

# AB-ZAAS-810

## Zeeman Atomic Absorption Spectrophotometer



# AB-ZAAS-810

## Zeeman Atomic Absorption Spectrophotometer



### FEATURES:

#### **Dual light sources and dual atomizers (national patent), a unique integrated structure design with a high degree of user friendliness**

- ◆ Parallel flame and graphite furnace atomizer, without mechanical movements and changeover, ensuring long term stability and reliability.
- ◆ Time-sharing dual light sources, no need for changing lamps, increasing the number of analyzable elements to the maximum and reducing operation and adjustment time to the minimum.
- ◆ Alternate use of the shortest optical path, to reduce light energy losses.

#### **More powerful dual magnetic fields Zeeman background correction technology**

- ◆ Adopting constant magnetic field, transverse Zeeman background correction device for both flame and graphite furnace analysis, with super powerful dual atomizer high background correction capability over the whole wavelength range.
- ◆ Intensified flame constant magnetic field to improve the analytical sensitivity.
- ◆ Quasi double beam design to correct baseline drift, shorten preheating time and improve analytical accuracy.

#### **Integrated design of graphite furnace power supply with the main unit**

- ◆ Multiple shielding technology successfully decreases magnetic interference.
- ◆ Shortening the distance of power supply reduces power losses dramatically.
- ◆ Compact structure, small space requirement, easy and simple installation and moving.

#### **Advanced electronic design**

- ◆ New generation large scale integration technology with simple and reliable PC boards.
- ◆ New generation bus and internal network technology, enhancing the anti-interference capability of the system.

# SPECIFICATIONS:

<b>Main Specification</b>	Wavelength range	190-900nm
	Wavelength accuracy	±0.5nm
	Resolution	Better than 0.3nm
	Baseline stability	0.005A/30min
<b>Light Source</b>	Lamp turret	Automatic 8×2-lamp turrets (Two high performance hollow cathode lamps can be mounted on each turret );
	Lamp current	0~15mA
	Lamp power supply mode	200Hz square wave pulse
<b>Optical System</b>	Monochomator	Czerny-Turner type
	Grating	1800 l/mm
	Focal length	430mm
	Blazed wavelength	250nm
	Spectral bandwidth	Flame mode: 0.2, 0.4, 0.8, 1.6mm Graphite furnace mode: 0.2, 0.4, 1.2mm
<b>Atomizer</b>	Flame atomizer	Burner: 10cm single slot all-titanium burner
		Spray chamber: directly formed and made of corrosion resistant material.
		Nebulizer: high efficiency glass nebulizer with metal sleeve.
		Position adjustment: flame height is adjustable.
	Graphite furnace atomizer	Temperature range: room temperature ~ 3000℃
		Heating rate: 3000℃/S Graphite tube dimensions: 30mm(L) X 7mm (OD)
<b>Graphite Furnace Autosampler</b>	Sample tray capacity	55 sample vessels and 5 reagent vessels
	Vessel material	Polypropylene
	Vessel volume	2ml for sample vessel, 20ml for reagent vessel
	Minimum sampling volume	1µl
	Repeatable sampling times	1~99 times
	Sampling system	Accurate dual pump system, with 100µl and 1ml injectors.
<b>Detection and Data Processing System</b>	Detector	R955 Photomultiplier with high sensitivity and wide spectral range.
	Software	Professional AAS software under Windows XP 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 determination of multi-elements in the same sample.
	Condition reading	With model function
	Result printing	Measurement data and final analytical report print out, editing with Excel.
	Communication	Standard RS-232 serial port; supporting USB port communication
<b>Background Correction System</b>	Flame constant magnetic field Zeeman background correction	Magnetic flux density: 1.0T
	Graphite furnace constant magnetic field Zeeman background correction	Magnetic flux density: 1.0T
<b>Dimensions</b>	Main unit: 1160 (L)×630(W)X570(H)mm Auto-sampler: 320(L)×270(W)×260(H)mm	
<b>Weights</b>	Main unit: 160Kg Auto-sampler: 15Kg	

### **Fully automatic operation with high accuracy**

- ◆ Automatic 8×2-lamp turrets, automatic adjustment of lamp current and optimize of light beam position.
- ◆ Automatic wavelength scanning and peak picking
- ◆ Automatic spectral bandwidth changing
- ◆ Automatic changeover between flame and graphite furnace operation, automatic ignition and automatic gas flow setting

### **Brand-new fully automated flameless analysis technology with high reliability**

- ◆ Newly designed graphite furnace and its power supply system with ultra-rapid heating, super long time stability and super high power efficiency.
- ◆ Intelligent fully automated sampler, with automatic working curve generation, automatic tracing and correction of liquid surface height in the sample vessel, automatic long term memorizing of the sampling probe position.

### **Perfect safety protection measures**

- ◆ Alarm and automatic safety protection to fuel gas leakage, abnormal flow, insufficient air pressure and abnormal flame extinction in flame system.
- ◆ Monitoring, alarm and protection function to insufficient protective gas pressure and cooling water supply in graphite furnace system.
- ◆ Cooling water monitoring and protection in magnetic field system.
- ◆ Drain tube water seal monitoring and alarm.

### **User friendly operation software**

- ◆ Convenient, friendly and reliable AAS software under Windows XP operation system.
- ◆ Quick setting, automatic adjustment and automatic optimization of instrument parameters
- ◆ Safety monitoring, quick prompt ad protection.
- ◆ Intelligent analytical quality control, precision control, standard sample check and Spike check functions.
- ◆ User selectable analytical report formats.

<http://analyticabiotech.co.uk>

