



Since 2010  
a business-unit of Neuhaus Neotec

## Highly Specialized Technology Center Optimizes Processes for Food, Fine Chemicals, Chemical Industry, Biotechnology and Pharmaceuticals

Test your products and develop or improve your processes before going into production. Get supported through feasibility studies, pilot production and plant scale-up. Train new applications or easy and secure plant and product handling. Just make sure, everything is perfect, before losing time or increasing costs.

In our new, modern “Technikum” we offer various testing plants and equipment to perform all types of fluidized bed processes:

- Drying / Cooling
- Granulation
- Spray granulation
- Agglomeration
- Coating / Encapsulation

Succeeding the former business of Heinen Drying, we have a long lasting experience in food industry, fine chemicals and chemical industry as well as in biotechnology and pharmaceuticals. We know all about fluidized bed technology and how to deal with challenging product characteristics or highly specialized process requirements.



**Together, we bring your ideas in motion.**

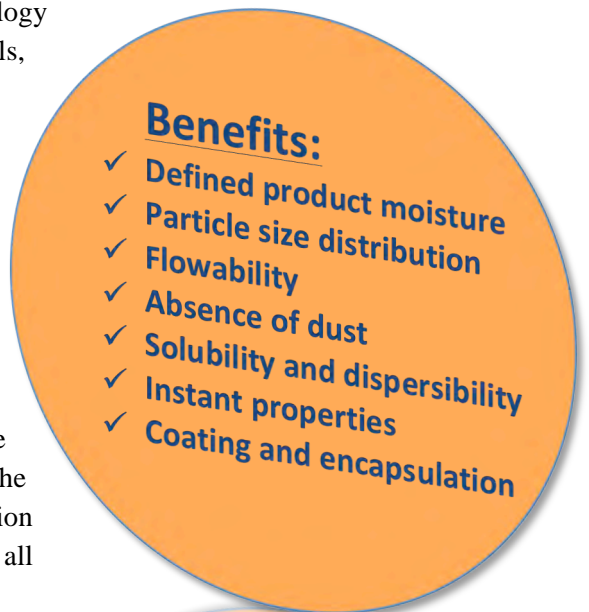
## Most Flexible Operation for Products and Process Development

### All types of fluidized bed processes

Our high professional competence is focused on fluid bed technology for the food and other ambitious industries like fine chemicals, chemical industry, biotechnology and pharmaceuticals.

The purpose of fluidized bed processes is enhancing or changing the product properties. This, on the one hand, is to get modified product structures with optimized characteristics. On the other hand, with fluid bed technology individual compounds and truly innovative products can be designed. Fluidized bed processing has an effect, for example, on flow characteristics, dissolubility and control of dosages. Pilot trials in our highly professional laboratory enable us to determine all relevant parameters to scale-up the process and the plant to production size. Besides, we determine the basic parameters to secure and ease a product exchange at production switches. In our Technology Center you can simulate nearly all application situations.

In addition to our pilot plant equipment you find our qualified engineers and technicians to discuss the manifold operation advantages and aspects.



### Batch processes

Mobatch and minibatch are mobile devices for preliminary tests and batchwise operating. The plants can realize all types of fluidized bed processes with a wide variety of parameters.

#### mobatch

- Interchangeable bowls
- 2,5 l / 22 l / Coating bin
- 0,3 up to 8,0 kg
- 200 m<sup>3</sup>/h air flow
- 120 °C inlet temperature
- Top- and bottom-spray

#### minibatch

- Interchangeable bowls
- 1,25 l / 2,5 l
- 50 up to 2000 g
- 120 m<sup>3</sup>/h air flow
- 140 °C inlet temperature
- Top- and bottom-spray



## Continuous fluidized bed processes

In food processing, the continuous fluidized bed technology is the ideal way to gain an efficient production process. For the highly regulated pharmaceutical industry, continuous operation becomes more and more important due to the potential of understanding and controlling the entire process. With our most flexible pilot plant FB 20/4 we can test all fluid bed processes and nearly every product. The adjustment of various process parameters enable us to produce a product with the desired properties.



- Top and bottom spray processes
- Nozzles in any section, various height positions
- Nozzles extensible even during processing
- Product weirs to separate any section
- Plant vibration to enhance fluidization of difficult products
- Broad fluidization air range 0,3 up to 2 m/s
- Inlet air temperature up to 180 °C
- Inlet air dehumidification / humidification
- Reproducible process control for secure scale-up

### Product examples:

**Powdery mixings (cocoa, milk, flour)**

**Nutrition (lecithin, citric acid, gelatin, lactose)**

**Baby food, soups and sauces, additives**

## Measurement and Control

Sophisticated control facilities allow reproducible plant operation and scale-up. The monitoring of any significant process and plant parameters secure process evaluation at any state:

- ✓ Full process balancing
- ✓ Inlet air temperature control or product temperature control
- ✓ Optional inline process parameter monitoring
- ✓ Fully automatic process control according to production plants
- ✓ Recipe management
- ✓ Recording of process data
- ✓ Trend graph

## Laboratory Equipment

Our common laboratory equipment provides all physical analysis, e.g. laser or sieve tower particle size analysis, bulk density, tapped density, moisture content, microscope etc. Further analysis like REM, heat conduction, porosity, surface tension, etc., we offer in cooperation with the University of Applied Science in Bremen and the Bremerhaven University of Applied Science.



Further information:

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