or pre-heated combustion air.



SWIRL FLUIDIZER®, a flash dryer which can handle even thick, non-pumpable products. It is a cost-effective system with short processing time and minimum maintenance.



Whatever your product requirements, the GEA International Test Centers offer the largest and most sophisticated facilities for drying process development.



### **GEA Process Engineering A/S**

Gladsaxevej 305 2860 Soeborg, Denmark Tel: +45 39 54 54 54 gea.com/contact