maintenance. His research fields are in computer-aided design and optimization, mass transfer, and process control.

Dr. Rehm's industrial experience has been in process development and equipment design with Universal Oil Products, Chevron Research, and the Monsanto Company. He is a current or former member/chairman of three national committees of the American Institute of Chemical Engineers.

High Pressure Measurement Techniques

Editor	G. N. Peggs
Publisher	Applied Science Publishers, London (1983)
Pages	404
Price	$81.50
Reviewer	Thomas R. Rehm

This reference book on the principles and devices used in the measurement, generation, and application of high and ultra-high pressures consists of nine chapters, each written by an expert in the field of high-pressure measurement. The thoroughness and understandability of each of these chapters are excellent. Chapters 1 and 2 cover in a clear and precise way the fundamentals of measurement techniques at steady pressures and at ultra-high dynamic pressures. Historical and current methods are presented with advantages and disadvantages discussed for both situations.

Chapters 3 and 4 explain secondary methods for high-pressure measurement from the standpoint of fixed reference points and from the standpoint of detailed descriptions of the actual apparatus and principles utilized in metrology. In Chapters 5, 6, and 7, the specific details of a number of devices are described, including pressure transducers based on electrical resistance, piezo-electric resonance, time of transit, relative dielectric permittivity, optical effects, and elastic deformation principles. In particular, those gauges based on electrical resistance are thoroughly covered as to materials, behavior, and range of application. Methods of dynamic pressure measurement are also thoroughly discussed.

Chapters 8 and 9 are presented in a more practical vein in that they deal with high-pressure generation and containment and with the description of a number of industrial applications of high pressure from both a physical and chemical standpoint. Each of these chapters contains a very thorough and exhaustive list of references for further investigation by the reader.

Although the material presented is often of a highly technical nature and often based on complex mathematical development, the accompanying text is so clearly written that both the novice and the expert in the field cannot help but come away from a reading of the text with a greatly enhanced understanding of the fundamentals of high-pressure measurement.

Thomas R. Rehm, professor of chemical engineering at the University of Arizona, Tucson, Arizona, taught chemical engineering from 1960 to 1966 at the University of Denver and at the University of Arizona since 1966. His teaching

areas are in the plant and equipment design, mass transfer, and material and energy balance fields. He has also spent 20 years in the supervision of research and teaching laboratory operations along with equipment specification, purchase, and maintenance. His research fields are in computer-aided design and optimization, mass transfer, and process control.

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Nuclear Engineering Data Bases, Standards and Numerical Analysis

Author	Jacek Jedruch
Publisher	Van Nostrand Reinhold Company, Inc., New York (1985)
Pages	295
Price	$58.50
Reviewer	Walter Loewenstein

This book is an attempt to fill a very practical need. Diverse sources of information, data, computing methods, regulations, and standards are described along with examples that make much of the material come alive. The references are comprehensive and provide a substantive basis for further and in-depth follow-up. The attempt is successful in providing a book that tells the reader where to go and what to do and provides practical insights on how to do it without exhaustively dwelling on why things are done. Emphasis on the latter in most text and reference books tends to detract from the practical need that this volume fills.

The chapter on experiments in nuclear reactor engineering is somewhat disappointing. It is very brief and, as such, portions seem dated. The major disappointment is a lack of reference to the large amount of experimental data being extracted from operating nuclear power plants. These results are very instrumental in sharpening methods and data for design and safety analyses. The extraordinary and convoluted scaling analyses needed to prudently use the data cited (e.g., LOFT and Semiscale) to the operating nuclear steam supply system are barely referred to.

With Chap. 2, the author provides a guide on who does what and identifies current organizations that may be contacted for information. The growing impact of legal, business, and security aspects of codes and data is also described here. This chapter is very useful and a promise for the remainder of the book.

The chapter on data centers describes several. It also provides insight into coolant properties (e.g., light water) used for computation beyond identification of the source. For example, Table 12 describes the specific computational formalism that is extremely valuable for a novice in large-scale computation.

The chapter on property and performance data bases is very qualitative but useful for reference and introduction.