

AES-8000 AC/DC Arc Emission Spectrometer

Description

AES-8000 AC-DC Arc Emission Spectrometer adopts high-sensitivity CMOS as the detector, and realizes full-spectrum acquisition within the band range. It can be widely used in geology, non-ferrous metals, and chemical industries. It can directly analyze powder samples without sample dissolution, which is an ideal instrument solution for qualitative and quantitative analysis of trace and trace elements in insoluble powder samples.

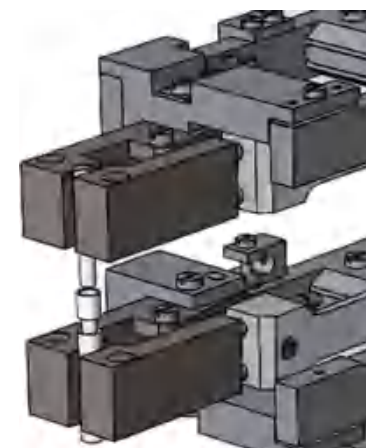


Features

● Efficient Optical Imaging System

Ebert-Fast optical system and three-lens optical path are adopted to effectively remove stray light, eliminate halo and chromatic aberration, reduce background, enhance light gathering ability, good resolution, uniform spectral line quality, and fully inherit the optical path of a one-meter grating spectrograph. The advantages.

- Compact optical structure and high sensitivity;
- Good image quality, straight focal plane;
- Inverted line dispersion rate 0.64nm/mm;
- The theoretical spectral resolution is 0.003nm (300nm).



● High-performance linear array CMOS sensor and high-speed acquisition system

- Using UV-sensitive CMOS sensor, high sensitivity, wide dynamic range, small temperature drift; no need for coating, no device spectrum broadening effect, no film aging problem.
- The high-speed multi-CMOS synchronous acquisition and data processing system based on FPGA technology not only completes the automatic measurement of analytical element spectral lines, but also realizes the functions of automatic calibration of synchronous spectral lines and automatic background subtraction.

● AC and DC arc excitation light source

It is convenient to switch between AC and DC arcs. According to different samples to be tested, selecting the appropriate excitation mode is beneficial to improve the analysis and test results. For non-conductive samples, select AC mode, and for conductive samples, select DC mode.

● Electrode Automatic Alignment

The upper and lower electrodes automatically move to the designated position according to the software parameter settings, and after the excitation is completed, remove, and replace the electrodes, which is easy to operate and has high alignment accuracy

● Convenient viewing window

The patented electrode imaging projection technology displays all the excitation process on the observation window in front of the instrument, which is convenient for users to observe the excitation of the sample in the excitation chamber, and helps to understand the properties and excitation behavior of the sample.

● Powerful Analysis Software

- Real-time automatic calibration of spectral lines to eliminate the influence of instrument drift;
- Background is automatically deducted to reduce the interference of human factors;
- Through the spectral line separation algorithm, reduce the influence of spectral interference;
- Automatic switching of multi-spectrum determination to broaden the range of detection content;
- The combination of two fitting methods improves the accuracy of sample analysis;
- Abundant spectral line information, broadening the application field of analysis;
- Special analysis software, suitable for different sample testing requirements.
- Convenient data post-processing function shortens the experimental process and makes data processing more flexible;

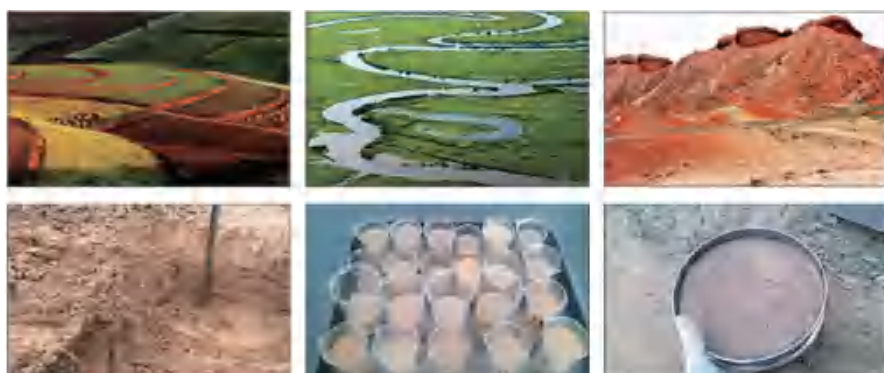


● Safety protection

- The cooling circulating water flow monitoring of the electrode clip can avoid the high temperature burning of the electrode clip;
- Activate the safety interlocking of the chamber door to protect the safety of operators.

Applications

1. Simultaneous determination of Ag, Sn, B, Mo, Pb, Zn, Ni, Cu and other elements in geological samples; it can also be used for the detection of trace precious metal elements in geological samples (after separation and enrichment);
2. Determination of several to dozens of impurity elements in high-purity metals and high-purity oxides, powder samples such as tungsten, molybdenum, cobalt, nickel, tellurium, bismuth, indium, tantalum, niobium, etc.;
3. Analysis of trace and trace elements in insoluble powder samples such as ceramics, glass, coal ash, etc.



One of the indispensable supporting analysis programs for geochemical exploration samples



Ideal for detection of impurity components in high-purity substances

Specifications

Optical path form	Vertically symmetrical ; Ebert-Fastic type
Plane Grating Lines	2400 pieces/mm
Optical path focal length	600mm
Theoretical spectrum	0.003nm (300nm)
Resolution	0.64nm/mm (first class)
Falling Line Dispersion Ratio	Synchronous high-speed acquisition ; system based on FPGA technology for high-performance CMOS sensor
Current range	2~20A(AC)
Excitation light source	2~15A(DC)
Weight	AC/DC arc
Dimensions (mm)	About 180Kg
Constant temperature of spectroscopic chamber	1500(L)×820(W)×650(H) 35°C±0.1°C
Environmental conditions	Room temperature 15°C~30°C ; Relative humidity<80%