

## ICP700T

# Inductively Coupled Plasma Emission Spectrometer

### Introduction

Inductively coupled plasma emission spectrometer, as a professional laboratory analysis instrument, has many characteristics such as testing multiple elements, being able to detect up to 70 elements, fast testing speed, and low detection limit. Mainly used in rare earth industry, silicon industry, petrochemical industry, ore analysis, metal smelting, geological research, drug safety, experimental research, environmental testing and other fields.

Inductively Coupled Plasma Emission Spectrometer is a trace element composition analysis and testing instrument with high sensitivity photomultiplier tubes as detectors. It tests nearly 70 elements and has solid-state RF generator and automatic tuning matching technology; Equipped with a dedicated circulating cooling water system, argon gas conduit, cooling water pipe, and high sensitivity sampling system (high-efficiency atomizer with patented dual barrel atomization chamber).

### Features

#### 1. Multiple testing elements

More than 70 elements can be measured, including all metallic elements and the vast majority of non-metallic elements.

#### 2. Simultaneous testing of multiple elements

Test all elements at once and produce results at once.

#### 3. Fast analysis speed

Approximately 5 elements per minute, expandable up to 10 elements per minute.

#### 4. Low detection limit

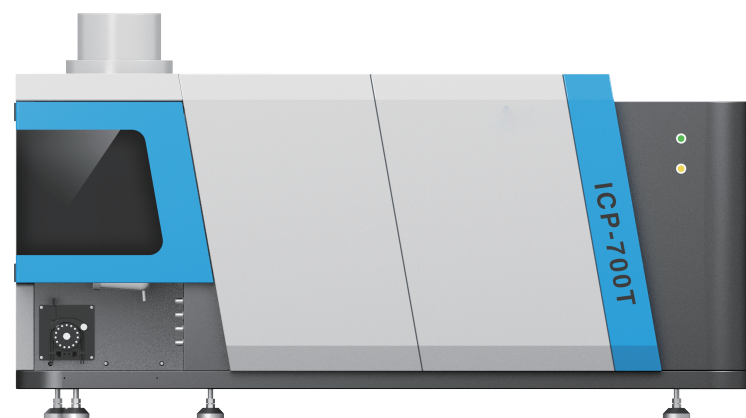
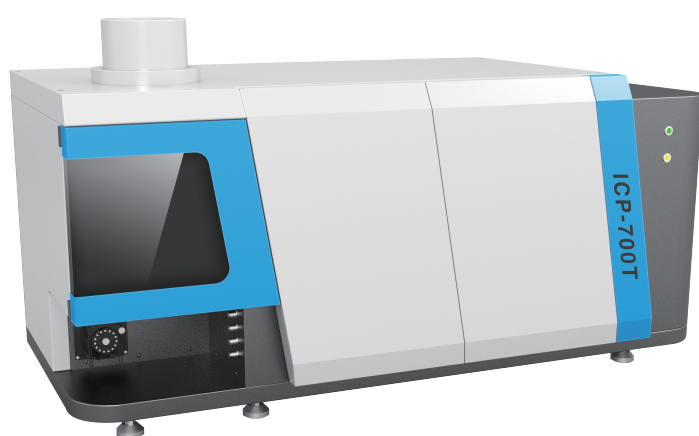
The detection limit of most elements in solution samples can reach the ppb level.

#### 5. Wide linear range

Up to 5-6 orders of magnitude, allowing for simultaneous testing of high and low content.

#### 6. Less chemical interference

There is basically no chemical interference, realtime background deduction, and the test results are more accurate.



## Specifications

<b>Main technical parameters</b>	
Observation system	desktop, plasma vertical observation system
Precision	2ppm mixed multi-element solution, RSD≤ 1.5%
Stability	2 hours RSD < 2.0%
The detection limit meets the A-level requirements of the national standard	
Flame adjustment	The plasma flame can be adjusted in three dimensions: front, back, up, down, left, and right (controlled by a computer)
<b>Injection system</b>	
Torch tube	integrated integrated integrated quartz torch tube
Atomizer	Efficient concentric nebulizer, injection speed 2ml/min
Atomization chamber	Patented extended atomization chamber, optional with swirl atomization chamber and hydrofluoric acid resistant atomization chamber.
Split sampling system for real-time observation of sample injection status	
The mass flow controller controls the argon flow rate, which is continuously adjustable and provides real-time numerical feedback	
Peristaltic pump fully automatic five channel sixteen roller shaft, continuously adjustable speed	
<b>RF generator and plasma</b>	
Frequency	27.12MHz Frequency stability ≤ 0.0 1%
Type	Solid state high-frequency RF generator, fast water cooling, automatic tuning
Power	500W~1600W, continuously adjustable, with an adjustment accuracy of< 1 W, power stability: < 0.01%
Using 99.99% argon gas	
Equipped with reverse power protection function for RF power supply	
The ignition of plasma is fully automatic control	
<b>Optical system</b>	
Optical stability	designed on the same platform as the injection system
System type	Cheney Turner type (C-T type), focal length 1000mm
Constant temperature of the optical system, temperature stability	±0.1°C
Minimum step distance of scanning motor	< 0.0004nm
Resolution ratio(Mn257.610nm)	<0.005nm(4320line grating);<0.008nm(3600line grating);<0.015nm(2400line grating);
Wavelength range	190-460nm(4320line grating);190-500nm(3600line grating);190-800nm(2400line grating);
The best testing conditions for different elements can be set	