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Nota di contenuto	Front Cover; Reciprocating Compressors: Operation & Maintenance; Copyright Page; Contents; Acknowledgments; Preface; Chapter 1. Reciprocating Compressors and Their Applications; Introduction; What Is a Compressor?; How Compressors Work; Methods of Compression; Types of Compressors; Compressor Definitions; Pressure; Pressure Definitions Associated with Compressors; Theory of Reciprocating Compressors; Characteristics of Reciprocating Compressors; Compressor Type Selection; Reciprocating Compressor Cylinder Arrangements; Chapter 2. Design and Materials for Reciprocating Compressor Components Materials of Construction Non-Lubricated or Oil-Free Cylinder Construction; Piston Rod Column or Frame Loading; Disturbing or Shaking Forces; Foundations for Reciprocating Compressors; Compressor Piping and Pulsation; Design Overview of Labyrinth Piston Compressors; Chapter 3. Operation and Maintenance of Reciprocating Compressors; Lubrication of Reciprocating Compressors; Operational Problems and Maintenance of Compressor Valves; Compressor Piston Rod Packing; Compressor Control Systems; Compressor Cylinder Cooling; Non-Lubricated Compressor Maintenance; Labyrinth- Piston

## Compressors

Chapter 4. Overhaul and Repair of Reciprocating Compressors Rule of Thumb for General Running Clearances; Compressor Alignment; Web Deflection Measurements; Compressor Cylinder Alignment; Foundation Problems and Repairs; Compressor Bearing Maintenance and Replacement; Cylinder Repair and Maintenance; Compressor Piston Maintenance; Rebuilding Compressor Pistons; Installing Pistons on Piston Rods; Setting Piston End Clearances; Inspection and Reconditioning Piston Rods; Manufacture of Compressor Piston Rods; Other Compressor Component Repairs; Compressor Part Replication Chapter 5. Troubleshooting Compressor Problems Introduction; Compressor Problems; Typical Compressor Problems; Troubleshooting Lubrication Systems; Significance of Intercooler Pressures; Interstage Pressures; Belt Drives; Motor Controls; Diagnostic Tests; Evaluating Reciprocating Compressor Condition Using Ultrasound and Vibration Patterns; Compressor Service Technician Reports; Basic Air Compressor System Evaluation; Chapter 6. Preventive Maintenance for Reciprocating Compressors; Introduction; Compressor Maintenance; Emergency Repairs Should Be Minimized Effectiveness of Preventive Maintenance Compressor Preventive Maintenance Program; Spare Parts; Vendor Selection; Personnel Training; Maintenance Contractors; Predictive Maintenance; Integrated Condition Monitoring Systems; Chapter 7. Safety in Operation and Maintenance; Basic Safety Rules; Lock-Out/Tag-Out Program; Safe Maintenance Procedures Restated; Valve Installation; Fires and Explosions; Summary; Air Piping; Bibliography; Appendix: Reciprocating Compressor Calculations; Index

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### Sommario/riassunto

For anyone responsible for purchasing, servicing, or operating reciprocating compressors, this book discusses the theory of operation and explains how to install, troubleshoot, overhaul, and repair all types of compressors. This broad comprehensive text offers practical details on how to purchase, service, operate, and maintain compressors used in any of the process industries such as pulp and paper, mining, food processing, pharmaceuticals.

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