ICP2060T

Sequential Scanning Inductively Coupled Plasma Emission Spectrometer

Specifications

Solid State Power	Electronic Measurement& Control Circuit
Frequency:27.12MHz	Photomultiplier tube specification:R212/R928
Frequency stability:<0.05%	Negative high voltage: (-50 ~ -1000) V
Matching:Automatch	Circuit measuring range: (10^{-12} ~ 10^{-4}) A
Output power:800W ～1600W, continuously adjustable with power efficiency more than 65%	Signal acquisition:VF conversion
	Computer
Output power stability:≤0.05%	Lenovo PC
Induction coil:ID 25mm×3, equipped with three concentric quartz torch tubes of ED 35mm (ID: internal diameter; ED:external diameter)	Monitor:17 Inches LCD Monitor
	Printer:Canon inkjet
Spray chamber:Scott double pass spray chamber	Main power supply:AC 220V, Current: 20A

Monochromator		Technical Specifications	
Optical type:Czery turner		Suitable sample content range	Liquid sample:0.01ppm~ several thousands ppm
Focal length:1000mm			Solid or powder sample:0.001% ~ 70%
Resolution	≤0.015nm (3600 line grating)	Repeatability:short-term stability, RSD≤1.5%	
	≤0.030nm (2400 line grating)	Long-term stability:RSD≤2%	
Grating specification	huge holographic grating with 3600L/mil or 2400 L/mil and 80 mm×100mm of ruling area	Test speed:5~8 elements/min	
		Limits of detection (LOD, μg/L) for typical elements:1ppb~10ppb	
Wavelength range	195~500 nm for 3600 line grating	**Machine Size**	
	195~800 nm for 2400 line grating	Desktop, 1.5m×0.8m×0.8m	

Working environment

Item	Description
Temperature for storage and transportation	15℃-25℃
Humidity for storage and transportation	≤70%
Power stability	220±10V 50-60Hz
Humidity	≤70%
Temperature	15℃-30℃

Other accessories

Windpipe	Voltage stabilizer
Gas pressure regulator	ICP 2060T power cable
Water cooling system	Copper cable for ground
Sampling system include nebulizer, spray chamber, plasma torch	

Stock Code: 300165

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Skyray Instrument

Implementing ISO9001 International Quality Certification System

- Wide Application
- Rapid analysis
- Low detection limits

Detection limits for typical elements (here λ refers to wavelength)(μg/L) :

Element	La	Ce	Pr	Nd	Sm	Al	Zr	Ag	Sr	Au
λ (nm)	408.672	413.765	414.311	401.225	360.946	396.152	343.823	328.068	407.771	242.795
LOD	< 3.0	< 5.0	< 5.0	< 5.0	< 10.0	< 5.0	< 5.0	< 3.0	< 1.0	< 5.0
Element	Eu	Gd	Tb	Dy	Ho	Pt	Pd	Ir	Rh	Ru
λ (nm)	381.967	342.247	350.917	353.170	345.600	265.945	340.458	224.268	343.489	240.272
LOD	< 1.0	< 10.0	< 3.0	< 3.0	< 3.0	< 5.0	< 5.0	< 10.0	< 10.0	< 5.0
Element	Er	Tm	Yb	Lu	Y	Ba	Cr	Sb	Bi	Hg
λ (nm)	337.271	313.126	369.419	261.541	371.030	455.403	267.716	206.833	223.061	253.652
LOD	< 3.0	< 3.0	< 1.0	< 3.0	< 1.0	< 1.0	< 5.0	≤ 15	≤ 10	≤ 15
Element	Sc	Ta	Nb	Mn	Mg	Pb	Ga	Se	Sn	Te
λ (nm)	335.373	226.230	313.340	257.610	279.553	220.353	294.364	203.985	242.949	214.281
LOD	< 1.0	< 5.0	< 5.0	< 3.0	< 1.0	≤ 15	≤ 10	≤ 10	≤ 20	≤ 10
Element	B	Zn	Co	Si	Os	Ta	Th	Tl	Re	Ge
λ (nm)	249.773	13.856	228.616	251.611	225.585	226.230	283.730	276.787	227.525	209.426
LOD	< 10.0	< 3.0	< 3.0	< 10.0	≤ 1	≤ 5.0	≤ 10	≤ 30	≤ 5	≤ 15
Element	Ni	Cd	Fe	Ca	Mo	W	Se	Li	Na	K
λ (nm)	232.003	226.502	239.562	393.366	281.615	207.911	203.985	670.784	588.995	766.490
LOD	< 5.0	< 3.0	< 3.0	< 1.0	< 5.0	≤ 10	≤ 30	≤ 3	≤ 20	≤ 60
Element	V	Be	Ti	Cu						
λ (nm)	310.230	313.041	334.941	324.754						
LOD	< 5.0	< 1.0	< 3.0	< 3.0						

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Sequential Inductively Coupled Plasma Emission Spectrometer

Summary

ICP 2060T Sequential Inductively Coupled Plasma Emission Spectrometer is designed to measure major, minor and trace elements in various samples with outstanding performance.

It was widely chosen in different industries for its superior optical resolution, high level of automation, reliable free running RF system as well as excellent analytical precision and accuracy.

ICP2060T was widely applied in various fields ranging from rare earth, geology, metallurgy, chemistry, environmental protection, clinical medicine, petroleum products, semiconductors, foods, biological samples, criminal science, to agricultural research, etc.

Features

- Over 70 elements can be measured
- Fast analysis, 5-8 elements per minute
- Excellent detection limits, at ppb level for most elements
- Wide linear dynamic range, reaching 6 orders of magnitude, from ppb to percentage
- Lower gas consumption; Each argon gas cylinder can be used for 8 hours

Application

- Rare earth metal
- Silicon materials, magnetic materials processing industry
- Metallurgical industry: analysis of impurity elements influencing the quality of metal materials
  Water quality control
- Geology, mineral
- Petrochemical: measurements of more than 30 elements in crude oil
- Pharmacy, hygiene, agriculture, environmental protection, commodities and food industry

Advanced structure, optimized details make instrument accurate, stable and reliable

- Advanced optical design with a fully illuminated holographic grating, with spectral interference correction and high light throughput for improved detection limits
- Wide wavelength range: 190nm to 500nm with 3600 line grating
  190nm to 800nm with 2400 line grating
- Computer controlled plasma platform optimizes the viewing position to reduce interferences, improve SNR and minimize background emissions
- Software controlled flow of carrier gas, plasma gas and auxiliary gas provide real time monitor as well as highly stability of flux
- Various types of torches, nebulizer as well as spray chamber are optional
- Choice of auto sampler greatly improves efficiency
- Sample waste drained by peristaltic pump ensures stable sample flow rate; Fast pump mode improves productivity
- The brand new robust free-running, 27.12 MHz RF generator that delivers unsurpassed performance
- Rapid and accurate automatic coupling system ensures the ultimate power transfer efficiency and stability

Humanized software design makes operation easier and simpler

One–button plasma ignition

By simply click the button ‘inflame’ in software , the plasma can be ignited immediately.(as figure 1)

Figure 1

Powerful graph diagnosis function

The ‘graph diagnosis’ function provides information on instrument status and analysis progress. (as figure 2)

Figure 2

Multi–element analysis

After selecting elements and setting measuring parameters, instrument will measure automatically with results directly displayed. (as figure 3)

Figure 3

Enhanced database management

The database contains several thousands of spectral line, where users can choose freely based on application method. (as figure 4)

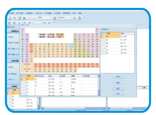

Figure 4

Strong and User–friendly Software

The professional software provide excellent features and multi access to functions as follow:

Data management, quantitative and qualitative analysis, test parameter setting, one button report generation, background and interference correction, fast calibration mode, instrument status indication, and online self diagnostic.

Instrument Structure Diagram