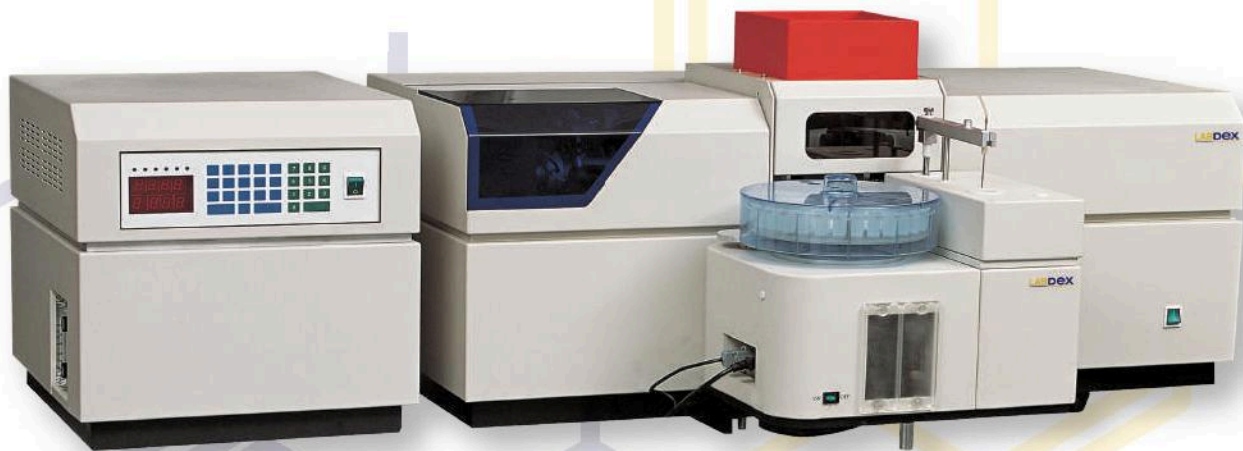


Atomic Absorption Spectrophotometer

LX110AAS



Atomic Absorption Spectrophotometer LX110AAS

Atomic Absorption Spectrophotometer LX110AAS is an integrated flame/graphite furnace atomization system where the graphite system is fully automatic. They analyze the concentration of elements in a liquid sample based on energy absorbed from certain wavelength of light. They are equipped with turrets that can hold multiple lamps to reduce downtime between samples or allow for sequential 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 D₂ 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 1-99 times 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 As, Hg. As 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
- Graphite furnace auto sampler unit - the system can be provided without graphite furnace auto sampler unit on user's requirement

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.	LX110AAS
O ₂ Enriched Flame	No
Auto Sampler	No
Flame	Yes
Graphite Furnace Type	Yes
High Performance Lamp	Yes
Wavelength Range	190-900nm
Wavelength Accuracy	Better than $\pm 0.25\text{nm}$
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	Motorized 6-lamp turret
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 Auto Switch Over
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	$Cd \leq 0.8 \cdot 10^{-12}g$, $Cu \leq 5 \cdot 10^{-12}g$, $Mo \leq 1 \cdot 10^{-11}g$	
Precision	$Cd \leq 3\%$, $Cu \leq 3\%$, $Mo \leq 4\%$	
Graphite Furnace Auto sampler		
Sample Tray Capacity	55 sample vessels and 5 reagent vessels	
Vessel Material	Polypropylene	
Vessel Volume	3ml for sample vessel, 20ml for reagent vessel	
Minimum Sampling Volume	1 μ l	
Repeatable Sampling Times	1-99 times	
Sampling System	Accurate dual pump system with 100 μ l and 1ml injectors	
Air-C ₂ H ₂ Flame Rich-Oxygen Air-C ₂ H ₂ Flame		
Cu:	Characteristic Concentration	$\leq 0.025mg/L$
	Detection Limit	$\leq 0.006mg/L$
Main Unit Dimensions		1070*490*580 mm
Main Unit Weight		140kg
Graphite Furnace Dimensions		420*420*460 mm
Graphite Furnace Weight		65kg
Auto sampler Dimensions		400*290*290 mm
Auto sampler Weight		15kg