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Nota di contenuto	Cover; Process Plant Machinery; Copyright Page; Contents; Preface to the Second Edition; Preface to the First Edition; Acknowledgments; Introduction; Chapter 1. Electric Motors and Controls; Motor Design; Motor Controls; Wiring System Design; Cycling of Motors; Standard Induction Motors; Large Heavy-Duty Alternating Current Motors; Special Industry and Application Designs; Major Components of Induction Motors; A Motor as Part of a System; Adjustable Frequency Motor Considerations; Chapter 2. Gear Speed Transmission Equipment; Types of Gears; Chapter 3. Gas Turbines; Design Selecting a Gas TurbineAppendix 3A: Gas Turbine Cycles; Appendix 3B: Life Cycle Usage; Appendix 3C: Specific Maintenance Inspections; Chapter 4. Gas Engines; Two-Stroke Gas Engines; Chapter 5. Steam Turbines; Mechanical Drive Steam Turbines; Impulse Steam Turbines; Reaction Steam Turbines; Appendix 5A: Steam Turbines: Some Design Theory Factors; Appendix 5B: Selecting and Sizing a Steam Turbine; Chapter 6. Turboexpanders; Refrigeration; Power Recovery; Power Generation; Expander Design and Construction; Typical Application; Operation; Maintenance; Chapter 7. Centrifugal Pumps Conventional Process PumpsCanned Motor and Sealless Magnet-Drive Centrifugal Pumps; High-Speed Centrifugal Pumps; Appendix 7A:

Centrifugal Pump Fundamentals; Appendix 7B: Change of Performance; Appendix 7C: Reed Frequency Considerations for Vertical Pump Installations; Appendix 7D: Vertical Mixed Flow Variable Pitch Vane Pump; Appendix 7E: Rotating Case Design; Chapter 8. Positive Displacement Pumps; Reciprocating Positive Displacement Pumps; Rotating Positive Displacement Pumps; Appendix 8A: Principles of Operation of Reciprocating Pumps; Chapter 9. Vacuum Pumps Single-Stage Liquid Ring Pumps Liquid Jet Vacuum Pumps; Air Ejector and/or Booster Liquid Ring Pumps; Multistage Combination Units; Rotary Oil-Sealed Vacuum Pumps; Chapter 10. Cooling Water Supply Systems; Characterization by Air Flow; Characterization by Construction; Characterization by Shape; Characterization by Method of Heat Transfer; Mechanical Component Review; Chapter 11. Centrifugal Compressors; Overview of Gas Compression Machinery; Centrifugal Compressors; Selection of a Centrifugal Compressor; Appendix 11A: Compressor Design; Appendix 11B: High-Speed Centrifugal Compressors Appendix 11C: Barrel Compressors Appendix 11D: Isotherm Turbocompressors; Appendix 11E: Gas Seal Design; Chapter 12. Axial Flow Compressors; Field of Application; Basic Axial Compressor Performance Capabilities; Fundamentals of Axial Compressor Design; Operational Limitations; Standard Maintenance Considerations; Selecting an Axial Compressor; Chapter 13. Propeller, Axial, and Centrifugal Fans; Propeller Fans; Axial Fans; Centrifugal Fans; Fan Fundamentals; Fan Performance and System Effects; Capacity Control of Fans; Chapter 14. Reciprocating Compressors; Ideal Compressor Cycle Classification of Reciprocating Compressors

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## Sommario/riassunto

Process Plant Machinery provides the mechanical, chemical or plant engineer with the information needed to choose equipment best suited for a particular process, to determine optimum efficiency, and to conduct basic troubleshooting and maintenance procedures. Process Plant Machinery is a unique single-source reference for engineers, managers and technical personnel who need to acquire an understanding of the machinery used in modern process plants: prime movers and power transmission machines; pumping equipment; gas compression machinery; and mixing, conveying, and separation equipment.

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