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A review of: “Gas Separation Technology”

Phillip C. Wankat

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BOOK REVIEW

GAS SEPARATION TECHNOLOGY

E.F. Vansant and R. Dewolfs, Eds.

Elsevier, Amsterdam, 1990; (Process Technology Proceedings, 8),
hard bound, 700 pages, \$233.00

Proceedings of the International Symposium on Gas Separation Technology,
Antwerp, Belgium, Sept. 10-15, 1989.

Like all proceedings the quality of the papers is not uniform although the papers were refereed. Unfortunately, the editors have not forced uniformity in the type size or style, in the nomenclature, in the referencing or citations, or in the layout of the papers. In addition, a few of the papers did not reproduce well and the figures are not legible. Many papers have notation sections, but there are still a few papers which have ignored this vital section. The book has an author index, but unfortunately lacks a subject index. Even a brief subject index would make this book a much more useful collection of papers. The inescapable conclusion is that the editors and the publisher needed to pay more attention to production details.

But, do the contents of the papers justify the book? In many cases the answer is yes. For instance, the lead-off paper by Ruthven nicely explains diffusion controlled gas separations by adsorption and compares adsorption to membrane separations. This paper leaves the reader with food for thought and future possibilities. Balieu's historical review of gas masks is extremely useful since the current books on adsorption almost ignore this topic. Baron has a brief but interesting review of pressure swing adsorption. Pilarczyk and Schroter present some process details for pressure and vacuum swing adsorption using carbon molecular sieves. This information is useful to researchers who do not have access to company archives. Funk and Li present a well-illustrated review of membranes and processes for membrane gas separation. It is particularly nice to have the photographs which illustrate this and many of the other membrane articles such as the article by Kazama, Kaneta and Sakashita. The paper by Jansen et. al. on vapor permeation is noteworthy since this separation method has not been as widely studied as other methods. Hybrid processes are explored by Thorogood and by Doshi, Mitariten and Werner. These processes are of interest to process developers since the number of possible process configurations increases enormously when methods are combined. Many other interesting adsorption and membrane separation papers from this book could be cited. There are also papers on cryogenic methods and on the use of chemical means such as absorption with chemical reaction.

Given the proliferation of specialized meetings, journals and books, it is inevitable that some of the material in this proceedings has appeared elsewhere albeit sometimes in a modest disguise. Despite that and the rather stiff price, this is

a volume that researchers and practitioners interested in gas separation by adsorption or membranes will want to peruse.

Phillip C. Wankat