



江苏华隆兴机械工程有限公司

JIANGSU WALLONG-HSIN MACHINERY ENGINEERING CORP.,LTD

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MACHINERY ENGINEERING
CO., LTD

GGX SERIES Atomic Absorption Spectrophotometer



Applicable Fields

Food hygiene, geology, metallurgy, agricultural testing, chemical environmental protection, water quality testing, pharmaceutical commodity inspection, education and research, etc.

→ Detection Elements

It is mainly used for more than 70 elements such as gold, silver, copper, lead, zinc, manganese, potassium, sodium, calcium, magnesium, iron and cadmium in food, surface water, groundwater, drinking water and other samples.

→ Patented Technology

- ZL 201510067779.6 Zeeman background correction optical path and system
- 201810512619.9 A multi-light position rotating lighthouse optical system
- 2018029992947 Tempering flame ignition device



→ Product features

- 8 Lamp holders simultaneously light or preheat.
- The main optical components are all imported: photomultiplier tube, grating, deuterium lamp, etc.
- Integrated atomic absorption spectrometer; Czerny-Turner optical path design with 270mm focal length; short optical path; strong energy; simple and convenient one-key converted pneumatic pump.
- Stable and reliable flame atomization system.
- Excellent graphite furnace system.
- Secure monitoring system.
- Powerful data processing system.

→ Optical System

- Wavelength Range: 190-900nm
- Wavelength Repeatability: less than 0.1nm
- Wavelength Accuracy: less than ± 0.2 nm
- Spectral Bandwidth: 0.2nm, 0.4nm, 1.0nm, 2.0nm (automatic switching)
- Baseline Drift: less than 0.003A/30min
- Monochromator: optimized aberration elimination C-T monochromator; automatic peak seeking and scanning.
- Grating: C-T(Czerny-turner) type internal optical design; 1800 pieces/mm.
- Photometer: high luminous flux and total reflection double beam spectroscopic system.
- Detector: Photomultiplier tube with high sensitivity and wide spectral range.
- Resolution: When the spectral bandwidth is 0.2nm, the manganese double lines (279.5nm and 279.8nm) are separated and the peak-to-valley ratio less than 25%
- Rotating Lamp Holder: 8 Lamp; automatic conversion and collimation; can be preheated and lit simultaneously.
- Background Correction Ability: more than 60 times.



GGX-830 Flame&Graphite Furnace integrated Atomic Absorption Spectrophotometer

Flame Atomization System

- The element switching device of AAS has the advantages of rapid positioning and compact structure.
- Characteristic Concentration(Cu): 0.02 μ g/mL/1%
- Detection Limit(Cu): 0.003 μ g/mL
- Precision(RSD): less than 0.6%
- Burner: high temperature resistant, corrosion-resistant metal titanium alloy; three-dimensional adjustment.
- Sprayer: high intensity mixing chamber with special treatment technology; corrosion resistance; easy cleaning; no memory effect.
- Atomization Chamber: explosion-proof; corrosion-resistant.
- Regulation System: automatic PC control and regulation (flow of gas and auxiliary gas; burner position and angle); automatic optimization; automatic ignition; automatic identification of combustion head.
- Safety Protection: a full set of safety interlocking system; various pressure monitoring; automatic safety protection functions; acetylene leakage alarm and shutdown system(automatic monitoring of combustion head, flame state, water seal, gas pressure and atomization system pressure; automatic interlocking and shutdown in case of abnormality or power failure).
- Liquid Level Detection: prohibit the overflow of waste liquid.

Graphite Furnace Atomization System

- Temperature Range: room temperature to 3000 $^{\circ}$ C; temperature self-correction function.
- Temperature Control Accuracy: less than 1%
- Heating Rate: more than 2000 $^{\circ}$ C/s
- Temperature Control Program: 10 heating procedures(max); 3 heating modes(step, slope and hold).
- Heating Mode: longitudinal heating
- Detection Limit(Cd): less than 0.5pg
- Precision(Cd): less than 2%
- Safety Detection Measures: graphite furnace body temperature detection; cooling water pressure detection; inert gas pressure detection; graphite tube fracture or unclamp detection.
- Safety Protection: argon underpressure indicator; cooling water flow insufficiency, overheating or overcurrent alarm; automatic protection function.
- Concentration Calculation Method: standard curve method(1~3 curves); automatic fitting; standard addition method; repeated measurement(1~99 times) and calculation(average value, standard deviation and relative standard deviation).
- Software and Data Processing: high intelligent software; automatic instrument and accessory control; automatic optimization.
- Result Printing: parameter printing; data result printing; graphic printing; report summary; test data saving and exporting in Excel for editing.

GGX-910 / 920 performance features

- Zeeman background correction and full band background deduction.
- Transverse zeeman; constant magnetic field; energy saving and consumption reduction.
- Quasi double beam without preheating.
- Eight lights automatically turn to the tower and preheat simultaneously.
- The patented design of slip-ring eight lamp turret overcomes the rotation and winding of lamp cables.
- Wavelength Range: 190nm to 900nm
- Spectral Bandwidth: 0.2, 0.4, 1.0, 2.0nm(automatic switching)
- C-T optical path design; plane diffraction grating with 1800 scribed lines /mm.
- Focal length: 270mm; short optical path and strong energy.
- Automatic peak setting and automatic spectral bandwidth.
- A variety of self-diagnosis functions, fault detection and other safety functions.
- Windows software in both Chinese and English version has powerful data traceability function. Standard curve method and standard addition method can be selected. With slope reset and curve recalibration functions, the correction curve can be edited, allowing the selection of correction curve and sample blank for correction.



GGX-910 Flame Zeeman Atomic Absorption Spectrophotometer

- Automatic ignition; automatic gas circuit; automatically and continuously adjustable gas flow.
- Titanium alloy combustion head; corrosion-resistant, premixed and all plastic atomization chamber.
- High sensitivity glass atomizer.
- Automatic water seal detection; ignition is prohibited when the water seal is short of water.
- Liquid Level Detection: prohibit the overflow of waste liquid.
- With air and acetylene pressure monitoring, ignition is prohibited if the pressure is insufficient.
- Function of ignition safety check; complete safety interlock protection device; anti-tempering device.
- Flame Monitoring: The gas will be automatically turned off when the flame accidentally goes out.
- Can be equipped with hydride device to realize the measurement of arsenic, mercury, etc.

- Integrated design; built-in graphite furnace power supply;
- Graphite Furnace Temperature: accuracy is less than 0.5%(2000°C); current and voltage vector control.
- Longitudinal Heating: room temperature to 3000°C; heating rate: more than 2000°C/s.
- The patented 64-unit sampler adopts high-precision sample pump and cleaning pump, and the double injection pumps are used for vertical injection(accuracy≤0.5%(20μL)).
- Automatic preparation of standard solution and automatic dilution.
- Gas Pressure Monitoring: prevent damage to graphite cone and graphite tube due to lack of protective gas.
- Graphite Furnace Body Temperature Detection: forbid measurement when the temperature is too high.
- With power transformer temperature monitoring to prevent damage.
- With graphite tube fracture or unclamp detection to ensure normal measurement.

GGX-920 Graphite Furnace Zeeman Atomic Absorption Spectrophotometer



Certificates

- ISO 9001: 2015
- ISO 14001: 2015
- ISO 45001: 2018



GGX-600 Flame Deuterium Lamp Atomic Absorption Spectrophotometer



Optical System

- C-T(Czerny-turner) type optical design; Focal length: 270mm; short optical path and strong energy.
- plane diffraction grating with 1800 scribed lines /mm; high resolution.
- Spectral Bandwidth: 0.2nm, 0.4nm, 1.0nm, 2.0nm (automatic switching)
- Automatic wavelength scanning to achieve accurate wavelength positioning.
- Automatic gain, automatic lamp current, automatic energy balance.
- Deuterium Lamp Background Correction Ability: more than 60 times.
- Adopt reliable and convenient element lamp switching mode, realize element lamp preheating at the same time during measurement.

Atomization System

- Burner: high temperature resistant, corrosion-resistant metal titanium alloy; three-dimensional adjustment.
- High intensity mixing chamber with special treatment technology; corrosion resistance; easy cleaning; no memory effect.
- Corrosion resistant, efficient concentric glass atomizer with impact ball.

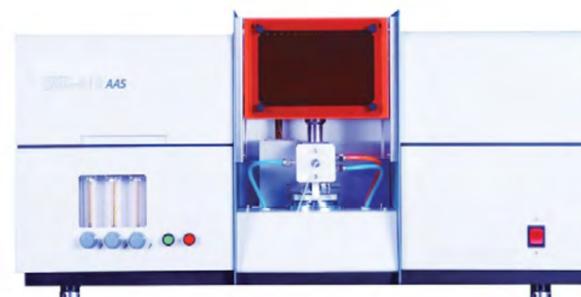
Data Processing System

- Working Mode: absorption, background deduction, background and emission.
- Automatically deduct the influence of zero drift on the measurement results.
- The humanized and professional operation software based on windows7/8/XP provides convenient and fast control function and data processing function.
- Measurement conditions and test data can be quickly imported into Excel to realize online editing and network resource sharing.

Other Features

- With flame emission measurement function, it can provide a variety of measurement methods for alkali metals such as potassium, sodium and lithium.
- With complete safety interlock protection device and anti-tempering device, the instrument will automatically cut off the gas when the accidents happen, such as power off or gas cut-off.
- The new all plastic and durable material shell is used to avoid the corrosion of acid gas in the laboratory.

GGX-610 Flame Deuterium Lamp Atomic Absorption Spectrophotometer



Unique Features of GGX-610:

- Unique auxiliary gas design: reduces the influence of sample introduction on flame state and atomization temperature; more suitable for accurate analysis of organic samples and small volume samples.
- Automatic ignition function.

Compare GGX-600\GGX-610\GGX-900

Instrument Model	Lamp	Buckle Background Mode	Flame Emission	Automatic Ignition	Auxiliary Gas	Host Size/mm
GGX-600	2; manual	deuterium lamp	YES	NO	NO	840*520*425
GGX-610	2; manual	deuterium lamp	YES	YES	YES	840*520*425
GGX-910	8; automatic	zeeman	YES	NO	NO	880*500*480

Typical Domestic Customers



Typical International Customers

For confidential reason, only the regions will be shown

Continent	Country/Region
Asia	Laos
	Vietnam
	Indonesia
	Mongolia
	...
Europe	Russia
	Belarus
	Turkey
	...
Africa	Serbia
	Congo
	Nigeria
	Samoa
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...	...