

Book review

“Sterile Filtration; A Practical Approach”

M.W. Jornitz, T.H. Meltzer (Editors), Marcel Dekker, New York, Basel; 2001, 623 pages, US\$ 195; ISBN 0-8247-0282-4

The subject of sterile filtration has been bedeviled over the years by over-enthusiastic salesmen who would make a performance claim, only to find it demolished by some skeptical scientist somewhere. First, we had 0.8 μm filters that would remove all bacteria from a solution, then 0.45 μm . Now it is 0.2 and, maybe, filters with 0.1 μm diameter pores that will perform this magic for us. The salesmen have become better educated and the scientists have grown more wary and more weary.

So, where is the battle in this new millennium? To judge by this present book, the science is getting better. Written by a scientist working with Sartorius AG and a well known and respected venerable industrial scientist and consultant, it is not too difficult to realize that the subject has made enormous strides in both presentation and interpretation over the past 50 years or so.

Both editors/authors have worked extensively together in the recent past so it may be necessary to wonder out loud if this present book is much of an advance over the others. Probably, it is in the sense that the sub-title “A Practical Approach” is evidently where the emphasis lies. Divided into nine chapters, we are taken through the underlying philosophy of membrane filtration, filter porosity and the influence of polymeric matrix on such interesting topics as particle burden in pharmaceuticals. Incidentally, this section is somewhat out of date, but one has to admit, it is a highly specialized area, which is clearly not one of the author's. We are then taken through membrane fouling and cleaning, the effects of pressure on flow rates and sizing, the mechanisms by which particles are removed from membrane surfaces in liquids or gases, integrity testing and the care of cartridges and cartridge holders. Perhaps the most impor-

tant chapter is the last, devoted to sterile filtration and its validation. This is especially true now since regulatory agencies no longer take a very sympathetic approach to sales ‘hype’ designed to sell filters and not necessarily protect the manufacturer or, should one mention this, the patient.

So, how useful is this book? One must admit that between the covers, there is a great deal of valuable and practical information. For a neophyte in the industry, this may be required reading; the more mature reader may find that they already have much of this information in other sources. There are some strange features of this book. For example, Figs. 3-2 and 9-2 are identical and the authors admit to duplicating information, “in order to establish a logical flow”. Fine. However, then all the references are lumped together at the end in alphabetical order. This arrangement removes the need for an author index which has my vote. There is also a useful Appendix which has a list of abbreviations, some of the chemical engineering terms, such as Reynolds Number, and some conversion factors and useful reagent properties. This is a practical book, designed to be used on the plant floor. The book comes up to the usual high standards of the publisher, although some of the figures are a bit patchy and, surprisingly, some of the computer-generated images are anything but clear.

If you don't have something like this book already, it can be recommended.

Michael J. Groves*
*University of Illinois at Chicago,
Chicago, IL,
USA*

* 980 C Ivy lane, Deerfield, IL 60015, USA. Fax: +1-847-3749440.
E-mail address: groves@uic.edu (M.J. Groves)