

# SPECTROSCOPY AND ANALYTICAL INSTRUMENTS

# Qualitest

## The Global Benchmark for Spectroscopy & Analytical Technologies and Quality Control Instruments

Experience the Pinnacle of Precision, Quality, Cost-effectiveness in Materials Testing

For more than 25 years, Qualitest has been at the forefront of state-of-the-art materials testing and quality control instruments for various industries. Our advanced testing solutions, comprehensive product portfolio, and global footprint make us the preferred choice for leading organizations such as Apple, NASA, Intel, and Tesla.

All of our quality control equipment, testing instruments, and analytical devices exceed industry standards in every sector in which they're used—and come with the highest precision, proven reliability, and extended warranties.

With Qualitest, you can achieve the precision you need, reliably and cost-effectively.

25+  
Years of Experience

31K+  
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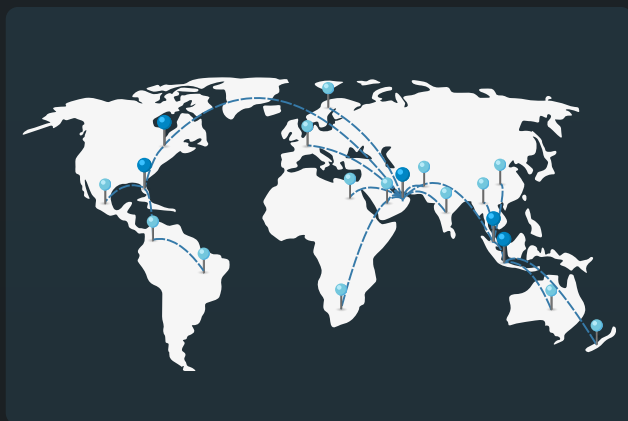
سابك  
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# SPECTROSCOPY & ANALYTICAL INSTRUMENTS

## OVERVIEW



In today's rapidly evolving industrial landscape, the quality and durability of materials are more critical than ever. Spectroscopy and analytical testing are essential across numerous sectors, from pharmaceuticals and petrochemicals to environmental monitoring, food safety, and advanced manufacturing. Ensuring these materials meet stringent performance and safety standards is paramount to maintaining product integrity, safety, and compliance.

Materials are subjected to a wide range of stresses and environmental conditions, necessitating rigorous testing to evaluate properties such as chemical composition, trace elements, and molecular structures. Industry standards like ASTM, ISO, and DIN are widely recognized and adhered to in North America and global markets to ensure that products consistently meet high-quality benchmarks.

For over 25 years, Qualitest has been at the forefront of delivering advanced Spectroscopy and Analytical Instruments to the global market. Our comprehensive range of products includes FTIR Spectrophotometers, Atomic Absorption Spectrophotometers, UV-VIS Spectrometers, ICP-OES (Inductively Coupled Plasma Optical Emission Spectroscopy), Carbon Sulfur Analyzers, HPLC (High Performance Liquid Chromatography), XRF Analyzers, and LIBS Analyzers. These instruments are designed to provide precise, reliable, and repeatable results, ensuring that your materials meet the demanding requirements of modern industry standards.

# Popular Testing Methods and Their Benefits for Analytical instruments

## Spectroscopy:

Spectroscopy techniques like FTIR, UV-VIS, and Atomic Absorption are fundamental for identifying the chemical composition of materials. These methods help labs detect the presence of specific compounds, ensuring that products meet safety, regulatory, and performance standards. From pharmaceuticals to environmental monitoring, spectroscopy offers rapid, accurate, and non-destructive analysis.

## Chromatography:

High-Performance Liquid Chromatography (HPLC) and other chromatography methods are essential for separating and analyzing components in complex mixtures. Laboratories rely on chromatography to ensure purity, quality, and consistency in products such as drugs, food, and chemicals. This method provides precision in detecting even minute quantities of substances.

## Mass Spectrometry (MS):

Mass spectrometry is a key technique used to determine the mass-to-charge ratio of ions, essential for identifying and quantifying chemicals in a sample. Paired with chromatography, Mass Spectrometry provides comprehensive insights into complex mixtures, making it invaluable for advanced material analysis.

## Non-Destructive Testing:

Instruments like XRF analyzers allow for non-invasive, non-destructive testing of materials. This is particularly beneficial in applications where the sample needs to remain intact or in cases where repeated testing is required, such as in quality control for manufacturing and production processes.

## Molecular and Elemental Analysis:

Methods such as Carbon Sulfur Analysis and LIBS (Laser-Induced Breakdown Spectroscopy) allow laboratories to detect elemental content in materials, such as metals and polymers. This type of analysis is vital for ensuring compliance with industry specifications, improving product performance, and reducing material waste.

## Emission Spectroscopy:

Techniques like ICP-OES and XRF are used to measure the concentration of elements in materials, offering precise quantitative analysis. These methods are crucial for industries like mining, metallurgy, and environmental science, where trace elements can have significant effects on material properties and safety.

## FTIR Spectrometer QualiFTIR-5000



The QualiFTIR-5000 FTIR Spectrometer utilizes Fourier-transform infrared spectroscopy (FTIR) to collect high-resolution spectral data across a wide spectral range. This provides a superior alternative to traditional dispersive spectrometers. It is designed for accurate identification and specification of raw materials and products, making it ideal for various industries.

The advanced electronic system offers flexibility and stability, while the powerful software, including FDA CFR 21 compliance, ensures optimal performance for critical applications.

## QT-AAS Atomic Absorption Spectrophotometer



The QT-AAS Series Atomic Absorption Spectrophotometer offers precise and versatile solutions for elemental analysis. Fully PC-controlled, it features a modern and compact design with flexible configuration options. Its advanced optical system ensures stable and reliable performance, while the intelligent gas control module provides added safety. Capable of analyzing over 70 elements, both metallic and non-metallic, this instrument is ideal for petrochemical, metallurgy, mining, and material analysis applications.

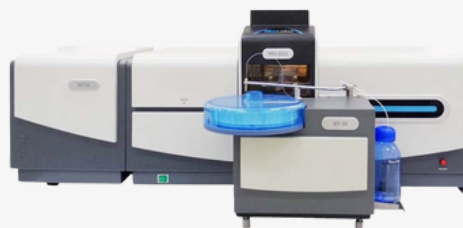
## UV-VIS Spectrophotometer - Product Range



UV-VIS Spectrophotometers are essential tools for measuring the absorbance or transmittance of light through a sample, allowing for both qualitative and quantitative analysis, such as identifying compounds or determining the concentration of substances. Although not the most sensitive method for short path lengths, it's widely used in water analysis, chromatography, and monitoring chemical reactions.

Available models: QC-7100/7200 Series, QT-9100/9200 Series, QC-7000UV, QE-1000 Series, and QX-8200 Series.

## Atomic Absorption Spectrometer - WFX Series

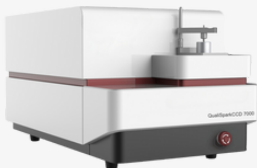


Atomic Absorption Spectroscopy (AAS) - WFX Series is used to accurately analyze metal concentrations in liquid samples. This method is highly effective for detecting metals such as Fe, Cu, Al, Pb, Ca, Zn, Cd, and more. AAS works by sending a beam of ultraviolet light through the sample, where each metal absorbs light at a characteristic wavelength. The light absorption reduces the intensity, which is measured to determine the metal concentration, typically within the low mg/L range. The instrument provides precise measurements, making it ideal for applications where detecting trace amounts of metals is essential.

## Optical Emission Spectrometer QualiSpark Series



QualiSpark Series represents a solid and versatile line of spectrometers designed for a wide range of applications. From traditional OES used for the analysis of unknown compounds and elemental analysis to more specialized applications such as the evaluation of lubricating oils, transmission fluids, fuels, and hydraulic fluids, this series delivers precision and reliability.

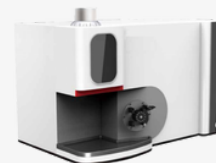


Available models: **OES QualiSpark 1000** and **Full-Spectrum OES QualiSparkCCD 7000**.

## ICP-OES (Inductively Coupled Plasma Optical Emission Spectroscopy)



The ICP-OES is an advanced elemental analysis tool, preferred for a broad range of applications in various industries. It provides precise elemental content analysis of solids, liquids, and gases.

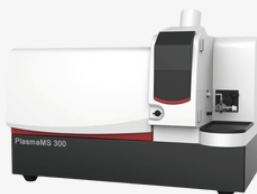


Its flexibility supports multiple sample types, making it ideal for diverse fields. With advantages like a broad linear dynamic range, high matrix tolerance, and fast analysis speed, ICP-OES stands out compared to other techniques like ICP-MS and AAS.

## ICP-MS Mass Spectrometer PlasmaMS300



The ICP-MS Mass Spectrometer PlasmaMS300 offers advanced trace and ultra-trace analysis with high sensitivity, fast processing, and low detection limits. It supports multi-element in fields like metallurgy, environmental protection, and geology. Additionally, The PlasmaMS300 is equipped with cutting-edge ICP technology to address complex analytical needs, such as detecting trace metals, rare elements, and harmful substances in food and environmental samples.



## Carbon Sulfur Analyzers



The Carbon Sulfur Analyzers, QT-CSA-3500 and QT-CSA-3500G, provide precise carbon and sulfur analysis using advanced high-frequency heating and infrared detection. These analyzers handle a range of solid materials, including alloys and ores.



The QT-CSA-3500 ensures efficient combustion for accurate results, while the QT-CSA-3500G adds dual furnace flexibility with high-frequency induction and resistance furnaces, expanding application versatility.

## Oxygen Nitrogen Hydrogen Analyzer ONH-3500



The ONH-3500 Oxygen Nitrogen Hydrogen Analyzer is designed to precisely measure oxygen, nitrogen, and hydrogen levels in ferrous and non-ferrous metals, alloys, rare earth materials, and other inorganic substances. With a sensitivity of 0.01ppm, it ensures accurate analysis. The system's repeatability is 1ppm for oxygen and nitrogen, and 0.2ppm for hydrogen. The typical sample mass is 1g, and the analysis time is about 3 minutes, making it a highly efficient tool for elemental analysis.



## Oxygen Analyzer QO-3500 Series



The QO-3500 Series Oxygen Analyzer is an advanced instrument designed for precise oxygen level measurement in both ferrous and nonferrous metals, rare earth materials, alloys, and various other inorganic substances. This cutting-edge offers high sensitivity at 0.01 ppm and repeatability of 1 ppm or 1%. It supports a 1g sample mass, adjustable based on content, with an analysis time of approximately 3 minutes.



## XRF Analyzer - Portable Handheld QualiX-2000



The XRF Analyzer QualiX-2000 is a versatile, non-destructive testing tool designed for analyzing a wide range of materials, from steel alloys and precious metals to minerals, electronic components, and more. Equipped with pre-loaded material libraries, it enables instant identification and compliance checks (e.g., RoHS, NSF). The model comes in two configurations: **QualiX-2000-A** is specialized for alloy analysis, it offers low detection limits for detecting small amounts of alloying elements, and **QualiX-2000-M** is ideal for mineral analysis.



## Gold & Precious Metal Analyzer



The XRF Spectrometer, QualiX-P1-II, is ideal for precious metal analysis and widely used in electronic and ornament processing. Its two primary applications are alloy determination and chemical analysis, along with soil and mineral analysis. To ensure accurate results, samples must be free of contaminants like dust and oils. Clean specimens are essential, as unclean surfaces may lead to errors in readings. If the sample is too small, multiple pieces can be analyzed simultaneously for precise alloy composition and chemical properties.



## Handled LIBS Analyzer - Pegasus Series



The Pegasus-Series Handheld LIBS Analyzer excels in measuring carbon in steels, advancing from typical LIBS devices that primarily identify metals in alloys. With a compact, lightweight design, it is highly portable and ideal for field use. Its affordability makes it accessible for businesses without precision or reliability, ensuring high-accuracy material analysis at an excellent value. It's a top choice for industries requiring mobility and high-performance analysis, all within budget-friendly parameters.



## LIBS Analyzer - Handheld Vela Series



The Handheld LIBS Analyzer Vela-Series offers swift, precise material analysis for industries like aluminum scrap recycling, identifying elements like copper, aluminum, and stainless steel. Its ease of use allows for real-time analysis without extensive sample preparation, improving sorting efficiency and maximizing inventory value. Lightweight and easy to navigate, it ensures accurate results with minimal training, making it a top choice for professionals in various industries without compromising precision.



## Portable Oil Analyzer - QualiCube100S



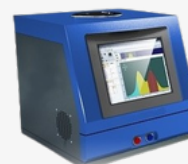
The QualiCube100S Portable Oil Analyzer is designed for the onsite analysis of sulfur in crude oil. It provides accurate elemental tests in oils, covering raw materials, production control, and finished product inspections. This analyzer meets the MARPOL international convention on shipping fuel oil and complies with international standards including ASTM D4294, ASTM D6445, ASTM D2262, ISO8217-2010, ISO 20847, and ISO 8754. This ensures it meets rigorous industry requirements for reliable and precise sulfur analysis in oils.



## Sulfur in Oil Analyzer - QualiX-SU-II



The QualiX-SU-II X-Ray Fluorescence Spectrometer is designed to meet the demands of petrochemical elemental analysis, specifically for sulfur content in oils such as gasoline, diesel, and lubricating oil. This device uses X-ray fluorescence spectrometry, providing rapid, precise measurements with minimal sample preparation and human error. The QualiX-SU-II helps ensure that petrochemical products comply with environmental regulations by detecting sulfur levels to prevent issues like fuel instability and environmental pollution caused by sulfur dioxide emissions.



## HPLC High Performance Liquid Chromatograph – QualiHPLC-9100 Series



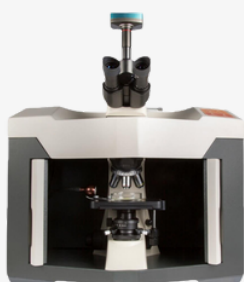
The QualiHPLC-9100 Series High Performance Liquid Chromatography (HPLC) system offers superior reliability and practical usability, ensuring long-term stable operation for a wide range of quality control and routine analysis needs. Its computerized control workstation simplifies experimental processes while supporting various fields, including pharmaceuticals, environmental protection, academia, chemical industry, and the food industry.

## GC Gas Chromatography QualiGC-5000 Series



The Gas Chromatograph QualiGC-5000 offers a reliable solution for gas chromatography, rigorously tested for stability and longevity. With rapid temperature control, it heats and cools at a rate of 120°C per minute, improving productivity by reducing the temperature from 450°C to 50°C in under 4 minutes. This system provides high repeatability for both qualitative and quantitative analysis, with repeatability metrics of  $\leq 0.008\%$  for qualitative and  $\leq 1\%$  for quantitative analysis.

## Raman Microscope



The Raman Microscope enables fast sampling, automated laser power switching, and diverse analysis options. It supports all microscopy modes with online spectrum processing and extended spectrum capabilities, ideal for analyzing various Raman shifts.

Designed for advanced material analysis, it provides reliable, versatile insights with high-quality data, making it an excellent choice for research and industrial applications.

## Portable Raman Spectrometer



The Portable Raman Spectrometer offers exceptional versatility for a wide array of applications across sectors like materials engineering and agriculture. This device boasts rapid sampling, compatibility with various microscopy modes, and customizable sample holders, enabling effective on-site analysis in both lab and field settings. Available models:

- Portable Raman Spectrometer QP-Raman532
- Portable Raman Spectrometer QP-Raman785

# Key QualiBenefits



## Best Price Guarantee:

Qualitest is committed to delivering top-quality, competitive Spectroscopy & Analytical Instruments at unbeatable prices. If you can find a similarly featured product at a lower price, we'll match it.



## ISO 9001 Certified:

Benefit from our commitment to quality through this internationally recognized standard, ensuring exceptional products, outstanding customer service, and regulatory compliance.



## Trusted Partner for Fortune 500 Companies:

As the preferred choice for the world's largest and most recognized organizations, the security and assurance Qualitest offers keep our clients at the leading edge of their respective industries.



## QualiRewards™ Loyalty Program:

We offer a rewarding loyalty program that provides additional discounts, offers, and upgrades to our valued customers.



## #1 Source For Testing Technologies:

Supplying a comprehensive range of testing equipment for every industry, Qualitest serves as a one-stop source, streamlining the ordering, maintenance, and management processes.



## Efficient Global Logistics:

Experience quick delivery of standard products through our extensive network of worldwide distribution centers. Qualitest delivers the tools you need quickly and reliably.



## Exceeding Global Standards:

Qualitest products are crafted to not only meet but exceed the latest North American and global standards requirements, ensuring uncompromised quality.



## Centralized Support & Service:

With a central service hub and a global QualiService authorized network, we deliver efficient customer service and support.



USA | CANADA | UAE | GCC | INDIA | EU | ASIA | AFRICA | LATIN AMERICA

## Connect with us

Contact our **QualiTeam** today to find out how we can help your organization **select the most suitable testing solution** for your application, requirements, and budget.



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