

ICP10

Description:

ICP10 maintains rapid Analysis , high sensitivity, wide dynamic range and high stability, achieves smaller device size and higher integration. It also adds a new inflation device to the light chamber, making the power on/off process more convenient. The operation is simple and the analysis is precise, providing users with an efficient solution for sample elemental analysis.

Key Features:

Rapid Analysis :

The speed of element detection is 15 elements per minute.

The analysis time for each sample is either 2 minutes or 6 minutes. For the full-spectrum direct reading type, one sample can generally be analyzed in 2 minutes.

High Sensitivity:

Utilizing advanced optical detection system and efficient plasma light source design, it can detect element concentrations as low as ppb (one billionth) level, meeting the requirements for high-precision analysis.

Wide Dynamic Range:

The equipment has a wide dynamic range, capable of simultaneously detecting high concentrations and trace elements, providing a one-stop analysis solution for complex samples.

Simultaneous Analysis of Multiple Elements:

The ICP spectrometer supports simultaneous detection of multiple elements, with fast analysis speed and significant improvement in experimental efficiency.

Automated Control:

With an integrated intelligent operating system, it automatically adjusts flow, gas, and power, simplifying operation steps and reducing manual intervention. Smaller Volume: The excellent integration design enables the ICP10 to further reduce its volume, providing convenience for your experimental environment.

Durable Design:

The latest addition of an air chamber inflation device ensures that the precise optical components are less prone to moisture, while using high corrosion-resistant materials to ensure stable performance of the instrument over long-term use, suitable for various complex chemical sample analysis.

Easy Maintenance:

The modular design facilitates equipment maintenance and component

replacement, reducing downtime and improving laboratory efficiency.

Applications

Environmental monitoring, Mineral analysis, Metal smelting, Food safety,

Meeting the needs of all industries.

Specifications

Dimensions (w x d x h in cm)	150 x 50 x 107
Weight (kg)	235
Power	Single phase, 4-5.5 kW, 28 A, 220/240 V, 50/60 Hz
Spectrometer	1-m Czerny-Turner monochromator, argon purged, thermostated
Grating	configured upon request I: 2400 lines/mm, ion-etched holographic master, 80 x 110 mm
	Option II: 4320 lines/mm used in first order
	Option III: 3600 lines/mm used in first order
	Option IV: 2400 lines/mm used in first order
Optics	
Wavelength range	I: 160 - 800 nm
	II: 160 - 530 nm
	III: 160 - 442.5 nm
	IV: 160 - 800 nm
Wavelength drive	Wavelength indication error $\leq \pm 0.03$ nm, reproducibility ≤ 0.003 nm
Resolution	7/9/10/16 pm for configuration I/II/III/IV
Detector	Photomultiplier Tube (PMT)
Detection mode	Single channel
Read out	Digital display
ICP generator	Vacuum tube RF generator, frequency stabilized; reflected power control
Frequency (MHz)	40.68
Power (Watt)	4000-5500
Load coil	water cooled
Torch	fully demountable
Argon flow (L/min)	11.5-12.5
Sample introduction	thermoregulated sample compartment; radial plasma orientation; Quick-release torch clamp

Operating system and software	Compatible with Windows 7, Windows 10, and Windows 11
Computer	Intel(R) Celeron(R) G6900, 8 GB DDR4, 4 MB Intel® Smart Cache, 3.40 GHz, Intel® UHD Graphics 710 keyboard, mouse, laser printer
Short term precision (RSD for 10 replicates)	$\leq 1.5\%$
Long term precision (RSD for 4 hours)	$\leq 2.0\%$
Sensitivity	
Detection limits (mg/L):	Zn 213.856 nm ≤ 0.003
	Mn 257.610 nm ≤ 0.002
	Ba 455.403 nm ≤ 0.001
	Ni 231.604 nm ≤ 0.01
	Cr 267.716 nm ≤ 0.007
	Cu 324.754 nm ≤ 0.007
Minimum spectral bandwidth Mn 257.610 nm	Better than national Class A standard Mn 257.610 nm spectral bandwidth (FWHM): ≤ 0.015 nm
Accessories	Quartz Torch for Oil Analysis, Oil-Cooled Spray Chamber, Quartz Nebulizer for Oil Analysis