

SUGGESTIONS FOR FURTHER READING

A number of general references address problems in reactor design, scale-up, control, and sterilization. The following are some examples.

- AIBA, S., A. E. HUMPHREY, AND N. F. MILLIS, *Biochemical Engineering*, 2d ed., Academic Press, New York, 1973. (Although this book is somewhat dated, it provides a good practical overview of all the topics in this chapter.)
- BAILEY, J. E., AND D. F. OLLIS, *Biochemical Engineering Fundamentals*, 2d ed., McGraw-Hill Book Co., New York, 1986.
- BLANCH, H. W., AND D. S. CLARK, *Biochemical Engineering*. Marcel Dekker, Inc., New York, 1996.
- DORAN, P. M. *Bioprocess Engineering Principles*, Academic Press, San Diego, 1995.
- PRAVE, P., AND OTHERS, *Fundamentals of Biotechnology*, VCH Verlagsgesellschaft, Weinheim, Germany, 1987.
- STEPHANOPOULOS, G., ed., *Bioprocessing* (Vol. 3 of *Biotechnology*, 2d ed., H.-J. Rehm and G. Reed, ed.), VCH, New York, 1993.

More specific articles and books are the following:

- BULL, D. N., R. W. THOMA, AND T. E. STINNETT, Bioreactors for Submerged Culture, *Adv. Biotechnol. Processes* 1:1–30, 1983.
- BYLUND, F., F. GUILLARD, S.-O ENFORS, C. TRÄGARDH, AND G. LARSSON, Scale Down of Recombinant Protein Production: A Comparative Study of Scaling Performance, *Bioprocess Eng.* 20:327–389, 1999.
- CHISTI, Y., AND M. MOO-YOUNG, Improve the Performance of Airlift Reactors, *Chem. Eng. Prog.* 89(6):38–45, June, 1993.
- CRUERGER, W., “Sterile Techniques in Biotechnology,” in R. K. Finn and P. Prave, eds., *Biotechnology Focus 2*, Hanser Publishers, New York, pp. 391–422, 1990.
- HEINE, H., J. HAHN, AND A. MANGOLD, “Computers in the Production of Antibiotics,” in R. K. Finn and P. Prave, eds., *Biotechnology Focus I*, Hanser Publishers, New York, pp. 193–211, 1988.
- JOST, J., “Selected Bioengineering Problems in Stirred-Tank Fermenters,” in S. L. Sandler and B. A. Finlayson, eds., *Chemical Engineering Education in a Changing Environment*, Engineering Foundation, New York, 1988.
- JUNKER, B. H., M. STANIK, C. BARNA, P. SALMON, E. PAUL, AND B. C. BUCKLAND, Influence of Impeller Type on Power Input in Fermentation Vessels, *Bioprocess Eng.* 18: 401–412, 1998.
- KARGI, F., AND M. MOO-YOUNG, “Transport Phenomena in Bioprocesses,” in *Comprehensive Biotechnology*, M. Moo-Young, ed., Pergamon Press, Oxford, UK, Vol. 2, pp. 5–55, 1985.
- KOSSEN, N. W. F., “Problems in the Design of Large Scale Bioreactors,” T. K. Ghose, ed., *Biotechnology and Bioprocess Engineering*, United India Press, New Delhi, pp. 365–385, 1985.
- LUONG, J. H. T., A. MULCHANDANI, AND G. G. GUILBAULT, Developments and Applications of Biosensors, *Trends Biotechnol.* 6:310–316, 1988.
- MFARLANE, C. M., AND A. W. NIENOW, Studies of High Solidity Ratio Hydrofoil Impellers for Aerated Bioreactors. I. Review, *Biotechnol. Prog.* 11:601–607, 1995.
- OLDSHUE, J., *Fluid Mixing Technology*, McGraw-Hill, New York, 1983.