

## AELAB T8001 Graphite Furnace Atomic Absorption Spectrometer

### Description

The T8001 Graphite Furnace Atomic Absorption Spectrometer is a high-performance and reliable spectral analysis instrument. It is controlled and processed by a computer through the USB3.0 standard interface. The graphite furnace power supply and atomic absorption host are located in one instrument, which shortens the cable length, reduces the electromagnetic interference of the graphite furnace power supply to the outside world, and improves the heating efficiency of the graphite tube. The 150 position rotary graphite furnace automatic sampler has high positioning accuracy, stable and reliable operation, and convenient use and maintenance.



### Performance characteristics

- ◆ Integrated total reflection achromatic optical system: The use of concave mirrors instead of convex lenses as the optical focusing equipment of the instrument effectively solves the problem of color difference caused by different element focal points and improves the efficiency of the optical system.
- ◆ Eight Element Light Tower: Working with one lamp, up to seven lamps can be preheated, saving time for changing lamps and preheating, making element measurement faster and more convenient.
- ◆ C-T monochromator: Adopting a 1800 line/mm, shining wavelength 230nm grating splitting system.
- ◆ Fully automated design: Except for the main power switch, all functions of the instrument are monitored and controlled by a computer.

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- Fully automated design: Except for the main power switch, all functions of the instrument are monitored and controlled by a computer.
- USB 3.0 communication method: The industry is the first to adopt the USB3.0 communication interface, which improves communication speed and is compatible with the latest computer systems.
- Streamlined sheet metal process design: The appearance adopts streamlined sheet metal technology design, which is simple and fashionable, and beautiful and generous.
- Humanized operation interface: The user-friendly operation interface makes your operation as easy as palm of hand. It can switch between Chinese and English Windows style software interfaces, and can run perfectly under operating systems such as Windows XP and Windows 7. It is fully automatic for qualitative and quantitative analysis, automatic calculation of element content, and automatic generation of test reports.
- Background correction system: Equipped with two background correction modes: deuterium lamp and self absorption, with a background signal of 1A and a background correction capability of more than 30 times.
- Independent Intellectual Property Rights: An analysis software with independent intellectual property rights, with complete functions and powerful performance.

### Technical Index

Wavelength range:	190nm~900nm	Monochromator type:	Czerny-Turner
Grating line:	1800 lines/mm	Wavelength accuracy:	±0.2nm
Wavelength Repeatability:	<0.05nm	Resolution ratio:	Better than 0.3nm
Static baseline stability:	0.003 Abs (static)	Deuterium lamp background correction ability:	over 60 times
Temperature control range of graphite furnace:	room temperature-3000℃		
Heating rate of graphite furnace:	3000℃/s		
Graphite furnace measurement of cadmium (Cd) characteristic quantity:	≤0.5pg		
Detection limit of cadmium (Cd) in graphite furnace:	≤1pg		
Grating flash wavelength:	230nm	Spectral bandwidth:	0.1/0.2/0.4/0.7/1.4 nm Five gear automatic switching
Precision of cadmium (Cd) measurement in graphite furnace:	≤2%		
Power supply:	220V±22V, 50Hz±1Hz, 5KW (peak)		

### Graphite Furnace System

- Integration  
The graphite furnace power supply and atomic absorption host are located in one instrument, which shortens the cable length, reduces the electromagnetic interference of the graphite furnace power supply to the outside world, and improves the heating efficiency of the graphite tube.
- Graphite furnace has high temperature control accuracy and fast heating speed  
By using high-power transformers, micro resistance cables, and light controlled heating methods, combined with software and hardware temperature correction systems, the temperature control accuracy in the high temperature section can reach ±1%.
- More safety measures to make sample analysis safer and more reliable
  - 1) Cooling water flow monitoring
  - 2) Carrier gas pressure monitoring
  - 3) Graphite tube temperature monitoring
  - 4) Graphite furnace temperature monitoring
- Automatic carrier gas flow control  
Both the internal and external gases of the graphite furnace are automatically controlled by the computer according to the software heating process.
- 150 bit rotary graphite furnace automatic sampler  
The polar coordinate rotary table graphite furnace automatic sampler has high positioning accuracy, stable and reliable operation, and convenient use and maintenance.