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Nota di contenuto	Units of Mass and Standards of Mass -- Two-Pan Equal-Arm Balances -- Single-Pan Mechanical Balances -- Electronic Balances and Effect of Gravity -- Strain Gauge Load Cells -- Various Types of Transducers for Weighing -- Testing of Electronic Balances -- Air Density and Buoyancy Correction -- Weight Standards of Mass -- Group Weighing Method -- Nanotechnology for Detection of Small Mass Difference -- Redefining the Unit of Mass.
Sommario/riassunto	This second edition of Mass Metrology: The Newly Defined Kilogram has been thoroughly revised to reflect the recent redefinition of the kilogram in terms of Planck’s constant. The necessity of defining the kilogram in terms of physical constants was already underscored in the first edition. However, the kilogram can also be defined in terms of Avogadro’s number, using a collection of ions of heavy elements, by the levitation method, or using voltage and watt balances. The book also addresses the concepts of gravitational, inertial and conventional mass, and describes in detail the variation of acceleration due to

gravity. Further topics covered in this second edition include: the effect of gravity variations on the reading of electronic balances derived with respect to latitude, altitude and earth topography; the classification of weights by the OIML; and maximum permissible error in different categories of weights prescribed by national and international organizations. The book also discusses group weighing techniques and the use of nanotechnology for the detection of mass differences as small as 10-24 g. Last but not least, readers will find details on the XRCD method for defining the kilogram in terms of Planck’s constant.