
Gpsa Engineering Data Book 12th Edition

Flow Assurance Solids in Oil and Gas Production
Rules of Thumb for Chemical Engineers
Compounds, Blends and Advanced Solvent Systems
Handbook of Natural Gas Transmission and Processing
Blue Pelican Java
Absorption-Based Post-Combustion Capture of Carbon Dioxide
JPT. Journal of Petroleum Technology
Fundamentals of Oil and Gas Processing
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Technology and Economics, Fifth Edition
Basics of Gas Field Processing
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Summary of a Workshop
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Natural Gas Hydrates
Well Completion Design
Fluid Mechanics, Heat Transfer, and Mass Transfer
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Upgrading Oilsands Bitumen and Heavy Oil
Ludwig's Applied Process Design for Chemical and Petrochemical Plants
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Industrial Chemical Process Analysis and Design
Petroleum Refining Design and Applications Handbook

ELVIS WILLIAMSON

Flow Assurance Solids in Oil and Gas Production McGraw-Hill Professional Pub

This book introduces a new and powerful approach based on rigorous process simulations conducted with professional simulators like HYSYS to predict the performance of supersonic separators (SS). The book addresses the utilization of SSs for the offshore processing of CO₂-rich natural gas as an alternative to Joule-Thomson expansion, glycol absorption, membrane permeation and chemical absorption. It describes and analyzes the conventional offshore processing of CO₂-rich natural gas, discussing the advantages of SS in terms of cost and power consumption. The book offers a comprehensive framework for modeling SS units, describing the physical principles of SS in detail. The thermodynamic multiphase sound speed is also discussed at the light shed by a classical analysis based on the Landau Model of phase transitions. A complete framework is presented for modelling and simulating SS units within HYSYS environment. A special chapter is dedicated to the performance of SSs for removing CO₂ from CO₂-rich natural gas, taking into account the limitations of CO₂ freeze-out in various scenarios of gas feed in terms of CO₂ content, pressure and temperature.

Rules of Thumb for Chemical Engineers Butterworth-Heinemann

Natural gas is considered the dominant worldwide bridge between fossil fuels of today and future resources of tomorrow. Thanks to the recent shale boom in North America, natural gas is in a surplus and quickly becoming a major international commodity. Stay current with conventional and now unconventional gas standards and procedures with *Natural Gas Processing: Technology and Engineering Design*. Covering the entire natural gas process, Bahadori's must-have handbook provides everything you need to know about natural gas, including: Fundamental background on natural gas properties and single/multiphase flow factors How to pinpoint equipment selection criteria, such as US and international standards, codes, and critical design considerations A step-by-step simplification of the major gas processing procedures, like sweetening, dehydration, and sulfur recovery Detailed explanation on plant engineering and design steps for natural gas projects, helping managers and contractors understand how to schedule, plan, and manage a safe and efficient processing plant Covers both conventional and unconventional gas resources such as coal bed methane and shale gas Bridges natural gas processing with basic and advanced engineering design of natural gas projects including real world case studies Digs deeper with practical equipment sizing calculations for flare systems, safety relief valves, and control valves

Compounds, Blends and Advanced Solvent Systems University of Alberta

"The book covers the basic techniques of reservoir engineering necessary for a professional to master. The approach consists of starting from the fundamental physical laws down to the practical applications in reservoir engineering. Emphasis is placed on assumptions and limits attached to each concept and the link between theory and field applications. The theory in this book is developed with a homogenous unit system with useful formulas expressed in practical units."--BOOK JACKET.

Handbook of Natural Gas Transmission and Processing CRC Press

The book includes the basics of physical properties of natural gas necessary to understand natural gas processing and process calculations. Items covered in the first chapter are gas molecular weight, density at operating conditions, heating value, compressibility factor, ..etc. The second chapter covers the basics of phase behavior. The third chapter covers a brief oil and gas separation where a detailed were presented in the first book (*Fundamentals of Oil and Gas Processing*). The fourth chapter covers Natural gas hydrates, prediction and inhibition. The fifth chapter covers dehydration of natural gas. The sixth chapter covers natural gas sweetening and sulfur recovery. The book includes the basics of physical properties of natural gas necessary to understand natural gas processing and process calculations. Items covered are gas molecular weight, density at operating conditions, heating value, compressibility factor, ..etc. The second chapter covers the basics of phase behavior. The third chapter covers a brief oil and gas separation where a detailed were presented in the first book (*Fundamentals of Oil and Gas Processing*). The fourth chapter covers Natural gas hydrates, prediction and inhibition. The fifth chapter covers dehydration of natural gas. The sixth chapter covers natural gas sweetening and sulfur recovery. and The seventh chapter covers hydrocarbon recovery.

Blue Pelican Java CRC Press

"Blue Pelican Java" is a somewhat unusual high school computer science textbook. Most computer science texts will begin with a section on the history of computers followed with a flurry of definitions that are just "so many words" to the average student. The approach here is to first give the student some experience upon which to hang the definitions that come later. The usual practice of introducing classes and objects is deferred until the student has a firm grasp of the fundamentals (loops, decision structures, etc). Thus, the beginning student is not overwhelmed by the simultaneous introduction of OOPs and the fundamentals. The book includes plenty of exercises (many in "contest" form), programming projects, and a huge appendix.

Absorption-Based Post-Combustion Capture of Carbon Dioxide Woodhead Publishing

Annotation A handbook for chemical and process engineers who need a solution to their practical on-the-job problems. It solves process design problems quickly, accurately and safely, with hundreds of techniques, shortcuts and calculations.

JPT. Journal of Petroleum Technology Independently Published

This broad-based book covers the three major areas of Chemical Engineering. Most of the books in the market involve one of the individual areas, namely, Fluid Mechanics, Heat Transfer or Mass Transfer, rather than all the three. This book presents this material in a single source. This avoids the user having to refer to a number of books to obtain information. Most published books covering all the three areas in a single source emphasize theory rather than practical issues. This book is written with emphasis on practice with brief theoretical concepts in the form of questions and answers, not adopting stereo-typed question-answer approach practiced in certain books in the market, bridging the two areas of theory and practice with respect to the core areas of chemical engineering. Most parts of the book are easily understandable by those who are not experts in the

field. Fluid Mechanics chapters include basics on non-Newtonian systems which, for instance find importance in polymer and food processing, flow through piping, flow measurement, pumps, mixing technology and fluidization and two phase flow. For example it covers types of pumps and valves, membranes and areas of their use, different equipment commonly used in chemical industry and their merits and drawbacks. Heat Transfer chapters cover the basics involved in conduction, convection and radiation, with emphasis on insulation, heat exchangers, evaporators, condensers, reboilers and fired heaters. Design methods, performance, operational issues and maintenance problems are highlighted. Topics such as heat pipes, heat pumps, heat tracing, steam traps, refrigeration, cooling of electronic devices, NOx control find place in the book. Mass transfer chapters cover basics such as diffusion, theories, analogies, mass transfer coefficients and mass transfer with chemical reaction, equipment such as tray and packed columns, column internals including structural packings, design, operational and installation issues, drums and separators are discussed in good detail. Absorption, distillation, extraction and leaching with applications and design methods, including emerging practices involving Divided Wall and Petluk column arrangements, multicomponent separations, supercritical solvent extraction find place in the book.

Fundamentals of Oil and Gas Processing CRC Press

Industrial Chemical Process Analysis and Design uses chemical engineering principles to explain the transformation of basic raw materials into major chemical products. The book discusses traditional processes to create products like nitric acid, sulphuric acid, ammonia, and methanol, as well as more novel products like bioethanol and biodiesel. Historical perspectives show how current chemical processes have developed over years or even decades to improve their yields, from the discovery of the chemical reaction or physico-chemical principle to the industrial process needed to yield commercial quantities. Starting with an introduction to process design, optimization, and safety, Martin then provides stand-alone chapters—in a case study fashion—for commercially important chemical production processes. Computational software tools like MATLAB®, Excel, and Chemcad are used throughout to aid process analysis. Integrates principles of chemical engineering, unit operations, and chemical reactor engineering to understand process synthesis and analysis. Combines traditional computation and modern software tools to compare different solutions for the same problem. Includes historical perspectives and traces the improving efficiencies of commercially important chemical production processes. Features worked examples and end-of-chapter problems with solutions to show the application of concepts discussed in the text.

Rules of Thumb for Chemical Engineers Fundamentals of Natural Gas Processing

The most complete guide of its kind, this is the standard handbook for chemical and process engineers. All new material on fluid flow, long pipe, fractionators, separators and accumulators, cooling towers, gas treating, blending, troubleshooting field cases, gas solubility, and density of irregular solids. This substantial addition of material will also include conversion tables and a new appendix, "Shortcut Equipment Design Methods." This convenient volume helps solve field engineering problems with its hundreds of common sense techniques, shortcuts, and calculations. Here, in a compact, easy-to-use format, are practical tips, handy formulas, correlations, curves, charts, tables, and shortcut methods that will save engineers valuable time and effort. Hundreds of common sense techniques and calculations help users quickly and accurately solve day-to-day

design, operations, and equipment problems.

Technology and Economics, Fifth Edition Virtualbookworm Publishing

Completions are the conduit between hydrocarbon reservoirs and surface facilities. They are a fundamental part of any hydrocarbon field development project. They have to be designed for safely maximising the hydrocarbon recovery from the well and may have to last for many years under ever changing conditions. Issues include: connection with the reservoir rock, avoiding sand production, selecting the correct interval, pumps and other forms of artificial lift, safety and integrity, equipment selection and installation and future well interventions. * Course book based on course well completion design by TRACS International * Unique in its field: Coverage of offshore, subsea, and landbased completions in all of the major hydrocarbon basins of the world. * Full colour

Basics of Gas Field Processing John Wiley & Sons

Diagnose and Troubleshoot Problems in Chemical Process Equipment with This Updated Classic! Chemical engineers and plant operators can rely on the Third Edition of A Working Guide to Process Equipment for the latest diagnostic tips, practical examples, and detailed illustrations for pinpointing trouble and correcting problems in chemical process equipment. This updated classic contains new chapters on Control Valves, Cooling Towers, Waste Heat Boilers, Catalytic Effects, Fundamental Concepts of Process Equipment, and Process Safety. Filled with worked-out calculations, the book examines everything from trays, reboilers, instruments, air coolers, and steam turbines...to fired heaters, refrigeration systems, centrifugal pumps, separators, and compressors. The authors simplify complex issues and explain the technical issues needed to solve all kinds of equipment problems. Comprehensive and clear, the Third Edition of A Working Guide to Process Equipment features: Guidance on diagnosing and troubleshooting process equipment problems Explanations of how theory applies to real-world equipment operations Many useful tips, examples, illustrations, and worked-out calculations New to this edition: Control Valves, Cooling Towers, Waste Heat Boilers, Catalytic Effects, and Process Safety Inside this Renowned Guide to Solving Process Equipment Problems • Trays • Tower Pressure • Distillation Towers • Reboilers • Instruments • Packed Towers • Steam and Condensate Systems • Bubble Point and Dew Point • Steam Strippers • Draw-Off Nozzle Hydraulics • Pumparounds and Tower Heat Flows • Condensers and Tower Pressure Control • Air Coolers • Deaerators and Steam Systems • Vacuum Systems • Steam Turbines • Surface Condensers • Shell-and-Tube Heat Exchangers • Fire Heaters • Refrigeration Systems • Centrifugal Pumps • Separators • Compressors • Safety • Corrosion • Fluid Flow • Computer Modeling and Control • Field Troubleshooting Process Problems

Petroleum Refining Springer Science & Business Media

Providing in-depth guidance on how to design and rate emergency pressure relief systems, Guidelines for Pressure Relief and Effluent Handling Systems incorporates the current best designs from the Design Institute for Emergency Relief Systems as well as American Petroleum Institute (API) standards. Presenting a methodology that helps properly size all the components in a pressure relief system, the book includes software with the CCFLOW suite of design tools and the new Superchems for DIERS Lite software, making this an essential resource for engineers designing chemical plants, refineries, and similar facilities. Access to Software Access the Guidelines for Pressure Relief and Effluent Handling Software and documents using a web browser at:

<http://www.aiche.org/ccps/PRTTools> Each folder will have a readme file and installation instructions for the program. After downloading SuperChems™ for DIERS Lite the purchaser of this book must contact the AIChE Customer Service with the numeric code supplied within the book. The purchaser will then be supplied with a license code to be able to install and run SuperChems™ for DIERS Lite. Only one license per purchaser will be issued.

Chemical Engineering Practice Gulf Professional Publishing

"The emphasis throughout is to link the fundamentals of the molecules through to the economic drivers for the industry, because this combination determines the technology used for processing."- From the Introduction The high demand for quality petroleum products necessitates ongoing innovation in the science and engineering underlying oilsands extraction and upgrading. Beginning with a thorough grounding in the composition, fluid properties, reaction behaviour, and economics of bitumen and heavy oil, Murray Gray then delves into current processing technologies, particularly those used at full commercial scale. The tables of data on composition, yield, and behaviour of oilsands bitumen and heavy oil fractions are extensive. Though the focus is on bitumen from Alberta's oilsands-the largest resource in the world-the science applies to upgrading of heavy oil and petroleum residue feeds worldwide. Upgrading Oilsands Bitumen and Heavy Oil lays out the current best practice for engineers and scientists in the oilsands and refining industries, government personnel, academics, and students.

Elsevier

Compression Machinery for Oil and Gas is the go-to source for all oil and gas compressors across the industry spectrum. Covering multiple topics from start to finish, this reference gives a complete guide to technology developments and their applications and implementation, including research trends. Including information on relevant standards and developments in subsea and downhole compression, this book aids engineers with a handy, single resource that will help them stay up-to-date on the compressors needed for today's oil and gas applications. Provides an overview of the latest technology, along with a detailed discussion of engineering Delivers on the efficiency, range and limit estimations for machines Pulls together multiple contributors to balance content from both academics and corporate research

Compression Machinery for Oil and Gas CRC Press

Written by an internationally-recognized team of natural gas industry experts, the fourth edition of **Handbook of Natural Gas Transmission and Processing** is a unique, well-researched, and comprehensive work on the design and operation aspects of natural gas transmission and processing. Six new chapters have been added to include detailed discussion of the thermodynamic and energy efficiency of relevant processes, and recent developments in treating super-rich gas, high CO₂ content gas, and high nitrogen content gas with other contaminants. The new material describes technologies for processing today's unconventional gases, providing a fresh approach in solving today's gas processing challenges including greenhouse gas emissions. The updated edition is an excellent platform for gas processors and educators to understand the basic principles and innovative designs necessary to meet today's environmental and sustainability requirement while delivering acceptable project economics. Covers all technical and operational aspects of natural gas transmission and processing. Provides pivotal updates on the latest technologies, applications, and

solutions. Helps to understand today's natural gas resources, and the best gas processing technologies. Offers design optimization and advice on the design and operation of gas plants.

Natural Gas Processing Springer

The petroleum industry spends millions of dollars every year to combat the formation of hydrates-the solid, crystalline compounds that form from water and small molecules-that cause problems by plugging transmission lines and damaging equipment. They are a problem in the production, transmission and processing of natural gas, and it is even possible for them to form in the reservoir itself if the conditions are favorable. **Natural Gas Hydrates** is written for the field engineer working in the natural gas industry. This book explains how, when and where hydrates form, while providing the knowledge necessary to apply remedies in practical applications. New to the second edition, the use of new inhibitors: Kinetic Inhibitors and Anticoagulants and the topic of kinetics of hydrates. How fast do they form? How fast do they melt? New chapters on Hydrates in Nature, hydrates on the seafloor and a new section has also been added regarding the misconceptions about water dew points. Chapters on Hydrate Types and Formers, Computer Methods, Inhibiting Hydrate Formation with Chemicals, Dehydration of Natural Gas and Phase Diagrams Hydrate Dehydration of Natural Gas and Phase Diagrams have been expanded and updated along with the companion website. * Understand what gas hydrates are, how they form and what can be done to combat their formation * Avoid the same problems BP experienced with clogged pipelines * Presents the four most common approaches to evaluate hydrates: heat, depressurization, inhibitor chemicals, and dehydration.

Engineering Data Book Fps Elsevier

Petroleum refiners must face billion-dollar investments in equipment in order to meet ever-changing environmental requirements. Because the design and construction of new processing units entail several years' lead time, refiners are reluctant to commit these dollars for equipment that may no longer meet certain conditions when the units come on stream. Written by experts with both academic and professional experience in refinery operation, design, and evaluation, **Petroleum Refining Technology and Economics, Fifth Edition** is an essential textbook for students and a vital resource for engineers. This latest edition of a bestselling text provides updated data and addresses changes in refinery feedstock, product distribution, and processing requirements resulting from federal and state legislation. Providing a detailed overview of today's integrated fuels refinery, the book discusses each major refining process as they relate to topics such as feedstock preparation, operating costs, catalysts, yields, finished product properties, and economics. It also contains end-of-chapter problems and an ongoing case study.

Summary of a Workshop Gulf Professional Publishing

The immediate product extracted from oil and gas wells consists of mixtures of oil, gas, and water that is difficult to transport, requiring a certain amount of field processing. This reference analyzes principles and procedures related to the processing of reservoir fluids for the separation, handling, treatment, and production of quality petroleum oil and gas products. It details strategies in equipment selection and system design, field development and operation, and process simulation and control to increase plant productivity and safety and avoid losses during purification, treatment, storage, and export. Providing guidelines for developing efficient and economical treatment systems, the book features solved design examples that demonstrate the application of developed

design equations as well as review problems and exercises of key engineering concepts in petroleum field development and operation.

Working Guide to Process Equipment, Third Edition Gulf Professional Publishing

Natural gas has traditionally been used as a feedstock for the chemical industry, and as a fuel for process and space heating. Recent advances in exploration, drilling techniques and hydraulic fracturing have made it possible for natural gas to become available in abundance (as of 2012). As natural gas displaces traditional petroleum use in various sectors, a certain amount of disruption is likely. In such a changing landscape, this book tries to chronicle the state-of-the-art in various aspects of natural gas: exploration, drilling, gas processing, storage, distribution, end use and finally

the impact on financial markets. Review articles as well as research papers contributed by leading authorities around the world comprise individual chapters of this book. Modeling approaches, as well as, recent advances in specific natural gas technologies are covered in detail.

Natural Gas Hydrates John Wiley & Sons

This book will provide the latest global perspective on the role and value of carbon capture and storage (CCS) in delivering temperature targets and reducing the impact of global warming. As well as providing a comprehensive, up-to-date overview of the major sources of carbon dioxide emission and negative emissions technologies, the book also discusses technical, economic and political issues associated with CCS along with strategies to enable commercialisation.

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