



Atomic Absorption Spectrophotometer LAAS-A13



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Flame Atomic Absorption Spectrophotometer LAAS-A13 is a microprocessor controlled instrument based on analysis of metal ions by flame and graphite furnace atomizer with their absorption at wavelength of 190 to 900 nm. Czerny-Turner monochromator and variance of bandwidth provides user flexibility. It is provided with deuterium hollow cathode lamp to exclude interference of molecular absorption and Titanium Burner to increase the analysis efficiency and precision of flame. Its double beam radiation sources enables good basic line stability. Graphic analysis system provides data on analysis of entire process e.g. measured value, temperature, procedures, time, etc. It has great applications in research, medicine, environmental science and other industries.

Features

- Integrated flame/graphite furnace atomization system, changeable with flame emission burner
- Turret for 8 pre-aligned Hollow Cathode Lamps fitted with pre-heating, and individual pre-centred lamps
- PID and Dual curve mode light-controlled temperature control technique ensures fast heating and analytical sensitivity
- Fully automated wavelength scanning and peak searching
- Advance software for complete parameter settings
- Reliable fully automatic graphite furnace analysis
- Alarm feature to protect fuel gas leakage, abnormal flow, insufficient air pressure and abnormal flame extinction in flame system
- Analysis of elements by flame absorption method and emission method
- Strong database system which possesses more than 500 data self-storage
- Results printed as parameter, data result and diagram

Applications

It is suitable to analyse trace amount of element from mixture, also in forensics and chemistry, biological science to detect toxic elements from blood and drug samples.

Specification

| Model no | LAAS-A13 |
|--|-----------------------------------|
| Working spectral range | 190 to 900 nm |
| Spectral Bandwith | 0.1, 0.2, 0.4, 1.0 and 2.0 nm |
| Wavelength accuracy | ± 0.15 nm |
| Wavelength repeatability | ≤ 0.04 nm |
| Baseline stability | ≤ 0.002 Abs / 30 min |
| Characteristic concentration of copper | 0.02 µg / ml / 1 % |
| Detection limit of copper | 0.004 µg / ml |
| Measurement Repeatability | 0.5 % |
| Grating | 1800 lines / mm |
| Inflamer | All-metal titanium burner |
| Atomizer | Efficient glass atomizer |
| Lamp stand | 8 |
| D2 Background calibration ability | 1 A ≤ 30 times correction ability |
| Dimensions | 700 × 550 × 450 mm |
| Net weight | 75 Kg |
| Power supply | 220 V ± 22 V AC |

Flame System

| | |
|------------------------------------|--|
| Acetylene air burner | 100 mm |
| Ignition dynamic baseline drift | ≤ 0.006 Abs / 30 min |
| Characteristic viscosity | ≤ 0.025 $\mu\text{g} / \text{ml} / 1\%$ |
| Standard deviation of the accuracy | $\leq 0.5\%$ (Cu, absorbance > 0.8 A) (detection limit Cu ≤ 0.008 $\mu\text{g} / \text{ml}$) |
| Protection system | Can inevitably cut off gas if pressure is low, power cut-off, flame out and alteration of the burner |

Graphite Furnace

| | |
|------------------------------|--|
| Maximum temperature | 3000 °C |
| Temperature increasing speed | ≥ 2000 °C / S |
| Characteristic quantity | (Cd) $\leq 0.5 \times 10$ to 12g , (Cu) $\leq 0.5 \times 10$ to 11g |
| Accuracy | (Cu) $\leq 3\%$, (Cd) $\leq 3\%$ |
| Dimension | 550 × 450 × 300 mm |
| Net weight | 65 Kg |
| Safety system | Protection for Overload current, reduced air pressure, low cooling water flow |
| Power supply | 220 V \pm 22 V AC, 7000 W |

Standard accessories

| Accessories no. | Name |
|-----------------|--------------------------|
| 1. | PC workstation |
| 2. | Printer |
| 3. | Oil free Air compressor |
| 4. | Acetylene reducing valve |
| 5. | Cu - Hollow cathode lamp |
| 6. | Air filter |