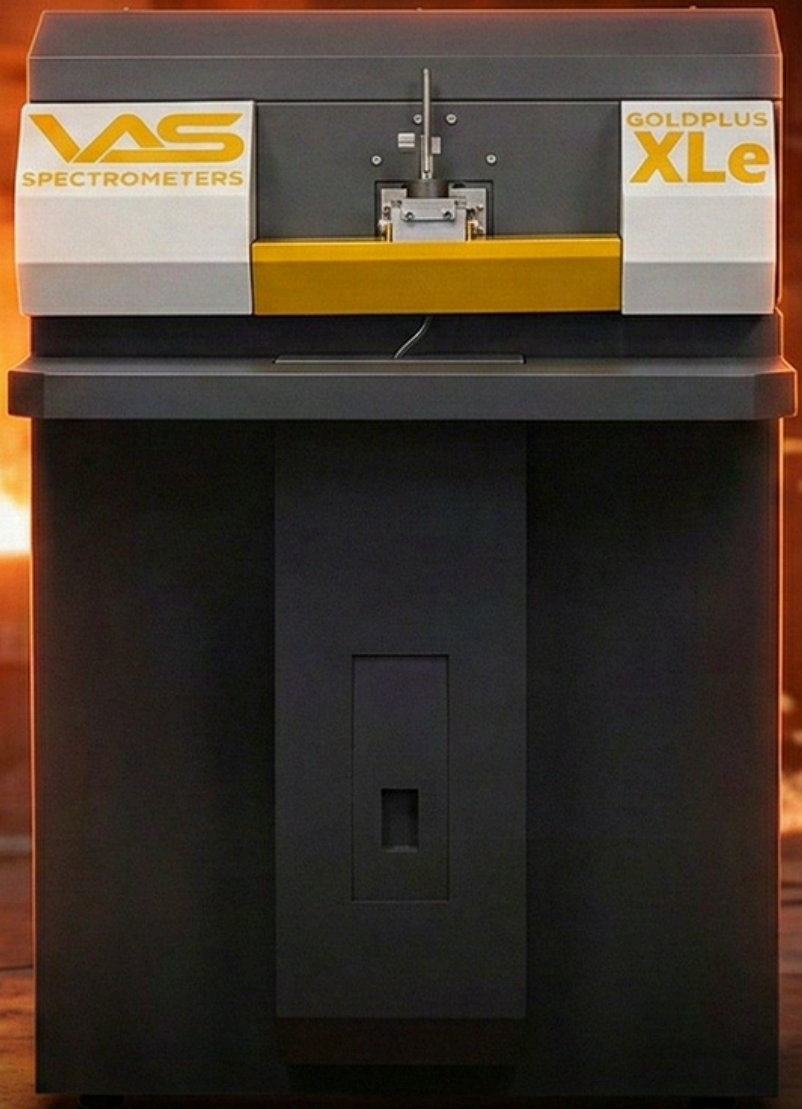
VAS®
SPECTROMETERS

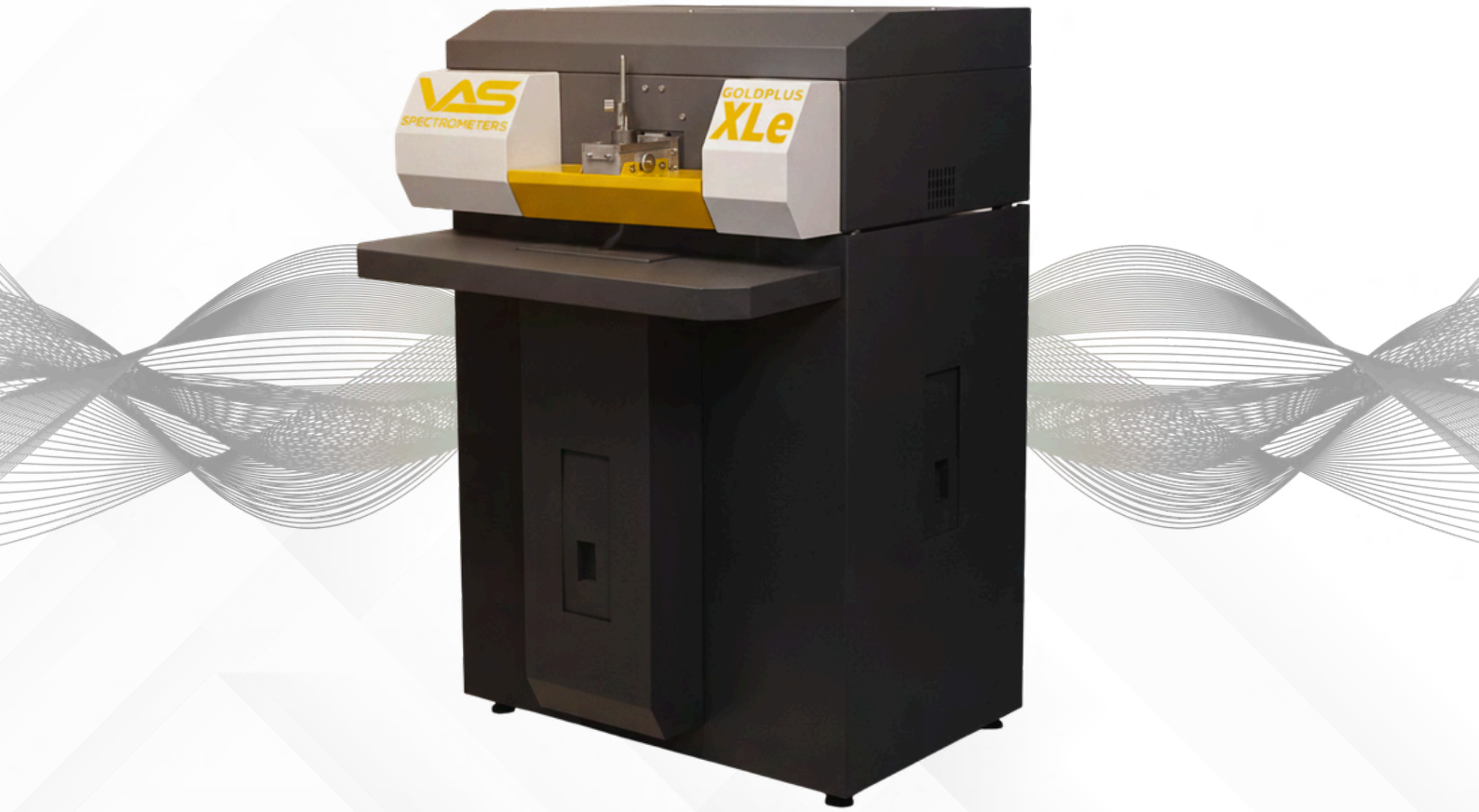



# Extreme Performance with Superior Features
# Easy to Operate | Easy to Maintain

www.vasspectrometers.com

# **Gold** Plus **XLe**

## The Epitome of Performance




**1. Product Introduction**

The GOLD PLUS XLe is designed to be an ultimate Optical Emission Spectrometer (OES) capable of delivering:

- Excellent accuracy
- Exceptional detection limits
- Extreme analytical performance
- Extreme dependability
- A level of excellence that no other Indian spectrometer has ever achieved

Developed using over 22 years of design expertise by pioneering spectrometer designers, the GOLD PLUS XLe is a no-holds-barred instrument achieving the zenith of:

- Performance
- Dependability
- Adaptability
- Flexibility

## 2. Highlights

The GOLD PLUS XLe is engineered for high-performance metal analysis and offers:

Key System Advantages

- Up to 56 elements, including N, Na, Li & RoHS elements
- Up to 8 CCD detectors
- V-MAP Digital Current Controlled Source
- Unique Monoblock Optics (machined from a single block of aircraft-grade Aluminium)
- Quick start-up technology
- Accurate and super stable analysis
- Dependable results

## 3. Technology & Engineering Excellence

### 3.1 The Heart of GOLD PLUS XLe – Monoblock Optical System

The optics of GOLD PLUS XLe is built around a Rowland circle arrangement.

Optical Architecture

- Rowland circle arrangement for stable and accurate optical dispersion
- CCDs placed in a brick-like configuration for seamless wavelength range coverage
- Specially designed optical system machined using a single block of aircraft-grade Aluminium
- Total number of CCDs selectable up to 8, depending upon:
  - the elements to be analysed
  - wavelength range requirement
  - resolution required
- The optical system is closely temperature-controlled, ensuring:
  - better short-term stability
  - better long-term stability

This design delivers long-term measurement reliability and stable performance in demanding industrial environments.

### 3.2 V-MAP Spark Excitation Source – Precision & Real-Time Regulation

The GOLD PLUS XLe integrates a V-MAP digital current-controlled excitation source to provide high repeatability and stable sparking performance.

Excitation Source Capabilities

- V-MAP digital current-controlled source with true 100KHz real-time regulation system
- Fully software-controlled excitation source
- Multi-frequency spark source up to 1KHz
- High energy micro-melt for better precision (internally software controlled)
- High precision spark condensed spark source
- Analytical program parameter selected automatically by software
- Maintenance-free operation

### 3.3 Superior Spark Source – Rugged & Protected Performance

The GOLD PLUS XLe OES is equipped with a unique evolutionary arc/spark plasma source.

Spark Source Advantages

- Arc/spark circuitry powered by V-MAP digital current-controlled source design
- Employs cutting-edge active true real-time linear regulated power
- Allows flexibility of source parameter optimizations for different elements
- Operates over a wide input voltage range without compromising:
    - reliability
    - stability
    - ruggedness
- Built-in high voltage protection as an added feature
- High power circuitry over-designed for extra headroom to prevent failure due to unanticipated power fluctuations
- Powered by true real-time 100KHz linear regulated power source

## 4. Software & Analysis – 6th Generation User Experience

### 4.1 Analysis Suite – Super-Intuitive Software

The GOLD PLUS XLe runs on an exceptionally easy-to-operate software environment.

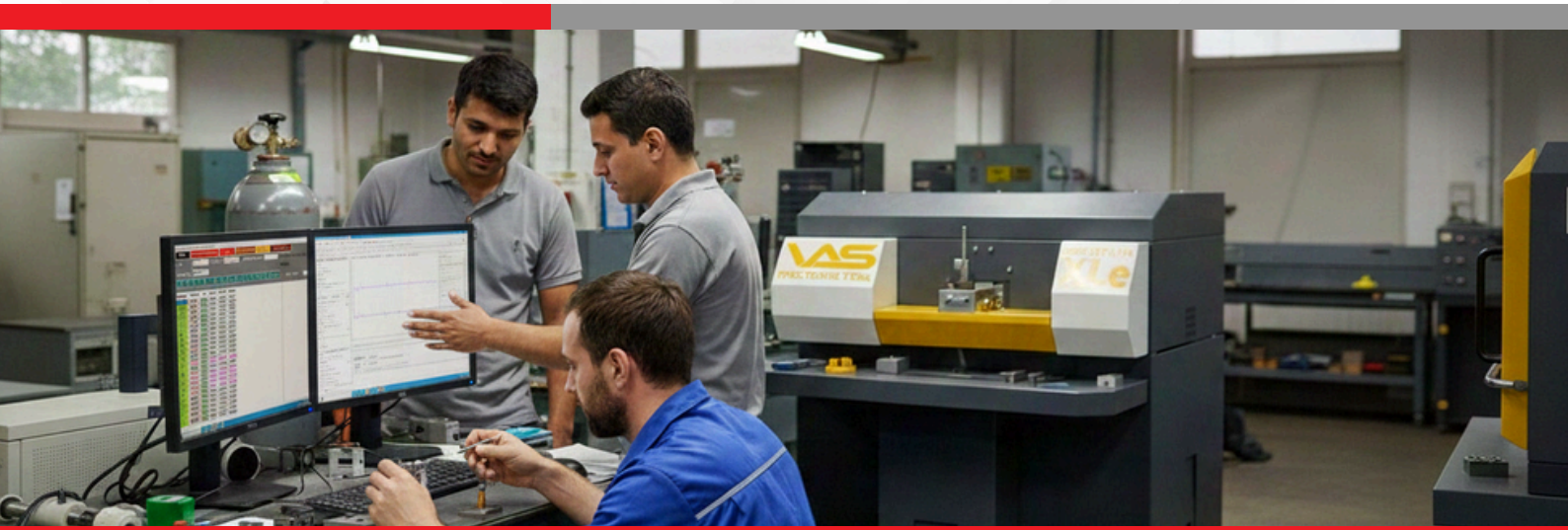
Key Software Positioning

- “Arguably the most user-friendly software ever designed for an optical emission spectrometer”
- Now in its 6th generation, built from expansive knowledge of:
  - user interface design (UI)
  - user experience (UX)
- Features a control panel-like interface, enabling a layman to operate with minimal training
- Very little computer literacy is required to operate the instrument

### 4.2 Software & Analysis Features

The GOLD PLUS XLe includes complete analytical software functions such as:

- Extremely user-friendly operation
- Factory calibrated
- Automatic inter-element interference corrections
- Display of Mean / SD / RSD
- User flexibility to standardize each analytical program
- User configurable type standardization
- Logging of analysis data
- Quick retrieval of historical results
- User-friendly report generation
- Option to transfer data to Excel spreadsheet



## 5. Technical Specifications

### 5.1 Excitation Source

- V-MAP digital current controlled source with true 100KHz real-time regulation
- Fully software-controlled excitation source
- Multi-frequency spark source up to 1KHz
- High energy micro-melt for better precision (internally software controlled)
- High precision spark condensed spark source
- Analytical program parameter selected automatically by software
- Maintenance-free

### 5.2 Optical System

- Rowland circle arrangement
- Resolution: ~ 3 pm
- Wavelength range: 146 – 693 nm
- Temperature-stabilized and sealed against dust and contamination
- High-performance custom-designed holographic diffraction grating
- High resolution CCD detector array with 3694 pixels each
- Profiling: automatic & real-time, software controlled

### 5.3 Spark Source / Gas Management

- Argon flushed with automatically adjusted low flow in standby and analytical modes
- Multi-directional optimized flow design
- Tungsten electrode

### 5.4 Sample Clamp & Maintenance

- Mechanical quick-engage sample clamp – flexible for large and small sample sizes
- Easily removable sample base for chamber cleaning and maintenance

### 5.5 Control & Data Processing

- Gigabit Ethernet connectivity
- Windows® based software
- Complete and accurate instrument control through a high-performance 32-bit advanced SoC-based data acquisition system
- Externally connected computer arrangement

### 5.6 Weight & Dimensions

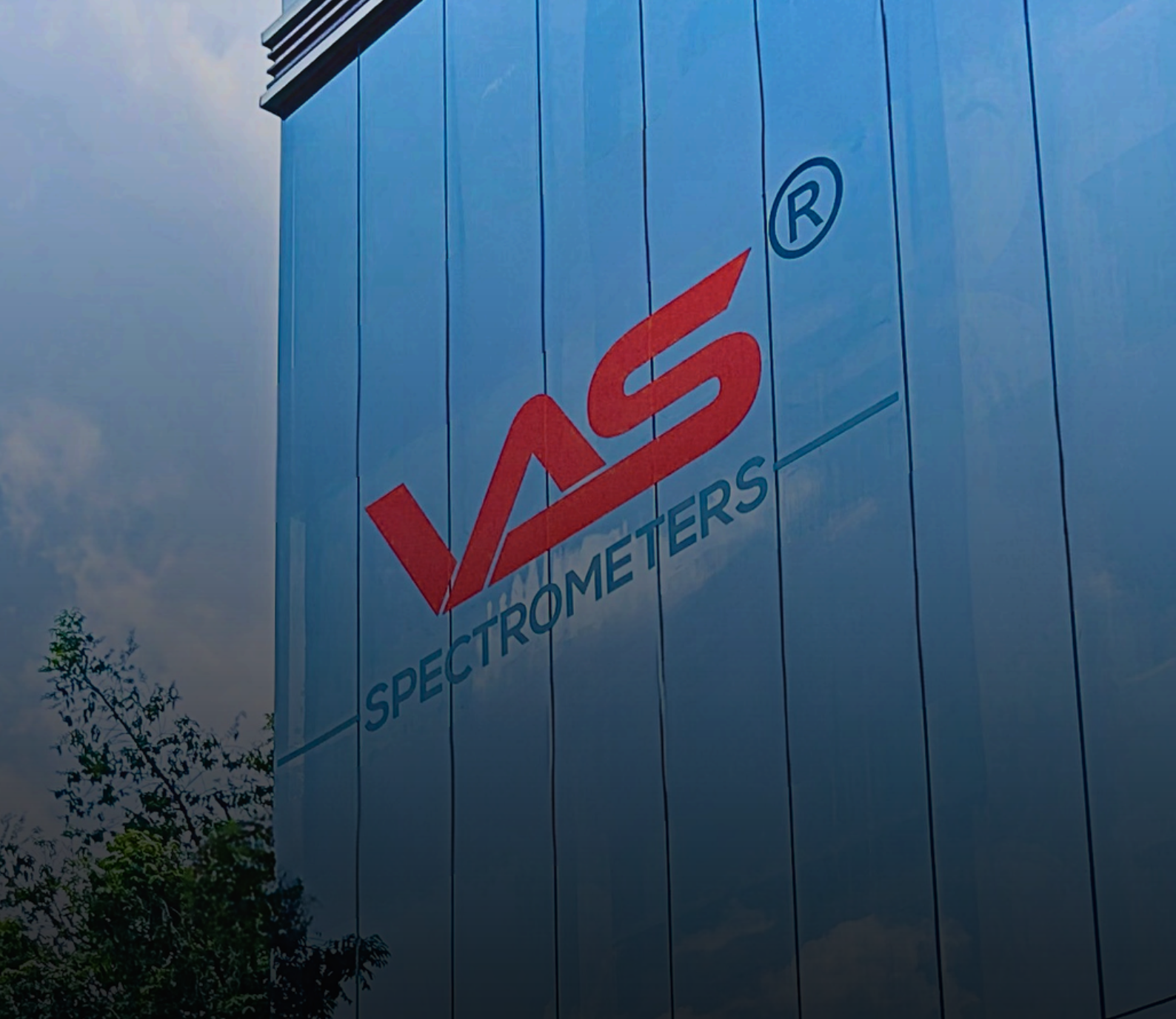
- Instrument weight: 145 kg
- Instrument Dimensions: 1160 × 1000 × 830 mm (L × W × H)

### 5.7 Environmental Requirements

- Operating temperature: 20 to 25°C
- Storage temperature: -10 to 50°C

### 5.8 Electrical Requirements

- 230V AC, 50Hz
- Maximum 320V AC continuous

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***Leading Innovation in Spectroscopy***