

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 \leq 30 times correction ability
Dimensions	700 \times 550 \times 450 mm
Net weight	75 Kg
Power supply	220 V \pm 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