

**LABdex**



# Atomic Absorption Spectrophotometer LX705AAS

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Atomic Absorption Spectrophotometer LX705AAS 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 8-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, dual curve mode light-controlled temperature control technique, temperature auto-correction technique, ensures fast heating, good temperature reproducibility and high analytical sensitivity
- ❑ 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
- ❑ 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
- ❑ 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

## Application

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

## Specifications

Model	LX705AAS	
Wavelength range	190-900nm	
Wavelength accuracy	≤±0.25nm	
Wavelength repeatability	≤±0.15nm	
Spectral bandwidth	≤±0.02nm	
Stability of baseline	Static	Zero Drift of Baseline ≤ 0.005Abs/30min, Baseline transient noise ≤0.001Abs
	Dynamic	Zero Drift of Baseline ≤ 0.005Abs/10min, Baseline transient noise ≤0.005Abs
Light source system	Lamp turret	Motorized 8-lamp turret
	Lamp current	Wide pulse current: 0~25mA

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	adjustment	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	Monochomator	Single beam, Czerny-Turner design grating monochromator
	Grating	1800 lines/mm
	Blazed wavelength	250nm
	Focal length	277mm
	Spectral bandwidth	0.1nm, 0.2nm, 0.4nm, 1.2nm, auto-switch over
Flame atomizer	Burner	10cm single slot all-titanium burner, Emission burner provided
	Spray chamber	Corrosion resistant all-plastic spray chamber
	Nebulizer	High efficiency glass nebulizer with metal sleeve, sucking up rate: 6-7ml/min
Graphite furnace	Temperature range	Room temperature~3000°C
	Heating rate	3000°C/s
	Graphite tube dimensions	28mm(L)×8mm(OD)
	Characteristic mass	Cd≤0.5 ×10 <sup>-12</sup> g, Cu≤5 ×10 <sup>-12</sup> g, Mo≤1×10 <sup>-11</sup> g
	Precision	Cd≤3%, Cu≤3%, Mo≤4%
Detection and Data processing system	Detector	CR131 Photomultiplier with high sensitivity and wide spectral range

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	Software	Under windows operating system
	Analytical method	Working curve auto-fitting; standard addition method; automatic sensitivity correction, automatic calculation of concentration and content
	Repeat times	1-99 times, automatic calculation of mean value, standard deviation and relative standard deviation
	Multi-task functions	Sequential measurement for multi-element determination to the same sample
	Condition reading	With model function
	Result printing	Measurement data and final analytical report printout, editing with Excel
	Communication port	Standard RS-232 serial port communication
Function expansion	Hydride vapor generator can be connected for hydride analysis	
Power requirement for main unit	Monophase alternating current, 220V, average power dissipation $\leq 0.3\text{kVA}$	
Power requirement for accessories	Monophase alternating current, 220V, peak power dissipation $0.3\text{kVA}$	
Packing dimension (L x W x H) and Gross weight	Main unit: 1280 x 750 x 830 mm, 150 kgs Graphite furnace power supply: 660 x 600 x 800 mm, 70 kgs	