LABDEX

Atomic Absorption Spectrophotometer

LX200AAS

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Atomic Absorption Spectrophotometer LX200AAS

Atomic Absorption Spectrophotometer LX200AAS is an integrated flame/graphite furnace atomization system where the graphite system is fully automatic. Flame temperature is continuously adjustable between 2300-2900°C, which makes it possible to choose the best atomization temperature. Rich Oxygen Flame will not pollute the environment and is not harmful for human bodies. It's a break-through in flame AAS analysis.

Features

- The changeover of the integrated flame and graphite furnace atomizer is automatically controlled featuring easy operation and time saving which eliminates human labor
- To perform flame emission analysis, flame emission burner head can be installed for alkali metals as K, Na etc.
- Provided with automatic 6-lamp turret, automatic adjustment of lamp current and optimization of light beam position
- Parameters like Wavelength scanning, peak picking, change in spectral bandwidth, optimization of position parameters, automatic ignition and gas flow setting are done automatically
- The graphite furnace analysis is fully reliable and automatic where it is adopting FUZZY-PID and dual curve mode light-controlled temperature control technique, temperature auto-correction technique, ensures fast heating, good temperature reproducibility and high analytical sensitivity
- The temperature control accuracy is less than 1%
- Graphite furnace with pneumatic control and pressure lock ensures constant pressure and reliable contact
- Automatic standard sample preparation, automatic correction of sampling probe depth, automatic tracing and correction of liquid surface height in the sample vessel, with sampling accuracy of 1% and reproducibility of 0.3%
- Equipped with alarm and automatic protection to fuel gas leakage, abnormal flow, insufficient air pressure and abnormal flame extinction in flame system
- Protection function and alarms for insufficient carrier gas and protective gas pressure, insufficient cooling rate supply and over-heating in graphite furnace system
- Adopting large-scale programmable logic array and Inter I2C bus technology

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- For long term reliability of the whole electronic system, provided with European type sockets and AMP adapters
- AAS analysis is made under windows operating system which is easy-to-use with fast parameter setting and optimization
- In order to increase the sensitivity in flame analysis, two high performance HCLs can be mounted on the lamp turret
- The D_2 lamp and S-H background correction capability at 1A and 1.8A respectively is better than 30 times
- Provided with detector R928 photo multiplier with high sensitivity and wide spectral range
- Data processing system: provided with analytical methods – Working curve auto-fitting standard addition method, automatic sensitivity correction, automatic calculation of concentration and content with windows operating system software
- Experiments can be repeated 20 times maximum along with automatic calculation of mean value, standard deviation and relative standard deviation
- Equipped with multi task functions- sequential determination of multi-elements in the same sample, condition reading- with model function and result printing- measured data and final analytical report printout in excel
- Provided with standard RS-232 serial port connection

Optional Accessories

- Air compressor
- Hydride Vapor Generator for the element A_s, H_g. A_s a function expansion the hydride vapor generator can be connected for hydride analysis
- Pyrolytically coated platform graphite tube and graphite tube included in the main unit
- Two pieces of Normal graphite tube and high efficiency nebulizer are included in the main unit
- Water chiller is necessary for this system
- Graphite furnace power supply included in the main unit

Applications

Used for testing the metal element concentration analyze in agriculture, chemical, environmental study, food, mining, and petrochemical, pharmaceutical industry.

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Specifications

Model No.	LX200AAS
O_2 Enriched Flame	Yes
Flame	Yes
Graphite Furnace Type	Yes
High Performance Lamp	Yes
Auto Sampler	No
Wavelength Range	190-900nm
Wavelength Accuracy	±0.25nm
Resolution	Two Spectral lines of Mn at 279.5nm and 279.8nm can be separated with the spectral bandwidth of 0.2nm and valley peak energy ratio less than 30%
Baseline Stability	0.004A/30min
Lamp Turret	6-lamp turret Auto-alignment, fully automated scan and peak-picking
Lamp Current Adjustment	
Wide Pulse Current	0~25mA
Narrow Pulse Current	0~10mA
Lamp Power Supply Mode	400Hz Square wave pulse 100Hz Narrow Square wave pulse + 400Hz wide square wave pulse
Optical System	
Monochromator	Single beam, Czerny-Turner design grating Monochromator
Grating	1800l/mm
Focal Length	277mm
Blazed Wavelength	250nm
Spectral Bandwidth	0.1nm, 0.2nm, 0.4nm, 1.2nm Automatic change
Flame Atomizer	
Burner	10cm single slot all-titanium burner
Spray Chamber	Corrosion resistant all-plastic spray chamber

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Nebulizer		High efficiency glass nebulizer with metal sleeve, sucking up rate: 6-7ml/min
Emission Burner		It is Provided
Graphite Furnace		
Temperature Range		RT~3000°C
Heating Rate		2000°C/sec
Graphite Tube Dimensions (L*OD)		28*8 mm
Characteristic Mass		Cd≤0.8*10-^{12}g, Cu≤5*10-^{12}g, Mo≤1*10-^{11}g
Precision		Cd≤3%, Cu≤3%, Mo≤4%
Normal Air-C_2H_2 Flame		
Cu:	Characteristic Concentration	≤0.025mg/L
	Detection Limit	≤0.006mg/L
Rich Oxygen Air-C_2H_2 Flame		
Ba: Characteristic Concentration		≤0.22mg/L
Al: Characteristic Concentration		≤0.4mg/L
Main Unit Dimensions		1020*490*540 mm
Main Unit Weight		80kg
Graphite Furnace Dimensions		420*420*460 mm
Graphite Furnace Weight		50kg