

Company Profile

LANScientific Co., Ltd. Suzhou, is a provincially recognized high-tech enterprise in Jiangsu Province, China that manufactures, produces and sells portable X-ray Fluorescence Spectrometer across the world. LANScientific employs a professional X-ray fluorescence team to design, develop, manufacture, sell and service X-ray fluorescence spectrometers, contributing to a rising sci-tech entity with great technical strength, up-to-date technology, innovative service concepts and advanced management philosophy.

LANScientific has developed a business value that meeting customers' needs and providing them with advanced and cost-effective solutions is their first priority. As LANScientific is expanding its market horizon across the globe, we believe the portable spectrometers will meet more customers' needs in even broader areas in the future.

Product introduction

The limit control of sulfur content in petrochemical products, especially in oil products (such as gasoline, diesel oil, lubricating oil, etc.) has become the special importance in environmental protection. According to latest China Environmental Protection Agency regulations in petrochemical industry, automotive gasoline total sulfur index dropped from 1000ppm to 500ppm, the current national standard IV sulfur content index has dropped to 50ppm. Ordinary diesel index drops from 2000ppm to the current 350ppm. In the meantime, the China Maritime Safety Administration has stipulated that the sulfur content of the fuel used by vessels in the emission control zone shall not exceed 0.5% m / m (5000ppm).

Restrictions on sulfur content at seaports and coastal lines are as follows:

Year	SECA	Global	China
2000	1.5%	4.5%	
2010	1.0%		
2012	1.0%	3.5%	
2017	0.1%		0.5%
2020	0.1%	1.5%	0.1%

Can analyzing : P, S, Cl, Ca, Ti, V, Cr, Mn , Fe, Co, Ni, Cu, Zn, As, Se, Mo, Cd, Sn, Sb, Pb, Hg and so on.

PEDX® OIL portable analyzer elemental detection limit

Element	3 sigama (ppm)	Selected vacuum (ppm)
S (Sulfur)	3	0.9

Test time:200s LOD: 3 sigama

Major Sincerity Efficient Innovate Excellent

LANScientific

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PEDX® OIL
Portable XRF Analyzer

LANScientific
SUZHOU LANSCIENTIFIC CO., LTD.



Technical Parameters and Specification

Instrument Dimensions	200 (L) *200 (W) *268 (H) mm
Sample holder Dimensions	170 (L) *130 (W) *60 (H) mm
Weight	3KG
Excitation source Target	Ag target (standard), Au, W, Rh target (optional).
Excitation source	50KV/200μA maximum pipe pressure pipe flow 4W
Detector	SDD or Si-PIN
Display system	Based on i.mx6 Quad quad core Cortex-Ag processor Dedicated analytical grade operating system, 32GB system memory
Power Supply System	Intelligent battery management through MSBUS bus, real-time monitoring of the residual capacity of battery and backup battery. The battery complies with air transport regulations of dangerous goods A single battery can last 8 hours
Resolution	Optimal<136eV
Data transmission	USB、 Bluetooth
Operating environment temperature	-20°C-50°C
Operating environment humidity	10%-90% relative humidity, non-condensing
Display	5.7" retractable color touch screen display
Test time	User-defined
Safety protection	Built-in radiation protection device (automatically cut off) Safety interlock, can open the instrument only in power on condition, (closed performance) Radiation indicator
Camera	Built-in 5 million high-definition camera

Performance Advantage

LANScientific PEDX® OIL is a high performance, portable XRF analyzer that provides the energy industry with the perfect sulfur elemental analysis method for analyzing elemental content in oils such as lubricants, diesel fuels, jet fuels, kerosene, other distillates, volatile oils, residual oils, hydraulic oils, crude oils, unleaded petrol, alcoholic gasoline, biodiesel. Also it can check if condition of elements content, wear elements, Pollutants and sulfur content in other similar petroleum products. It can used in any place within safe, high-quality sulfur content analyzing condition for liquid, solid or gas samples.

- Configure a confined closed X-ray sample cabin
- Highly flexible analysis software
- No need sample preparation, easy to collect and analyze
- In line with GB / T 17040-2008, GB / T 17060-1998, GB / T 380-1977, GB / T 17411-2015 and SH / T 0253-1992 and other testing standards
- Low maintenance requirements (no heating element, no quartz tube, no column)
- Users can customize the measurement time, to achieve continuous monitoring
- No need for any sample changeover, no need to consume gas or high temperature processes



Application Areas

LANScientific PEDX® OIL Portable Analyzers are used for the analysis of fuels, oils, additives and other fluids in the petrochemical, heavy traffic, power generation, aerospace, crude oil exploration, marine and other industries.

Specific application is as follows:Sulfur content analysis of marine fuels: Monitoring of sulfur content in the sulfur dioxide emission control area (SECA). Special fuel quality regulations Emissions control areas exist in SOx emission control area (SOx ECA or SECA), including ports and coastal lines.

Petroleum refining industry: Determination of total sulfur in fuels and crude oil, or impurities and trace metals in refinery catalysts. **Refinery:** for hydrofining units and blending systems.

Oil pipeline: Used for oil interface judgment and tank contamination judgment.

Wear elemental analysis: Accurate detection of additives containing Al, Si, P, S, Ca and Zn in various engine oils, engine oils, fuels and system oils. According to the concentration of different elements to determine the wear of metal machinery and the necessity for oil replacement.

Additive Analysis: Analyzes high quality lubricants (mixed based on a special formulation of organic, metallic additives) for precision equipment at extreme temperatures and loads.

Hydrocarbon analysis: Measure calcium, sulfur, magnesium, aluminum, phosphorus, silicon, chlorine, etc. in a given concentration of hydrocarbons and aqueous solutions.

LANScientific® OIL portable XRF analyzer meets the testing standards

GB/T17040-2008 Determination of sulfur in Chinese petroleum and petroleum products

GB/T 17060-1998 Determination of Sulfur in Chinese Crude Oil

GB/T 380-1977 Determination of sulfur content in Chinese petroleum products

GB/T 17411-2015 Marine fuel oil

SH/T 0253-1992 Determination of total sulfur in light petroleum products

SH/T 0631-1996 Determination of barium, calcium, phosphorus, sulfur and zinc in lubricating oils and additives

ISO 8754-2003 Determination of sulfur content of International petroleum products

ISO 20847-2004 Determination of sulfur content of International petroleum products, motor fuel

ISO 13032-2010 Determination of sulfur content of international gasoline fuels

ISO 20847-2004 Determination of sulfur content of International petroleum products, motor fuel

USA ASTM D4294 Test Methods for Sulfur in U.S. Petroleum and Petroleum Products

USA ASTM D7220 Standard Test Method for Sulfur in U.S. Petroleum and Petrochemical Products

USA ASTM D7039-2007 Test Method for Sulfur in US Gasoline and Diesel

USA ASTM D5453-2009 Test Method for Total Sulfur in Engine Fuels and Engine Oil in the United States

ASTM D6481-1999 Standard Test Method for Phosphorus, Sulfur, Calcium and Zinc in US

