OPTOSKY
Spectroscopy Solutions

Datasheet

Automatic Inductively Coupled Plasma Emission Spectrometer

ICP-7700

Features:

● Plasma excitation and impedance matching use automatic technology： low reflected power, standing-wave ratio (SWR) is less than 1.25.

● Axial viewing position, longer torch is used to reduce the fluctuation of the tail flame, the cold cone is placed at the tail flame to prevent the tail flame from entering the viewing hole.

● Argon Flows: MFC on nebulizer gas, plasma gas, auxiliary gas. All gas flows under computer control.

●Small volume, light weight, long life, low noise, high coupling efficiency, stability of power output <0.1%, greatly improve the accuracy of analysis.

●One wavelength scan is performed before sample measurement, which can avoid wavelength shift after long-term measurement to affect measurement accuracy

●Upgraded spectrum database, data information up to 50,000.

●Interference spectral line automatic filter function.

● Automatic serial communication.

●Scanning mode: Turbo vortex rod, driven by computer-controlled stepper motor, minimum scan step is 0.0006nm.

Description:

ICP-7700 inductively coupled plasma emission spectrometer. The light source system adopts solid-state RF generator and end observation mode, featuring low detection limit, high resolution, stable operation and wide application. It can quickly and accurately detect 70 elements from trace to constant.

ICP-7700 inductively coupled plasma emission spectrometer has small size, light weight, long life, low noise, high coupling efficiency, and power output stability <0.1%, which greatly improves the analysis accuracy.

Application:

Geology, metallurgy, rare earth separation, rare earth magnetic materials, medicine and health, environment, biology, ocean, petroleum, chemical industry, nuclear industry, agriculture, water quality and other scientific fields are widely used.

Floor 15th, Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

1. Technical Indicators

Technical indexes of the whole machine

Measuring wavelength range	(180-500) nm
Resolution	<0.012nm
Measurement repeatability	RSD<1.0%
Measurement stability	RSD<2.0%
Lower detection limit of representative element	ppb level

RF generator

Circuit type	Solid state device, separately excited type
Working frequency	27.12MHz
Output power	600W ∽1200W
Output power stability	<0.1%

Optical system

Optical path type	Czerny-Turner
Focal length	750mm
Grating	Ion etched holographic grating3600line/mm, Reticle area (80x110) mm2
Exit and entrance slit	20μm

Light metering device

Operating voltage	200-1000 V
Current measurement range	10^4 -10^9 A
Stability	<0.05%
Signal acquisition mode	V/E conversion

Floor 15th, Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

Injecting device

Torch tube working coil	internal diameter φ22mm, 3T
Torch	external diameter φ20mm
Atomizer	Concentric Meinhard atomizer, outer diameter φ6mm
Fog chamber	Special and efficient
Specification of fog argon flowmeter	
a) Plasma gas	(100-1000) L/h
b) Auxiliary gas	(6~60) L/h
c) carrier gas	(0~5) L/min
Stable pressure value of argon	0.25MPa

2. Detection limit of some typical elements

Detection limit <1ppb

Be, Ca, Mg, Sr, Ba, Y, Sc, Eu, Yb, La, Lu, Co, Fe, Zn, Ho, Er, Cd, Mn, Ti

Detection limit 1-10ppb

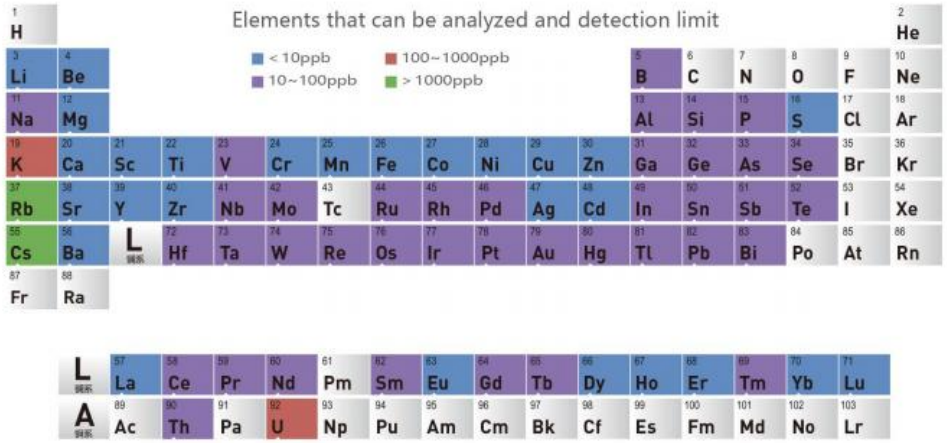
B, Si, Cr, Ni, Cu, Ga, Zr, Nb, Mo, Ru, W, Rh, Pd, lr, Pt, Au, Ce, Pr, Nd, Sm, Tb, Al, Gd, Ag

Detection limit 10-100ppb

P, Ge, As, Se, Rb, In, Sn, Te, Cs, Hf, Ta, Re, Os, Hg, Ti, Pb, Bi, Th, U, Sb

Detection limit 100-1000ppb

K, U



Floor 15th, Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588

3. Instrument features

•ICP solid RF generator: small size, light weight, high efficiency, automatic matching function, output power stability better than 0.1 %z can test samples of organic solution

•Observation mode: end type, characterized by low detection limit;

•Sample injection system: precision mass flowmeter, stable and reliable. Advanced fog chamber, repeatability RSD can reach<1.0%;

•Sample injection system: precision mass flowmeter, stable and reliable. Advanced fog chamber, repeatability RSD can reach<1.0%;

Floor 15th, Bld. A04, 3rd Software Park, Jimei, Xiamen, 361005, China
Tel: +86-592-6102588