



Advanced XRF equipment and solutions



**MINI LABORATORY FOR
HIGH-PRECISION ANALYSIS
IN ACCORDANCE WITH
THE RoHS DIRECTIVE**

**ElvaX
RoHS**

The RoHS directive that came into force in 2006 in the EU controls the use of toxic elements (Pb, Hg, Cd, Cr, Br) in electrical and electronic equipment, lighting equipment, power tools, children's toys and other consumer products.

X-ray fluorescence analysis, being a non-destructive analysis method, is excellent for testing for compliance with the RoHS directive, because it allows detecting heavy metals in very low concentrations (from 1 ppm) and has a high accuracy of measurement. The ElvaX RoHS analyzer is used to test consumer products for compliance with the RoHS directive.

One of the key features of ElvaX RoHS is automatic chlorine correction of calibration, which takes into account the influence of chlorine content in plastics on measurement of heavy metals. This allows for the use of a single calibration to test objects made of various plastics (PVC, PE, etc.) and to avoid possible errors when analyzing products made of unknown materials.

Another important feature of the analyzer is automatic correction of the effect of material thickness on the analysis results.

SENSITIVITY

Thanks to a highly sensitive SDD detector, the instrument allows to detect hazardous elements in concentrations ten times lower than the minimum acceptable by the RoHS directive.

SPEED

Thanks to the high speed of the digital pulse processor with the DAS technology and a specially designed conversion filter for simultaneous determination of Cr, Br, Hg and Pb, the entire measurement process takes only a few seconds.

FUNCTIONALITY

Video camera, 5-position collimator changer from 1 to 10 mm, built-in computer and printer, possibility of full-featured operation when connected to a PC.

- ✓ High speed and accuracy
- ✓ Intuitive interface
- ✓ Ability to work autonomously
- ✓ Compact, does not take up much space on the table
- ✓ Ergonomic design
- ✓ Lead glass and customer display

TEST OF MEASUREMENT REPEATABILITY FOR POLYETHYLENE 10 TIMES FOR 5 SECONDS:

PE	Concentration, ppm				
Measurement	Cr	Br	Cd	Hg	Pb
1	528	237	48	480	469
2	502	224	45	475	457
3	502	230	50	472	459
4	489	233	51	465	460
5	516	234	51	473	464
6	510	232	48	471	461
7	513	233	45	477	465
8	517	234	48	475	459
9	508	237	44	476	468
10	516	231	50	468	458
Average	510.1	232.5	48	473.2	462
RSD	7.9	2.6	2	7.9	3.6
% RSD	1.55	1.12	4.17	1.55	0.78



DigiX-40 digital x-ray generator (optional digiX-50)

Anode: W

Voltage: 40 kV (50 kV)

Current: 200 μ A

Power: 4 W

5-position collimator changer from 1 to 10 mm

Detector

Type: Fast SDD (Si-PIN option)

Area: 30 mm² (6 mm² for Si-PIN)

Resolution: <140 eV (165 eV for Si-PIN) on the Mn Ka line

Electronics

DPP: DAS (Dynamically Adaptive Shaping)

General

Dimensions: 280 × 385 × 200 mm

Analytical chamber: 185 × 212 × 90 mm

Weight: 7 kg

Power supply: 90 - 240 V, 50/60 Hz

Power Consumption: 40 W

Battery: 6 hours of continuous operation

Thermal printer: optional

Software

Operating System: Windows CE

Quantitative Analysis: Fundamental Parameters Method (FPA), Empirical Calibrations

Interfaces

Data transfer: 2 USB ports, Micro SD card, Ethernet

Data input: touch screen, keyboard, mouse

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