

LAAS - Series

Atomic Absorption Spectrophotometer



Atomic Absorption Spectrophotometer LAAS-A10

Labtron LAAS-A10 Atomic Absorption Spectrophotometer comprises of high performance and a wide spectral range photomultiplier tube. It is equipped with gas leakage alarm which shut downs the system as a safety measure.

Features

- 4 lamps and optional 6-lamps
- Complete safety of the user and instrument with a warning system
- Automatically optimized three-dimensional light adjustment to obtain maximum energy.
- Direct accessibility of the test result with office software
- Preheat light quantity can be customized, to shorten the waiting time during used
- Software remote control to provide technical support
- Faster and more convenient

Standard Configuration:

- Host
- HP Workstations
- Oil-free air compressor with low noise
- 3 hollow cathode lamp
- Operating software



Application

It is used to analyze elements in agriculture, chemical, environmental study, food, mining, and petrochemical, pharmaceutical.

Atomic Absorption Spectrophotometer LAAS-A10

Technical Specification

Model No.		LAAS-A10
Optical system	Monochromator	Czerny-Turner
	Wavelength range (nm)	190 - 900
	Spectral Bandwidth (nm)	0.2,0.4,1.0,2.0, multi-speed automatic switching
	Grating groove density	1800 lines
	Wavelength accuracy (nm)	±0.25
	Wavelength repeatability(nm)	0.05
	Baseline drift	0.002A / 30min
	Detector	Wide spectral range photomultiplier tube
	Resolution	Can distinguish Manganese light between light 279.5nm and 279.8nm two-manganese and troughs of energy between the two lines should be less than 20%
Light source system	Lamp holder	4 lamp auto switch (6 lamp optional)
	Lamp power supply mode	400Hz square wave pulse
	Lamp current adjustment range	0 - 10mA average current
Atomic system	Characteristic concentration(Cu)	0.025ug/ml/1%
	Detection limit (Cu)	0.006ug/ml
	Burner	100mm single slit titanium burner, air-cooled pre-mixed
	Precision	RSD ≤ 1%
	Sprayer	Set of efficient metal glass spray
	Room Spray	Corrosion-resistant plastic spray chamber
	Safety measures	With a variety of automated security features, acetylene gas leakage alarm, shut down the system
Measurement	Air - acetylene flame method, hydride generation atomic absorption spectrometry, oxygen enriched air - acetylene flame method	
Concentration calculation	Automatic working curve fitting, automatic calibration sensitivity automatically calculated concentration levels.	
The number of repeated measurements	1 to 99, automatic calculation of average concentration, standard deviation, relative standard deviation.	
Print results	Print the final stages of test data or analysis. The results can be exported into Excel worksheet.	
Software Environment	Windows XP/Vista operating system, the English professional software	
Operating temperature(°C)	10~35	
Working humidity	≤ 80%	
Power supply	AC 220V/50HZ	
Power	150VAC	
Weight (kg)	70	
Dimension (L*W*H mm)	1000×400×470	

Atomic Absorption Spectrophotometer LAAS-A11

Labtron LAAS-A11 Flame photometer has built in computer data processing with Long life and anti-corrosive atomization system. It has multifunctional analysis mode and RS232 interface

Features

- Double Beam system to compensate the light source drift and wavelength drift
- High precision of measurement
- Fast analysis of sample
- High energy optical path
- Safe and reliable gas path system
- Electronic circuit drift to reach a good basic line stability

Applications:

It is used to analyze elements in agriculture, chemical, environmental study, food, mining, and petrochemical, pharmaceutical.

Specifications:

Model No.	LAAS-A11
Wavelength range (nm)	190-900
Wavelength accuracy (nm)	±0.5
Wavelength repeatability (nm)	0.3nm(single direction)
Spectrum bandwidth (nm)	0.2, 0.4, 0.7, 1.4, 2.4, 5.0
Resolution	<40%
Base line stability	±0.004 Abs/30min
Characteristic concentration of copper	£ 0.04 mg/ml/ 1%
Detection limit of copper	£0.008 mg/ml
Background calibration ability	Greater than 30 times
Power supply	220V/3A, 50Hz
Gross weight (Kg)	160 Kg
Dimensions (mm)	1220x770x730

Atomic Absorption Spectrophotometer LAAS-A20

Labtron LAAS-A20 is designed with the latest technology. It can automatically accomplish safety ignition and reproducibility of the flame method. It consist of Hollow cathode lamp to improve the analysis efficiency and accuracy of the flame.

Features

- 1800 / mm reticle (dispersion rate) large area grating Monochromator
- Titanium burner
- Automatic wavelength scanning and searching peak
- Polymer spray chamber
- Software function

Applications:

It is used to analyze elements in agriculture, chemical, environmental study, food, mining, and petrochemical, pharmaceutical.

Specifications:

Model No.	LAAS-A20
Wavelength Range (nm)	180-900
Spectral Bandwidth (nm)	0, 0.2, 0.4, 1.0, 2.0
Wavelength Accuracy(nm)	≤ 0.15
Wavelength Repeatability(nm)	± 0.1
Precision	RSD $\leq 0.5\%$
Light Source	≤ 6 lamps automatic turret, automatic alignment
Lamp Current	pulsed power supply
Optical System	large 1800 /mm grating ruling, full closed optical system
Baseline Stability	$\leq \pm 0.002A/30$ min (Static), $\leq \pm 0.005A/30$ min (Dynamic)
Absorbance Range	0-4 A
Detector	Imported photomultiplier tube
Burner Head	Full titanium combustion head, 50mm or 100mm general combustion head
Atomization Chamber	Polymer explosion-proof spray chamber
Nebulizer	Atomizer efficient glass atomizer, can also be customized
Ignition Type	Microcomputer control, automatic ignition
Gas Control	Automatic gas control system
Detection Limits(Cu)	0.002Mg/mL
Power Supply	110/220V (+5% ~ -10%), 60/50Hz; 5000VA

Atomic Absorption Spectrophotometer LAAS-A21

Labtron LAAS-A21 includes flame, graphite furnace and hydride generation system to meet different customer demand. It consist of 1800/mm reticle large are grating Monochromator and titanium burner to improve the analysis efficiency and accuracy of the flame.

Features

- Polymer spray chamber
- Automatic analysis for sensitivity and reproducibility
- High precision automatic optical system
- Flame, graphite furnace operating mode can be switched automatically
- Automatic adjustment of the power supply parameters
- High performance hollow cathode lamp



Application

It is used to analyze elements in agriculture, chemical, environmental study, food, mining, and petrochemical, pharmaceutical.

Atomic Absorption Spectrophotometer LAAS-A21

Technical Specification

Model No.	LAAS-A21
Wavelength Range(nm)	180 - 900
Wavelength Accuracy(nm)	≤ 0.15
Wavelength Repeatability(nm)	± 0.1
Light Source	≤ 3 lamps automatic turret, automatic alignment
Power Supply	110/220V (+5% ~ -10%), 60/50Hz; 5000VA
Lamp Current	Pulsed power supply
Optical System	large 1800 /mm grating ruling, full closed optical system
Spectral Bandwidth	0nm, 0.2nm, 0.4nm, 1.0nm, 2.0nm (5 steps with automatic changeover)
Baseline Stability	$\leq \pm 0.002A/30 \text{ min}$ (Static) $\leq \pm 0.005A/30\text{min}$ (Dynamic)
Absorbance Range	0-4A
Detector	Imported photomultiplier tube
Burner Head	Full titanium combustion head, 50mm or 100mm general combustion head
Atomization Chamber	Polymer explosion-proof spray chamber
Nebulizer	Atomizer efficient glass atomizer, can also be customized
Ignition Type	Microcomputer control, automatic ignition
Gas Control	Automatic gas control system
Detection Limits(Cu)	0.002Mg/mL
Precision	RSD $\leq 0.5\%$

Atomic Absorption Spectrophotometer LAAS-A22

Labtron LAAS-A22 is fabricated with intelligent analysis. It is provided with Deuterium hollow cathode lamp to eliminate the interference of molecular absorption and Titanium Burner to improve the analysis efficiency and accuracy of the flame

Features

- High precision automatic optical system
- Graphite furnace temperature control
- High Technology Index and Background correction system
- Great intelligence, humanized design, flame and graphite
- Polymer spray chamber
- Automatic analysis & Sampler



Application

It is used in scientific research, quality control, disease control, environmental protection, metallurgy, agriculture, chemical industry, and analysis of samples, equipment maintenance, simple and convenient

Atomic Absorption Spectrophotometer LAAS-A22

Technical Specification

Model No.	LAAS-A22
Wavelength Range (nm)	180-900
Spectral Bandwidth (nm)	0,0.2,0.4, 1.0, 2.0
Wavelength Accuracy (nm)	≤ 0.15
Wavelength Repeatability (nm)	±0.1
Sample Volume (μl)	1-100
The volume of sample	better than 1%(at the time of 10mL-100mL)
Repeated Sampling Frequency	up to 99 Times
Cleaning and waste container volume	Each 500 mL
Absorbance Range	0-4A
Temperature Range	Room temperature to 3000°C
Sample Tray	70 sample cups, 6 reagent cup
The Smallest Lincrement (μl)	0.1
Light Source	≤ 6 lamps automatic turret, automatic alignment
Lamp Current	pulsed power supply
Optical System	Large 1800 /mm grating ruling, full closed optical system
Baseline Stability	≤ ±0.002A/30 min (Static) ≤ ±0.005A/30min (Dynamic)
Detector	imported photomultiplier tube
Burner Head	full titanium combustion head, 50mm or 100mm general combustion head
Atomization Chamber	Polymer explosion-proof spray chamber
Nebulizer	Atomizer efficient glass atomizer, can also be customized
Ignition Type	Microcomputer control, automatic ignition
Gas Control	Automatic gas control system
Detection Limits(Cu)	0.002Mg/mL
Precision	RSD ≤ 0.5
Heating Mode	vertical heating
Temperature Control Method	Vertical optical temperature monitoring graphite tube wall temperature
The Program	Automatic temperature control up to 20 order
Temperature Control	The furnace enriched up to 20 times
Characteristics Volume	0.5 × 10 ⁻¹² g (Cd)
Detection Limit	0.4 × 10 ⁻¹² g (Cd)
Precision	RSD ≤ 3%
The Cooling Water	Can choose cooling water circulation system
Safety	The graphite tube damage, water flow Air pressure and other alarm temperature overheating protection
Power Supply	110/220V (+5% ~ -10%), 60/50Hz; 5000VA



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