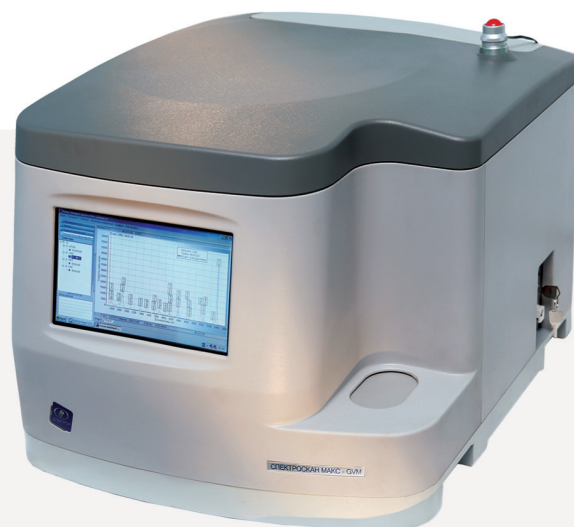




SPECTROSCAN MAKC GVM

NEW X-RAY INSTRUMENT FOR SPECTRAL ANALYSIS



- **SPECTROSCAN MAKC GVM** features a new design with more convenient sample changing system, built-in cooling system and PC with sensor display.
- For elemental analysis of various solid, powdered and dissolved materials, surface coatings and filter deposits.

The principle of the spectrometer operation is as follows. A sample is irradiated by X-ray tube primary radiation, then the intensity of the secondary fluorescence from the sample at wavelengths corresponding to the elements to be detected is measured, and the subsequent calculation of the mass fraction of these elements is done. For the last operation, a pre-built calibration characteristic is used, which is the dependence of the element content from the measured intensity.

The secondary fluorescent radiation undergoes spectral decomposition using analyzing crystal.

The spectrometer has therefore high ability to separate the spectral lines, and hence is capable to perform precise analysis of complex multicomponent substances.

KEY POINTS

- Measurement range from Sodium to Uranium in a single sample.
- It doesn't require connection to water mains or gas supply.
- Integrated cooling system.
- Spectrometer is controlled by built-in PC with 8" sensor display.
- An upgraded sample changing system for 10 samples facilitates the sample placement.
- To improve analyzing performance of the instrument, the measurement path is installed in vacuum, but the analyzed sample is placed in air environment allowing analyzing of liquid and powdered samples without extra efforts.

TASKS TO BE SOLVED

- Analysis of steels and alloys, and various metallurgical products.
- Analysis of water, soil and air in the working area, and the ventilation emissions.
- Analysis of geological samples, ore processing products.
- Analysis of petroleum and petroleum products for sulfur, organic chlorine, and heavy metals content.
- Oil analysis to determine wear debris and additives content, the analysis of lubricants and catalysts.
- Analysis of refractory products, glass, construction materials.
- Forensic medical examination or criminalistic expert examination.
- Application for research and educational purposes.



KEY POINTS

Spectrometer is supplied with all necessary methodological support, consumables and accessories for sample preparation.

Having purchased the spectrometer, the user obtains everything required for analysis.

Methodological support can be provided as aggregate of measurement procedures allowing performing of the most common tasks, or of calibrations in accordance with typical samples allowing performing of every task.

The instrument's scope of supply includes primary verification certificate, software for quantitative and qualitative analysis, and all required accessories.



ANALYTICAL PARAMETERS

| | |
|----------------------------------|------------------------------------------------------------------------|
| The range of identified elements | from Na up to U |
| Detection limits, L | Na: 0.1% Mg: 0.02% from Al to P: 0.0005% - 0.003% from S to U: 0.0001% |
| The range of identified content | from 3L to 100% |
| Energy resolution | (eV (Si Ka), 60 eV (Fe Ka 9 |

TECHNICAL SPECIFICATION

| | |
|------------------------------------|----------------------------------------------------|
| Anode voltage of X-ray tube | 40 kV |
| Power of X-ray tube | up to 200 W |
| Anode material of X-ray tube | Pd (or Cr) |
| Method of spectral lines detection | crystal diffraction |
| X-ray optics | Johansson |
| Analyzing crystal | LiF (200), C (002), PET, KAP |
| Sample handling device | automatic, for 10 samples, 2 samples with rotation |
| Power supply | 220 V, 50 Hz |
| Power consumption (mains 220 V) | 850 W |
| PC interface | USB |

CERTIFICATION

The instruments are included in the National Register of Measuring Instruments of RF, under No 22525-07. The instruments are manufactured in accordance with TU 4276-001-23124704-2001, "SPECTROSCAN MAKС X-Ray instruments for spectral analysis." The instruments do not require registration in bodies of State Committee for Sanitary and Epidemiological Supervision and are not subject to radiation control.

Scientific-production association SPECTRON Ltd.
P.BOX 214, 10A Tsiolkovskogo st., Saint-Petersburg, 190103, Russia
Tel. +7 (812) 325-8183, Fax +7 (812) 325-8503
www.spectronxray.ru, e-mail: info@spectron.ru

