

WDXRF

WDXRF SPECTROMETER



EPCC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

Analytical Technologies Limited

An ISO 9001 Certified Company

www.analyticalgroup.net

►► Technical description

► Purpose:

The spectrometer is designed to determine the contents of elements in the range from Na11 to U92 in substances in solids, powders, dissolved states, as well as deposited on surfaces or deposited on filters.

► Measurement procedure: -

- Select the required analysis method in the software:
- Qualitative analysis - measurement of the X-ray fluorescence spectrum of the sample in any part of the operating wavelength range of the spectrometer, saving the measurement results; automatic processing of measured spectra, background subtraction; identification of spectral lines and conclusion about the presence of the corresponding elements in the sample.
- Quantitative analysis - determination of the quantitative content of elements using a prebuilt calibration characteristic using samples with a known content of the determined element in the entire measured range.
- Method of fundamental parameters (MFP): quantitative determination of the content of elements without using calibration samples, using the settings already available in the program.
- Diagnostics - ensuring control and testing of the operability of the main units of the device;
- When several samples are installed in the sample loader, they are changed automatically, which speeds up routine analysis with a large number of measurements.
- Data transfer to LIMS system.

► Features and benefits :

- The spectrometer is designed to determine the contents of elements in the range from Na11 to U92 in substances in solids, powders, dissolved states, as well as deposited on surfaces or deposited on filters.
- Wavelength dispersive (WDXRF) scanning spectrometer with a wide range of elements to be determined from Na11 U92;
- 4 different crystal analyzers, providing optimal performance in different wavelength ranges, are located on the automatic crystal changer;
- The measuring path for improving the analytical characteristics of the spectrometer is in a vacuum, but the analyzed sample remains in air, which makes it possible to study liquid samples and powders without purging with helium;
- Automatic sample loader for 10 samples has 2 rotating sockets to increase the representativeness of the analysis of heterogeneous samples, which allows to minimize the operator's actions during the measurement process.
- The upper location of the X-ray tube excludes the ingress of the sample material on it in the event of a break in the film on the cell, leakage or shedding of the sample



- Scanning along the spectrum and high resolution of the analyzer crystals reduce the effect of superposition of close spectral lines of different elements and the need for their mathematical separation, allows you to correctly take into account the background, which increases the accuracy and reliability of analyzes;
- Built-in closed-loop cooling system, does not require connection to water and gas supply;
- Research-level software, with the ability to conduct qualitative and quantitative analysis, incl. using the method of fundamental parameters, it allows flexible adjustment of various characteristics of nodes in order to select the optimal mode for a specific analytical task;
- Numerous validated measurement techniques and standardized solutions for routine analytical tasks across a wide range of industries.

►► Technical Specifications :

Position	Value
Range of elements to be determined	from 11Na to 92U
Measuring range	from ppm to 100 %
Energy resolution	9 3B (Si K α), 60 3B (Fe K α)
Spectrometer type	X ray Fluorescent Crystal-Diffractive Scanning (WDXRF)
	Diffraction On crystal analyzer
Crystal analyzers	LiF(200), C(002), PET, RbAP
X-Ray scheme	Johansson
X-ray tube power, W	160
Cooling system	Closed
X-ray tube anode voltage, kV	40
X-ray tube material	Pd
Optical circuit	Vacuum
Sample changer	Lower. Horizontal. Automatic. For 10 samples up to 40 mm in diameter, incl. 2 with rotation
Time of one element definition	from 30 seconds
PC interface	Built-in touchscreen computer and Ethernet connector
Connecting to an external PC	USB (RS 232)
AC power supply voltage (50 \pm 1) Hz, V	220 \pm 22
Power consumption from 220 V network, no more	1000
Overall dimensions of the spectrometric unit, mm, no more	560 \times 460 \times 380
Spectrometric unit weight, kg, no more	60
Overall dimensions of the vacuum pump unit, mm, no more	330 \times 230 \times 380
Vacuum pump unit weight, kg, no more	9
Terms of Use: <ul style="list-style-type: none"> • Range of ambient air temperature, °C • Atmospheric pressure, kPa • Value of relative humidity at 25 °C, % 	From 10 to 30 From 84 to 107 Up to 80

**►► The delivery set of the Analyzer :**

Code	Description	In set, pcs
1. in a set:		
-	SPECTROMETER UNIT	1
00000000597	Vacuum Pump	1
2. Consumables:		
00000007111	antifreeze G12+, 1 kg	1
00000003257	Roll film, 5 mic, 100 M	1
3. A set of standard samples for verification of the spectrometer		1
4. Accessory kit:		
00000001380	Software CD	1
00000001984	Powder sample cup Ø 32	10
00000000252	Sample cup Ø 32	10
00000003185	Liquid sample cup Ø 40	10
00000001054	Powder sample cup Ø 40	2
00000001055	Powder sample cup Ø 20	2
00000000364	Device for disassembling sample cups	1
00000001088	Device for disassembling sample cups 40	1
00000000856	Clips	10
00000001073	Clips (for qualitative analysis)	2
-	Set of setting-up samples	1
5. Set of spare parts and tools		1
6. Set of calibration samples		1
7. Documents		

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HPLC Servicing :HPLC Servicing : We have team of service engineers who can attend to any make of HPLC promptly @the most affordable cost.

Trainings :We also take up preventive Maintenance to reduce downtime of HPLC's Trainings.

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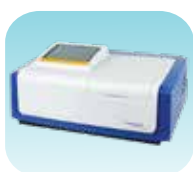
Instruments :Instruments :We offer instruments/Renting Services Modules like pumps,detector etc. on Rent.



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Chromatograph
3007



Optima Gas
Chromatograph
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Spectrophotometer



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Counter



Optical Emission
Spectrophotometer



DSC/TGA



Semi Auto Bio
Chemistry Analyzer



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Hematology
Analyzer



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Reader/Washer



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Urine Analyzer



Total Organic
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Laser Particle
Size Analyzer



Ion Chromatograph



Water purification
system

Regulatory compliances



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Analytical
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2. Improving quality of life by offering YOGA Training courses, Work shops/Seminars etc.

3. ANALYTICAL FOUNDATION aims to DETOXYFY human minds,souls and body by means of yoga, Meditation, Ayurveda, Health Care, Awards, Media, Events, Camps etc.

Reach us @



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