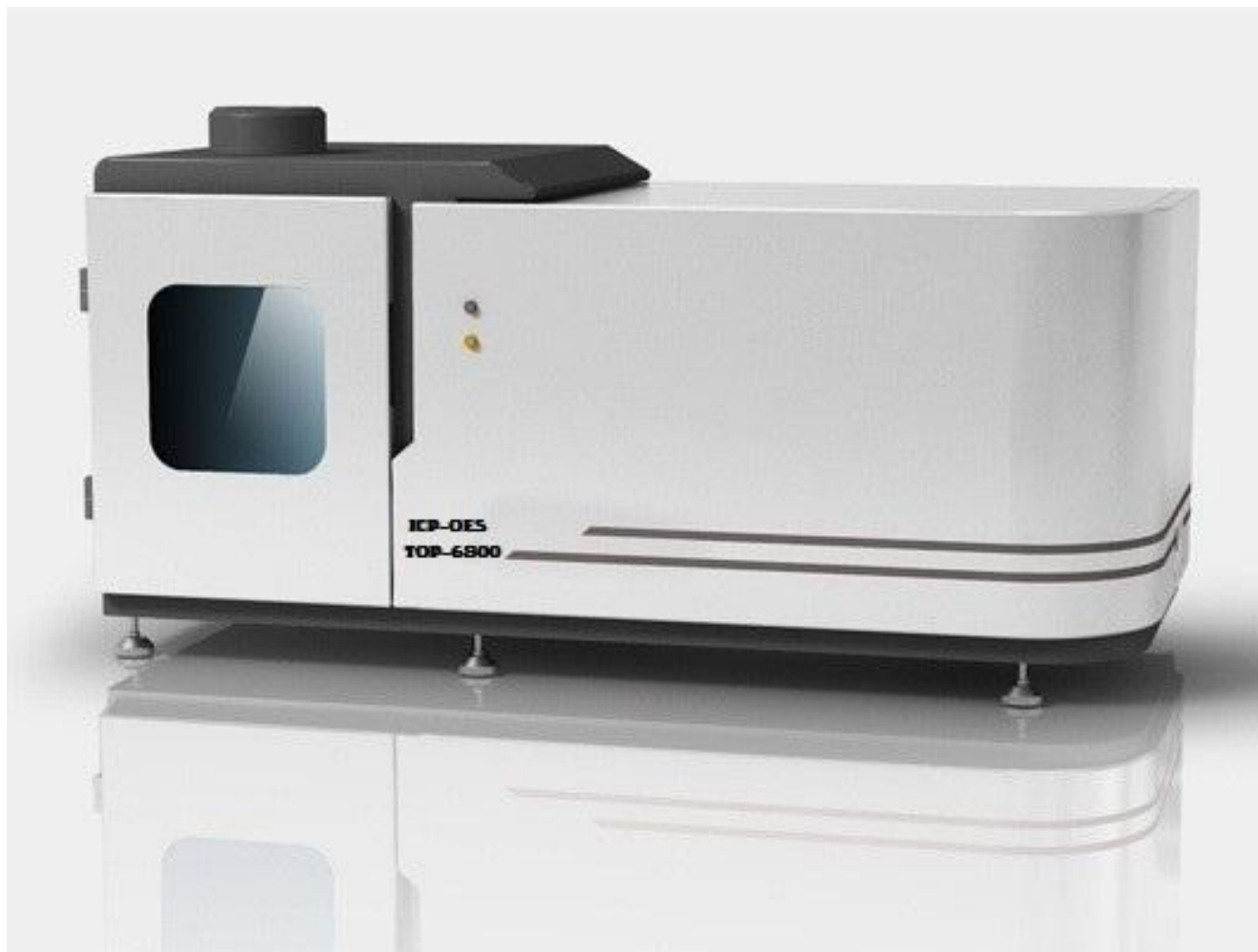


## **Inductively Coupled Plasma Optical Emission Spectrometer ICP-OES**



### **TOP-6800**

The TOP-6800 ICP-OES - Inductively Coupled Plasma Optical Emission Spectrometer is developed by TOPLAB INDIA Company. After years of technological accumulation to measure various substances (dissolvable in hydrochloric acid, nitric acid, hydrofluoric acid The trace, trace metal elements or non-metallic elements in the etc.) are highly automated, easy to operate, stable and reliable. At present, the instrument is widely used in Water analysis, Soil testing, Geology, Metallurgy, Chemical industry, Environmental protection, Clinical medicine, Petroleum products, Semiconductors, Food, Biological samples, Criminal science, Agricultural research and many other fields.

### **Technical indicators:**

#### **Power Specifications:**

- Circuit type: Inductive feedback self-oscillating circuit, coaxial cable output, matching tuning, power feedback closed-loop automatic control
- Operating frequency: 40.68MHz±0.05%
- Frequency stability: <0.1%
- Output power: 800W-1200W
- Output power stability: <0.3%
- Electromagnetic field leakage radiation intensity: Electric field strength  
E: <2V/m at 30cm from the chassis

#### **Sample system specifications:**

- Output working coil inner diameter: 25mm
- Rectangular tube, triple concentric, quartz tube with outer diameter: 20mm
- Coaxial sprayer outer diameter: 6mm
- Double barrel mist outdoor path: 34mm

#### **Argon Flow meter and Carrier Gas Pressure Gauge Specifications:**

1. Plasma gas flow meter: (100-1000) L/h (1.6-16L/min)
2. Auxiliary gas flow meter: (10-100) L/h (0.16-1.66L/min)
3. Carrier gas flow meter :(10-100) L/h (0.16-1.66L/min)
4. Carrier gas regulator valve: (0-0.4MPa)
5. Cooling circulating water: Water temperature 20-25 °C  
Flow> 5L/min  
Water pressure> 0.1MPa

#### **Detector Specifications:**

- Photomultiplier Tube (PMT) specifications: R293 or R928
- Photomultiplier Tube (PMT) negative pressure: 0-1000V,
- Photomultiplier Tube (PMT) Stability: <0.05

## Monochromator Specifications:

- Light path: Czerny-Turner
- Focal length: 1000mm
- Grating specification: ion-etched holographic grating, with a density of 3600 lines/mm (Optionally with a density of 2400 lines/mm)
- Line dispersion rate reciprocal: 0.26nm/mm
- Resolution:  $\leq 0.007\text{nm}$  (3600 reticle);  
 $\leq 0.015\text{nm}$  (2400 reticle)
- Scanning wavelength range:
  - 3600lines/mm scanning wavelength range: 190-500nm;
  - 2400 lines / mm scanning wavelength range: 190-800nm
- Stepper motor drive minimum wavelength step: 0.0006 nm
- Exit slit: 12 $\mu\text{m}$
- Entrance slit: 10 $\mu\text{m}$

## Machine Specifications:

- Scanning wavelength range: 195nm to 500nm (3600L/mm grating)  
195nm to 800nm (2400L/mm grating)
- Reproducibility: RSD  $\leq 1.5\%$
- Stability: RSD  $\leq 2\%$

## Working Environment:

- Storage and transportation temperature: 15°C-25°C
- Storage and transportation relative humidity:  $\leq 70\%$
- Atmospheric pressure: 86-106 kPa
- Power adaptability: 220 $\pm$ 10v 50-60MHz
- Working humidity:  $\leq 70\%$
- Working temperature: 15°C-30°C

**Detection limits (µg/L):**

Element	Wavelength (nm)	Detection limit(µg/L)
La	408.672	<3.0
Ce	413.765	<5.0
Pr	414.311	<5.0
Nd	401.225	<5.0
Sm	360.946	<10.0
Eu	381.967	<1.0
Gd	342.247	<10.0
Tb	350.917	<3.0
Dy	353.170	<3.0
Ho	345.600	<3.0
Er	337.271	<3.0
Tm	313.126	<3.0
Yb	369.419	<1.0
Lu	261.541	<3.0
Y	371.030	<1.0
Sc	335.373	<1.0
Ta	226.230	<5.0
Nb	313.340	<5.0
Mn	257.610	<3.0
Mg	279.553	<1.0
B	249.773	<10.0
Zn	13.856	<3.0
Co	228.616	<3.0
Si	251.611	<10.0
Ni	232.003	<5.0
Cd	226.502	<3.0
Fe	239.562	<3.0
Ca	393.366	<1.0
Mo	281.615	<5.0
V	310.230	<5.0
Be	313.041	<1.0
Ti	334.941	<3.0
Cu	324.754	<3.0

Element	Wavelength (nm)	Detection limit(µg/L)
Cr	267.716	<5.0
Al	396.152	<5.0
Zr	343.823	<5.0
Ag	328.068	<3.0
Sr	407.771	<1.0
Au	242.795	<5.0
Pt	265.945	<5.0
Pd	340.458	<5.0
Ir	224.268	<10.0
Rh	343.489	<10.0
Ru	240.272	<5.0
Ba	455.403	<1.0
As	228.812	≤15
Sb	206.833	≤15
Bi	223.061	≤10
Hg	253.652	≤15
Pb	220.353	≤15
Ga	294.364	≤10
Se	203.985	≤10
Sn	242.949	≤20
Te	214.281	≤10
Ta	226.230	≤5.0
Th	283.730	≤10
Tl	276.787	≤30
Re	227.525	≤5
Ge	209.426	≤15
Os	225.585	≤1
W	207.911	≤10
Se	203.985	≤30
Li	670.784	≤3
Na	588.995	≤20
K	766.490	≤60