

Elemental Analysis in Petroleum

From hydrocarbons to plastics, Petra[®] SUPRA delivers total light element analysis with quick cycle times and no sample preparation. Petra SUPRA is a robust and rapid analysis solution for demanding laboratory and manufacturing environments.

APPLICATIONS

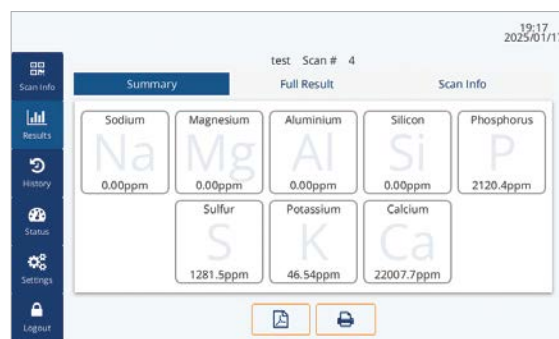
- Total light element analysis in a wide range of materials, including hydrocarbons, plastics, polymers, and other chemicals
- For use in refinery labs, pipeline terminals, inspection laboratories, and manufacturing QC labs

FEATURES AND BENEFITS

- LOD: at 300s** in hydrocarbons
 - S – 0.13 mg/kg (ppm) K – 0.06 mg/kg (ppm)
 - Si – 0.6 mg/kg (ppm) Ca – 0.03 mg/kg (ppm)
 - Al – 2.0 mg/kg (ppm) Mg – 29 mg/kg (ppm)
 - P – 0.25 mg/kg (ppm) Na – 160 mg/kg (ppm)
- Easy to use
 - Intuitive 7-inch touch screen
 - Just plug in and measure
 - Measurement time: 30-900 s
- Low maintenance: no gasses, heating elements, columns, or quartz tubing
- Small footprint
- LIMS integration for data management and transfer
- Custom sample presets to save data entry time and minimize data entry error on common samples
- Bar code reader autofills sample name to reduce data entry time
- Storage capacity for more than 10,000 measurement results
- Supports up to 30 calibration curves
- USB connectivity in front and back for connecting to printer, keyboard, mouse, and memory stick
- Supports USB and network printers
- Oxygen correction – semi-quantitative, automatically, or quantitative with matrix matching calibrations

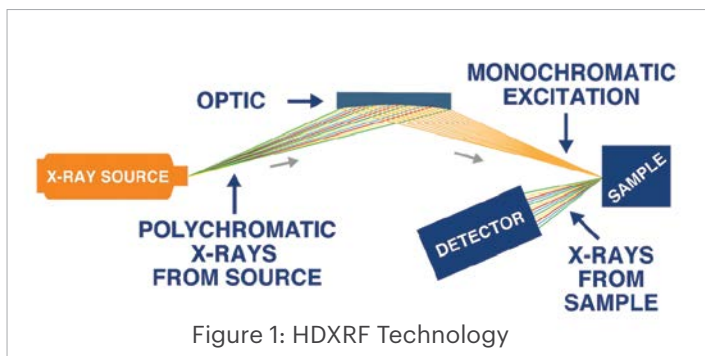
Petra^{SUPRA}

Elemental Analyzer for Petroleum



ADVANCED ANALYSIS WITH HDXRF

Petra is powered by High Definition X-ray Fluorescence (HDXRF®) technology, an elemental analysis technique offering significantly enhanced detection performance over traditional XRF technology. This technique applies state-of-the-art monochromating and focusing optics, enabling dramatically higher signal-to-background ratio compared to traditional polychromatic X-ray Fluorescence. **Figure 1** shows the basic configuration of HDXRF and its use of focused monochromatic excitation.



	Na	Mg	Al	Si	P	S	K	Ca
Avg	533.8	53.1	5.08	4.74	5.35	5.05	5.22	4.82
Stdev	28.5	11.7	0.83	0.13	0.08	0.08	0.05	0.08
%RSD	5%	22%	16%	3%	1%	2%	1%	2%
Mineral Oil Standards, 5 measurements, each 300s								

	Al	Si	S
Avg	10.62	9.28	916.18
Stdev	1.49	0.31	3.30
%RSD	14%	3%	0%
Marine Oil Standards, 5 measurements, each 300s			

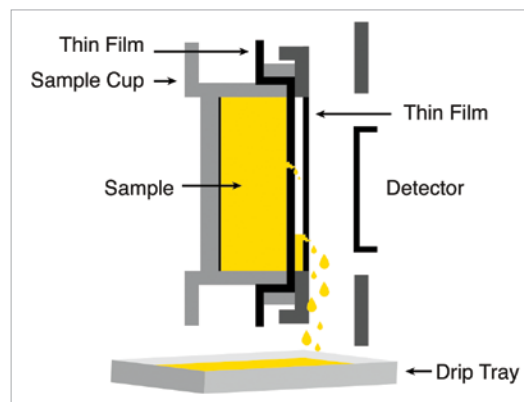
ADVANCED SAMPLE INTRODUCTION

Protect Valuable Components

Petroleum laboratories depend on reliable, robust analytical solutions for their fast-paced environment. Petra was designed to meet these needs with an innovative sample introduction system that directs accidental spills to a drip tray and away from valuable components.

Petra Sample Chamber with Drip Tray

A sample is placed into the Petra sample chamber and when closed, it is turned on its side. This innovative design ensures that any accidental sample leaks are directed to a drip tray - to be easily removed and disposed.



PRODUCT SPECIFICATIONS

Model	Petra SUPRA
Test Method	ASTM D4294, ISO 8754
Dimensions	6 in (h) x 14.5 in (w) x 16.5 in (d) 15 cm (h) x 37 cm (w) x 42 cm (d)
Ambient Temperature Requirements	5-40°C (40-104°F)
Sample Cup Size	31 mm OD
Sample Cup Volume	6 ml

*All qualification herein are subject to user guide specifications. If you have further questions, reach out to our team of experts at info@xos.com.

**Longer cycle time increases counts and lower LOD, but sample conditions over time must be considered. For further inquiries, please contact us at info@xos.com.