DRAWELL
Artist of Science

ICP700T Petrochemical version
Inductively Coupled Plasma Emission Spectrometer

Introduction

The Petrochemical Edition Inductively Coupled Plasma Emission Spectrometer is a chemical analysis instrument specifically designed for the testing requirements of the petrochemical industry.Mainly used to determine the content of various elements in various oil products and related products.

The instrument innovatively adopts direct oil injection technology,a semiconductor cooled ultra-low temperature fog chamber and oxygen assisted injection to eliminate the phenomenon of severe carbon deposition in organic samples,greatly improving the applicability of the instrument.

Features

1.Multiple testing elements

There are many testing elements, and more than 70 elements can be tested.

2.Simultaneous testing of multiple elements

Simultaneous testing of multiple elements, one injection, and simultaneous testing of multiple elements.

3.Fast analysis speed

Approximately 5 elements per minute, scalable to 10elements per minute.

4.Low detection limit

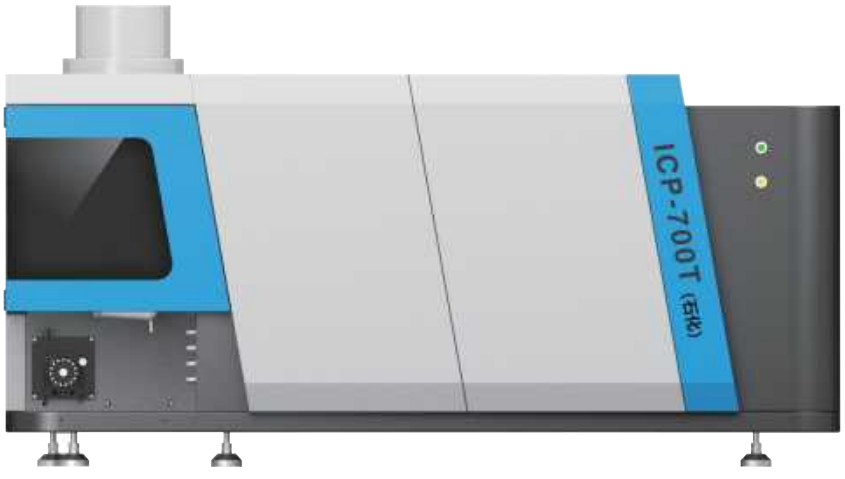
The detection limit is low,and the majority of elements can reach ppb level.

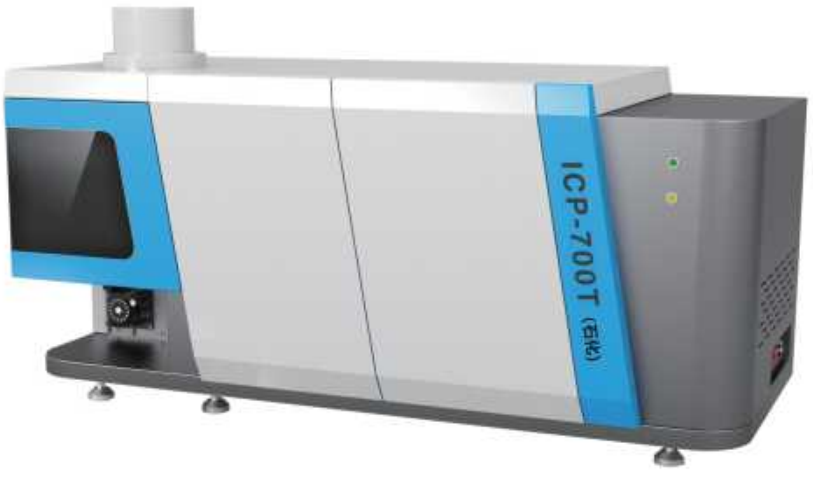
5.Wide linear range

Up to 5-6 orders of magnitude,it can achieve simultaneous testing of high and low content without the need to replace standard curves.

6.No need for digestion

Oil samples do not require digestion and can be directly tested on the machine after simple processing.





Applications

- Determination of Rare Earth Elements in Oilfield Tracers.
- Can determine the content of over thirty elements in crude oil and its related products.
- It can achieve direct injection determiation of gasoline and diesel without complex digestion operations, and can determine elements such as silicon, phosphorus,iron, manganese, and lead.
- It can measure the content of more than 20 wear elements in lubricating oil and its additives, and can be tested on the machine with simple dilution. Optional high salt atomizer can be used to directly determine the content of wear elements in the lubricating oil after use.
- Elements such as sodium, potassium, calcium, magnesium, aluminum, iron, nickel, copper, zinc, and chromium in automotive urea.
- Element content in petrochemical raw materials such as methanol and ethanol.

Specifications

Solid state power supply	
Working frequency	**27.12MHz**
Frequency stability	**<0.05%**
Matching method	**automatic matching**
Output power	**800W~1600W, continuously adjustable, power efficiency greater than 65%**
Output power stability	**≤ 0.05%**
Output working coil inner diameter 25mm, 3 turns, equipped with three concentric outer diameter 20mm quartz torch tubes	
The outer diameter of coaxial spray is 6mm; Swirl atomization chamber The organic sample can be directly injected into the sampling system, and the cooling temperature can reach -20 ℃.	
Scanning spectrophotometer	
Optical path	**Czerny turner type**
Focal length	**1000mm**
Grating specifications	**Ion etched holographic grating with a linedensity of 3600 L/mm or 2400 L/mm; Scribed area (80 × 110) mm**
Resolution	**0.008nm (3600 line grating) ≤ 0.015nm (2400 line grating)**
Scanning wavelength range	**190-460nm (4320L/mm grating); 3600 line grating: (190-500) nm; 2 400 line grating: (190-800) nm**
Electronic measurement and control circuits	
Specification of photomultiplier tube	**R212/R928**
Negative high voltage of photomultiplier tube	**(-50~-1000) V**
Measurement range of photomultiplier tube current	**(10-12-10-4) A**
Signal acquisition	**VF conversion**