GNR OPTICA

ANALYTICAL INSTRUMENTS GROUP

HORIZON

BENCHTOP TXRF SPECTROMETER

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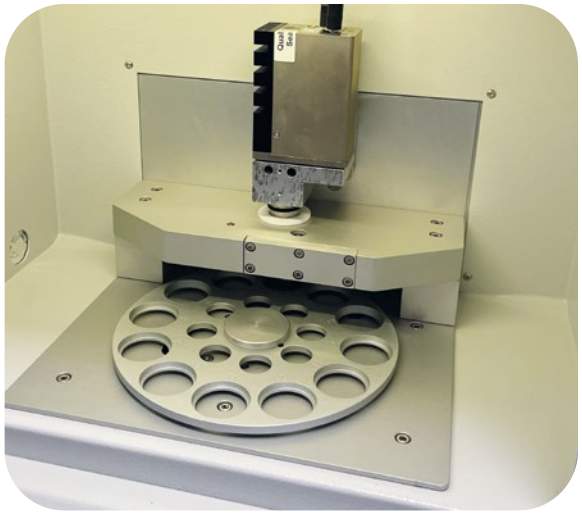
Horizon

Benchtop TXRF Spectrometer

Horizon is the new Benchtop Total Reflection X-Ray Fluorescence Spectrometer (TXRF) manufactured by GNR for multi elemental qualitative and quantitative analysis of major and trace elements in suspensions as well as in liquid samples.
Horizon instrument is the state of the art of the Total Reflection X-RAY Fluorescence Spectrometers and it is equipped with all the most modern technical components, which grant accuracy, precision, safety and easiness of use. It is a powerful tool for trace element analysis.

Main advantages of the TXRF technique:

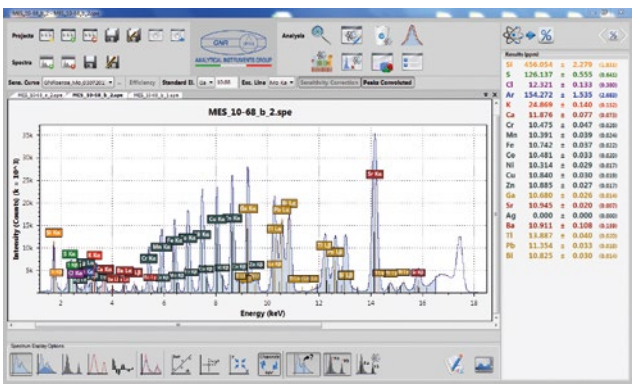


- No matrix effects
- Simple quantification using internal standard
- Calibration and quantification independent from any sample matrix
- Simultaneous multi-element ultra-trace analysis
- Minimal quantity of sample required for the measurement (5μl)
- Excellent detection limits (down to ppt or pg), depending on sample matrix
- Excellent dynamic range from ppt to percent
- Easy sample preparation
- Possibility to analyse the sample directly without chemical pre-treatment
- No memory effects
- Low running costs

Horizon Spectrometer components are mounted in a steel cabin shielded in accordance with the international X-ray safety rules, equipped with lead glass windows, warning lamps and safety interlocks

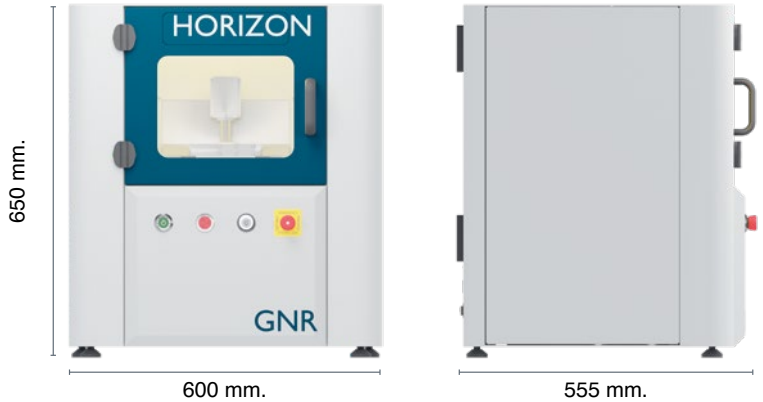
Horizon is suitable for various sample types and applications:

- Environmental analysis
- Foods
- Nutrients
- Dietary supplements and beverage analysis
- Quality control of pure substances and industrial products
- Authentication in pharmaceutical and forensic laboratories
- Tissue and biological liquids in clinical chemistry



Technical specifications:

X-Ray Generator	X-ray generator	600 W
	Max. output voltage	40 kV
	Max. output current	15 mA
X-Ray Tube	Mo anode provided as standard	
	Monochromatic excitation energy: Mo-Ka 17.44 keV (ΔE<1 KeV)	
	Other anodes available as options	
	Focus	0.4 x 8 mm FF (Fine Focus)
Silicon Drift Detectors	Active area: 40 mm^2 as standard. (50 mm^2 as option) Energy resolution: ≤ 133 eV FWHM @Mn-Ka (1 µs peaking time)	
Multi sample holder	12 sample positions (quartz carriers and others as option)	
Software	GNR Horizon (Acquisition and Analytical SW)	
Atmosphere	Air or He flow	
External dimensions	600 mm, 650 mm, 555 mm	
Weight	85 Kg	
Cooling water supply	External Compact Low Noise Version	
Power Supply	90 - 250 Vac, single phase	
Maximum power consump tion (including water chiller)	2 kVA	



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