SPARK OES

LABINDIA ANALYTICAL
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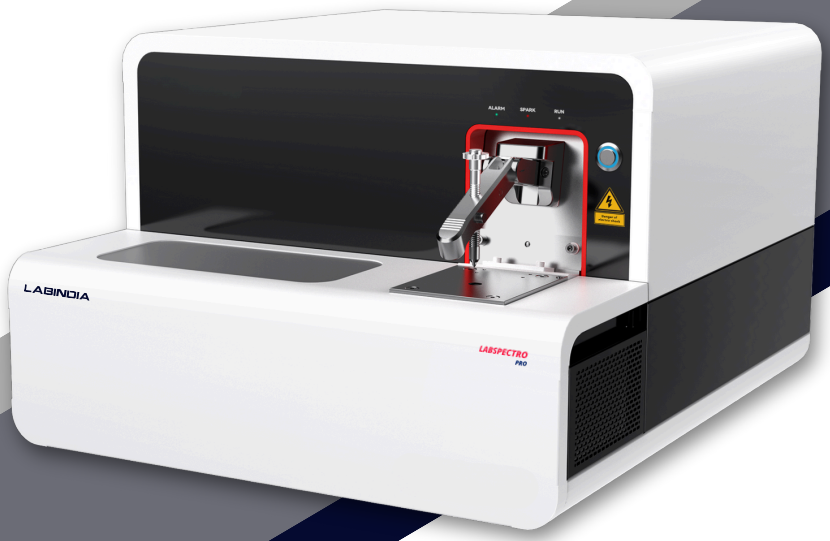
LABSPECTRO PRO



LABSPECTRO PRO- Optical Emission Spectrometer (OES)

The LABSPECTRO PRO is a Full-Spectrum Metals Analyzer, designed for high-precision elemental analysis, including Nitrogen detection. Built with advanced atomic emission spectrometry (AES) technology, it provides accurate and reliable results across a wide range of metals and alloys. This analyzer is ideal for applications such as quality control, material certification, and alloy verification in aerospace, automotive, casting, and steel industries.

It features a research-grade CMOS sensor as its detector and adopts the classic dual-chamber Paschen-Runge optical system design. With exceptional performance, it meets the demanding analysis requirements of high-end users.

KEY FEATURES & ADVANTAGES

Advantages of Dual-Optics:

- The dual-optics design significantly enhances the intensity and measurement accuracy of ultraviolet (UV) spectral lines without compromising visible spectrum analysis. It combines high resolution with a wide spectral range, ensuring superior performance across multiple elements.
- An independently designed UV optical system enables direct optical collection behind the spark stand, minimizing optical intensity loss and improving UV line transmission efficiency. Optimized for elements like C, P, S, and N, it features high-density grating for enhanced resolution.
- The compact, high-purity UV optical chamber (only 0.17L) is designed for efficiency, eliminating dead zones. With innovative argon purging technology, it rapidly removes air, ensuring higher argon purity and improved UV detection capabilities for precise elemental analysis.

Expanded Spectral Coverage & Nitrogen Analysis

- Wavelength Range: 140-680 nm, covering a broader spectrum for comprehensive metal analysis.
- Enhanced UV Sensitivity: Ensures accurate detection of low-wavelength elements like Nitrogen (N), Phosphorus (P), and Sulfur (S).
- Full-Spectrum Detection: Captures multiple elements simultaneously with high precision.

Next-Generation Digital Pulse Source

- Customizable Discharge Modes: Supports spark, arc, and hybrid discharges for various metal analysis applications.
- High Frequency & Stability: Operates up to 1000 Hz, ensuring low noise and enhanced signal clarity.
- Optimized for Nitrogen Analysis: Delivers precise excitation energy to improve N-based alloy detection.

TECHNICAL INNOVATIONS

Patented Argon Flow Optimization

- Efficient Argon Use: Reduces gas consumption in standby and analysis modes, lowering operational costs. Burning flow is about 3.5L/min, maintaining and standby flow is about 0.2L/min
- Self-Purification Technology: Maintains long-term argon purity, improving analysis stability and reducing maintenance.
- Stable Optical Chamber: Ensures a constant temperature environment (±0.1°C), eliminating drift and ensuring accuracy.

SPECIFICATIONS

Wavelength Range	140-680 nm
Analysis Time	~40 sec
Optical System	Paschen-Runge, Dual chamber argon purging optical system
Working Temperature	10-30°C
Humidity Range	20-80% (non-condensing)
Argon Purity	>99.999%
Max. Spark Frequency	1000 Hz
Dimensions (L x W x H)	623 x 735 x 443 mm
Weight	Approx. 80 kg
Max. Power Consumption	400W

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