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Nota di contenuto	Front Cover; Natural Gas Measurement Handbook; Copyright Page; Dedication; Table of Contents; List of Tables; List of Figures; Preface; Symbols; Unit Conversions; CHAPTER ONE. Introduction; 1.1 Transportation System; 1.2 Measurement; 1.3 Fluid Classification, Commercial; 1.4 Material Quality; 1.5 Risk Management; CHAPTER

1.

	Uncertainty; 4.11 Total Cost of Measurement; CHAPTER FIVE. Orifice Flowmeter; 5.1 General Principles; 5.2 Mass Flow Equation; 5.3 Artifact Calibration; 5.4 Uncertainty Roadmap 5.5 Sources of Error5.6 Risk Management; CHAPTER SIX. Ultrasonic Flowmeter; 6.1 General Principles; 6.2 Mass Flow Equation; 6.3 Central Facility Calibration; 6.4 In Situ Calibration; 6.5 Uncertainty Roadmap; 6.6 Sources of Error; 6.7 Risk Management; CHAPTER SEVEN. Turbine Flowmeter; 7.1 General Principles; 7.2 Mass Flow Equation; 7.3 Central Facility Calibration; 7.4 In Situ Calibration; 7.5 Uncertainty Roadmap; 7.6 Sources of Error; 7.7 Risk Management; CHAPTER EIGHT. Rotary Displacement Flowmeter; 8.1 General Principles; 8.2 Mass Flow Equation; 8.3 Central Facility Calibration 8.4 In Situ Calibration8.5 Uncertainty Roadmap; 8.6 Sources of Error; 8.7 Risk Management; CHAPTER NINE. Calculations; 9.1 Base Conditions; 9.2 Physical Properties; 9.3 Natural Gas Density; 9.4 GPA 2172 versus A.G.A.8; 9.5 Mass Flow Rate in Pipes; 9.6 Mass Flow Rate for Orifice Flowmeter; 9.7 Mass Flow Rate or Ultrasonic Flowmeter; 9.8 Mass Flow Rate for Turbine Flowmeter; 9.9 Mass Flow Rate for Rotary Displacement Flowmeter; 9.10 Volumetric Flow Rate at Base Conditions; 9.11 Energy Flow Rate at Base Conditions; 9.12 Quantities; CHAPTER TEN. Secondary and Tertiary Devices; 10.1 General 10.2 Differential Pressure (dP)10.3 Static Pressure; 10.4 Temperature; 10.5 Multivariable Transmitter; 10.6 Online Densitometer; 10.7 Moisture Analyzer; 10.8 Online Gas Chromatograph; 10.9 Other Analyzers; 10.10 Flow Computers; 10.11 Gas Sampling Systems; CHAPTER ELEVEN. Electronic Gas Measurement; 11.1 Description of an Electronic Gas Measurement System; 11.2 System Accuracy; 11.3 Definitions; 11.4 Sampling Flow Variables; 11.5 Low Flow Detection; 11.6 Averaging Techniques; 11.7 Compressibility, Density, and Heating Values; 11.8 Hourly and Daily Quantity Calculations; 11.9 Data Availability 11.10 Audit and Reporting Requirements
Sommario/riassunto	This information-packed volume covers all aspects of natural gas measurement.