

PAID DIPLOMA/ MASTER'S THESIS

Experimental Investigation of the Particle Behavior during Drying in a Dryer Prototype for Pharmaceutical Applications

Ref.Nr. DA85

To dedicated students of process, mechanical and chemical engineering or related disciplines, we offer an opportunity to write a paid Diploma/Master's thesis. The project is conducted in close cooperation with industry and supervision of Prof. Khinast from Institute of Particle and Process Technology.

OBJECTIVE:

The aim of this study is to experimentally investigate the drying behaviour of the test substances and the drying capacity of the dryer. The lab scale dryer was developed in cooperation with industry and is now at the RCPE for testing. During drying of particles two phenomena accrue which are agglomeration and attrition. Agglomeration of particles is caused by increased particle/particle interaction as well as the presence of residual liquid in the powder. Attrition of particles is caused by shear applied on the particles during the drying process. Within this work test runs with different moisture contents should be carried out. The product powder should be analysed for particle size changes and residual moisture content. Based on the results the drying process conditions as well as the equipment should be optimized.

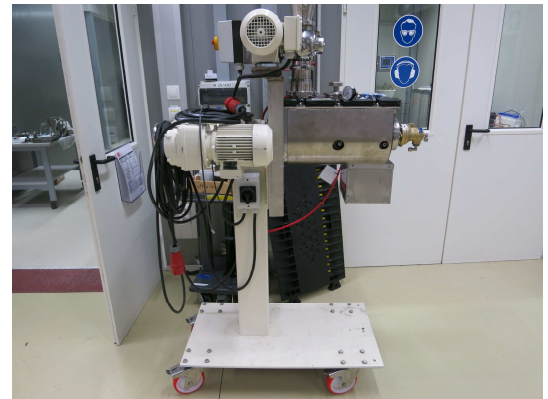


Figure 1: Dryer prototype

- Survey of literature for state of the art powder drying equipment
- Experiments with the disk dryer available at RCPE
- Characterization of product and educt samples by particle size analysis and scanning electron microscopy
- Drying kinetics of the material

WITHIN THE FRAMEWORK OF THIS DIPLOMA/ MASTER'S THESIS WE OFFER

THE FOLLOWING:

- Extensive participation in a top-level and industrially relevant research project in an international environment
- Supervised training in the task
- Assistance of experienced staff with the implementation of innovative ideas
- Access to highly modern infrastructure on campus of Graz University of Technology
- Assistance with the publication of results
- Adequate compensation and opportunities for personal and professional development

FINANCING: Compensation on the basis of a service contract.

If you are interested in writing your thesis at the interface between university research and industry/business and to contribute to the optimization of product and process development in the pharmaceutical industry, please contact us indicating the reference number.

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