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BOOK REVIEW

Heat exchange design handbook

This 2080 page handbook consists of five volumes, each volume being devoted to a different aspect of heat exchanger design. Volumes one and two are concerned with theoretical aspects of thermal and hydraulic design; experimental data are presented, together with recommended correlations. Volume three indicates how the material should be used in solving heat exchanger design problems; most types of equipment are discussed but most space is given to shell and tube exchangers. Volume four is devoted to mechanical aspects of design and volume five gives simple rules for estimating physical properties of fluids for which data is sparse, together with tables of properties of the more widely used substances.

More than sixty authors have made contributions to the handbook, and a different editor has been responsible for each volume. This has led to some repetition, and a wide variety of styles.

The stated aims were to collect heat transfer information to create a comprehensive data base which could be used for all heat exchanger designs. The book goes a long way towards achieving these aims, and will be a worthwhile addition to the library of any firm engaged in practical heat transfer design. It is not possible, however, to pick up the book and solve problems quickly. Although recommended

correlations are given in some chapters, it would be useful to give them for all subjects, and to highlight the recommended correlations at the end of each chapter. Some design examples are given, but it is considered that one comprehensive example, giving a design procedure, together with reasons for choice of exchanger type, and materials used, would place the book more firmly in the design handbook category.

Some of the nomenclature will be strange to the old established designer, but, providing it is to be a universal standard, the designer will become familiar with it. It is not a good idea, however, to print the same list at the beginning of each volume, and this is particularly the case with respect to the volume on mechanical design. It would be more convenient if symbols were placed in alphabetical order, and the list of basic quantities should surely include temperature and pressure.

Since new information is continually being produced, an updating procedure has been established; the handbook has therefore been produced in a loose-leaf, ring binder format to facilitate this useful service.

N. Marshall
NEI Nuclear Systems Ltd, UK

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