SEYDLITZ UNITED CONSULTANTS

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In-service Training Course for Specialists, Executives, Technicians & Planners working in the Food, Biotech, Pharmaceutical & Chemical Industry

Fluid Bed Technology: Fluidisation, Granulation/Coating and Drying

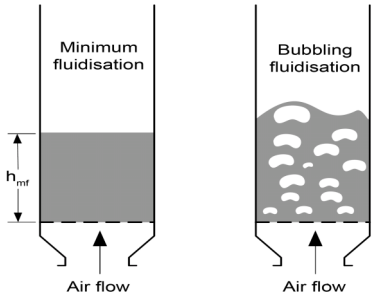
May 17 - 19, 2017
At Phoenix Copenhagen in the Heart of Copenhagen, Denmark

Outcome

Through alternating presentations, exercises and plenum discussions participants will acquire solid basic knowledge of fluid bed technology and fluidisation and be able to address practical problems in these fields.

Main subjects taught in the course

- Fluidisation and classification of particles
- Fluid bed designs —batch and continuous
- Formulation and process considerations
- Coating and agglomeration at particle level
- Scale-up of fluid bed systems
- Drying and cooling
- Moisture in air and powder
- Energy– and water balances



Target group

The course addresses specialists, executives, technicians, planners & plant designers working in the chemical, pharmaceutical, biotech and/or food industry with manufacture or development of particle products in batch or continuous fluid bed processes such as granulation, coating, agglomeration and/or drying.

Form

The course runs for three consecutive days with alternating presentations, exercises and plenum discussions. The course is held in English.

Social event

On the afternoon of the first day the participants are invited on a one-hour guided harbour tour followed by dinner in the colourful 17th century waterfront of Nyhavn in the heart of Copenhagen.

Registration and further information: Please see the next pages

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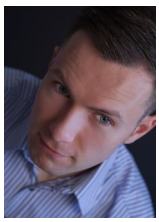
Teacher

Ph.D., HD Peter Dybdahl Hede



- Science Manager in industrial particle technology
- Speciality in granulation processes
- Many years of teaching experience from The Danish Society of Engineers and in-service training courses in particle technology
- Contact: PTHD@seydlitz.dk

Ph.D., Fellow, Anders Hallström

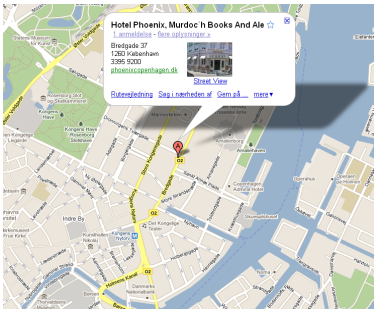
- Advisor in particle technology and thermal processes including drying and evaporation
- Many years of teaching experience from Technical University of Lund and other in-service training courses
- Contact: ah@ahprocess.dk

Venue

Phoenix Copenhagen is a 4-star deluxe hotel housed in one of Copenhagen's historic buildings. Situated in Copenhagen, near Amalienborg Palace, just a few metres' walk from Nyhavn, Kongens Nytorv, Strøget and other sights.

Address: **Bredgade 37, DK-1260 Copenhagen K, Denmark**

Telephone: **+45 33 95 95 00**
Booking & service: **bookphoenix@arp-hansen.dk**



Fee

The course fee is payable in advance and includes course materials, HP 300s calculator, coffee & refreshments, lunch all three days as well as canal tour and dinner on the first evening.

Per delegate EUR 1985,- plus VAT. VAT is reclaimable.

Overnight stay at the delegates own expense can be arranged at the course venue or elsewhere nearby. Please contact Hotel Phoenix Copenhagen at **+45 33 95 95 00** or **bookphoenix@arp-hansen.dk**.

Kindly note that central Copenhagen is very popular in spring time and that Copenhagen hotels may be fully booked well in advance.

Registration

Binding registration at **www.powderinfonews.com** under **"Courses"** no later than 10th of March 2017. In case of any questions please contact ah@ahprocess.dk or telephone phone +45 21 69 59 52.

The course may be subject to cancellation in case of too few participants

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Course contents

Day 1:	**Subject**
10.00 - 10.15	Course introduction
10.15 - 12.00	Particles and particle size distributions Measurement of particle size
12.00 - 13.00	Lunch
13.00 - 13.30	Single particles in fluids, Stokes law and terminal gas velocity Particles falling under gravity in a fluid, stopping distance
13.30 - 16.15	Fluidisation, General description (bubbling, turbulent spouted, circulating) Minimum fluidisation velocity, terminal velocity, Two-phase description, U_{mb}, Geldart Chart, Classification of particles, bubbles, Expanded bed height, elutriation, fluidisation regimes
16.30 - 21.30	Walk & Canal tour in the Copenhagen Harbour, dinner in Nyhavn

Day 2:	**Subject**
9.00 - 12.00	Fluidisation recap and mixing in fluid beds, Use of fluidisation: Powder transport via fluidization-dense-phase/dilute-phase Introduction to fluid bed granulation and coating, Fluid bed designs, Atomisation: Two-fluid nozzles and the influence of droplets
12.00 - 13.00	Lunch
13.00 - 16.00	Agglomeration and coating at particle level, Mechanical strength of granulates, Modelling of granulation processes Scale-up of fluid bed granulation systems, Practical correlations

Course contents—continued

Day 3:	Subject
9.00 - 12.00	Moisture in air and powder, H-X diagrams, Energy- and mass balances, Heat & mass transfer
12.00 - 13.00	Lunch
13.00 - 15.45	Drying, Drying rate and drying equipment, Heat- and cooling systems, Energy consumption, Energy optimisation
15.45 - 16.00	Final remarks, Course evaluation

VISITCOPENHAGEN THE OFFICIAL WEBSITE