

What are the models of spectrometer analyzers



Summary of Content

Spectrometer analyzers come in various models, including UV-Vis, Raman, infrared (FT-IR, NIR, MIR), atomic absorption (AAS), X-ray fluorescence (XRF), and mass spectrometers with quadrupole, ion trap, and time-of-flight analyzers.

Common Spectrometer Analyzer Models

1. UV-Vis Spectrometer: Measures light absorption in the ultraviolet and visible ranges. Widely used in chemistry, biology, pharmaceuticals, and food testing for concentration analysis and material identification .
2. Raman Spectrometer: Uses inelastic scattering of light to provide molecular fingerprints. Portable and lab-grade models are available for field analysis, quality control, and chemical identification .
3. Infrared Spectrometers (FT-IR, NIR, MIR): Analyze molecular structures by measuring absorption in the infrared region. FT-IR is common in pharmaceuticals and chemical research, while NIR is used for rapid, non-destructive testing .
4. Atomic Absorption Spectrometer (AAS): Detects heavy metals and trace elements, such as lead, mercury, and cadmium. Models vary in sensitivity and flame or graphite furnace configurations .
5. X-ray Fluorescence Spectrometer (XRF): Uses X-rays to stimulate samples and measure characteristic fluorescence. Models include handheld, benchtop, and high-resolution lab instruments for elemental analysis .
6. Mass Spectrometer Analyzers: Include multiple models based on the mass analyzer type:
 - Quadrupole: Separates ions by mass-to-charge ratio using oscillating electric fields; available in single, triple, or hybrid configurations (e.g., LC-MS/MS) for quantitative and qualitative analysis .

Article Content

Analytical Instruments

SPECTRO is a leading supplier of X-ray fluorescence (XRF), ICP-OES/AES, and Arc/Spark-OES instruments for science and

6 Types of mass spectrometer – Mass Spec Academy

6.1 Overview A variety of different types of mass spectrometers exist. In detail, the type of mass spectrometer is defined by the

Tunable Diode Laser Spectrometers

Tunable diode laser spectrometers (TDLS) allow for real-time gas analysis to increase efficiency, safety, throughput, quality, and

Spectrometers & Spectroscopy Equipment | Edmund Optics

Explore optical spectrometers, systems, and components for spectroscopy, detection, and analysis. Ideal for UV-VIS, NIR, Raman,

Elemental Analysis Solutions & Analytical Instruments | SPECTRO

SPECTRO is a global leading supplier of advanced analytical instruments like ICP, Arc Spark OES, and XRF spectrometers for

XRF Analyzers | XRF Spectrometers | Malvern Panalytical

The spectrometers range from energy-dispersive benchtop XRF systems to wavelength-dispersive high-performance

Mass Spectrometers (by Mass Analyzer) | Labcompare

What Are Some Different Types of Mass Analyzers? A quadrupole mass analyzer separates ions using an electric field, by use of

Spectrometers – scanning, spectrographs,

This article explains the fundamental principles and different types, covering spectrometers based on

Products & Solutions

Our product range of high-performance scientific instruments and analytical solutions support the global research community, driving

Optical Spectrum Analyzers

Spectrum analyzers can be based on very different operation principles, as explained in the following

Spectrometers

Compare Spectrometers from top manufacturers by specifications. Click to learn more.

32 Spectrum Analyzer Manufacturers in 2026

32 Spectrum Analyzer Manufacturers in 2026 This section provides an overview for spectrum analyzers as well as their applications

Spectrometers - Visual Encyclopedia of Chemical

Spectrometers use light wavelengths to investigate the chemical composition of a sample. Atomic

The Best Spectrophotometers: A Buyer's Review of

This guide evaluates five industry-leading models, including recent market entries that offer

Mass Analyzers (Mass Spectrometry)

Mass spectrometry is an analytic method that employs ionization and mass analysis of compounds to determine the mass, formula

Types of Mass Spectrometer

Types of Mass Spectrometer Mass spectrometry (MS) is a powerful analytical tool with high sensitivity and high mass accuracy.

Spectrometer

Spectrometers are used in astronomy to analyze the chemical composition of stars and planets, and spectrometers gather data on

The Best Infrared and FTIR Spectroscopy Systems of

Discover the top-rated infrared and FTIR spectroscopy systems of 2026. Compare the best

Top Mass Spectrometry Instruments Compared: Features, Strengths,

To address diverse analytical challenges, various types of mass spectrometers have been developed. Below are detailed

Specification Compare of Spectrum Analyzers

Specification Compare of Spectrum Analyzers ... See more spectrum / signal analyzers »

Different Types of Spectrum Analyzers

Different Types of Analyzers There are two broad categories of spectrum analyzers: swept-tuned analyzers and real-time analyzers.

Optical Spectrum Analyzers

Optical spectrum analyzers use different principles like diffraction gratings or interferometry to measure optical spectra.

Niton Portable Analyzer Models

Review the many models of Thermo Scientific Niton portable XRF and LIBS analyzers for elemental identification and metal verification.

SPECTROTEST

The SPECTROTEST is a mobile arc spark spectrometer ideal for many applications in the metal

The Best Mass Spectrometers of 2026: Top Picks for Research,

Upgrade laboratory analysis with the best mass spectrometers of 2026. Explore top models for sensitivity, throughput,

Handheld/Portable XRF Analyzers for Precise Elemental Analysis

Handheld XRF Analyzers are designed for elemental and chemical analysis of a wide range of materials and rapid identification of

Contact Us

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