MGA-1000 Zeeman Graphite Furnace Spectrometer with Electrothermal Atomization





KEY TECHNOLOGIES

- Zeeman High Frequency Polarization Modulation (ZHFPM) 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
- Quasi-double beam optics eliminate drifts and enable direct work with no warm-up needed
- Cold Vapor / Hydride Generation technique available
- Noiseless operation and compact 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 essential functions
- Safety self-control



ANALYTES

1 H	Limits of detection (LOD) for model samples												2 He				
3 Li	4 Be		<().1 ppb		0.1-1 ppb				>1 ppb			6 C	7 N	8 O	9 F	10 Ne
11	12									13	14	15	16	17	18		
Na	Mg									Al	Si	P	S	CI	Ar		
19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36
K	Ca	Sc	Ti	V	Cr	Mn	Fe	Co	Ni	Cu	Zn	Ga	Ge	As	Se	Br	Kr
37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54
Rb	Sr	Y	Zr	Nb	Mo	Tc	Ru	Rh	Pd	Ag	Cd	In	Sn	Sb	Te		Xe
55	56	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86
Cs	Ba	Lu	Hf	Ta	W	Re	Os	Ir	Pt	Au	Hg	TI	Pb	Bi	Po	At	Rn

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
- Pharmaceutics 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 works with 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 analysis 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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8LEN07.15.01-7