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Nota di contenuto	A PRACTICAL GUIDE TO COMPRESSOR TECHNOLOGY; ABOUT THE AUTHOR; CONTENTS; PREFACE; ACKNOWLEDGMENTS; PART I POSITIVE DISPLACEMENT COMPRESSOR TECHNOLOGY; 1 Theory; 1.1 Symbols; 1.2 How a Compressor Works; 1.3 First Law of Thermodynamics; 1.4 Second Law of Thermodynamics; 1.5 Ideal or Perfect Gas Laws; 1.5.1 Boyle's Law; 1.5.2 Charles' Law; 1.5.3 Amonton's Law; 1.5.4 Dalton's Law; 1.5.5 Amagat's Law; 1.5.6 Avogadro's Law; 1.5.7 Perfect Gas Formula; 1.6 Vapor Pressure; 1.7 Gas and Vapor; 1.8 Partial Pressures; 1.9 Critical Conditions; 1.10 Compressibility; 1.11 Generalized Compressibility Charts 1.12 Gas Mixtures1.13 The Mole; 1.14 Specific Volume and Density; 1.15 Volume Percent of Constituents; 1.16 Molecular Weight of a Mixture; 1.17 Specific Gravity and Partial Pressure; 1.18 Ratio of Specific Heats; 1.19 Pseudo-critical Conditions and Compressibility; 1.20 Weight-Basis Items; 1.21 Compression Cycles; 1.22 Power Requirement; 1.23 Compressibility Correction; 1.24 Multiple Staging; 1.25 Volume References; 1.26 Cylinder Clearance and Volumetric

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9 Rotary Screw Compressors and Filter Separators

Sommario/riassunto

A Complete overview of theory, selection, design, operation, and maintenance This text offers a thorough overview of the operating characteristics, efficiencies, design features, troubleshooting, and maintenance of dynamic and positive displacement process gas compressors. The author examines a wide spectrum of compressors used in heavy process industries, with an emphasis on improving reliability and avoiding failure. Readers learn both the theory underlying compressors as well as the myriad day-to-day practical issues and challenges that chemical engineers and plant operation person