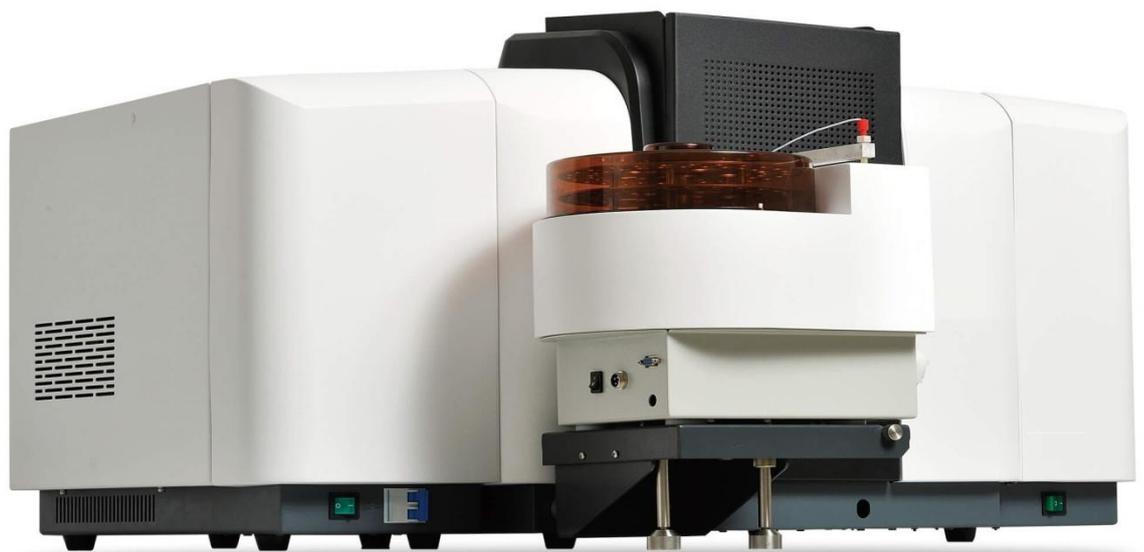


**TOPLAB INDIA**  
"Serving Science with Solution"

**TL-1800AA**

Atomic Absorption Spectrophotometer



*Double Beam*

*High stability*

*Most universal*

*Easy installation*

*Very competitive price*

*Excellent after sales service*

## Flame Analytical System

TOPLAB INDIA'S TL-1800AA Series Atomic Absorption Spectrophotometer is Double beam spectrophotometer, absorbed the latest technology and next generation R & D, application experience with decades of spectral instruments. The AAS product includes the Flame, Graphite furnace and Hydride generation system can be equipped with various accessories, flexible configuration program can meet different customer demand. TL-1800AA atomic absorption spectrometer can be used for analysis of complex samples, full automatic multifunctional, and various analysis methods can automatically switch, unmanned automatic analysis.

TL-1800AA Series Atomic Absorption Spectrophotometer is now widely used in scientific research, quality control, disease control, Soil testing, Water testing, environmental protection, metallurgy, Fertilizer, agriculture, chemical industry .Hardware and software design of innovation to ensure the accuracy, safety, ease of use in the analysis of samples, equipment maintenance, simple and convenient.

### Main features

#### High precision automatic optical system

Double beam Optical System with 1800 lines/ mm reticle (dispersion rate) large area grating monochromator, a new type self collimation, all lenses are quartz coating, the detection range and the stability of optical broad to ensure the precision of analysis. Automatic 8 or 6 socket configuration 8 or 6 independent lamp power supply, can be respectively preheating

#### Polymer spray chamber

Polymer materials corrosion spray chamber, acid and alkali resistance, Including hydrofluoric acid, either organic or inorganic solution can be the highest sensitivity and stability

#### Titanium burner

Titanium burner, 100mm burner and the optional 50mm Nitrous Oxide, Air cooling pre-mixed type, corrosion resistant, resistant to high salt, greatly improve the analysis efficiency and accuracy of the flame.

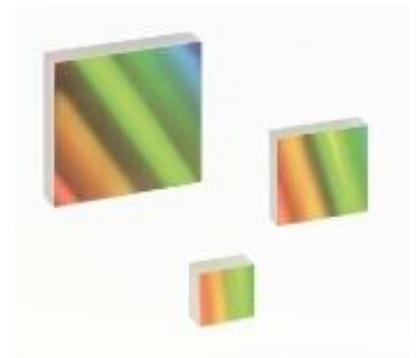
#### Automatic analysis

It can automatically accomplish safety ignition, extinction and switching, reliable structure, low fault rate, thus ensuring the sensitivity and reproducibility of the flame method.

The light source system Eight / Six lamp automatic conversion, can be directly used high performance hollow cathode lamp, improve the sensitivity analysis of the flame, the automatic adjustment of the power supply parameters and the beam position, automatic wavelength scanning and searching peak.

#### Software function

PC Operated TL-1800AA system with High intelligent software, powerful function, friendly interface English operation. Automatic instruments and additional control, flame, graphite furnace operating mode can be switched automatically, automatic optimization, automatic dilution; mouse operation, automatic setup menu data and correction method. Software is in accordance with 21CFR part 11 compliance (Optional).



**Grating**



**Automatic Gas Control System**

## Graphite Furnace Analytical System

### Graphite furnace temperature control

Gas dual temperature control inside and outside, 20 order linear or nonlinear heating, to ensure that the measured elements has the highest sensitivity; furnace enriched up to 20 times, the longitudinal optically monitoring the graphite tube all temperature, maximum temperature to 3000°C.

### High technology index

TL-1800AA Series Double Beam Atomic Absorption Spectrophotometer elements test sensitivity meet international best level, sensitivity of less than or equal to 0.015µg/mL/1%; baseline drift is less than 0.003Abs/30m, the stability is better than 0.005Abs/4h.

### Background correction system

Using deuterium hollow cathode lamp advanced and self absorption background deduction of background correction, to eliminate the interference of molecular absorption of low content determination, reducing the noise emission of deuterium lamp and prolongs the service life, has excellent stability. Deuterium lamp background signal for 1A, background correction ability > 50 times.

### Intelligent analysis

TOPLAB INDIA'S TL-1800AA Series has Great intelligence, humanized design, Integrated Flame and Graphite furnace atomizer automatic switching, automatic optimization of Graphite furnace atomizer, automatically set the flame height adjustment, automatic ignition, automatic optimization of the horizontal position, system automatically sets the gas flow. In the case of power failure, disoperation, acetylene leakage, the system will automatically start the safety protection

### Automatic sampler

Integrative design of graphite furnace, using high precision syringe, lowest in 0.5µl samples, with intelligent online dilution and concentration function.

### Hydride Generator

High sensitivity: Determination of As: index: 0.08ng/ml/1%A Low detection limit: 3 times the standard deviation calculation, Numerical sensitivity is known as 2/3(ng/ml), which can meet the requirement of sample 0.01 – 0.1ppm test. High degree automation: Just press the start button can automatically complete the sampling, occurrence, reading, cleaning of the whole process. Single sampling 2- 2.5ml, single measurement time is less than 30S.

### Atomizer

High efficient nebulizer common type metal glass. Lifting capacity 1-10mL. Continuously adjustable metal sleeves glass high efficiency glass atomizer. Hydrofluoric acid resistant metal sleeves high efficiency atomizer.



**Graphite Pipe**



**Hollow Cathode Lamps**



**Automatic Sampling Device module**



**Hydride Generator**



**Atomizer**

## Technical parameters:

	Model	TL-1800AA-L6	TL-1800AA-L8
<b>Main AAS System</b>	<b>Light Source</b>	<b>6 Lamps automatic turret, automatic alignment</b>	<b>8 Lamps automatic turret, automatic alignment</b>
	Optical System	Large 1800 lines /mm grating reticle , Double beam Optics, fully closed optical system	
	Wavelength Range	180nm ~ 900nm Automatically peak find, a key optical optimization function	
	Wavelength Accuracy	≤0.1nm	
	Wavelength Repeatability	±0.02nm	
	Spectral Bandwidth	0.1nm,0.2nm,0.4nm,1.0nm,2.0nm (5 steps with automatic changeover)	
	Baseline Stability	≤±0.002A/30 min (Static) ≤±0.005A/30min (Dynamic)	
	Absorbance Range	0 ~ 4 A	
	<b>Flame Analytical System</b>	<b>Detector</b>	<b>Imported Photomultiplier Tube (PMT)</b>
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 through software operating	
Gas Control		Automatic gas control system	
Detection Limits(Cu)		0.002μg/mL	
Precision		RSD≤0.5%	
<b>Graphite Furnace Analytical System</b>	<b>Heating Mode</b>	<b>Vertical heating</b>	
	Temperature Control Method	Vertical optical temperature monitoring graphite tube wall temperature	
	Temperature Range	Room Temperature (RT) to 3000°C	
	The Program	Automatic temperature control up to 20 order	
	Temperature Control	The furnace enriched up to 20 times	
	Characteristics Volume	0.5 × 10 <sup>-12</sup> g (Cd)	
	Detection Limit	0.4 × 10 <sup>-12</sup> 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		
<b>Autosampler</b>	<b>Sample Tray</b>	<b>70 sample cups, 6 reagent cup</b>	
	Sample Volume	1-100μl	
	The Smallest increment	0.1μl	
	The Volume of Sample Repeatability Volume	better than 1% (at the time of 10mL-100mL)	
	Repeated Sampling Frequency	up to 99 Times	
	Cleaning Waste Container Size	each 500mL	
<b>Power Supply</b>	AC220V (+5% ~ -10%), 60/50Hz, Lamp Current : Pulsed power supply		
<b>Weight/Size</b>	80 Kg / Dimensions: (L)988mm *(W)412mm* (H)440mm		
<b>Interface</b>	<b>Computer and USB interface communication</b>		
<b>Software</b>	<b>PC communication software to control AAS system, Data processing, Data analysis, Print etc.</b>		