轻元素分析仪MERAK-LEII

Analyzer for Light Elements MERAK-LEII



**Overview**

S：

In order to reduce the emission of pollutants from automobile exhaust to the environment, most developed countries limit the sulfur content in vehicle gasoline and diesel fuel to 10mg/kg, which requires strict control of sulfur content in all aspects of production and distribution. The reduction of sulfur content puts forward higher requirements on detection methods. The current national V, national VI vehicle gasoline and automotive diesel standards have all introduced the measurement method of sulfur content in gasoline and diesel oil in ASTM D7039, ie single wavelength dispersion X. Ray fluorescence spectrometry.

Cl:

The content of chlorine will cause the consumption of catalyst and the corrosion of production equipment. Therefore, it is necessary to analyze the chlorine content of raw materials, semi-finished products and finished products in production process to provide a scientific basis for quality control.

Si：

In recent years, it has also been reported frequently that the pollution of silicon in gasoline causes the failure of automobile engines. Therefore, China has also formulated corresponding standards for controlling silicon content in fuels.

**Features**

High sensitivity

     X-ray fluorescence spectrometer for the analysis of light elements with the highest sensitivity in the world, sulfur LLD: 0.2ppm, chlorine LLD: 0.1ppm, silicon LLD: 0.15ppm, and it can analyze elements from Na to Ti in the periodic table, It can also be extended to the analysis of C, N, O, F and other elements;

Selective excitation

By using HF DCC technology, the characteristic lines of high-strength targets emitted by X-ray tubes are monochromatized, focused, and then incident on the sample, which selectively excites light elements in the sample, reduces background interference, and improves the peak-to-back ratio. ;

Synchronized Light Element Analysis

      A sample analysis can accurately quantify the sulfur, chlorine, and silicon content of vehicle fuel at the same time, eliminating the need for sample analysis to analyze the contents of various elements in multiple instruments, shortening analysis time, and reducing manpower and material costs;

• High stability

     The X-Ray Fixed System (XFS), which is precision-tuned by the factory, will no longer generate displacements or deviations, ensuring maximum long-term stability of the instrument.

• Low maintenance, low consumption

     No need for vacuum protective film, no cylinder gas, no complicated instrument maintenance, only need to consume sample cup and sample film;

**Specifications**

|  |  |
| --- | --- |
| LOD | Cl: LLD：0.1ppm  S: LLD：0.2ppm   Si: LLD：0.15ppm |
| RANGE | 0.5 ppm-5%（sulfur as an example） |
| TIME | 30s-300s（user selectable） |
| REPEATALIBLITY | Sn-1≤0.2ppm（2 ppm），0.5 ppm（10 ppm）（sulfur as an example） |
| STANDARDS | S：ASTM D7039,EN ISO20884,JISK2541-7，  SH/T0842-2010   Cl：ASTM D7536,ISO 15597   Si：ASTM D7757 |
| VOLUME | 530 mm (W)×430 mm (D)×292 mm (H) |
| POWER | （110±10）VAC, 5A；（220±20）VAC, 5A |
| OUTPUT INTERFACE | USB |
| OPERATING TEMPERATURE | 10℃ ~35℃ |

**Applications**

Analysis of Trace Silicon Content in Gasoline and Diesel Oil, Naphtha, and Aromatic Hydrocarbons

- High-sensitivity X-ray fluorescence spectrometer capable of accurately analyzing silicon content

The silicon content in petroleum products is an important detection indicator. The MERAK-LE High-Sensitivity X-Fluorescence Spectrometer solves the problem of ICP-OES producing different response values ​​for different types of silicon.

Analysis of Silicon, Phosphorus, Sulfur and Chlorine in Petroleum and Chemical Products

- High-sensitivity X-ray fluorescence spectrometer for simultaneous analysis of various elements

MERAK-LE adopts monochromatizating excitation technology by crystal, which greatly reduces the background of the target in the light element sensation zone and enables the simultaneous analysis of Si, P, S, and CI elements in fuel oil.

Analysis of Organic Chlorine and Inorganic Chlorine in Crude Oil

- High-sensitivity X-ray fluorescence spectrometer for accurate analysis of chlorine in crude oil

When analyzing the elements in crude oil, the analysis of the content of organic chlorine is a difficult point. MERAK-LE can deduct the impact of high sulfur background on the test results of low-level chlorine and achieve simultaneous analysis of inorganic chlorine and organic chlorine.

**Documents**

Solutions for elemental analysis in the petrochemical industry

The single-wavelength dispersive X-ray fluorescence spectrometer (MWD XRF) DUBHE series enables accurate analysis of individual elements. The High-sensitivity X-ray fluorescence spectrometer (HS XRFR®) MERAK series is a new generation of single-wavelength X-ray fluorescence spectrometers, which can analyze simultaneously silicon, phosphorus, sulfur and chlorine in petrochemical and fine chemical products, with high sensitivity.