



MultiplelabsTM
Turnkey Laboratories Solutions



Analytical[®]
Technologies Limited

ICP OES 3500



EPC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

Analytical Technologies Limited

An ISO 9001 Certified Company

www.analyticalgroup.net

Inductively Coupled Plasma Optical (Atomic) Emission spectrometer

ICP-3500 is the first full spectrum direct reading ICP-OES researched by Analytical Technologies based on many years' developing experience of spectral analysis instrument, adopting the independently developed 2 d spectrometer echelle grating system, and auto-excitation type solid state radiofrequency power supply, fusing together the most advanced high-speed CCD in the world, with high resolution, dynamic range, stable work and widely applicable etc, and is able to analyze 72 elements at most in the same time, the detection ability has reached the international advanced level. ICP-OES is intended for determination of as many as elements like, Al, Ba, Be, B, V, Bi, W, Fe, Cd, K, Ca, Co, Si, Li, Mg, Mn, Cu, Mo, As, Na, Ni, Nb, Sn, Hg, Pb, Se, S, Sb, Ti, P, Cr and Zn etc.

- * The full spectrum of direct reading optical system
- * Auto-excitation type solid-state radiofrequency power supply
- * Overflow-proof and scientific research level CCD
- * The observation model can be configured
- * Convenient operation
- * Optimized intelligence source
- * Automatically calibrated spectrum line
- * A very short stability time
- * Distributed intelligent sweep method;
- * The interlocking power safety protection.

Accessory Composition



Technical Features

- * Echelle grating system and prism consist 2 d cross dispersion optical system, covering 165-870 nm.
- * Auto-excitation type solid-state radiofrequency power supply; Using the fastest frequency conversion matching, with plasma torch stability, hard to put out.
- * Customized scientific research level and backside illuminated CCD, have the overflow-proof function, high signal-to-noise ratio, wide dynamic range.
- * Light room multipoint array intelligent argon sweep, small argon gas consumption, thoroughly quickly replacement, argon (99.99% purity).
- * Based on method library management software of the classification and version, facilitate the method management, maintain, and inheritance.
- * Patented SAR automatic spectral lines separation function, benefit to eliminate spectrum line interference between elements.
- * "One key type" operation mode and "the wizard type" analysis process designed by Analytical Technologies according to the customer demand, has improved the analysis efficiency effectively.

Technical Specification

Technique	
Injection system	Standard Imported concentric nebulizer kit,cyclonic spray chamber kit,detachable torch,
Peristaltic pump	Peristaltic pump with three-channel 12 roller, 0~125 revolutions can be adjusted,its stability of sample injection
Optical splitting system	Independent air duct design two- dimensional Echelle grating spectrometer
Resolution ratio	< 0.007nm at (200nm)
wavelength range	160-900nm
Sensor	Back-illuminated area-array CCD / CID
	Back-illuminated design itself has good UV spectrum responsivity
	1024x1024 pixel, 13x13um

Plasma viewing	Dual plasma view: Axial and Radial
Detection limits	As a table; For all elements with recommended wavelength (in nm) and lengths of analytical lines; For axial and radial views; in µg/L
Cooling system	To cool the Spectrometer; A closed water system; As an internal (built-in) and/or external (with a chiller) performance.
Power supply	220V±10%, 50Hz Power cable, Euro plug
Readout Noise	2e-rms
Features of light chamber	focal distance is 380mm, constant temperature of 36°C, independent air duct.
Direction of view	Duo View or Single Observation
Sample System	
Torch	Vertical Orientation; Automatic alignment.
Corrosion resistance	ICP-OES shall equipped with the corrosive -resistant sample introduction system. including resistance to all acids (including HF), alkalis and salt solutions.
Plasma generator	
Generator	Up to 40 Mhz
Capacity	Lower limit: not less than 700 W Upper limit: not more than 1700 W
Plasma control	Automatic software- based
Operating conditions	
Ambient air teperature range	+15°C to +35°C
Relative humidity range	Lower limit: 20% to 30% Upper limit: 70% to 90%

Performance	
Precision	RSD<0.5% (1ppm)
Stability	RSD (2 hr)<1%, RSD(4hr)<1.5% (1ppm), RSD(8 hr)<2%
Detection limit	Ni<0.5ppb, Cr<0.3ppb, Cu<0.4ppb, Mn<0.06ppb, Ba<0.03ppb
Preheating start time	10 - 30min
Analysis speed	Analyze all elements (about 30s)
life cycle cost	
Argon Consumption (Usage State)	12L/min
Argon Consumption (standby mode)	0.5L/min
Dimension	
L x W x H	935x732x659mm
Weight	98kg

Autosampler

- * Compatible with ICP-OES;
- * For automatic injection of samples into ICP-OES;
- * Integrated or stand alone;
- * The complete set consist of;
 - Sampling arm
 - Sample probe(s);
 - Peristaltic pump
 - Removeable sample trays
- * A set of vials (with or without caps)

Hydride generator

- * Compatible with ICP-OES
- * For highly sensitive determination of heavy metals in aqueous solutions, including;
 - Mercury (Hg)
 - Arsenic (As)
 - Stibium (Sb)
 - Tin (Sn)
 - Bismuth (Bi)
 - Selenium (Se) and etc.

Uninterruptable power supply

- * Uninterruptable power supply (UPS) shall have sufficient power to complete one cycle of the system comprising ICP-OES, autosampler, hydride generator, air compressor, and etc.

Application Areas

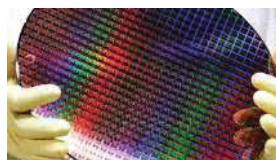
Two-Way Detection Model



Environment



Water Quality



Semiconductor



Biology



Food

Vertical Detection Model



Metallurgy



Petrochemicals



Mining



Earth & Plants



Saltwater

▶▶ **Servicing, Validation, Trainings and Preventive Maintenance :**

- Servicing : We have team of service engineers who can attend to any make of instrument promptly @the most affordable cost.
- Trainings :We also take up preventive maintenance to reduce downtime of instrument's Trainings.
- AMC's/CMC : We offer user training both in-House and at customer sites on instrument principles, operations, troubleshooting.
- Validations : We have protocols for carrying out periodic Validations as per GLP/ GMP/USFDA norms.
- Instruments : We offer instruments/Renting Services Modules like pumps, detector etc. on Rent.



▶▶ **About Analytical Technologies**

Analytical Technologies is synonymous for offering technologies for doing analysis and is the Fastest Growing Global Brand having presence in at least 96 countries across the globe. Analytical Technologies Limited is an ISO :9001 Certified Company engaged in Designing, Manufacturing, Marketing & providing Services for the Analytical, Chromatography, Spectroscopy, Bio Technology, Bio Medical, Clinical Diagnostics, Material Science & General Laboratory Instrumentation. Analytical Technologies, India has across the Country operations with at least 4 Regional Offices, 6 Branch Offices & Service Centers. Distributors & Channel partners worldwide.

▶▶ **Our Products & Technologies**



UV/VIS Spectro 2080+ Double Beam



Infra FTIR



Optima Gas Chromatograph 3007



Optima Gas Chromatograph 2979 Plus



Flash Chromatograph



Atomic Absorption Spectrophotometer



Liquid Partical Counter



Optical Emission Spectrophotometer



DSC/TGA



Semi Auto Bio Chemistry Analyzer



HEMA 2062 Hematology Analyzer



Micro Plate Reader/Washer



URINOVA 2800 Urine Analyzer



Total Organic Carbon 3800



Fully Automated CLIA



NOVA-2100 Chemistry Analyzer



PCR/Gradient PCR/ RTPCR



TOC Analyzer



Laser Particle Size Analyzer



Ion Chromatograph



Water purification system

Regulatory compliances



Corporate Social Responsibility

Analytical Foundation is a nonprofit organization (NGO) found for the purpose of:



Analytical Foundation

1. Research & Innovation Scientist's awards/QC Professional Award : Quality life is possible by innovation only and the innovation is possible by research only, hence ANALYTICAL FOUNDATION is committed to identify such personalities for their contributions across various field of Science and Technology and awarding them yearly. To participate for award, send us your details of research / testing / publication at Info@analyticalfoundation.org

2. Improving quality of life by offering YOGA Training courses, Work shops/Seminars etc.

3. ANALYTICAL FOUNDATION aims to DETOXYFY human minds,souls and body by means of yoga, Meditation, Ayurveda, Health Care, Awards, Media, Events, Camps etc.

Reach us @



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