PEAK INSTRUMENTS

ATOMIC ABSORPTION SPECTROPHOTOMETER

PEAK Instruments Inc.

COMPANY PROFILE

Our Promise

Respond to customers and provide solutions in 8 hours.

Our Mission

Provide high quality products and services.

Our Vision

To be a well-known brand for analytical instruments.

PEAK Instruments Inc is located in Houston, TX-77084, where our head office and warehouseare also located, which is a high tech enterprise integrated with R&D, production, sales and service of spectrophotometer, pH meter, conductivity meter, dissolved oxygen meter, ion meter and balances, which have wide applications in the following areas like metallurgy, pharmacy, food, health, institutes, biological chemistry, life science, petrochemical industry, quality control, environmental protection, electrochemistry and water quality analysis, etc..

We have professional teams of management, R&D, production, QC, sales and technical support, which guarantee good quality products, competitive prices and efficient service for global customers. We have CE and ISO9001 certificates.We continuously absorb new ideas and technologies to improve our products and services in accordance with the concept of innovation, quality and service.

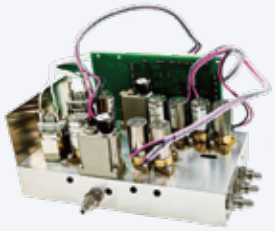
We have steady growth and good reputation in the markets of more than 95 countries, like USA, Argentina, Italy, Germany, Spain, Russia, Korea, India, Indonesia and Egypt.

Atomic Absorption Spectrophotometer

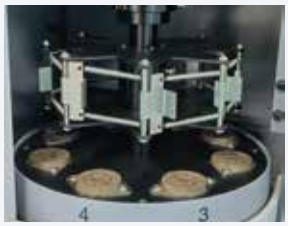
The AAS is fully PC controlled with modern and compact design. They have flexible configuration and different accessories to meet variable requirements. Advance optical system can guarantee stable and reliable performance. Unique and intelligent gas control module can ensure the device safety. The AAS 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

Burner Head

- 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.

- 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.

Autosampler

Hydride System

Graphite Tube

Graphite
Furnace Head

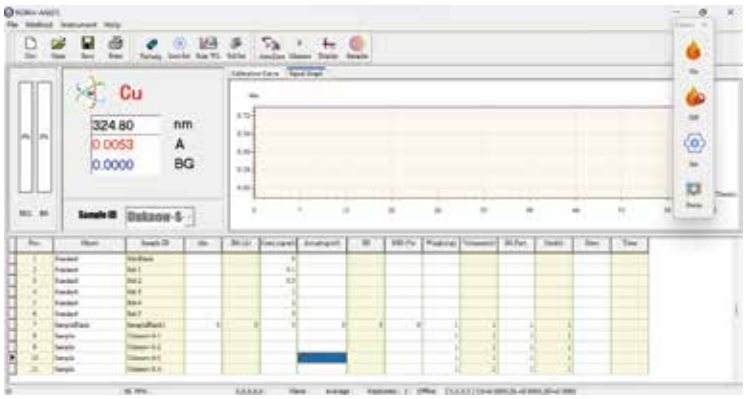
- Professional, automatic and easy to operate full operation RGWIN AAS software under MS window system and QA/QC function.
- Longitudinally heated graphite tube ensures the high analytical sensitivity, good reproducibility and make the operations more stable and reliable, which make sure the analysis results are more accurate. Interchangeability of the graphite tube is ensured to reduce the cost of the consumables.

- 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.

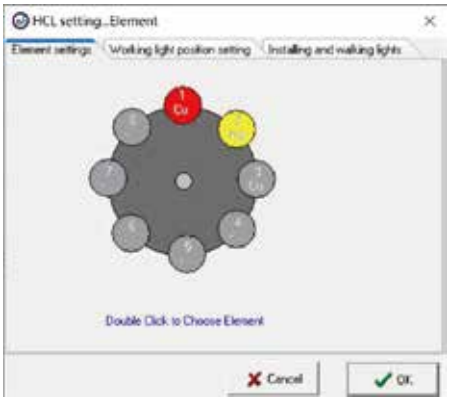
Air Compressor

Circulation Cooling
Water System

Automatic full operation
RGWIN AAS software



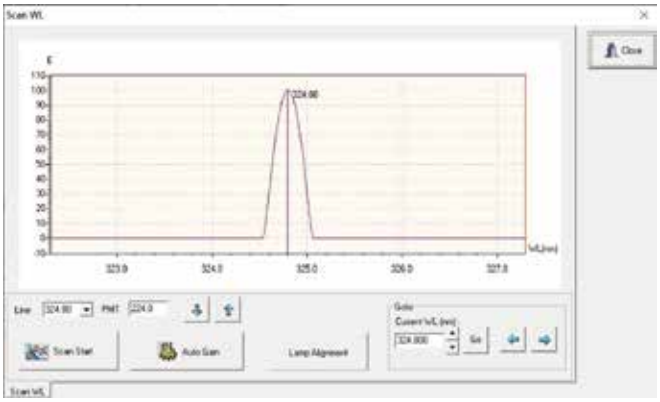
Enter the main interface



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⩽0.035ug/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 pacakage		
	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	850*650*550mm(W*D*H), 100KG		
	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 Mass(C_0)	Cd⩽1pg , Cu⩽22pg	Cd⩽0.8pg , Cu⩽20pg
	Detection Limit(DLs)	Cd⩽1.5pg , Cu⩽20pg	Cd⩽1pg , Cu⩽10pg
	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	850*650*550mm(W*D*H), 100KG	
	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	Cu 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≤0.035ug/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 Mass(C_0)	Cd⩽0.8pg , Cu⩽20pg	Cd⩽0.8pg , Cu⩽20pg
	Detection Limit (DLs)	Cd⩽1.0pg , Cu⩽10pg	Cd⩽0.8pg , Cu⩽5pg
	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	850*650*550mm(W*D*H), 100KG	
	Power Supply	110/220V, 50/60Hz	
	Working Environment	Temperature 10 ~ 35 °C, Humidity≦85%	

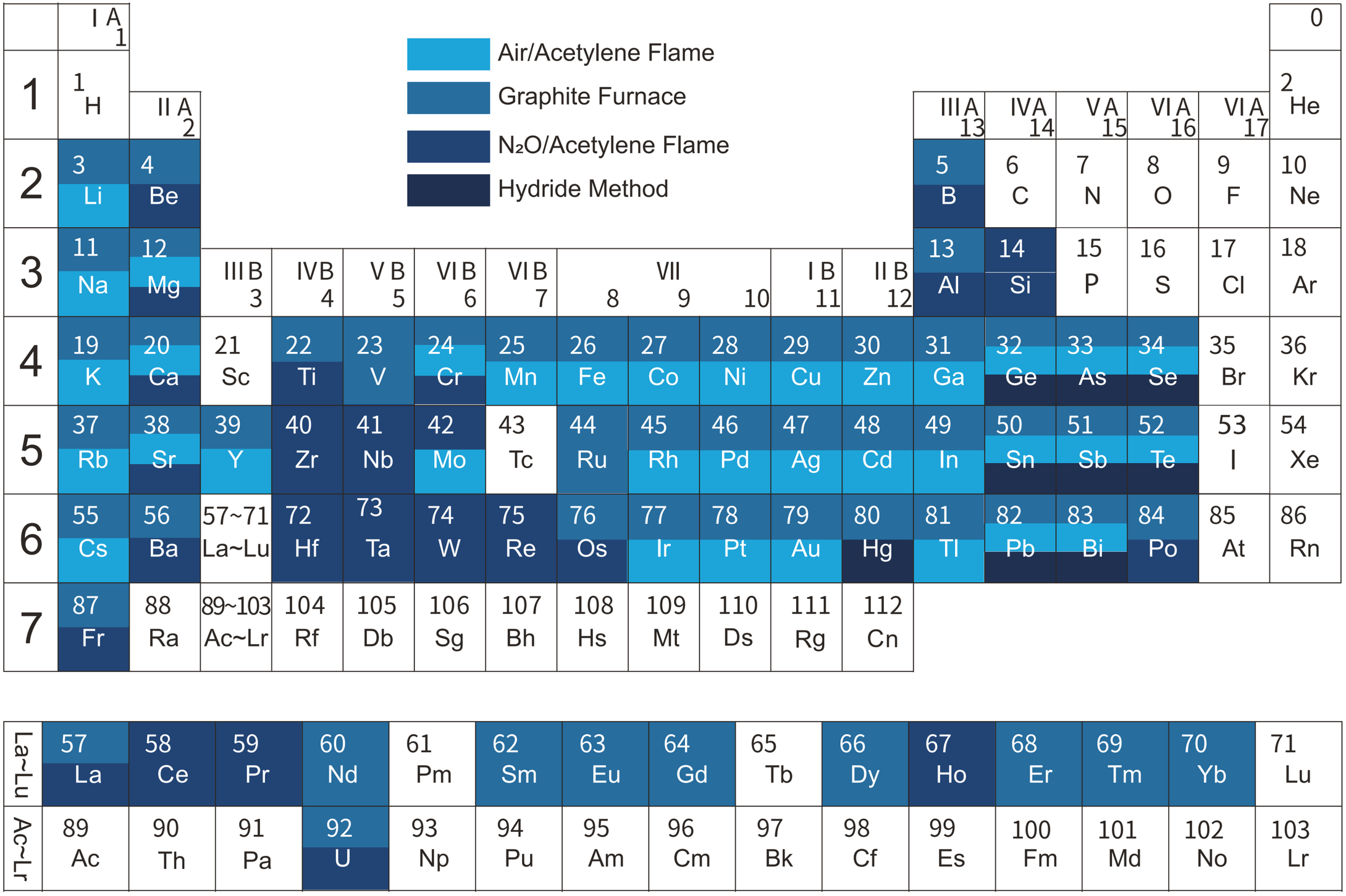
Packing List

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	Double Beam		8-lamp Turret	Deuterium (D2) & Self-absorption

AAS Application



	I A 1	II A 2	III B 3	IV B 4	V B 5	VI B 6	VII B 7	VII 8	VII 9	VII 10	I B 11	II B 12	III A 13	IV A 14	V A 15	VI A 16	VII A 17	0
1	1 H																	2 He
2	3 Li	4 Be											5 B	6 C	7 N	8 O	9 F	10 Ne
3	11 Na	12 Mg											13 Al	14 Si	15 P	16 S	17 Cl	18 Ar
4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	36 Kr
5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	54 Xe
6	55 Cs	56 Ba	57~71 La~Lu	72 Hf	73 Ta	74 W	75 Re	76 Os	77 Ir	78 Pt	79 Au	80 Hg	81 Tl	82 Pb	83 Bi	84 Po	85 At	86 Rn
7	87 Fr	88 Ra	89~103 Ac~Lr	104 Rf	105 Db	106 Sg	107 Bh	108 Hs	109 Mt	110 Ds	111 Rg	112 Cn						

La~Lu	57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu
Ac~Lr	89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr

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