

ICP Spectrometer



ICP Spectrometer LICP-A10

ICP spectrometer LICP-A10 detects trace elements using argon plasma where the atomized liquid sample is injected. With an analyzing rate of 26 elements per minute results can be achieved with lower levels of detection and measurement of trace and ultra-trace elements. Elements can be traced from liquid and solid samples. Detection of liquid flow from the spray chamber by optical drain sensor offers exceptional sensitivity and accuracy.

Features

- » Scanning range variance (190 nm to 500 nm / 190 nm to 800 nm)
- » Rapid analysis – 26 elements per minute
- » Temperature range – 20 to 28 °C
- » Optical pathway – Czerny-turners
- » Low detection limit
- » Detection of multi-elements including non-metallic
- » Single and multi-element measurement method
- » Indication for wavelength error and repeatability
- » Range of measurement – common to trace

Applications

Used in clinical analysis for detection of metals in biological fluids , environmental analysis for trace element detection in water , soil , plants , pharmaceuticals for traces of catalysts and poison metals like Cd , Pb , industries for noble metal detection

Specification

Model No	LICP-A10
Wavelength range (3600 lines / mm)	180 to 500 nm
Wavelength range (2400 lines / mm)	180 to 800 nm
Temperature	20 - 28 °C
Elements per minute	26 elements
Humidity	70 %
Focal length	1000 mm
Standard deviation	RSD ≤ 1.0 %
Correlation coefficient	≥ 0.9998
Gas source	Argon (99.99 %)
Plasma gas flow meter	100 - 1000 L / h
Auxillary gas flow meter	10 - 100 L / h
Carrier gas flow meter	10 - 100 L / h
Cooling water flow rate	5 liters per min
Cooling water temperature	21 - 26 °C
Water outlet diameter	Ø 10 mm
Line dispersion rate	0.26 nm
Resolving power	≤ 0.008 nm
Incident slit	20 µm
Co-axial sprayer diameter	6 mm
Coil diameter	25 mm (3 turn)
Double room fog diameter	34 mm
Quartz tube torch diameter	20 mm
Mirror dimensions	78 x 105 x 16 mm

Element Detection Limits (Unit - µg / ml)

Element	Be	Mg	Ca	Sr	Ba	Sc	Y	Eu	Yb
Wavelength (nm)	313.042	279.553	393.366	407.771	455.403	335.373	371.030	381.967	369.419
Detection limit	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

Element	Lu	La	Gd	Dy	Ho	Er	Tm	Zn	Cd
Wavelength (nm)	261.542	333.749	342.247	353.170	345.600	337.271	313.126	213.856	226.502
Detection limit	< 1.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0

Element	Fe	Ti	Cu	Mn	V	B	Ni	Cr	Co
Wavelength (nm)	239.562	344.941	324.754	257.610	309.311	249.773	221.647	205.552	238.204
Detection limit	< 3.0	< 3.0	< 3.0	< 3.0	< 3.0	< 5.0	< 5.0	< 5.0	< 5.0

Element	Zr	Mo	Ag	Au	Si	Al	Ir	P	Hg
Wavelength (nm)	343.823	202.030	328.068	242.795	251.611	396.152	224.268	213.618	194.227
Detection limit	< 5.0	< 5.0	< 5.0	< 5.0	< 5.0	< 10.0	< 10.0	< 10.0	< 10.0