# **Steam Generators and Waste Heat Boilers**

For Process and Plant Engineers

#### Author/Affiliation

V. Ganapathy, Boiler Consultant, Chennai, India

The text shows how design and performance calculations of complete steam generators and waste heat boilers of fire tube and water tube type may be done using basic heat transfer principles. It discusses recent developments in boiler technology, explores novel design ideas for improving efficiency, and lowering operating costs. In addition, it presents examples of problems with steam generators and HRSGs that are faced by plant engineers, along with solutions. Appendices provide heat transfer correlations in all three systems of units.



- Includes tools that provide plant engineers with the wherewithal to evaluate boiler designs or see impact of boiler modifications on its thermal performance without help from boiler suppliers
- Discusses recent developments in boiler technology, novel design ideas to improve boiler efficiency, and lowering operating costs
- Uses SI units used throughout the book, and where appropriate, British units are shown in parentheses
- Works out process calculations in a detailed fashion so that computer code may be easily developed, and thermal-performance-related boiler problems can be identified and solved by plant engineers

#### **Selected Contents**

Combustion Calculations. Steam Generator Furnace Design. Steam Generators. Waste Heat Boilers. HRSG Simulation. Miscellaneous Boiler Calculations. References. Appendices. Conversion Factors. Glossary. Nomenclature. Index.

### **Selected Review**

"This book is an ideal reference for anyone involved in the heat transfer field. It is practical for use as a reference by plant personnel who need an answer "right now" but it is detailed enough to allow consulting engineers, process engineers, manufacturing engineers, designers and even students to get a comprehensive understanding of how the equipment works and how to make sure what they have designed is really in the best interest of the plant."—Bob Stemen, Applied Heat Recovery

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