

ELVATECH PRECISION THAT
EMPOWERS CONFIDENCE

ELVAX S LAB



**HIGH-ACCURACY ANALYSIS OF
PETROCHEMICALS FOR SULFUR CONTENT
IN WIDE CONCENTRATION RANGE**

ELVAX S LAB - SULFUR ANALYSIS WITH UNMATCHED PRECISION AND VERSATILITY

A specialized benchtop XRF analyzer engineered for accurate determination of sulfur in fuels, crude oil, and petroleum products. ElvaX S Lab replaces outdated proportional counters and edge-filter optics with a high-resolution Silicon Drift Detector (SDD) and Elvatech's Dynamically Adaptive Shaping Digital Pulse Processor (DAS DPP).

WHY IT'S DIFFERENT

INDUSTRY-LEADING DETECTION LIMITS

Measures sulfur confidently down to **2 ppm** thanks to the SDD + DAS DPP architecture that boosts spectral resolution and reduces background noise.

HIGH THROUGHPUT, LOW COST PER TEST

Processes signals **up to 4× faster**, delivering typical results in **~1 minute per sample** without sacrificing accuracy.

BEYOND SULFUR

Simultaneous multi-element capability for **S, Cl, Zn, Ca, Ba** - expanding QC insights with one instrument.

DESIGNED FOR COMPLIANCE

Out-of-the-box support for key sulfur-in-oil standards ensures globally accepted, audit-ready data:

- ASTM D4294 (Sulfur in Petroleum by XRF)
- ISO 8754 (Sulfur Content in Petroleum Products — XRF)
- ISO 20847 (Sulfur in Fuels by EDXRF)
- IP 336 (Total Sulfur in Fuel Oils by XRF)
- ASTM D6445 (Sulfur in Gasoline by EDXRF)



WHAT YOU GAIN

- ✓ **Accuracy you can trust** across fuels, oils, lubricants, and crude.
- ✓ **Short, simple workflows** with minimal sample prep.
- ✓ **Lower operational costs** via faster cycles and broadened element coverage.

MULTI-ELEMENT POWER: MORE INSIGHT FROM EVERY RUN

While traditional sulfur analyzers focus only on S, ElvaX S Lab simultaneously quantifies Cl, Zn, Ca, Ba alongside S. That means:

- **Broader QC parameters** without extra instruments
- **Fewer re-tests and transfers** between techniques
- **Deeper composition insight** for additive packages and contamination checks

TYPICAL APPLICATIONS



Fuel compliance & blending control
(refineries, terminals, pipelines)



Crude characterization
(upstream & midstream)



Diesel, gasoline & lubricants QC
(production lines, labs)



Additive verification & contamination screening
(Cl, Zn, Ca, Ba)

THROUGHPUT & PRODUCTIVITY



- **1-minute measurements** enable dense sampling strategies and quicker lot release;
- **4× faster pulse processing** via DAS DPP maximizes daily sample counts;
- **Minimal training burden** thanks to a straightforward workflow and a single.

WHY CHOOSE ELVAX S LAB

- ✓ **Innovative DAS DPP Technology** → unmatched sensitivity, precision, and speed;
- ✓ **High-Resolution SDD Detector** → lower background, ~50% lower LOD vs. conventional designs;
- ✓ **Multi-Element Capability** → S plus Cl, Zn, Ca, Ba in one run;
- ✓ **Rapid, Simple Operation** → accurate results in ~1 minute, minimal prep;
- ✓ **Proven Compliance** → aligned with ASTM, ISO, and IP methods for audit-ready reporting.



www.elvatech.com

X-RAY TUBE

Anode: Ag

Wattage: 4W

Voltage: 40kV

X-RAY DETECTOR

Type: SDD

Area: 30 mm² (optional 40 mm²)

Energy resolution: < 140 eV at Mn Ka,
< 90 eV at Al Ka

Count rate: 500 000 cps

ELECTRONICS

Signal processor: Digital pulse processor
based on 80 MHz DSP

ADC: 4096 channels

GENERAL

Analytical Chamber Dimensions: 185 mm ×
212 mm × 90 mm

Weight: 7 kg

Power supply: 90 – 240 V, 50/60 Hz; optional
battery

Power consumption: 20 W

EMBEDDED PC

Operating system: Windows © Compact

Analysis algorithms: Regression algorithm, Manual spectra comparison

Data transfer: 2×USB, MicroSD, miniUSB

Screen: 5", 800×480



Speed



Accuracy



Stability

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