

Spray Drying Systems Brochure Spray Dryers

Food process engineering, a branch of both food science and chemical engineering, has evolved over the years since its inception and still is a rapidly changing discipline. While traditionally the main objective of food process engineering was preservation and stabilization, the focus today has shifted to enhance health aspects, flavour and taste, nutrition, sustainable for the increasing demand of consumers. The food industry is becoming increasingly competitive and dynamic, and strives to develop high quality, freshly prepared food products. To achieve this objective, food manufacturers are today presented with a growing array of new technologies that have the potential to improve, or replace, conventional processing technology food products, which meet many, if not all, of the demands of the modern consumer. These new, or innovative, technologies are in various stages of development, including some still at the R&D stage, and others that have been commercialised as alternatives to conventional processing technologies. Food process engineering comprises a series of unit operations through these operations relates to the application of heat, directly or indirectly, to provide foods free from pathogenic microorganisms, but also to enhance or intensify other processes, such as extraction, separation or modification of components. The last three decades have also witnessed the advent and adaptation of several operations, processes, and techniques aimed at enhancing sensory and nutritive properties. Some of these innovative technologies have significantly reduced the thermal component in food processing, offering alternative nonthermal methods. Food Processing Technologies: A Comprehensive Review covers the latest advances in innovative and nonthermal processing, such as high pressure, pulsed electric fields, radiofrequency and microwave technologies. Each section will have an introductory article covering the basic principles and applications of each technology, and in-depth articles covering the currently available equipment (and/or the current state of development), food quality and safety, application to various sectors, food laws and regulations, consumer acceptance, advancements and future trends. The book illustrates state-of-the-art applications. Each section will serve as an excellent reference to food industry professionals involved in the processing of a wide range of food categories, e.g., meat, seafood, beverage, dairy, eggs, fruits and vegetable products, spices, herbs among others.

Nanoencapsulation of Food Ingredients by Specialized Equipment, Third Edition, a new volume in the Nanoencapsulation in the Food Industry series provides an overview of specialized developed equipment for the nanoencapsulation of food ingredients. Electro-spinning, electro-spraying, nano-spray dryer, micro/nano-fluidics systems and sonication devices are just some of the technologies reviewed. The book reviews the mechanisms of innovative devices for preparation of nanostructures, exploring the key factors in each device to control the efficiency of nanoencapsulation and revealing the morphologies and properties of nanoencapsulated ingredients produced by each equipment. Authored by a team of global experts in the fields of nano and microencapsulation of food ingredients, the book is of great value to those engaged in the various fields of nanoencapsulation. Thoroughly explores the mechanisms of nanoencapsulation by specialized equipment Elucidates the key factors in each device to control the efficiency of nanoencapsulation Discusses the morphologies and properties of nanoencapsulated ingredients produced by each equipment

Advanced Drying Technologies

Chemical Engineering Progress

Volume 3 in the Nanoencapsulation in the Food Industry series

1966: Title Index

Thomas Register of American Manufacturers and Thomas Register Catalog File

This volume offers a comprehensive guide on the theory and practice of amorphous solid dispersions (ASD) for handling challenges associated with poorly soluble drugs. In twenty-three inclusive chapters, the book examines thermodynamics and kinetics of the amorphous state and amorphous solid dispersions, ASD technologies, excipients for stabilizing amorphous solid dispersions such as polymers, and ASD manufacturing technologies, including spray drying, hot melt extrusion, fluid bed layering and solvent-controlled micro-precipitation technology (MBP). Each technology is illustrated by specific case studies. In addition, dedicated sections cover analytical tools and technologies for characterization of amorphous solid dispersions, the prediction of long-term stability, and the development of suitable dissolution methods and regulatory aspects. The book also highlights future technologies on the horizon, such as supercritical fluid processing, mesoporous silica, KinetiSol®, and the use of non-salt-forming organic acids and amino acids for the stabilization of amorphous systems. Amorphous Solid Dispersions: Theory and Practice is a valuable reference to pharmaceutical scientists interested in developing bioavailable and therapeutically effective formulations of poorly soluble molecules in order to advance these technologies and develop better medicines for the future.

An extensive critical compilation of the wide range of manufacturing processes that involve the application of spray technology, this book covers design of atomizers as well as the performance of plant and their corresponding spray systems. The needs of practising engineers from different disciplines: project managers, and works, maintenance and design engineers are catered for. Of interest to researchers in the field of liquid sprays, the book includes outlines of the contemporary and possible future research and challenges in the different fields of application and deals with:

- **sprays and their production;**
- **sprays in industrial production processes;**
- **processes involving vaporisation and cooling or cleaning of gases;**
- **spray-surface impact processes;**
- **fuel sprays for fixed plant;**
- **spraying of hot surfaces for steel making and other metals;**
- **spraying of molten metals.**

Guidance is given for the analysis and interpretation of experimental data obtained using different measurement techniques.

U.S. Environmental Protection Agency Library System Book Catalog Holdings as of July 1973

Professional Engineer

Federal Software Exchange Catalog

Chemical Engineering Catalog

Drug Delivery Strategies for Poorly Water-Soluble Drugs

Spray Dryers: A Guide to Performance Evaluation, Second Edition discusses the reasons for spray drying. These reasons are usually to produce a product with certain desired properties or with better efficiency than other methods. The book discusses how to plan in light of these objectives and gives guidance on the variables affecting product properties and dryer performance, to decide which variables to evaluate. Technical spray dryer installations are briefly described. Checklists are given to aid in planning measurements and listing steps needed for a test.

Many newly proposed drugs suffer from poor water solubility, thus presenting major hurdles in the design of suitable formulations for administration to patients. Consequently, the development of techniques and materials to overcome these hurdles is a major area of research in pharmaceutical companies. Drug Delivery Strategies for Poorly Water-Soluble Drugs provides a comprehensive overview of currently used formulation strategies for hydrophobic drugs, including liposome formulation, cyclodextrin drug carriers, solid lipid nanoparticles, polymeric drug encapsulation delivery systems, self-microemulsifying drug delivery systems, nanocrystals, hydrosol colloidal dispersions, microemulsions, solid dispersions, cosolvent use, dendrimers, polymer-drug conjugates, polymeric micelles, and mesoporous silicananoparticles. For each approach the book discusses the main instrumentation, operation principles and theoretical background, with a focus on critical formulation features and clinical studies. Finally, the book includes some recent and novel applications, scale-up considerations and regulatory issues. Drug Delivery Strategies for Poorly Water-Soluble Drugs is an essential multidisciplinary guide to this important area of drug formulation for researchers in industry and academia working in drug delivery, polymers and biomaterials.

Dairy Industries Catalog of Equipment, Supplies and Services Used by Dairy Products Manufacturers

Plastics World

Industrial Sprays and Atomization

Soap, Cosmetics, Chemical Specialties

Design, Analysis and Applications

This book is a printed edition of the Special Issue "State-of-the-Art Materials Science in Belgium 2017" that was published in Materials

Nanoencapsulation Technologies for the Food and Nutraceutical Industries is a compendium which collects, in an easy and compact way, state-of-the-art details on techniques for nanoencapsulation of bioactive compounds in food and nutraceutical industries. The book addresses important modern technologies, including biopolymer based nano-particle formation techniques, formulation based processes, such as nano-liposomes and nano-emulsions, process based nano-encapsulation, such as electro-spinning and nano-spray drying, natural nano-carrier based processes, like casein and starch nano-particles, and other recent advances. This definitive reference manual is ideal for researchers and industry personnel who want to learn more about basic concepts and recent developments in nanotechnology research. Serves as a compendium of recent techniques and systems for nanoencapsulation of bioactive compounds Brings together basic concepts and the potential of nanoencapsulation technologies, also including their novel applications in functional foods and nutraceutical systems Includes biopolymer based nano-particle formation techniques, formulation based processes, process based nanoencapsulation, and nano-carrier based process

Theory and Practice

A Comprehensive Review

Nanoencapsulation of Food Ingredients by Specialized Equipment

Supply Catalog

For Use of Chemists, Physicists, Metallurgists, Designers, Etc

"Presents the most recent breakthroughs in thermal dehydration, drying, and dewatering. Emphasizes emerging equipment, innovative techniques, and cost-effective strategies for a variety of industrial and agricultural applications. Offers classification and selection criteria for new and advanced drying systems."

Vols. for 1970-71 includes manufacturers' catalogs.

A Guide to Performance Evaluation

Greenhouse Gas Control Technologies

Federal Supply Catalog

Drying Technologies for Biotechnology and Pharmaceutical Applications

Classification of property with alphabetical index of expendable items

Some issues include special catalog, survey and directory number.

These proceedings contain 270 papers outlining ideas and contributions to the new scientific, technical and political discipline of Greenhouse Gas (GHG) Control. The contributions were presented at the 4th International Conference on Greenhouse Gas Control Technologies (GHGT-4). It was the largest gathering of experts active in this new and fast-developing field. GHGT-4 was different from its predecessors in that it included all greenhouse gases, not only CO2, and all issues which could contribute to the mitigation of the greenhouse problem - technical, economic and political. The main focus was on practical solutions and real demonstrations of mitigation technology being planned and implemented today. It also addressed ways to increase the efficiency of power production and utilisation, and looked at proposals to encourage the development of renewable energy sources. During the Opening Session, 10 keynote addresses were heard from prominent personalities in government, industry and academia. To tackle this very inter-disciplinary problem and to achieve acceptable solutions, it is essential for industry and government to initiate intense dialogue and cooperation. Conferences like this can provide the opportunity for a meeting of minds between engineers and politicians in the face of global challenge. The primary attributes of this global challenge are manifold: the problem is global and international; it is inter-disciplinary, both in substance and approach; it covers technical, political and economic issues and involves government, science, industry and academia; it is complex and non-linear; and it will take the efforts of all parties involved to solve the problem. These proceedings contain ideas for starting demonstration projects and for making better use of the power and flexibility of market measures. They also show it is a problem we can influence and that there is a wealth of ideas. The challenge now is to find the right partners to put these ideas into action.

An Inventory of Government-owned Industrial Plants

Monthly Catalog of United States Government Publications

Monthly Catalog of United States Government Publications, Cumulative Index

State-of-the-Art Materials Science in Belgium 2017

An Inventory of Government-owned Industrial Plants, Listed by States, Indexed by Lessees Or Operators, Classified by Products Or Functions

A comprehensive source of information about modern drying technologies that uniquely focus on the processing of pharmaceuticals and biologicals Drying technologies are an indispensable production step in the pharmaceutical industry and the knowledge of drying technologies and applications is absolutely essential for current drug product development. This book focuses on the application of various drying technologies to the processing of pharmaceuticals and biologicals. It offers a complete overview of innovative as well as standard drying technologies, and addresses the issues of why drying is required and what the critical considerations are for implementing this process operation during drug product development. Drying Technologies for Biotechnology and Pharmaceutical Applications discusses the state-of-the-art of established drying technologies like freeze- and spray- drying and highlights limitations that need to be overcome to achieve the future state of pharmaceutical manufacturing. The book also describes promising next generation drying technologies, which are currently used in fields outside of pharmaceuticals, and how they can be implemented and adapted for future use in the pharmaceutical industry. In addition, it deals with the generation of synergistic effects (e.g. by applying process analytical technology) and provides an outlook toward future developments. -Presents a full technical overview of well established standard drying methods alongside various other drying technologies, possible improvements, limitations, synergies, and future directions -Outlines different drying technologies from an application-oriented point of view and with consideration of real world challenges in the field of drug product development -Edited by renowned experts from the pharmaceutical industry and assembled by leading experts from industry and academia Drying Technologies for Biotechnology and Pharmaceutical Applications is an important book for pharma engineers, process engineers, chemical engineers, and others who work in related industries.

Spray Dryers

Sweet's Engineering Catalogue

Nanoencapsulation Technologies for the Food and Nutraceutical Industries

Hot Laboratory Equipment Catalog

Innovative Food Processing Technologies