

Rigaku

NEXQC

Low Cost Benchtop EDXRF
Elemental Analyzer



Analyze sodium (Na) through uranium (U)
in solids, liquids, powders and alloys

Elemental analysis for quality control applications

Rigaku NEX QC delivers rapid qualitative and quantitative determination of major and minor atomic elements - from sodium through uranium – in a wide variety of sample types. Offering simplicity of operation with a modern "icon driven" smartphone style user interface, the instrument design was optimized for the demands of production process control environments. An integrated computer and thermal printer provide full functionality without external devices, while built-in Ethernet allows seamless networking to LIMS or other control systems. Options include a fundamental parameters software module for reducing the number of required calibration standards, an automatic sample changer, sample spinner and helium purge for enhanced light element sensitivity.

Typical applications span industry and academe



Wood Treatment



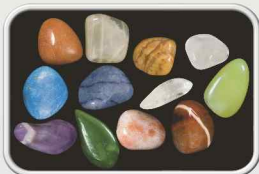
Cement



Petroleum - PetroChem



General Analysis



Minerals



Nutraceuticals



Education



Personal Care Products



Mining & Refining



Coating Thickness

ELEMENTAL A

<div>Sodium</div> <div>Na11</div> <div>Atomic Weight = 22.99</div>	<div>Magnesium</div> <div>Mg12</div> <div>Atomic Weight = 24.31</div>										
<div>Potassium</div> <div>K19</div> <div>Atomic Weight = 39.10</div>	<div>Calcium</div> <div>Ca20</div> <div>Atomic Weight = 40.08</div>	<div>Scandium</div> <div>Sc21</div> <div>Atomic Weight = 44.96</div>	<div>Titanium</div> <div>Ti22</div> <div>Atomic Weight = 47.87</div>	<div>Vanadium</div> <div>V23</div> <div>Atomic Weight = 50.94</div>	<div>Chromium</div> <div>Cr24</div> <div>Atomic Weight = 52.00</div>	<div>Manganese</div> <div>Mn25</div> <div>Atomic Weight = 54.94</div>	<div>Iron</div> <div>Fe26</div> <div>Atomic Weight = 55.85</div>				
<div>Rubidium</div> <div>Rb37</div> <div>Atomic Weight = 85.47</div>	<div>Sr</div> <div>Sr38</div> <div>Atomic Weight = 87.62</div>	<div>Yttrium</div> <div>Y39</div> <div>Atomic Weight = 88.91</div>	<div>Zirconium</div> <div>Zr40</div> <div>Atomic Weight = 91.22</div>	<div>Niobium</div> <div>Nb41</div> <div>Atomic Weight = 92.91</div>	<div>Molybdenum</div> <div>Mo42</div> <div>Atomic Weight = 95.94</div>	<div>Technetium</div> <div>Tc43</div> <div>Atomic Weight = 98.01</div>	<div>Ruthenium</div> <div>Ru44</div> <div>Atomic Weight = 101.07</div>				
<div>Cesium</div> <div>Cs55</div> <div>Atomic Weight = 132.91</div>	<div>Barium</div> <div>Ba56</div> <div>Atomic Weight = 137.33</div>	<div>Lanthanum</div> <div>La57</div> <div>Atomic Weight = 138.91</div>	<div>Hafnium</div> <div>Hf72</div> <div>Atomic Weight = 178.49</div>	<div>Tantalum</div> <div>Ta73</div> <div>Atomic Weight = 180.95</div>	<div>Tungsten</div> <div>W74</div> <div>Atomic Weight = 183.84</div>	<div>Rhenium</div> <div>Re75</div> <div>Atomic Weight = 186.21</div>	<div>Osmium</div> <div>Os76</div> <div>Atomic Weight = 190.23</div>				
<div>Francium</div> <div>Fr87</div> <div>Atomic Weight = 223.02</div>	<div>Radium</div> <div>Ra88</div> <div>Atomic Weight = 226.03</div>	<div>Actinium</div> <div>Ac89</div> <div>Atomic Weight = 227.03</div>									
			<div>Cerium</div> <div>Ce58</div> <div>Atomic Weight = 140.12</div>	<div>Praseodymium</div> <div>Pr59</div> <div>Atomic Weight = 140.91</div>	<div>Neodymium</div> <div>Nd60</div> <div>Atomic Weight = 144.24</div>	<div>Promethium</div> <div>Pm61</div> <div>Atomic Weight = 144.91</div>					
			<div>Thorium</div> <div>Th90</div> <div>Atomic Weight = 232.04</div>	<div>Protactinium</div> <div>Pa91</div> <div>Atomic Weight = 231.04</div>	<div>Uranium</div> <div>U92</div> <div>Atomic Weight = 238.03</div>						

Analyze ^{11}Na through ^{92}U non-destructively

Solids, liquids, pastes, slurries, emulsions, minerals, alloys, powders and thin films

50kV X-ray tube for wide elemental range

Semiconductor detector for superior precision and detection limits

Multiple automated tube filters for enhanced sensitivity and selectivity

Modern smartphone style "icon driven" touch screen user interface

Convenient built in thermal printer

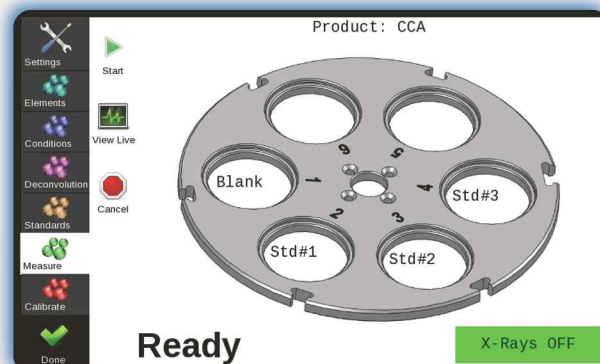
Low total cost of ownership with superior performance-to-price ratio

Optional fundamental parameters for either standardless analysis or reducing the minimum number of standards required for a calibration

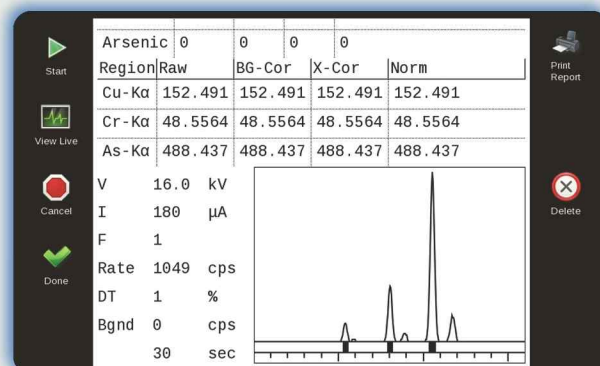
ANALYSIS

NEXQC

Aluminum	Silicon	Phosphorus	Sulfur	Chlorine	Argon
Al 13	Si 14	P 15	S 16	Cl 17	Ar 18
Atomic Weight = 26.98	Atomic Weight = 28.09	Atomic Weight = 30.97	Atomic Weight = 32.07	Atomic Weight = 35.45	Atomic Weight = 39.95
Cobalt	Nickel	Copper	Zinc	Gallium	Germanium
Co 27	Ni 28	Cu 29	Zn 30	Ga 31	Ge 32
Atomic Weight = 58.93	Atomic Weight = 58.69	Atomic Weight = 63.55	Atomic Weight = 65.38	Atomic Weight = 69.72	Atomic Weight = 72.64
Rhodium	Palladium	Silver	Cadmium	Indium	Tin
Rh 45	Pd 46	Ag 47	Cd 48	In 49	Sn 50
Atomic Weight = 102.91	Atomic Weight = 106.36	Atomic Weight = 107.87	Atomic Weight = 112.41	Atomic Weight = 114.82	Atomic Weight = 118.71
Iridium	Platinum	Gold	Mercury	Thallium	Lead
Ir 77	Pt 78	Au 79	Hg 80	Tl 81	Pb 82
Atomic Weight = 223.83	Atomic Weight = 195.08	Atomic Weight = 196.97	Atomic Weight = 200.59	Atomic Weight = 204.38	Atomic Weight = 207.2
Samarium	Europium	Gadolinium	Terbium	Dysprosium	Holmium
Sm 62	Eu 63	Gd 64	Tb 65	Dy 66	Ho 67
Atomic Weight = 150.36	Atomic Weight = 151.96	Atomic Weight = 157.25	Atomic Weight = 158.93	Atomic Weight = 162.50	Atomic Weight = 164.93
Er	Tm	Yb	Lu		
Atomic Weight = 167.26	Atomic Weight = 168.93	Atomic Weight = 173.05	Atomic Weight = 174.97		



Routine analysis of unknown samples is both easy and straight forward. For autosampler equipped systems, simply slide open the sample chamber door, load your samples. Then use the touch screen interface to enter sample names and select the analysis method.



From the simple results screen (as shown on the instrument display), the user can easily use a finger to scroll down to view the results detail - including the acquired spectra associated with the unknown sample. In addition to the usual elemental concentrations, this detailed information may be also be printed on the built-in thermal printer.



NEX QC specifications

Excitation

- 50 kV X-ray tube
- 4W max power
- 6 tube filter positions with shutter

Detection

- High performance semiconductor detector
- Peltier thermo-electric cooling
- Optimum balance of spectral resolution and max count rate

Sample Chamber

- Large 190 x 165 x 60 mm sample chamber
- Single position 32 mm sample aperture
- Single position 40 mm sample aperture
- Bulk sample aperture
- 6-position 32 mm automatic sample changer
- 5-position 40 mm automatic sample chamber
- Single position 32 mm sample spinner
- Analysis in air or helium

Software & Application Packages

- Qualitative and quantitative analysis
- Normalization and validation feature
- Fundamental parameters
- Data export function with LIMS compatibility
- User selectable shaping times
- Simple flow bar wizard to create new applications
- Icon driven graphical user interface

Environmental Conditions

- Ambient temperatures 10 – 35°C (50 – 95°F)
- Relative humidity <85% non condensing
- Vibration undetectable by human
- Free from corrosive gas, dust, and particles

User Interface

- 8" WVGA touch screen interface
- Embedded computer
- Internal thermal printer
- USB & Ethernet connections

Spectrometer Data

- Single phase AC 100/240V, 1.4A (50/60 Hz)
- Dimensions: 331 (W) x 432 (D) x 376 (H) mm (13 x 17 x 14.8 inch)
- Weight: 16 kg (35 lbs)

Options

- 6-position 32 mm automatic sample changer
- 5-position 40 mm automatic sample chamber
- Single position 32 mm sample spinner
- Helium purge
- Fundamental parameters



Analyze large samples.



Single position analysis.



32 mm or 40 mm autosampler.

Rigaku

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