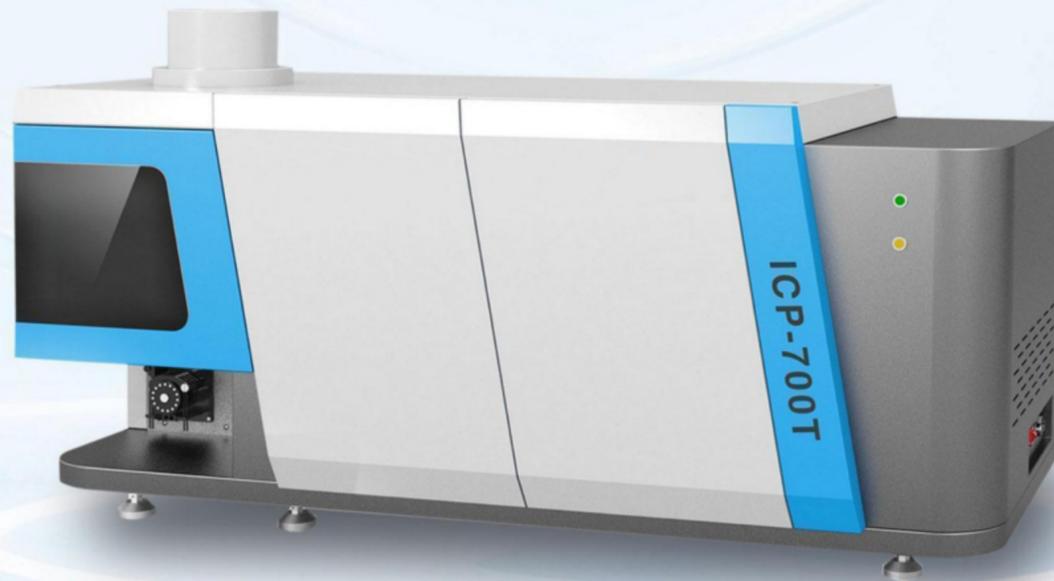
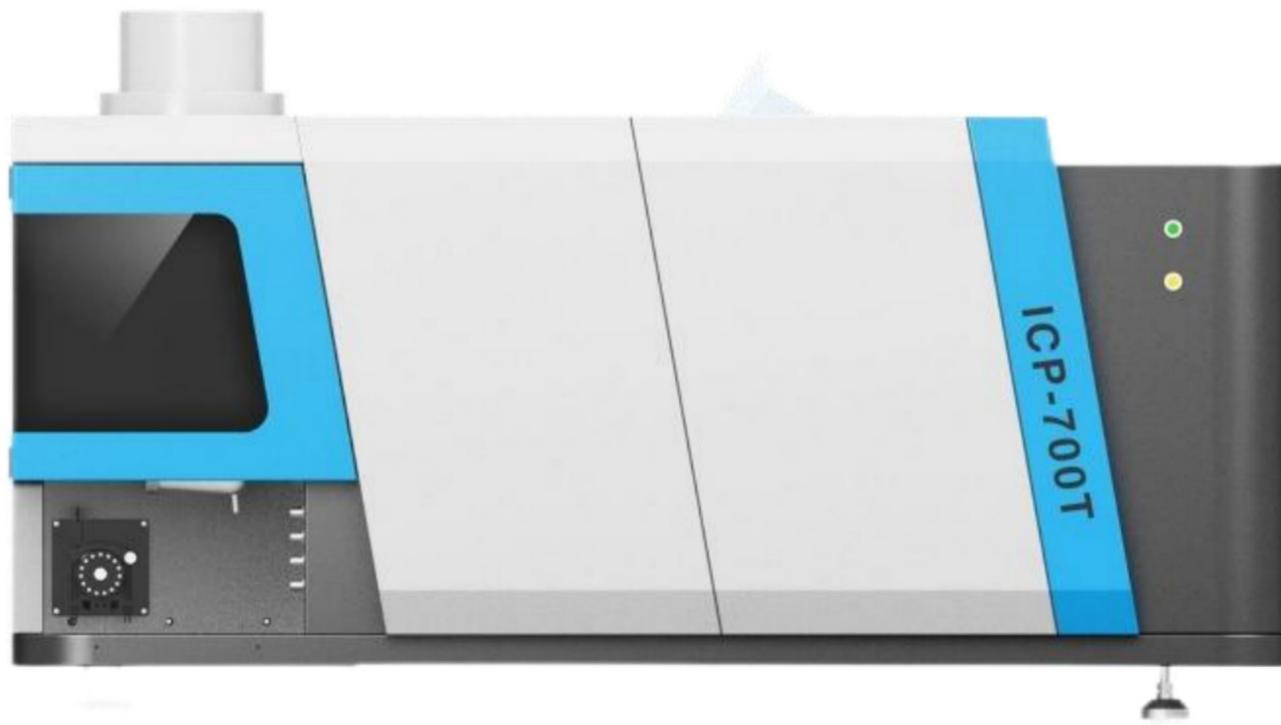


ICP700T

Inductively Coupled Plasma Emission Spectrometer





PRODUCT INTRODUCTION

The ICP700T Inductively Coupled Plasma Emission Spectrometer, as a professional laboratory analysis instrument, is a new generation product. It has many characteristics such as testing multiple elements up to 70 elements can be measured, fast testing speed, low detection limit, and so on, 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.

The ICP700T inductively Coupled Plasma Emission Spectrometer is a trace element composition analysis and testing instrument with a high sensitivity photomultiplier tube as the detector, It tests nearly 70 elements and has a 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).

INSTRUMENT ADVANTAGES

Multiple testing elements

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

Simultaneous testing of multiple elements

Test all elements at once and produce results at once.

Fast analysis speed

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

Low detection limit

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

Wide linear range

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

Less chemical interference

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

APPLICATION AREA

Petrochemical industry



Precious metal



Rare earth



Environmental protection



Geological mineral



Educational Research



Metallurgy



Toy



Other industries



PERFORMANCE CHARACTERISTICS



Stable and advanced all solid-state RF power supply

The instrument adopts a self-developed solid-state RF power supply, which has many advantages such as small size, high efficiency, stable output power, and various protection functions, further improving the stability and safety of the instrument.



Powerful graphic diagnosis function

The powerful graphical diagnostic function can help customers fully understand the current working status of the instrument, and observe the operating conditions of the instrument under different conditions through appropriate parameter settings to select the best measurement conditions.



Fast and accurate fully automatic matching function

The load terminal adopts self-developed fully automatic matching technology, which has the advantages of fast matching speed and high accuracy, ensuring the maximum output power is added to the load and improving the efficiency of power supply use.



Powerful database management

With thousands of spectral lines, you can choose appropriate spectral lines according to your needs, avoid possible interference, and provide you with more choices. An open software database allows you to add spectral line libraries independently.



Fully automated design

High degree of automation, except for the power switch, all functions of the entire instrument are controlled by a computer, which is reliable, safe, and convenient. Automatic samplers can be selected to achieve unmanned operation.



Advanced injection system

The injection system is efficient and stable, equipped with a concentric circular high-efficiency atomizer and patented dual barrel fog chamber. High salt atomizer and hydrofluoric acid resistant atomizer can be selected to meet the needs of different customers.



Total reflection achromatic optical system

The use of concave mirrors instead of convex lenses as optical focusing elements solves the problem of color difference caused by different focal points of different elements, while improving the efficiency of the optical system.



Observation of height adjustment automation

Different elements have different optimal observation heights. By adjusting the flame observation height through software, the best measurement effect can be obtained at the optimal position.



Stable waste liquid removal system

By using a peristaltic pump for waste liquid removal, the injection volume is ensured to be consistent with the waste liquid removal speed. Customers can adjust the speed appropriately according to their needs to ensure the stability of the injection system.



Intelligent and easy to operate software

The software can fully automatically ignite with one click, and all parameter settings are automatically changed. With advanced automatic matching technology, the ignition success rate is high and the operation is simple.



Ultra low usage cost

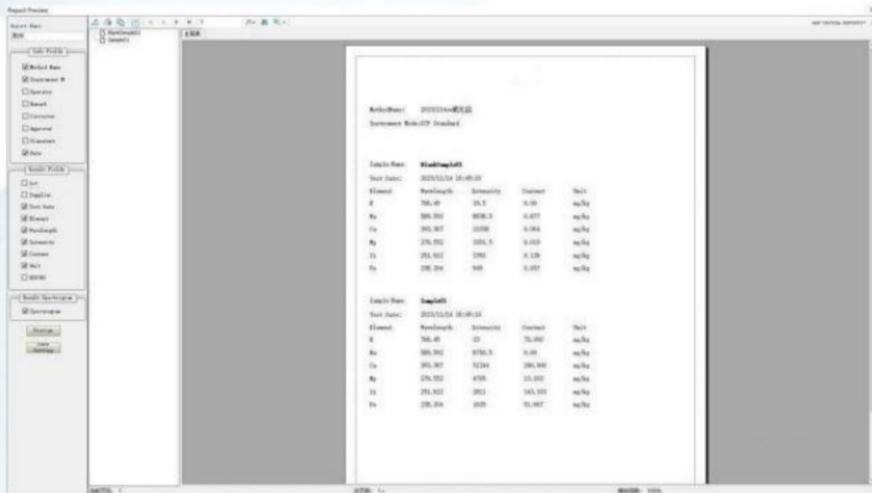
When the instrument is not in operation, the power supply, cooling water tank, and gas of the instrument are all turned off without incurring any costs. The instrument is ready to use and does not require long-term optical path preheating. Using argon gas with a purity of 99.99% is sufficient, saving at least one-third of the cost.



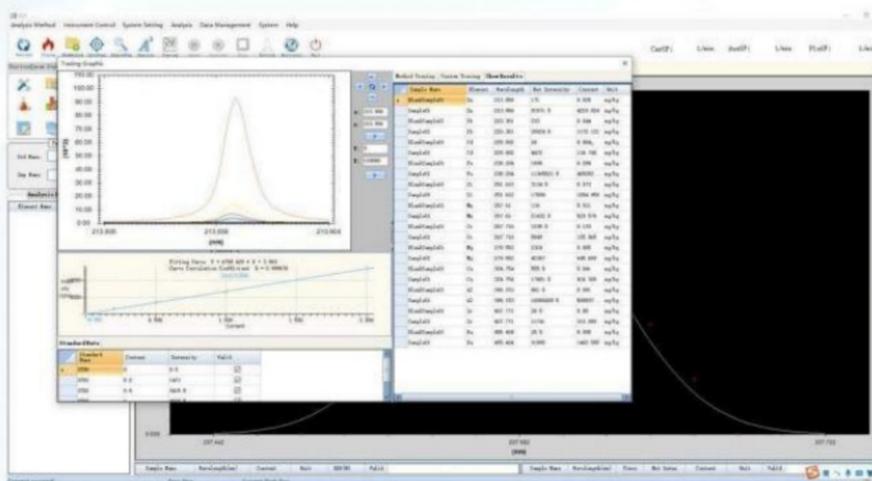
Automatic gas flow control

In the sampling system, the carrier gas, plasma gas, and auxiliary gas are all controlled by advanced mass flow controllers (MFCs), which have the advantages of continuously adjustable flow rate and stable flow rate, ensuring the stability of the sampling system and providing strong guarantees for the stability of the light source.

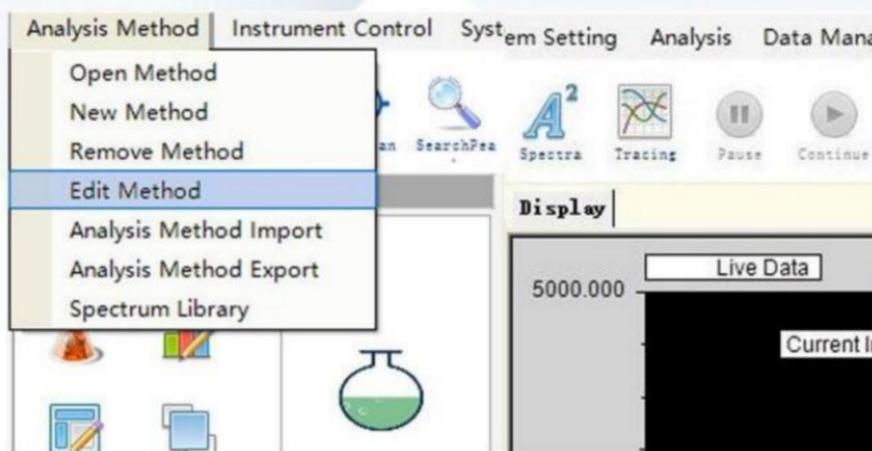
CONTROL SOFTWARE



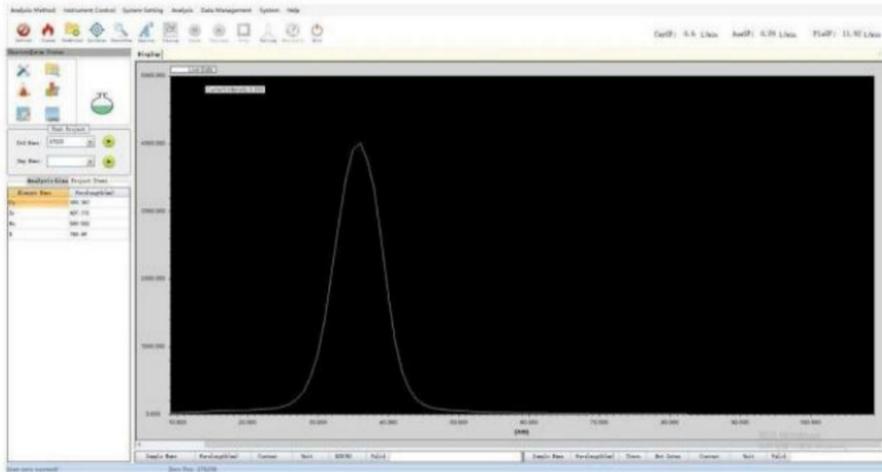
■ It has qualitative, semi quantitative, and quantitative analysis functions, as well as instrument diagnosis optimization functions. The report format output format is PDF, Excel, electronic file or direct printing, and can be Chinese template or English template. Supports Windows.



■ By optimizing software algorithms, real-time matrix deduction methods can be achieved, and real-time amplification and reduction of two-dimensional coordinates can be achieved for spectra with interference.



■ The software has data archive management function, supports data backup, recovery, deletion, and supports text format output of data.



Real time wavelength correction will be automatically performed for each spectral line measurement.



Instrument diagnostic software and network communication, data reprocessing function.

View Height Adjust ✕

View Height(mm):

Up

Left

Down

Right

Abs Adjust

The observation position is controlled and conducted by software to determine the optimal observation position.

TECHNICAL PARAMETERS

Main technical parameters

Observation system: desktop, plasma vertical observation system

Precision: 2ppm mixed multi-element solution, RSD \leq 1.5%

Stability: 2 hours RSD \leq 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)

Injection system

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

RF generator and plasma

Frequency: 27.12MHz Frequency stability \leq 0.01%

Type: Solid state high-frequency RF generator, fast water cooling, automatic tuning

Power: 500W~1600W, continuously adjustable, with an adjustment accuracy of \leq 1W, power stability: \leq 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

Optical system

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: \pm 0.1°C

Minimum step distance of scanning motor: \leq 0.0004nm

Resolution ratio(Mn257.610nm): \leq 0.005nm(4320line grating); \leq 0.008nm(3600line grating); \leq 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

OVERALL CONFIGURATION

- Instrument host
- Cooling water circulation system
- Voltage regulator
- Computer
- Printer
- ICP spectrometer analysis software

REAL TIME DISPLAY

