

ZIRBUS

technology



07.06.2013

ZIRBUS technology GmbH
Hilfe Gottes 1
37539 Bad Grund / Harz
Germany



Overview **ZIRBUS**

- More than 28 years experience. We are a indepent Company with a worldwide sales structure
- Family owned company with 55 employees
- production and distribution of
 - Autoclaves (Labor – Production)
 - Freeze dryer
 - Special facilities



Autoclaves



Freeze Dryers



What is freeze drying?

- The process by which water (and other solvents) are removed from a frozen material by evading the liquid phase (sublimation): freezing, primary drying and secondary drying (desorption).
- To extend the shelf life of a product.
To preserve a product.
To stabilize a product, making it easier to transport and less sensitive to temperature.
To produce a product that can be fully reconstituted (IE: for injection).

Typical Freeze Drying Applications

- API – Active Pharmaceutical Ingredients
 - Vaccines
 - Diagnostic kits
 - Reagents
 - Proteins/Hormones
 - Viruses/Bacteria
 - Tissue
 - Bone/Blood plasma
 - Enzymes
 - Pathological samples
 - Nutraceuticals
 - Vitamins
 - Herbal extracts
- and much more...

production- „Made in Germany“



Our complete high - quality product range for laboratories, scientific research institutes, food and pharmaceutical industry as well as for hospitals is manufactured in our factory in Bad Grund/ Harz on a production area of 16.000m².

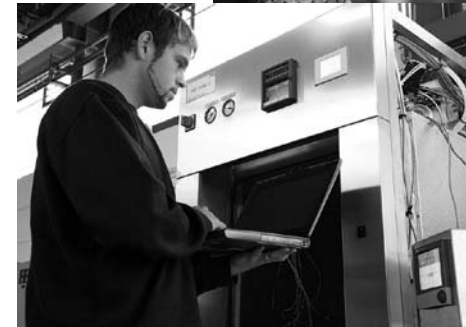
Production

Technical construction, chamber welding and software development is made by our own staff.

- construction in 2D / 3D via AutoCAD Inventor
- tank construction (welding – TÜV certified)
- mechanic
- pipe konstruktion, refrigeration engineering, pump, pneumatics, hydraulics
- elektrik/control
- programming (Siemens S7 / Mitsubishi)
- test field

This allows us to produce not only innovative and reliable standard products, but also custom-made machines for personal requirements and needs.

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Laboratory units 2-15kg



Pilot Plants 0,06...2sqm



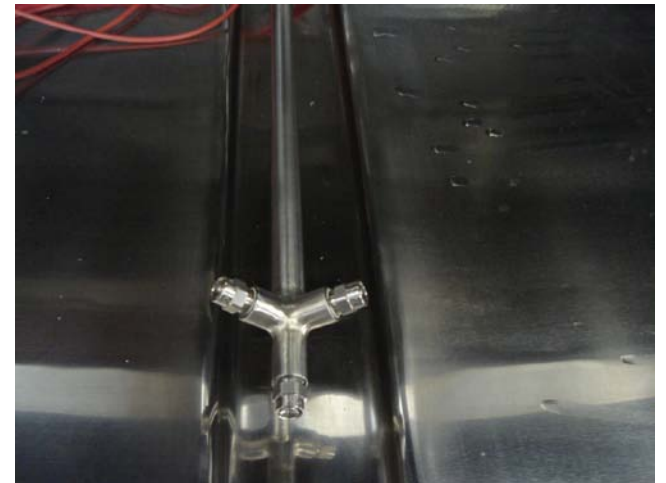
Pilot Plants 0,06...2sqm / Isolator



6sqm production plant



15sqm production plant



15sqm production plant



2x15m² and 1x22m² next together



15sqm production plant



8000l vacuum chamber (paper freeze drying)



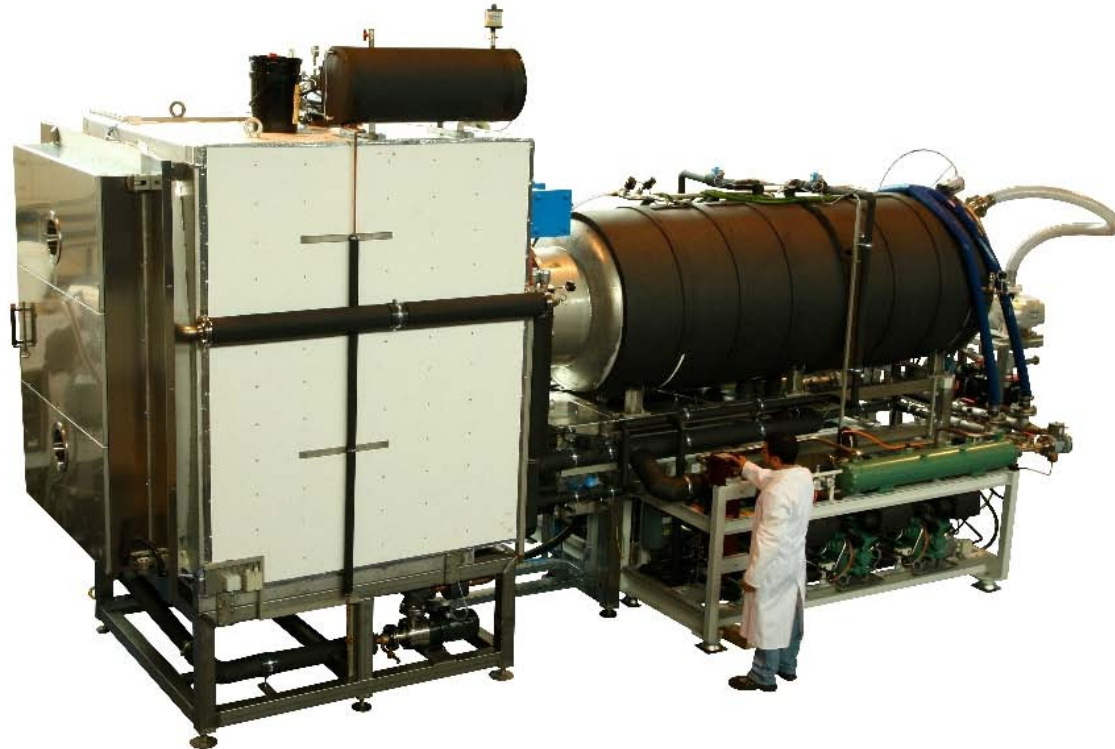
1000kg production freeze dryer



1000kg production freeze dryer



42m² Production-Freeze dryer with 500kg ice capacity



42m² Production-Freeze dryer with 500kg ice capacity



42m² Production-Freeze dryer with 500kg ice capacity



Customer

- pharmaceutical industry, food engineering, automobile industry, biotechnology, medical engineering, laboratories of every description

References

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|----------|----------------|--------------|
| • Bayer | Boehringer | Octapharma |
| • Abbott | Sanofi Aventis | BASF |
| • Roche | Serono | Farmhispania |



Thank you for your attention

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