

AAS8516 Flame Graphite Furnace Integrated Atomic Absorption Spectrometer

Introduction

The flame graphite furnace integrated atomic absorption spectrometer is used to determine the content of major, trace, and semi-metallic elements in various substances. This machine adopts a PC and Chinese interface operation software, making the instrument operation simple and intuitive. By applying advanced electronic circuit systems and USB3.0 communication control, the instrument has achieved automatic adjustment of functions such as wavelength scanning, peak finding and positioning, spectral passband width, rotating element lamp holder, atomizer height and position, gas flow rate, lamp current, and negative high voltage of photomultiplier tubes. The instrument stores reference conditions for the analysis operation of all measured elements in various analysis methods. Users can modify the operating conditions as needed.

Features

● C-T monochromator

Adopting a 1800 line/mm, shining wavelength 230nm grating splitting 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.

● USB3.0 communication method

The industry is the first to adopt a 3.0 communication interface, which improves communication speed and is compatible with the latest computer Windows 10 system.

● Background correction system

Dual switching and background subtraction between elemental and deuterium lamps, with two background correction modes: deuterium lamp and self-absorption. When the background signal is 1A, the background subtraction ability is more than 60 times.



Flame System



Pure titanium atomization chamber

Pure titanium atomization chamber
Effectively prevents acid gas corrosion
and has a longer service life.



Efficient glass atomizer

Adopting a dedicated and efficient glass atomizer,
the atomization efficiency is high, and maintenance
and replacement are convenient.



More security measures

- 1)Acetylene leakage monitoring
- 2)Acetylene pressure monitoring
- 3)Air pressure monitoring
- 4)Combustion head status monitoring
- 5)Flame status monitoring
- 6)Water seal status monitoring



Implementing Acetylene Flow Control with a Mass Flow Controller

Make the acetylene flow continuously adjustable and dynamically monitor the flow,making it easy to use,safe and reliable.

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 $\pm 1\%$.

◆ More safety measures to make sample analysis safer and more reliable

- 1) Cooling water flow monitoring
- 2) Carrier gas pressure alarm monitoring
- 3) Graphite tube temperature alarm monitoring
- 4) Graphite furnace temperature alarm monitoring

◆ Automatic carrier gas flow control

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 turntable graphite furnace automatic sampler can achieve a common automatic sampler for flame and graphite furnace,with high positioning accuracy,stable and reliable operation,and convenient use and maintenance.

Specifications

Complete Machine	
Monochromator type	Czerny-Turner
Wavelength range	190nm~900nm
Wavelength accuracy	±0.2nm
Wavelength Repeatability	<0.05nm
Spectral bandwidth	0.1/0.2/0.4/0.7/1.4 nm Automatic switching of five gears
Flame system	
Precision	<0.8%(flame method for copper measurement)
Static stability	0.003 Abs(static)
Detection limit	< 0.008ug/ml
Dynamic Stability	0.004 Abs(dynamic)
Characteristic Concentration	<0.025ug/m/1%(Flame method for measuring copper
Graphite furnace system	
Temperature control range of graphite furnace	Room temperature-3000°C
Heating rate of graphite furnace	3000°C/s
Precision of cadmium (Cd) measurement in graphite furnace	<2%(Automatic injection mode)
Precision of cadmium (Cd) measurement in graphite furnace	<5%(Manual injection mode)
Detection limit of cadmium (Cd) in graphite furnace	<1pg(Automatic injection mode)
Detection limit of cadmium (Cd) in graphite furnace	<2pg(Manual injection mode)
Graphite furnace measurement of cadmium (Cd) characteristie quantity	< 0.5pg
Power supply	220V+22V , 50Hz+1Hz , 5KW(peak value)