

MGA-1000

Zeeman Atomic Absorption Spectrometer
with Electrothermal Atomization



KEY TECHNOLOGIES

- Zeeman High Frequency Polarization Modulation (ZHFP) background correction
- Simultaneous measurement of total and background absorptions provides accurate background correction even for complex sample matrices
- High intensity electrodeless discharge lamps (EDL) ensure lower detection limits compared to traditional hollow cathode lamps (HCL) and make possible direct As and Se determination at ppb and sub-ppb levels without hydride generation technique
- The stabilized temperature platform furnace (STPF) concept is implemented
- Instrument drifts arising from various sources, e.g., spectral lamps, electronics, are effectively compensated by quasi-double beam optical system. No warm-up needed
- Cold Vapor / Hydride Generation technique available
- Noiseless operation and small size

HIGH ANALYTICAL PERFORMANCE

- Simple and direct analysis of samples with high salt and organic content including blood and biological fluids, sea water and brines, some food and soil digests, etc.
- Lower detection limits for the elements for which EDLs are available. Thus Sb, As, Bi, Cd, Pb, P, Se, Te, Tl, Sn and Zn can be determined in a variety of complex samples without pre-concentration and hydride generation technique

AUTOMATION & USABILITY

- Plug & Measure convenience
- User-friendly software for setting operating conditions, results storage and processing
- PC controlled 6-lamp turret designed for main types of Hollow Cathode Lamps and Electrodeless Discharge Lamps
- Smart autosampler with all routine functions
- Safety self-control



ANALYTES

	I	II	III	IV	V	VI	VII		
1	H							H	He
2	Li	Be	B	C	N	O	F	Ne	
3	Na	Mg	Al	Si	P	S	Cl	Ar	
4	K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co Ni
	Cu	Zn	Ga	Ge	As	Se	Br	Kr	
5	Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh Pd
	Ag	Cd	In	Sn	Sb	Te	I	Xe	
6	Cs	Ba	La	Hf	Ta	W	Re	Os	Ir Pt
	Au	Hg	Tl	Pb	Bi	Po	At	Rn	

<0.1 ppb	0.1-1 ppb
<div style="width: 100%; height: 20px; background: linear-gradient(to right, green 50%, blue 50%);"></div>	
>1 ppb	

INDUSTRIES

Graphite Furnace Atomic Absorption Spectroscopy (GFAAS) is an excellent solution for trace element analysis in various fields:

- Environmental monitoring
- Water treatment
- Food and Beverages
- Agriculture
- Pharmaceuticals and Life science
- Medicine and Biochemistry
- Forensics and Clinical research
- Petrochemistry and Refineries
- Process control and Material analysis
- Science and Research

For laboratories with not too high sample throughput, GFAAS secures optimal combination of high selectivity, sensitivity and low-cost analysis.

The lists of standards (ISO, ASTM, EN, EPA, AOAC, etc.) applicable to MGA-1000 spectrometer are available at www.lumexinstruments.com

LOW COST ANALYSIS

- Standard graphite tubes (28 mm) of both Massman and L'vov types are available
- The autosampler accommodates standard plastic vials and Eppendorf®-type tubes
- Prolonged tube lifetime

SPECIFICATIONS

Spectral range	185–900 nm
Furnace heating rate	up to 4500 K/sec
Argon flow rate (high purity argon)	< 1 l/min
Maximum temperature of the furnace atomizer	3000 °C
Tube lifetime	800 heating cycles
Size	800x475x310 mm
Weight	50 kg

SERVICE & SUPPORT

- Trainings and Seminars
- Warranty and Post-warranty Service
- Customized analytical procedures by request and Validation Support
- Consumables Supply

The information and specifications in this publication are subject to change without notice.

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