

RX MONACO

A FULLY AUTOMATED CLINICAL CHEMISTRY ANALYSER WITH A
PHOTOMETRIC THROUGHPUT OF 170 TESTS PER HOUR



RANDOX

» A CONVENIENT SOLUTION FOR LOW TO MID
VOLUME CLINICAL CHEMISTRY TESTING



W O U S C O
rx



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» BENEFITS

The RX monaco is a fully automated, discrete, random access clinical chemistry analyser capable of performing **routine & specialised testing** and emergency **STAT sampling**. At optimal configuration, the RX monaco performs **170 photometric tests per hour** providing cost effective, high quality testing for small to medium sized laboratories. Customers can choose between a benchtop system or add a stand to suit their unique circumstances. The RX monaco combines robust hardware and intuitive software with the **world leading RX series test menu for unrivalled performance**.



TEST MENU & CONSOLIDATION

Expand your testing capabilities on one efficient platform

Extensive dedicated test menu, including; **routine chemistries, lipids, antioxidants, cardiac and diabetes testing** allows laboratories to expand their testing capabilities, **reducing additional costs** of sending samples to be tested externally.

A large number of chemistry tests can be carried out on one platform providing **consolidation opportunities and real cost savings**.



ACCURATE RESULTS

Achieve accurate patient results first time, every time

Single reagent and sample pipette with **digital liquid level detection** and **collision protection**.

Serum **indices** function detects lipaemic, icteric and haemolytic samples, **ensuring accuracy of results** and reducing the need for expensive repeats.

High quality results **save operator time** avoiding unnecessary additional costs of repeat testing reducing the possibility of patient misdiagnosis.



UNRIVALLED PERFORMANCE

Reliability ensures no interruption to workflow

On-board cuvette checking function ensuring only clean and viable reaction vessels are used.

Built in **inventory management** system automatically calculates remaining reagent volume and the number of tests available.

Superior performance means **minimal downtime** and swift **reporting of results**.



QUALITY CONTROL

Developed to improve
confidence in your results

Generation of **Levey-Jennings charts, calibration curves** and **QC statistics** for reliable results.
Users can view QC history.

Auto QC interval enables **automatic QC sampling** to ensure **reliable results**.

Unrivalled QC capabilities puts **patient safety** at the centre of your laboratory.



FLEXIBILITY & VERSATILITY

Increased functionality
maximises testing capabilities

12 wavelengths generated via diffraction grating (340-800nm) giving the RX monaco a wide range of testing capabilities ensuring a **multitude of chemistries are possible on one system**.

Rapid STAT testing is available via the emergency test functionality within the software.

Barcode readers for both sample and reagent identification. Windows® based software for **ease of use**.



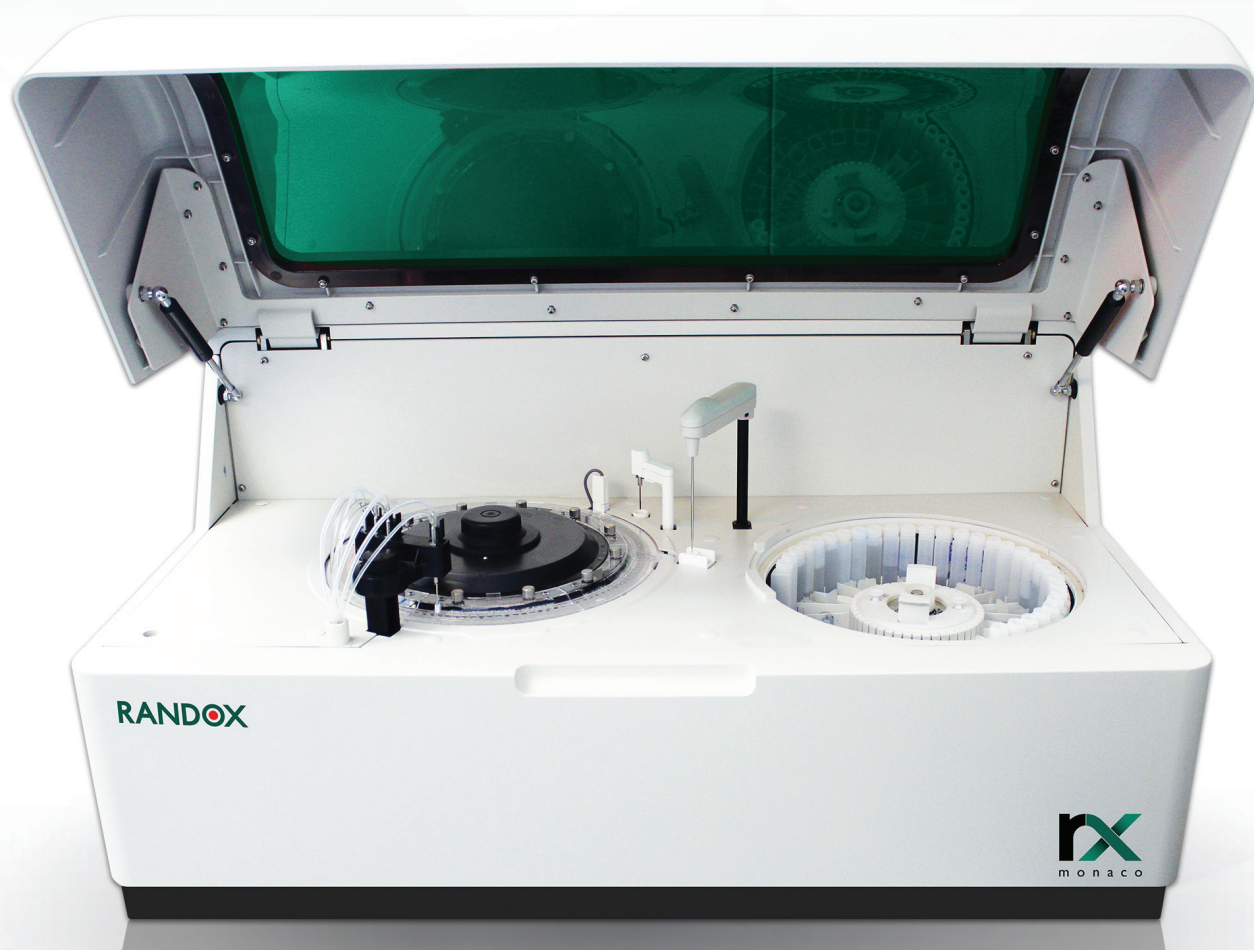
COST SAVINGS

Smart technology designed
to avoid additional costs

Minimal maintenance required, just **2 preventative maintenance** services per year means **less down time**

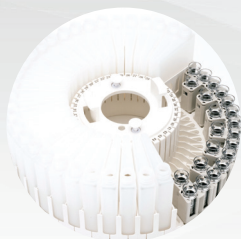
Extensive test menu allows **consolidation** of testing, the ability to run specific proteins removes the need for a separate nephelometry system

Economic platform with low water consumption of only **5.5 litres per hour**.



W O U S C O
rx

» SYSTEM OVERVIEW



REAGENT & SAMPLE CAROUSEL



A cooled carousel containing 66 user-definable positions are available for samples and 20ml and 70ml reagent bottles - dedicated reagents are available from Randox. Integrated barcode identification ensures smooth recognition of patient samples and reagents. The S/RPT pipette has liquid level detection and collision detection and is rinsed inside and out to prevent carryover.



CUVETTES



120 semi-permanent reaction cuvettes lasting for 3-6 months.
The reaction temperature is controlled by a water bath.



WASH STATION



A thorough 12 stage washing process with acid, alkali and pure water wash steps helps minimise contamination. The on-board cuvette checking function ensures only clean and viable reaction vessels are used. The combined reagent and sample pipette is rinsed inside and out with warm water to ensure effective cleansing.



MIXING SYSTEM



The mixing system comprises of a variable 5-speed Teflon coated stirrer to provide optimum mixing of sample, R1 and R2 to ensure best performance. The stirrer is automatically rinsed with purified water to reduce carryover.

» THE RX SERIES TEST MENU



CLINICAL

AUTOIMMUNE:

Complement Component 3
Complement Component 4
CRP Full Range (0.3-160mg/l)
CRP High Sensitivity
IgA
IgE
IgG
IgM
Rheumatoid Factor

BASIC METABOLIC PROFILE:

Calcium
CO₂ Total
Chloride
Creatinine Enzymatic
Creatinine (Jaffe)
Glucose
Potassium
Sodium
Urea

BONE PROFILE:

Alkaline Phosphatase
Calcium
Phosphorus
Total Protein

CARDIAC:

Adiponectin
Cholesterol
CK-MB
CK-NAC
CRP Full Range (0.3-160mg/l)
CRP High Sensitivity
Direct HDL Cholesterol
Direct LDL Cholesterol
Homocysteine
Lipoprotein (a)
sLDL
Triglycerides

COMPREHENSIVE METABOLIC PROFILE:

Albumin
Alkaline Phosphatase

ALT

AST (GOT)
Direct Bilirubin
Calcium
Chloride
CO₂ Total
Creatinine Enzymatic
Creatinine (Jaffe)
Glucose
Potassium
Sodium
Total Bilirubin
Total Protein
Urea

DIABETES:

Adiponectin
Cholesterol
Creatinine Enzymatic
Creatinine (Jaffe)
Direct HDL Cholesterol
Direct LDL Cholesterol
Glucose
HbA1c/Hb
Microalbumin
Total Protein
Triglycerides

ELECTROLYTES:

Calcium
Chloride (Nondirect)
CO₂ Total
Magnesium
Potassium (Non-Direct)
Sodium (Non-Direct)

HAEMOLYTIC ANAEMIA:

LDH

HEPATIC FUNCTION:

Albumin
Alkaline Phosphatase
ALT
AST (GOT)
Bile Acids
Cholinesterase

Complement Component 3
Complement Component 4
Direct Bilirubin
Gamma GT
IgA
IgE
IgG
IgM
Iron
LDH
Total Bilirubin
Total Protein

INFLAMMATION AND INFECTION:

Alpha-1 Acid Glycoprotein
ASO
CRP
Rheumatoid Factor

LIPIDS:

Apolipoprotein A-I
Apolipoprotein All
Apolipoprotein B
Apolipoprotein E
Cholesterol
Direct HDL Cholesterol
Direct LDL Cholesterol
Lipoprotein (a)
sLDL
Triglycerides

NEONATAL SCREENING:

CRP
CRP Full Range (0.3-160mg/l)
CRP High Sensitivity

NEUROLOGICAL DISORDERS (CSF):

IgA
IgE
IgG
IgM

NUTRITIONAL STATUS:

Albumin
Ferritin
Iron
Lipase
Magnesium
Potassium
TIBC
Transferrin

PANCREATIC FUNCTION:

Amylase
Glucose
LDH
Lipase

RENAL FUNCTION:

Albumin
Ammonia
Beta-2 Microglobulin
Calcium
Chloride
Creatinine Enzymatic
Creatinine (Jaffe)
Glucose
HbA1c/Hb
IgG
LDH
Magnesium
Microalbumin
Potassium
Sodium
Phosphorus (Inorganic)
Urea
Uric Acid



VETERINARY

Albumin
Alkaline phosphatase
ALT (GPT)
Amylase
AST (GOT)
Bilirubin
Calcium
Chloride
Cholesterol

Cholinesterase (Butyryl)
CK-NAC
CO₂ Total
Creatinine
Gamma-GT
Glucose
HDL
Iron
LDL

Lipase
Magnesium
Phosphorus (Inorganic)
Potassium
Sodium
Total Protein
Triglycerides
Urea
Uric Acid



PROTEINS

SPECIFIC PROTEINS:

Apolipoprotein A-I
Apolipoprotein AII
Apolipoprotein B
Apolipoprotein E
ASO
Beta-2 Microglobulin

Complement Component 3
Complement Component 4
CRP Full Range (0.3-160mg/l)
CRP High Sensitivity
Ferritin
HbA1c/Hb
IgA

IgE
IgG
IgM
Lipoprotein (a)
Microalbumin
Rheumatoid Factor
Transferrin



RESEARCH

ANTIOXIDANTS:

Albumin
Bilirubin
Ferritin

TIBC
Transferrin
Uric Acid

» THE RX SERIES A-Z TEST MENU



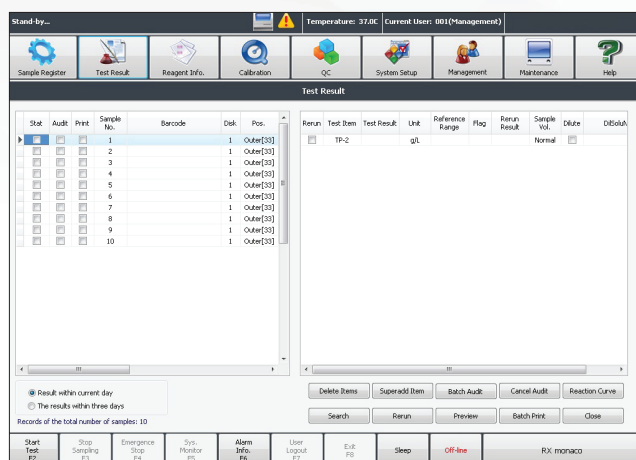
AUTOMATED (RX MONACO)

Adiponectin	CK-NAC	LDH (L->P)
Albumin	CO ₂	LDH (P->L)
Alkaline Phosphatase (AMP)	Complement Component C3	LDL Cholesterol (Direct)
Alkaline Phosphatase (DEA)	Complement Component C4	Lipase
ALT	Creatinine (Jaffe)	Lipoprotein(a)
Amylase	Creatinine (Enzymatic)	Magnesium
Apolipoprotein A	CRP (high sensitivity)	Microalbumin
Apolipoprotein A-II	CRP Full Range	Phosphorus
Apolipoprotein B	Ferritin	Potassium
Apolipoprotein E	Gamma GT	Rheumatoid Factor
ASO	Glucose (GOD/PAP)	sLDL
AST (GOT)	Glucose (HK)	Sodium
Beta-II Microglobulin	HbA1c	TIBC
Bile Acids	HDL Cholesterol (Direct)	Total Protein
Bilirubin (Direct & Total)	Homocysteine	Transferrin
Calcium	IgA	Triglycerides
Chloride	IgE	Urea
Cholesterol	IgG	Uric Acid
Cholinesterase	IgM	
CK-MB	Iron	



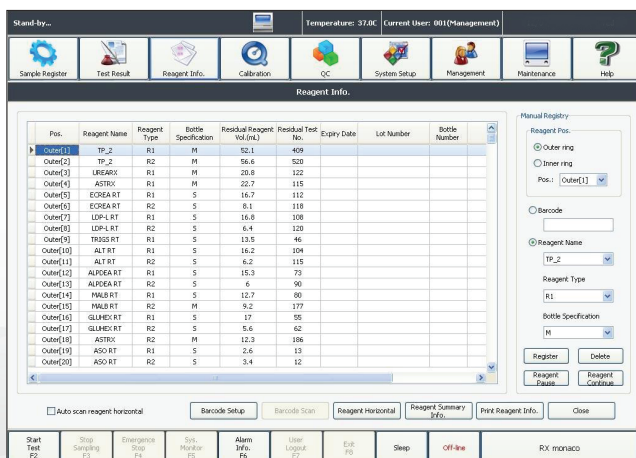
» SOFTWARE

The RX monaco is provided with familiar, Windows® based software and easily recognisable icons making it appealing and easy-to-use for all staff involved in its operation. Straightforward operation of the software results in minimal training requirements and enhanced productivity. The superior functionality of the quality control software generates Levey-Jennings charts and QC statistics for reliable patient results. LIMS (Laboratory Information Management System) connectivity is easily achievable via ASTM standard. Secure remote diagnostics is available to allow immediate support from expert technical and applications staff, anytime, anywhere.



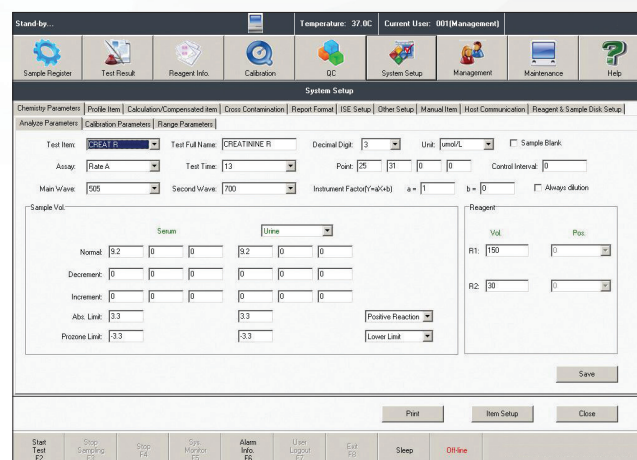
REPORTS

The operator can easily search for previous reports and view real time results status, including time left until completion. The report layout is fully customisable plus reports can be previewed, edited and printed as required.



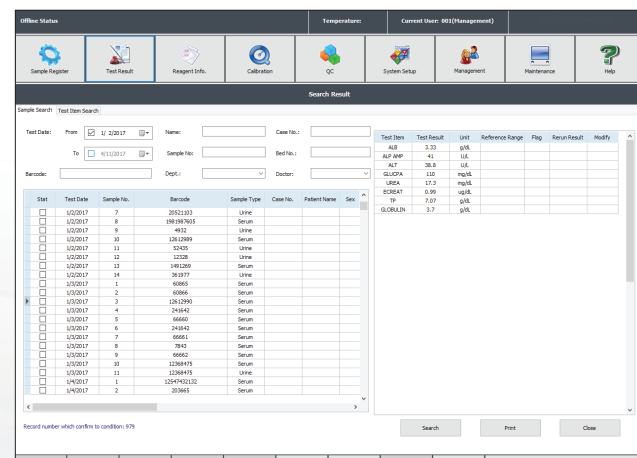
REAGENT INVENTORY

Remaining reagent volume is automatically calculated on-board alongside the number of tests available and stability of the reagents. Should insufficient volume remain for any reagent, an alarm will sound, allowing the operator to resolve the situation.



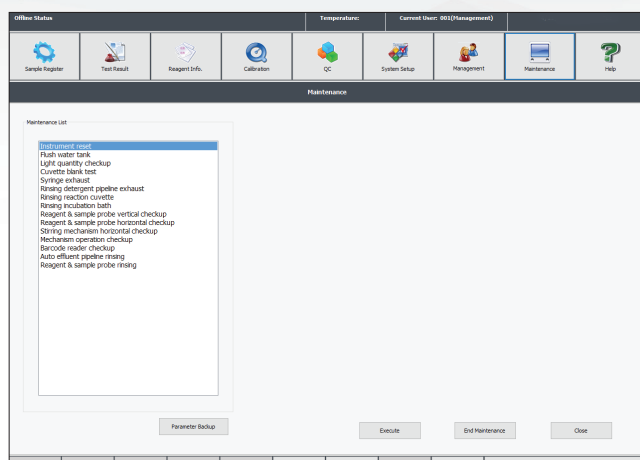
CHEMISTRY PARAMETERS

The chemistry parameters screen enables sample pre-dilution to be set up and re-running of assays as required. From this screen the operator can also access 3 sub menus: analyse parameters, calibration parameters and range parameters.



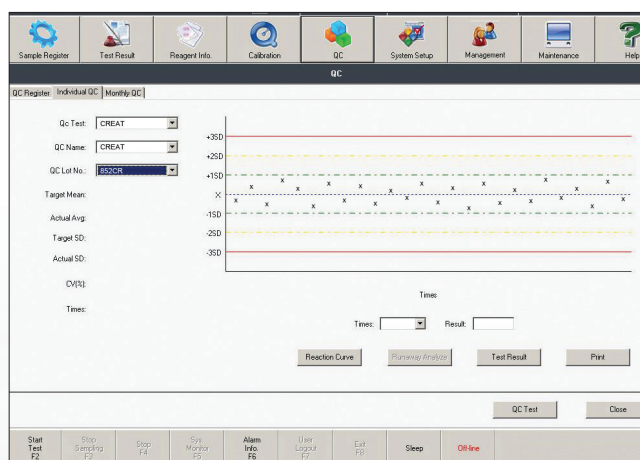
RESULTS

Results are easily retrievable via various search options, for example by date or by test item. Laboratory staff can download and print results or transmit results to the LIMS system for all relevant clinicians to view.



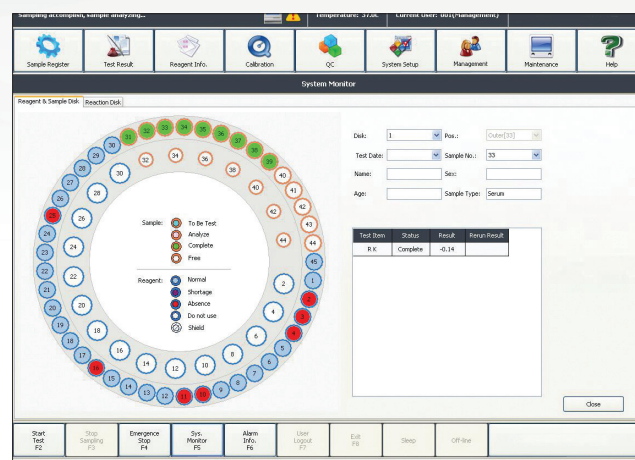
MAINTENANCE

The operator is instructed via easy to follow steps on how to carry out daily, weekly, monthly and periodic maintenance. Daily maintenance takes only 5 minutes to do. The analyser has a countdown timer to show when routine servicing is due.



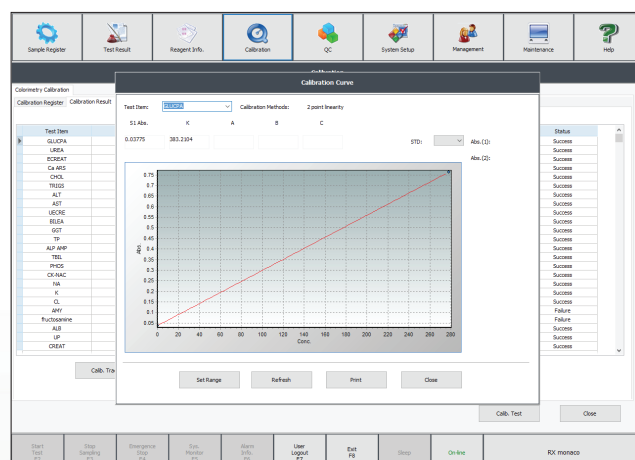
QUALITY CONTROL

The QC screen generates Levey-Jennings charts for a visual performance assessment, plus easy identification of QC errors and emerging trends. QC multi rules can be applied to ensure quick detection of errors and minimal false rejection.



RUN MONITOR

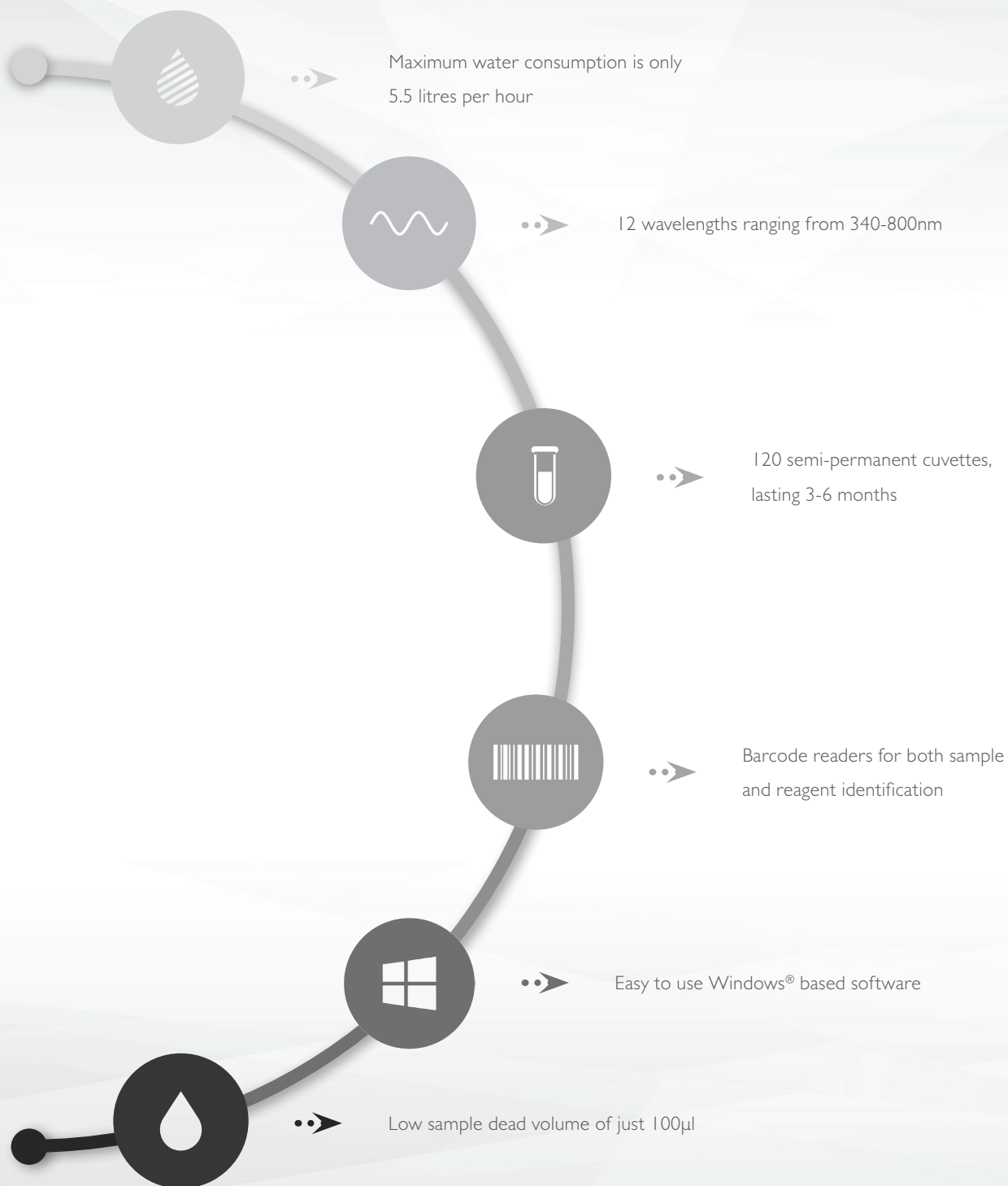
The run monitor displays full patient demographics. Users can view the status of samples in real time including time left to completion. This screen also indicates number of tests remaining before the run is due to finish.




CALIBRATION

The software displays the current valid calibration for each assay programmed, the reagent blank absorbance (if appropriate) and no calibration check interval shown. There are four calibration models available: 1 point, 2 point, multi-point and non-linearity method.

>> FEATURES AT A GLANCE



>> ORDERING & CUSTOMER SUPPORT



In choosing to purchase the RX monaco from Randox you are partnering with a company that has over 35 years' experience in the IVD industry and clinical chemistry analyser placements in over 120 countries worldwide. Customers needs vary and Randox sales staff and distributor partners will work with your laboratory to create a bespoke package to suit your requirements. Randox Laboratories provide customers with an unrivalled technical support service.

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ORDERING INFORMATION

RX monaco analyser (benchtop)	RX5000
RX monaco analyser with stand	RX5001

For more information contact your local representative, or email us at:

theRXseries@randox.com



» SPECIFICATIONS

PHYSICAL DIMENSIONS

Height	517mm
Depth	752mm
Width	998mm
Weight	120kg

PERFORMANCE CHARACTERISTICS

Throughput	170 tests per hour constant speed
Analyser type	Fully automated, discrete, random access bench-top clinical chemistry analyser
Assay types	End-point, rate, 2 point assays
Maintenance	Daily maintenance – probe & mixer wash/water bath exchange/cuvette check

REAGENT & SAMPLE SYSTEM

Reagent & Sample capacity	Shared reagent & sample carousel with a total of 66 user defined positions (positions for reagents ≥ 3 , positions for samples ≥ 9)
Reagent cooling	5-15°C
Reagent & sample Identification	Internal barcode scanner
Reagent inventory	Test & report remaining reagent volume, linked to work list
Reagent & sample pipette	Single reagent & sample pipette with digital liquid level detection & collision detection function, rinsed inside & out (warm water rinsing)
Reagent container	20ml and 70ml
Sample type	Serum, plasma, urine
Sample volume	3-35 μ l (0.1 μ l increments)
Sample dead volume	100 μ l in primary tubes
STAT sampling	STAT priority function available

REACTION SYSTEM

Reaction time	13 minutes
Reaction volume	150-550 μ l
Stirring speed	Independent stirring after reagent injection (Teflon coated)
Temperature control	Water bath

Water consumption	5.5 litres per hour
Water requirements	NCCLS type 1 or 2 purified water supply at 0.5 bar pressure
Cuvettes	120 semi-permanent optical plastic cuvettes, 6mm optical path. Life span: 3-6 months
Cycle time	15 seconds

OPTICAL SYSTEM

Incubator temperature	37°C ± 0.1°C
Light source	Long life quartz halogen lamp (water cooled)
Detection principle	12 wavelengths generated via diffraction grating: 340, 380, 405, 450, 480, 505, 546, 570, 600, 660, 700, 800nm
Detector method	Direct absorbance in cuvette (monochromatic or bi-chromatic)
Wavelength accuracy	±2nm
Absorbance range	0 to 3.3 Abs

CALIBRATION & QC

Calibration principle	1 point, 2 point, multi-point, non-linearity method
Quality control	QC interval, monthly QC

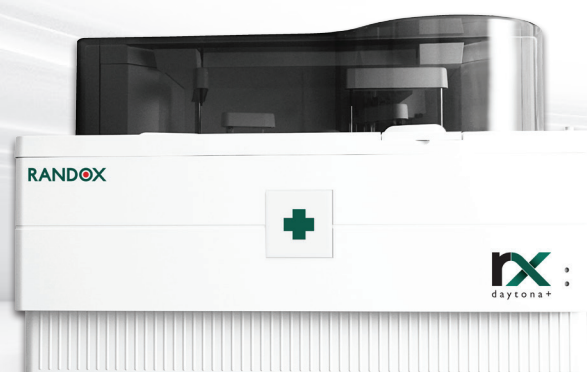
OPERATING SYSTEM

External output	Standard RS-232C interface
Software	Windows®

POWER REQUIREMENTS

Power supply	240 VAC 50Hz/60Hz
Power output	650VA

>> THE RX SERIES



A semi-automated clinical chemistry analyser with the ability to run flow cell or cuvette mode. The RX misano offers 9 wavelengths spanning 340-700nm as standard, with an optional 280nm. A large 7" touch screen monitor responsive even when wearing lab gloves allows the user to easily navigate through the testing screens of the analyser. USB port allows to import Randox-defined test menus and export patient, QC and calibration results.



A fully automated, random access, benchtop clinical chemistry analyser with a throughput of 270 photometric tests per hour, increasing to 450 with the optional ISE unit. There are 12 wavelengths spanning 340-800nm and the RX daytona+ provides liquid level, clot and crash detection. Software is windows based and STAT sampling is available via an emergency loading port. The RX daytona+ offers superior performance for mid volume laboratories.



A fully automated, random access benchtop clinical chemistry analyser with a photometric throughput of 400 tests per hour increasing to 560 including ISE. There are 12 wavelengths spanning 340-800nm and the RX imola provides liquid level, clot, crash and bubble detection. Software is windows based and STAT sampling is available via an emergency loading port. The RX imola offers efficiency for medium sized laboratories.



A fully automated, random access, floor standing clinical chemistry analyser with a photometric throughput of 800 test per hour, increasing to 1200 including ISE. There are 13 wavelengths spanning 340-800nm and a fully automated onboard, haemolysis function for running HbA1c. Accurate results are supported by liquid level, clot, and crash detection. The operating system utilises a modern touchscreen interface and Windows® icon based software.

» RANDOX - A GLOBAL DIAGNOSTIC SOLUTIONS PROVIDER

Randox has been supplying laboratories worldwide with revolutionary diagnostic solutions for over 35 years. Our experience and expertise allow us to create a leading product portfolio of high quality diagnostic tools which offer reliable and rapid diagnosis. We believe that by providing laboratories with the right tools, we can improve health care worldwide.

REAGENTS

Randox offers an extensive range of diagnostic reagents, giving biochemistry laboratories the opportunity to advance their routine and niche testing.

The Randox reagents range goes beyond routine chemistries. At Randox we re-invest significantly in research and development to ensure we meet the ever changing needs of the laboratory. As a result, the esoteric reagents range from Randox is extensive and includes sLDL, Lipoprotein(a), H-FABP, Cystatin C, TxBCardio, Adiponectin, Bile Acids, Copper, D-3-Hydroxybutyrate, G-6-PDH, Non-Esterified Fatty Acids, Total Antioxidant Status and Zinc.

Randox Reagents provide a number of benefits for the laboratory: Cost savings through excellent stability, automated methods and standards supplied with some kits; confidence in results with high performance methods, minimal interferences and wide measuring ranges; convenience and choice with applications for over 100 biochemistry analysers; liquid ready-to-use reagents, a wide range of kit sizes and complementary controls and calibrators.

ACUSERA

Randox is a world leading manufacturer of multi-analyte, true third party controls. Thousands of laboratories rely on us to accurately assess test system performance and ultimately empower them with the confidence required to release patient test results. With more than 390 analytes available across the Acusera range we can uniquely reduce the number of individual controls required while simultaneously reducing costs, time and storage space. A choice of formats are available, including liquid or lyophilised, ensuring flexibility and suitability for laboratories of all sizes and budgets.

Some of our principle products include Clinical Chemistry, Immunoassay, Urine, Immunology/Proteins, Cardiac Markers and Therapeutic Drugs among others. As a primary manufacturer, Randox are also able to offer the unique service of custom made controls.

RIQAS

Boasting over 45,000 participants and more than 360 parameters across 32 comprehensive & flexible EQA programmes, RIQAS is the largest international EQA scheme. Designed to cover all areas of clinical testing, each of our multi-analyte programmes benefit from a wide range of concentrations, frequent reporting, rapid feedback and informative yet user-friendly reports.

BIOCHIP ARRAY TECHNOLOGY

Biochip Array Technology (BAT) is an innovative assay technology for multi-analyte screening of biological samples in a rapid, accurate and easy to use format. BAT offers highly specific tests, coupled to highly sensitive chemiluminescent detection, providing quantitative results in easy to interpret reports. Randox BAT assays offer diagnostic, prognostic and predictive solutions across a variety of disease areas including sexually transmitted infection, cardiovascular disease (CVD), familial hypercholesterolemia (FH), colorectal cancer and respiratory infection.

Contact us for more information on any of our products and services:

Head Quarters

Randox Laboratories Ltd, 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom

☎ +44 (0) 28 9442 2413 ✉ marketing@randox.com 🌐 randox.com/clinical-chemistry-analysers/

International Offices



AUSTRALIA

Randox (Australia) Pty Ltd.
Tel: +61 (0) 2 9615 4640



BRAZIL

Randox Brasil Ltda.
Tel: +55 11 5181-2024



CHINA

Randox Laboratories Ltd.
Tel: +86 021 6288 6240



CZECH REPUBLIC

Randox Laboratories S.R.O.
Tel: +420 2 1115 1661



FRANCE

Laboratoires Randox
Tel: +33 (0) 130 18 96 80



GERMANY

Randox Laboratories GmbH
Tel: +49 (0) 215 1937 0611



HONG KONG

Randox Laboratories Hong Kong Limited
Tel: +852 3595 0515



ITALY

Randox Laboratories Ltd.
Tel: +39 06 9896 8954



INDIA

Randox Laboratories India Pvt Ltd.
Tel: +91 80 2802 5000



POLAND

Randox Laboratories Polska Sp. z o.o.
Tel: +48 22 862 1080



PORTUGAL

Irlindox Laboratorios Quimica Analitica Ltda
Tel: +351 22 589 8320



PUERTO RICO

Clinical Diagnostics of Puerto Rico, LLC
Tel: +1 787 701 7000



REPUBLIC OF IRELAND

Randox Teoranta
Tel: +353 7495 22600



SLOVAKIA

Randox S.R.O.
Tel: +421 2 6381 3324



SOUTH AFRICA

Randox Laboratories SA (Pty) Ltd.
Tel: +27 (0) 11 312 3590



SOUTH KOREA

Randox Korea
Tel: +82 (0) 31 478 3121



SPAIN

Laboratorios Randox S.L.
Tel: +34 93 475 09 64



SWITZERLAND

Randox Laboratories Ltd. (Switzerland)
Tel: +41 41 810 48 89



UAE

Randox Medical Equipments Trading LLC
Tel: +971 55 474 9075



USA

Randox Laboratories-US, Ltd.
Tel: +1 304 728 2890



VIETNAM

Randox Laboratories Ltd, Vietnam
Tel: +84 (0) 8 3911 0904

For technical support contact: technical.services@randox.com



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