

## Drying Technology

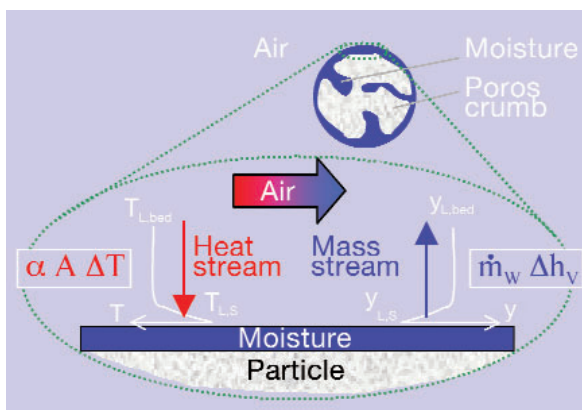
### Our service ...

We develop drying processes for all applications, either at your site or in our pilot plants in Leverkusen. Whether your products contain harmful substances, are shape unstable or perishable – we solve your drying problems using continuous or batch processes.

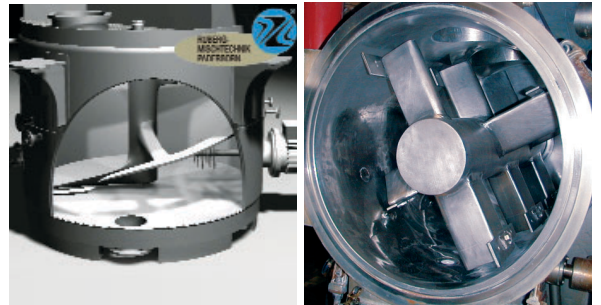
We have a large assortment of contact dryers and convection dryers on the laboratory and pilot plant scale, as well as freeze-drying units. Small production volumes can also be handled in our pilot plant.

We perform the scale-up of dryers to the size required for production. We also develop concepts for technical implementation. If you wish, we will support your project from the engineering stage through startup of the dryer.

In addition to determining operating and design data, we can also help you to optimize existing units, expand capacity, troubleshoot and improve product quality.



*Belt drying (BATRO) as an example for the design of a convection drying system*



*Contact drier with vertical (on the top left) and horizontal agitator shaft (on the top right)*

### ... is your gain.

You benefit from:

- expert development of your drying process thanks to interdisciplinary cooperation with all Bayer process engineering organizations;
- the use of our numerous, flexible, batchwise and continuous equipment and units for process selection, design and optimization, as well as production of sample quantities;
- unbiased and objective assessment of the suitability of a dryer for your product;
- our decades of field research and implementation of modern processes and developments. Our experienced staff is your guarantee for unbiased, objective assessments and comparisons of tenders with regard to technology and price.

With our knowledge of the market, the various plant construction firms and equipment manufacturers as well as their product line, we can guarantee that you will receive a representative overview. We can also support you in the selection of the optimal units and equipment. If necessary, we conduct trials in units that have been specially adapted to your specific application.





## Our equipment

### Measuring Equipment

- Drying cabinets, IR balances, Karl-Fischer titrator
- Kofler bench, muffle oven
- Viscometer, hygrometer, anemometer
- Rotation, ring, and translations shear instrument
- High-pressure liquid chromatography (HPLC)

### Lab Dryers

- Fluidized and fixed bed dryers
- Spray dryer
- Flash dryer
- Drip dryer/ultrasonic levitator
- Plate dryer/contact dryer
- Microwave dryer
- Freeze dryer

### Pilot Plant Dryers

- Contact drying:
  - Paddle dryer (slow-mover, mixing dryer, kneading dryer)
  - Tumbling dryer
  - Immersion disc dryer
  - Rotary drum dryer
  - Spiral tube pneumatic dryer
  - Spiral elevator
- Convective drying:
  - Flash dryer
  - Fluidized and fixed bed dryer
  - Spray dryer
  - Spin flash dryer
  - Milling dryer
- Fluidized bed spray granulator:
  - Lab granulator/coater
  - Pilot-scale granulation module

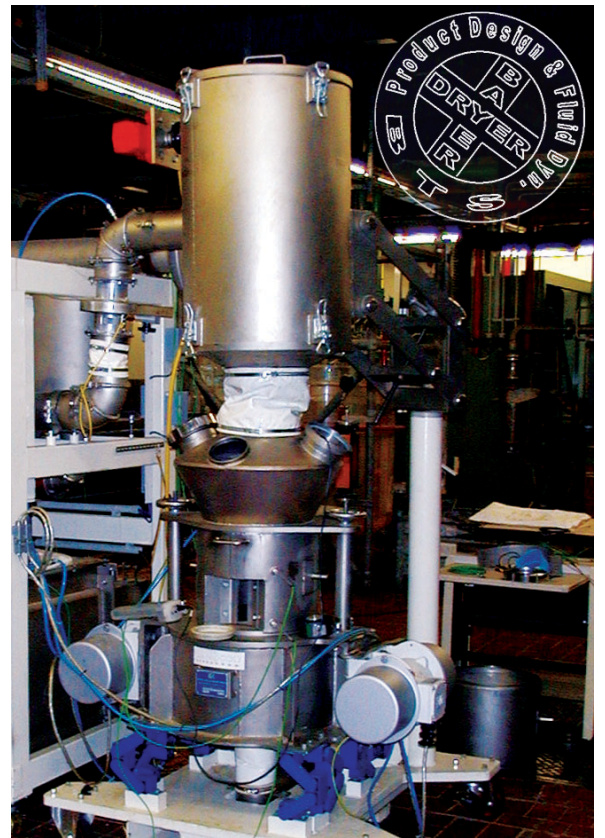
## References

### Convective dryers:

- Spin-flash dryers for metal oxides
- Vibrated fluidized bed dryers for crop protection products and ion exchangers
- Vibrated fluidized bed for rubber products
- Fluidized bed spray granulation for citric acid, encapsulation of flavoring agents
- Flash dryer for ion exchangers
- Carousel dryers for crop protection products

### Contact dryers:

- Slow moving paddle dryer for herbicides
- Mixing dryer (horizontal action) for various crop protection products
- Mixing dryer (vertical action) for various crop protection products
- Vacuum roller dryer for a pharmaceutical product



Mobile vibrated lab-scale fluidized bed

---

## Contact

Phone: +49-214-30-80900 • Fax: +49-214-30-9662530 • E-mail: [info@bayertechnology.com](mailto:info@bayertechnology.com)  
[www.bayertechnology.com](http://www.bayertechnology.com)