Schriftenreihe Mechanische Verfahrenstechnik

Band 2

Peter Walzel (Ed.)

Conference

Spray Drying '01

and Related Processes

08th to 10th of October 2001
Universität Dortmund

Proceedings

Shaker Verlag
Aachen 2002

Die Deutsche Bibliothek - CIP-Einheitsaufnahme

Conference Spray Drying '01 and Related Processes 08th to 10th of October 2001 Universität Dortmund Proceedings / Peter Walzel (Ed.).
Aachen : Shaker, 2002
(Schriftenreihe Mechanische Verfahrenstechnik ; Bd. 2)
ISBN 3-8265-9922-5

Printed in Germany.

ISBN 3-8265-9922-5
ISSN 1618-2855

Shaker Verlag GmbH • P.O. BOX 1290 • D-52013 Aachen
Phone: 0049/2407/9596-0 • Telefax: 0049/2407/9596-9
Internet: www.shaker.de • eMail: info@shaker.de

UNIVERSITÄT DORTMUND

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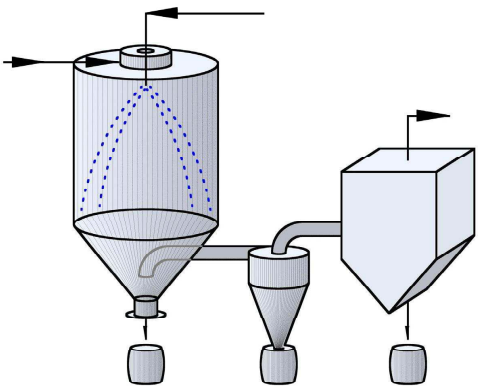

Organised by:
Lehrstuhl für
Mechanische Verfahrenstechnik
Fachbereich Chemietechnik
Universität Dortmund

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Introduction

The chair of mechanical process engineering of the University in Dortmund invited to the symposium "Spray Drying ´01" to treat the various applications, techniques, and modern developments concerning spray drying and related processes.

Objectives of the conference

Spray dryers are used in industry in various applications to produce solid particles from liquid feeds such as suspensions, solutions, or even melts.

In recent years the basic knowledge in describing and modelling of spray towers has significantly increased. Improvements on spraying systems and air flow distributors contribute to better performance of the process.

It was the objective of the conference to exchange information on the following fundamental topics:

- Spraying and formation of liquid particles,
- Heat and mass transfer between gas and particles,
- Transition to the solid state and particle morphology,
- Agglomeration of fine particles.

Depending on the customer requirements different particle sizes and specifications are desirable. The operation parameters therefore vary over wide ranges. The meeting also had to deal with operational conditions such as

- Co or countercurrent flow
- Heat recovery
- Secondary drying and agglomeration
- Dust removal and waste gas treatment
- Product separation and discharge
- Process and moisture control.

Resume of the conference

The conference " Spray Drying" was held in Dortmund from October 8 to 10. In total 39 participants from outside Dortmund and about 8 participants from the university attended this workshop. After the last session, a questionnaire was collected and 25 sheets were gathered. The evaluation found 24 of 25 participants whould suggest to have another meeting within 2 or three years. 17 persons voted for a 2 years cycle, 8 - voted for a three years cycle.

The following remarks were written on the questionnaires especially regarding the question on what issues should be treated more intensively next time:

* more presentations from industry, e.g. food, pharma, chemical, encapsula-

tion techniques
* more related processes, more product oriented lectures
* basic simple experiments of archival value
* basic model development of archival value
* benchmark test cases for submodel reliability tests
* industrial applications with novelty in concepts
* some focus on processes as agglomeration, coalescence, collision
* invite also one speaker as a non European expert
* more input from spry dryer suppliers, also spinning discs
* on line moisture measurement
* new findings in atomization technology to spray drying
* more studies on drying morphology
* bag filter technology
* powder explosions
* distribute information about the workshop through NIRO, APV, TVO to customers
* the workshop should cover full range of process aspects as in this meeting
* even more overview lectures about spray drying
* spray tower and air distributor design
* new nozzle designs for narrow size distributions

For those who intend to give a lecture in 2003, there is this large catalogue of issues from above we whould like to cover in the future. Anybody may choose an issue of his expertise.

Hope to meet you again in 2003 !

Peter Walzel