

PO300 Oil Spectrometer



高稳定 高性能 尺寸紧凑

PRODUCT INTRODUCTION

Oil spectrometers (also known as oil analysis spectrometers, atomic emission spectrometers, etc.) are based on the principle of atomic emission spectroscopy and use a graphite rotating disk electrode light source to analyze the elemental composition in oils.

Oil spectrometers mainly consist of a high-energy electric arc excitation power supply system, a rotating disk electrode device system, a Paschen-Runge structure spectrometer system, a high-precision CCD detection system, an electronic control system, and a computer analysis software system.

Oil spectrometers are suitable for the elemental analysis of new and used lubricating oils, hydraulic oils, light fuel oils (petrol and diesel), heavy oils, lubricating greases, antifreeze, industrial domestic water, and condensate for steam turbine flushing. They are widely used in industries such as the military, aviation, marine, land transportation, steel mills, mines, power plants, and commercial oil testing laboratories.

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CORE PARAMETERS

Detector	CCD Detector
Focal Length	400 mm
Spectral Line Range	190-800 nm
Test Time	Not more than 30 seconds
Dimensions	550*330*430 (Length * Width * Height)

MAIN FEATURES

- Detection methods and precision meet the ASTM D6595, ASTM D6728, NB/SH/T0865-2013, and HB20094.1-2012 testing standards.
- Patented digital arc light source, solid-state excitation, ensures constant current source frequency output, no need for periodic cleaning or cleaning excitation source errors.
- Adopts a high-resolution solid-state CCD sensor optical system, with individual pixels of 3648 bits, pixel size of 8*200um, higher pixel count allows for the detection of more effective spectral intensities.
- Based on the Windows operating system, the spectral analysis software can run on systems such as Windows 7 and Windows 10, integrating instrument control, data management, and qualitative and quantitative analysis functions.
- Single-station instrument with a computer system and motor grinder built-in, the instrument has a compact size, facilitating transportation.
- Short warm-up time, high reliability, suitable for shipboard environments.
- No need for argon, oxygen, or other chemical solvents; oil samples do not require pretreatment and can be tested directly by placing them in the sample cup.
- Built-in printer; built-in electrode grinder, convenient for operation.

PERFORMANCE INDEX

1. Complies with ASTM D6595, ASTM D6728 standards, NB/SH/T0865, HB20094.1-2012;
2. Capable of synchronous analysis of 24 elements (Al, Ba, B, Ca, Cd, Cr, Cu, Pb, Mg, Mn, Mo, Ni, P, Si, Ag, Na, Sn, Ti, V, Zn, Fe, K, Li, Sb), accurately determining the composition of wear elements, contamination elements, and additive elements in oil samples;
3. Detection range: 0-1000ppm (19 elements, Al, B, Cd, Cr, Cu, Pb, Mn, Mo, Ni, Si, Ag, Na, Sn, Ti, V, Fe, K, Li, Sb), 0-6000ppm (5 elements, Ba, Ca, Mg, P, Zn);
4. Employs a high-performance CCD optical system;
5. Dual optical systems, Rowland circle optics and C-T optical path;
6. Dual fiber optic light signal import;
7. No need for gas or other chemical reagents for auxiliary excitation, oil samples require no pre-treatment, and can be directly placed in the sample cup for testing;
8. Optical focal length: 400mm;
9. Spectral range: 190-800 nm;
10. Optical system temperature control: 38°C±0.1°C, effectively ensuring accuracy and stability;
11. Fast sample testing speed, single test time not exceeding 30 seconds;
12. High detection precision, with a detection limit less than 1ppm;
13. Sample volume: less than 2mL;
14. Built-in graphite electrode grinder;
15. Built-in printer (optional);
16. Integrated industrial control computer within the device, convenient for on-site use at any time;
17. The device has an exhaust structure to prevent cross-contamination;
18. Equipped with self-developed spectral analysis expert system, featuring data management, trend analysis, and forecasting functions, which can be used to analyze and judge the current working condition of equipment/facilities, and predict future working conditions, thereby providing an effective basis for the correct use and maintenance of equipment.