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Atomic Absorption Spectrophotometer

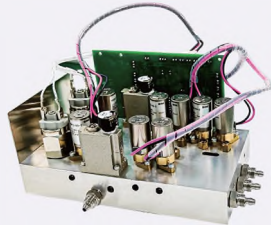


The AAS is fully PC controlled with modern and compact design. They have flexible configuration and different accessories to meet variable requirements. Advance optical system can guarantee stable and reliable performance. Unique and intelligent gas control module can ensure the device safety. The AAS can test more than 70 elements including metallic and non-metallic elements, which can be used widely in petrochemistry, metallurgy, mining, geology, material analysis, food and pharmacy.

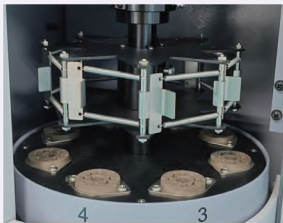
Main Features



Hollow Cathode Lamp



Gas Control Module



Vertical Automatic
4/8 Lamp Turret



Graphite
Furnace Head

- Total reflection optical system can reduce energy loss to ensure better signal-to-noise ratio and lower detection limit.
- Standard deuterium lamp background correction for all models. Standard high-performance self-absorption background correction for double beam models, and optional for the models with 8-lamp turret.
- Automatic pneumatic control module ensures the device safety and accuracy and protects the operator and device better.

- Automatic vertical 4/8-lamp turret supports high-performance element lamp, can be rotated 360 degrees and make sure the test accuracy and reliability is not affected by the gravity.
- Automatic burner adjustment ensures the maximum sensitivity, you can raise or lower the burner according to the reading. Flame detection enhances the device safety.
- Modular design for optical system and circuit makes the maintenance and repair simple.



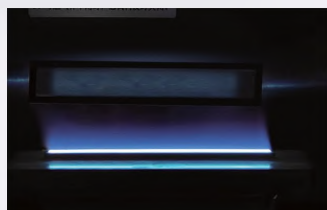
Autosampler



Hydride System



Graphite Tube



Burner Head

- Professional, automatic and easy to operate full operation RGWIN AAS software under MS window system and QA/QC function.
- Transversely heated graphite tube ensures the consistency of the gas temperature in the graphite tube, and make the sample reach the atomic temperature instantly and simultaneously, improve atomic efficiency and test accuracy, ensure that the analysis results are more accurate, reduce the requirements for furnace body and prolong lifetime.

- Safety protection system: flame monitoring (acetylene will be turned off automatically if there is any abnormality and show warning information), unique acetylene protector (warning information will be shown if the leak acetylene concentration is beyond the alert concentration), pressure monitoring (the flame will not work if the air or acetylene pressure is not normal, the graphite furnace will not work if the argon pressure is too high or too low), graphite tube installation self-inspection.

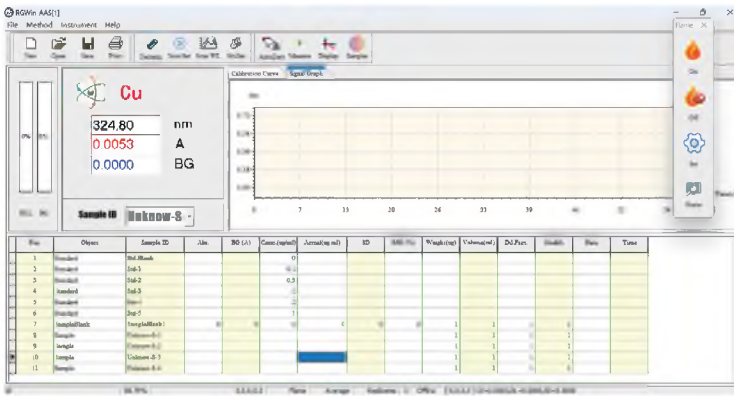


Air Compressor

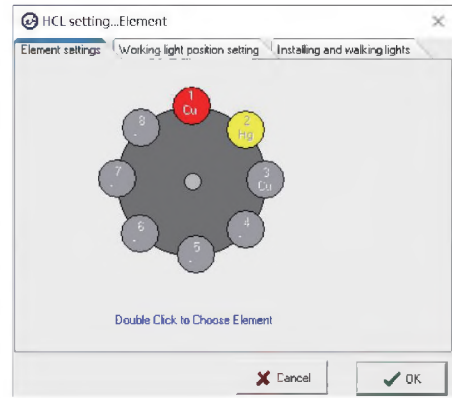


Circulation Cooling Water System

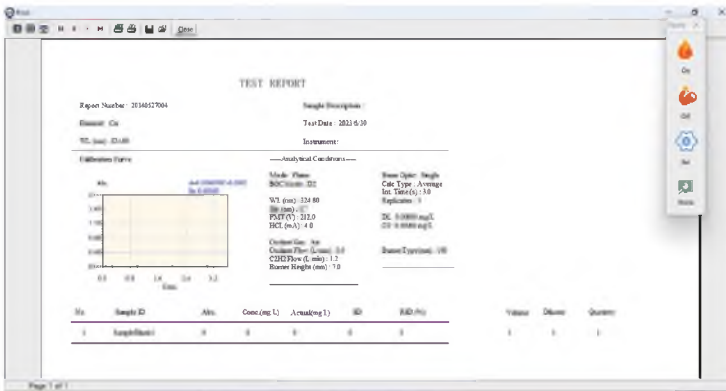
Automatic full operation RGWIN AAS software



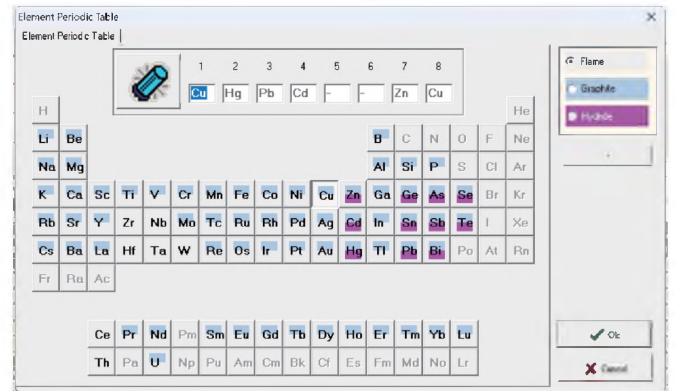
Enter the main interface



Element setting, double-click the lamp position to select the element



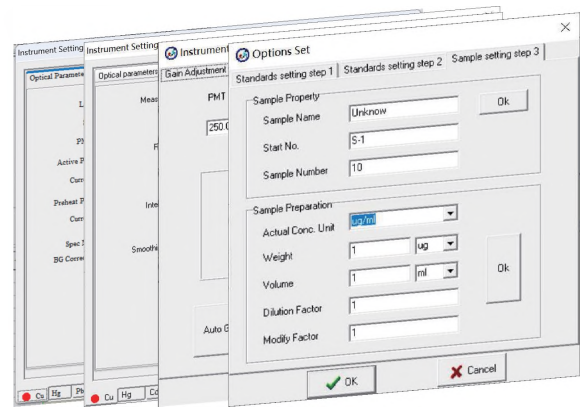
Result printing, Click Print to enter print preview



Select element, atomization mode



"Scan WL" interface



Parameter setting

Flame AAS Specification

| Model | | AA2914 | AA2918 | AA2928 |
|-------------------------|----------------------------------|--|-------------------------|------------------------|
| Optical System | Optical Type | Single beam | Single beam | Double beam |
| | Monochromator | Czerny-Turner type with focal lengths at 350mm | | |
| | Wavelength Range | 190-900nm | | |
| | Grating | Holographic diffraction grating with 1800 lines/mm | | |
| | Slits | Automated slit selection 0.1, 0.2, 0.4, 0.7, 1.4, 2.0 nm | | |
| | Wavelength Accuracy | ±0.3 nm | ±0.2 nm | ±0.15 nm |
| | Wavelength Repeatability | ±0.1 nm | ±0.1 nm | ±0.05 nm |
| | Lamp Holder | Automated 4-lamp turret | Automated 8-lamp turret | |
| | Detector | Wide range UV sensitive photomultiplier tube | | |
| Photometric Performance | Reading Mode | Transmittance(T), Absorbance(A), Concentration(C) | | |
| | Photometric Range | 0-125%, -0.1-3.00A | | |
| | Static Baseline Drift (Cu) | ≤0.004A/30 min | ≤0.003A/30 min | ≤0.002A/30 min |
| | Dynamic Baseline Drift (Cu) | ≤0.006A/15 min | ≤0.005A/15 min | ≤0.004A/15 min |
| | Background Correction | Deuterium (D2) Background Correction | | D2 and Self-absorption |
| Flame Analysis | Characteristic Concentration | Cu≤0.04ug/ml | Cu≤0.035ug/ml | Cu≤0.02ug/ml |
| | Detection Limit | Cu≤0.008ug/ml | Cu≤0.006ug/ml | Cu≤0.004ug/ml |
| | Repeatability (Cu) | RSD≤1% | RSD≤0.6% | RSD≤0.5% |
| | Acetylene Flow Control | Auto 12-level | Auto 12-level | Auto 12-level |
| | Air Flow Control | Auto 4-level | Auto 4-level | Auto 4-level |
| | Nebulizer | High efficiency glass | | |
| | Burner Adjustment | Automatic up and down | | |
| | Burner Head | Titanium alloy 100mm burner for air/acetylene operation | | |
| | Premix Chamber | Corrosion resistant | | |
| | Safety Protection | Flame sensor, gas leak sensor, gas pressure sensor | | |
| Data Processing | Software | RGWIN AAS software package | | |
| | Analytical Method | Flame AA, Flame AE, Hydride Generation | | |
| | Concentration Calculation Method | Standard curve(6 linear/non-linear fitting), Standard Addition, Interpolation | | |
| | Repeated Measurement Times | 1-30 times, calculate the average, show SD and RSD value of absorbance and concentration | | |
| | QA/QC Function | Correlation coefficient, SD & RSD of Abs and calculate SD & RSD of concentration | | |
| | Report Printing | Parameter printing, resulting printing | | |
| | Communication Port | Standard RS-232 | | |
| | Others | Computer | External(excluded) | |
| Dimension & Weight | | (W*D*H), Kg | | |
| Power Supply | | 110/220V, 50/60Hz | | |
| Working Environment | | Temperature 10 ~ 35 °C, Humidity≤85% | | |

Packing List

| NO. | Description | Qty | NO. | Description | Qty |
|-----|----------------------------|-----|-----|---|-----|
| 1 | Main Unit | 1 | 8 | 6mm air tube(transparent) | 10m |
| 2 | Power Cable | 1 | 9 | USB(manual and software) | 1 |
| 3 | Data Cable | 1 | 10 | Drain Tube | 2m |
| 4 | Screw Driver | 1 | 11 | Acetylene pressure reducing valve connector | 1 |
| 5 | Cu HCL | 1 | 12 | 5A fuse | 3 |
| 6 | Air Compressor | 1 | 13 | Ignition filament | 5 |
| 7 | 6mm acetylene tube(orange) | 10m | | | |

Graphite Furnace AAS Specification

| Model | | AA3014 | AA3018 |
|---------------------------|------------------------------|--|-------------------------|
| Optical System | Optical Type | Single beam | Single beam |
| | Monochromator | Czerny-Turner type with focal lengths at 350mm | |
| | Wavelength Range | 190-900nm | |
| | Grating | Holographic diffraction grating with 1800 lines/mm | |
| | Slits | Automated slit selection 0.1, 0.2, 0.4, 0.7, 1.4, 2.0 nm | |
| | Wavelength Accuracy | ±0.3 nm | ±0.2 nm |
| | Wavelength Repeatability | ±0.1nm | ±0.1nm |
| | Lamp | Automated 4-lamp turret | Automated 8-lamp turret |
| | Detector | Wide range UV sensitive photomultiplier tube | |
| Photometric Performance | Reading Mode | Transmittance(T), Absorbance(A), Concentration(C) | |
| | Photometric Range | 0-125%, -0.1-3.00A | |
| | Static Baseline Drift (Cu) | ≤0.004A/30 min | ≤0.003A/30 min |
| | Dynamic Baseline Drift (Cu) | ≤0.006A/15 min | ≤0.005A/15 min |
| | Background Correction | Deuterium (D2) Background Correction | |
| Graphite Furnace Analysis | Characteristic Concentration | Cd≤0.9pg , Cu≤20pg | Cd≤0.9pg , Cu≤20pg |
| | Detection Limit | Cd≤1.5pg , Cu≤25pg | Cd≤1.5pg , Cu≤25pg |
| | Repeatability (Cu) | RSD≤4% | RSD≤4% |
| | Temperature Range | Ambient -3000°C | Ambient -3000°C |
| | Ramp and holding time | 1-255s | 1-255s |
| | Heating Rate | Maximum linear heating rate 2000°C/s | |
| | Atomization Heating Method | Light-controlled heating, Time-controlled heating, General heating | |
| | Gas Flow Rate Inside Tube | 1 L/min | |
| | Gas Flow Rate Outside Tube | 4-speed adjustable (0, 50, 200, 250ml/min) | |
| | Safety Protection | Water flow sensor, Argon pressure sensor, Furnace body temperature sensor, Graphite tube installation self-inspection. | |

| Model | | AA3014 | AA3018 |
|-----------------|----------------------------------|--|--------|
| Data Processing | Software | RGWIN AAS software package | |
| | Analytical Method | Flame AA, Flame AE, Hydride Generation | |
| | Concentration Calculation Method | Standard curve(6 linear/non-linear fitting), Standard Addition, Interpolation | |
| | Repeated Measurement Times | 1-30 times, calculate the average, show SD and RSD value of absorbance and concentration | |
| | QA/QC Function | Correlation coefficient, SD & RSD of Abs and calculate SD & RSD of concentration | |
| | Report Printing | Parameter printing, resulting printing | |
| | Communication Port | Standard RS-232 | |
| Others | Computer | External(excluded) | |
| | Dimension & Weight | (W*D*H), Kg | |
| | Power Supply | 110/220V, 50/60Hz | |
| | Working Environment | Temperature 10 ~ 35 °C, Humidity ≤85% | |

Packing List

| NO. | Description | Qty | NO. | Description | Qty |
|-----|--------------------------|-----|-----|--|-----|
| 1 | Main Unit | 1 | 9 | Argon pressure reducing valve connector | 1 |
| 2 | Power Cable | 1 | 10 | Graphite tube | 5 |
| 3 | Data Cable | 1 | 11 | High power socket | 1 |
| 4 | Screw Driver | 1 | 12 | 6*4mm argon tube(transparent) | 10m |
| 5 | Cd HCL | 1 | 13 | 5-50ul pipette | 1 |
| 6 | Cd HCL | 1 | 14 | 200ul pipette tip(1000pc/bag) | 1 |
| 7 | USB(manual and software) | 1 | 15 | 6*10mm cooling water tube | 6m |
| 8 | 5A fuse | 3 | 16 | Graphite furnace camera connection cable | 1 |

Flame & Graphite Furnace AAS Specification

| Model | | AA6018 | AA6028 |
|----------------|--------------------------|--|-------------|
| Optical System | Optical Type | Single beam | Double beam |
| | Monochromator | Czerny-Turner type with focal lengths at 350mm | |
| | Wavelength Range | 190-900nm | |
| | Grating | Holographic diffraction grating with 1800 lines/mm | |
| | Slits | Automated slit selection 0.1, 0.2, 0.4, 0.7, 1.4, 2.0 nm | |
| | Wavelength Accuracy | ±0.2 nm | ±0.15 nm |
| | Wavelength Repeatability | ±0.1nm | ±0.05nm |
| | Lamp Holder | Automated 8-lamp turret | |
| | Detector | Wide range UV sensitive photomultiplier tube | |

| Model | | AA6018 | AA6028 |
|---------------------------|----------------------------------|--|-------------------|
| Photometric Performance | Reading Mode | Transmittance(T), Absorbance(A), Concentration(C) | |
| | Photometric Range | 0-125%, -0.1-3.00A | |
| | Static Baseline Drift (Cu) | ≤0.003A/30 min | ≤0.002A/30 min |
| | Dynamic Baseline Drift (Cu) | ≤0.005A/15 min | ≤0.004A/15 min |
| | Background Correction | Deuterium (D2) Background Correction and Self-absorption Background Correction | |
| Flame Analysis | Characteristic Concentration | Cu≤0.035ug/ml | Cu≤0.02ug/ml |
| | Detection Limit | Cu≤0.006ug/ml | Cu≤0.004ug/ml |
| | Repeatability (Cu) | RSD≤0.6% | RSD≤0.5% |
| | Acetylene Flow Control | Auto 12-level | Auto 12-level |
| | Air Flow Control | Auto 4-level | Auto 4-level |
| | Nebulizer | High efficiency glass | |
| | Burner Adjustment | Automatic up and down | |
| | Burner Head | Titanium alloy 100mm burner for air/acetylene operation | |
| | Premix Chamber | Corrosion resistant | |
| | Safety Protection | Flame sensor, gas leak sensor, gas pressure sensor | |
| Graphite Furnace Analysis | Characteristic Concentration | Cd≤0.6pg, Cu≤20pg | Cd≤0.5pg, Cu≤20pg |
| | Detection Limit | Cd≤1.0pg, Cu≤25pg | Cd≤0.8pg, Cu≤25pg |
| | Repeatability (Cu) | RSD≤3% | RSD≤2.5% |
| | Temperature Range | Ambient -3000°C | Ambient -3000°C |
| | Ramp and holding time | 1-255s | 1-255s |
| | Heating Rate | Maximum linear heating rate 2000°C/s | |
| | Atomization Heating Method | Light-controlled heating, Time-controlled heating, General heating | |
| | Gas Flow Rate Inside Tube | 1 L/min | |
| | Gas Flow Rate Outside Tube | 4-speed adjustable (0, 50, 200, 250ml/min) | |
| | Safety Protection | Water flow sensor, Argon pressure sensor, Furnace body temperature sensor, Graphite tube installation self-inspection. | |
| Data Processing | Software | RGWIN AAS software package | |
| | Analytical Method | Flame AA, Flame AE, Hydride Generation | |
| | Concentration Calculation Method | Standard curve(6 linear/non-linear fitting), Standard Addition, Interpolation | |
| | Repeated Measurement Times | 1-30 times, calculate the average, show SD and RSD value of absorbance and concentration | |
| | QA/QC Function | Correlation coefficient, SD & RSD of Abs and calculate SD & RSD of concentration | |
| | Report Printing | Parameter printing, resulting printing | |
| | Communication Port | Standard RS-232 | |
| Others | Computer | External(excluded) | |
| | Dimension & Weight | (W*D*H), Kg | |
| | Power Supply | 110/220V, 50/60Hz | |
| | Working Environment | Temperature 10 ~ 35 °C, Humidity≤85% | |

Packing List

| NO. | Description | Qty | NO. | Description | Qty |
|-----|----------------------------|-----|-----|---|-----|
| 1 | Main Unit | 1 | 12 | Acetylene pressure reducing valve connector | 1 |
| 2 | Power Cable | 1 | 13 | 5A fuse | 3 |
| 3 | Data Cable | 1 | 14 | Argon pressure reducing valve connector | 1 |
| 4 | Screw Driver | 1 | 15 | Graphite tube | 5 |
| 5 | Cu HCL | 1 | 16 | High power socket | 1 |
| 6 | Cd HCL | 1 | 17 | 6*4mm argon tube(transparent) | 10m |
| 7 | Air Compressor | 1 | 18 | 5-50ul pipette | 1 |
| 8 | 6mm acetylene tube(orange) | 10m | 19 | 200ul pipette tip(1000pc/bag) | 1 |
| 9 | 6mm air tube(transparent) | 10m | 20 | 6*10mm cooling water tube | 6m |
| 10 | USB(manual and software) | 1 | 21 | Graphite furnace camera connection cable | 1 |
| 11 | Drain Tube | 2m | 22 | Ignition filament | 5 |

Comparison Table

| Model | Optical Type | Atomization | Lamp Holder | Background Correction |
|--------|---------------|-----------------------------|----------------------------------|--|
| AA2914 | Single Beam | Flame | 4-lamp Turret | Deuterium (D2) Lamp |
| AA2918 | | | 8-lamp Turret | Deuterium (D2) Lamp Self-absorption(optional) |
| AA2928 | Double Beam | | 8-lamp Turret | Deuterium (D2) & Self-absorption |
| AA3014 | Single Beam | Graphite Furnace | 4-lamp Turret | Deuterium (D2) Lamp |
| AA3018 | | | 8-lamp Turret | Deuterium (D2) Lamp Self-absorption(optional) |
| AA6018 | | Flame & Graphite Furnace | 8-lamp Turret | Deuterium (D2) Lamp Self-absorption(optional) |
| AA6028 | 8-lamp Turret | | Deuterium (D2) & Self-absorption | |

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