BGI RANDOX

RX IMOLA

A fully automated clinical chemistry analyser

A COMBINED THROUGHPUT OF 560 TESTS PER HOUR

THE RX IMOLA DELIVERS HIGH QUALITY
TESTING FOR RESULTS YOU CAN TRUST

BENEFITS

TEST MENU & CONSOLIDATION

Our extensive dedicated test menu comprises routine chemistries, lipids, antioxidants, cardiac and diabetes testing allowing laboratories to expand their testing capabilities while reducing additional costs associated with sending samples to be tested externally.

Direct, on-board, HbA1c testing capabilities provide many time saving benefits in the laboratory. As there is no incubation step required HbA1c tests can be performed immediately, performing QC and Calibration checks quicker as only one assay is required, and offline calculations are not needed enabling faster recovery times.

ACCURATE RESULTS

Dual reagent probes with liquid level sensors and bubble detection minimise carry over increasing accuracy. Serum indicies check the integrity of patient samples, flagging if samples are deemed icteric, haemolytic or lipaemic. Dual 5 speed stirrers are optimised for each assay to ensure highly accurate results.

QUALITY CONTROL

Providing simple, operational and testing efficiency, 6 different calibration options increases confidence with optimum algorithms being used to achieve the most accurate results. Users can view QC history with automatically generated Levey-Jennings Charts, Mean values, QC statistics and up to 10 user defined multi rules designed, to increase the probability of error detection and reduce false rejections.

FLEXIBILITY & VERSATILITY

12 wavelengths generated via diffraction grating (340-800nm) ensure a multitude of chemistries are possible on one system. The RX imola is capable of running monochromatic, bi-chromatic, endpoint, kinetic, ISE, sample blanking and reagent blanking assays. A cooled reagent carousel, with 60 positions, allows on-board storage without compromising stability.

UNRIVALLED PERFORMANCE

90 Pyrex® cuvettes with cuvette check function ensures only clean and viable reaction vessels are used. 5 speed mixing arms eliminate foaming and ensure adequate mixing of latex enhanced immunoturbidimetric assays. The continuous STAT loading hatch allows emergency samples to be analysed quickly and easily at any time.

COST SAVINGS

Minimal maintenance required with just 2 preventative maintenance services per year for reduced down time. Intuitive user-friendly software ensures that minimal training is required. The RX imola delivers on economic efficiencies with low water consumption of only 18L per hour providing comprehensive testing for rapid and accurate results.

SYSTEM OVERVIEW

REAGENT CAROUSEL

1

60 reagent positions for 20ml, 50ml and 100ml bottles, all cooled between 8 - 15°C. Our smart reagent inventory management system with automatic barcode functionality ensures instant recognition of reagents. Randox offers a wide range of dedicated, high performing and unique reagents.

DUAL STIRRERS

2

Dual 5 speed rotating stirrers rinsed with purified water. The option of different mixing speeds ensure each reagent and sample are at optimum viscosity to enable accurate and precise measurement.

WASH STATION

3

An 8 stage washing process with acid, alkali and pure water wash steps ensures cuvettes are thoroughly cleaned before each test. Liquid level sensors prevent cuvette overflows.

SAMPLE CAROUSEL

4

The emergency loading port allows run interruption for STAT sample processing. 72 positions are contained within the outer ring of the carousel for normal and STAT samples with 20 positions available in the inner ring for QC and calibrators. Barcode sample identification ensures accurate matching of patient identification to specimen.

PERMANENT CUVETTES

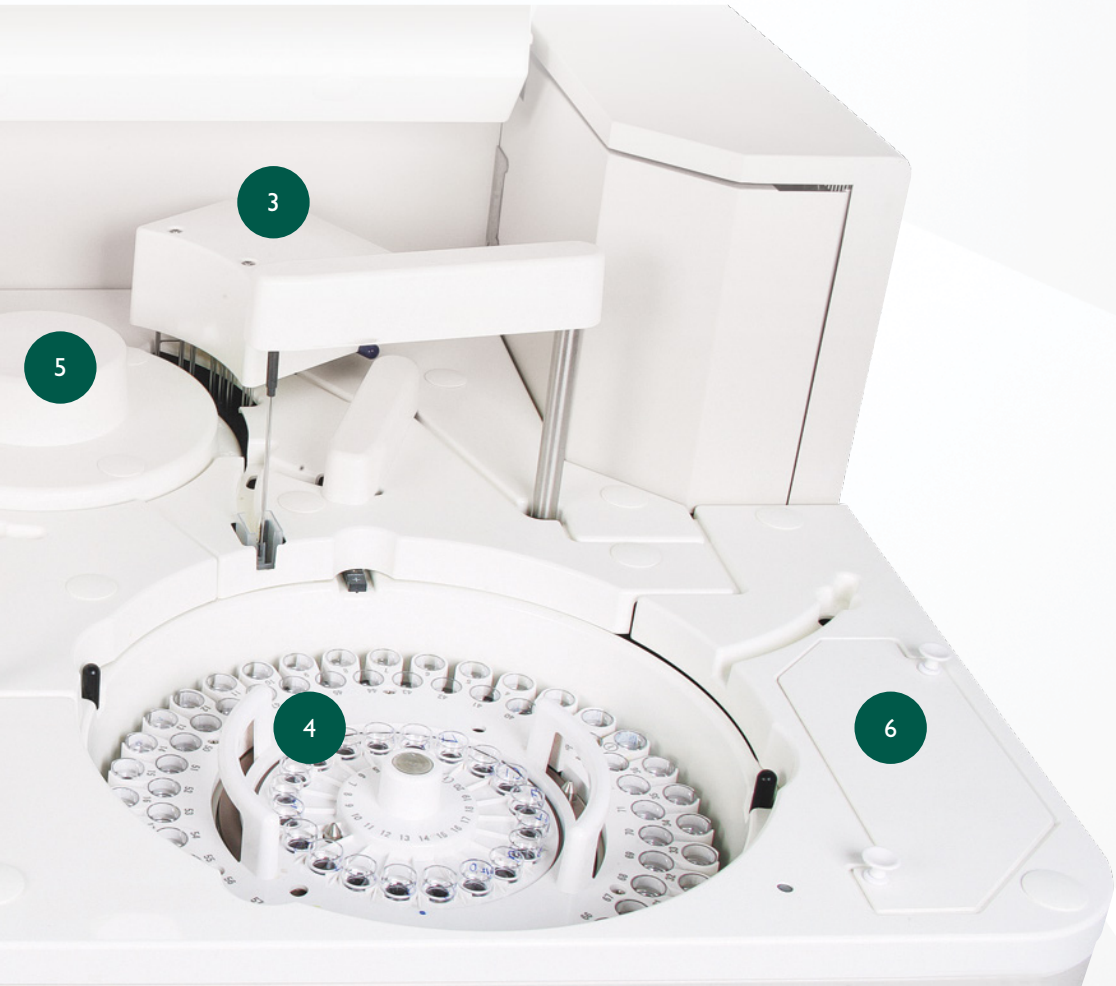
5

With 90 permanent Pyrex® cuvettes, the RX imola reduces downtime and ongoing consumable costs associated with changing disposable or semi-disposable cuvettes. Permanent cuvettes offer a lifespan of up to 5 years ensuring stability and accuracy of patient results.

ISE UNIT

6

Providing cost savings, the RX imola has a built in ISE unit for direct measurements of sodium, potassium and chloride. The direct ISE approach requires no dilution steps to be carried out limiting possible sources of inprecision.



THE RX SERIES TEST MENU

CLINICAL

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

BASIC METABOLIC PROFILE:
Calcium
CO_2 Total
Chloride
Creatinine
Glucose
Potassium
Sodium
Urea

BONE PROFILE:
Alkaline Phosphatase
Calcium
Phosphorus
Total Protein

CARDIAC:
Adiponectin
Cholesterol
CK-MB
CK-NAC
CRP
CRP Full Range (0.3-160mg/l)
CRP High Sensitivity
Digoxin
Direct HDL Cholesterol
Direct LDL Cholesterol
H-FABP
Homocysteine
Lipoprotein (a)
Myoglobin
sdLDL
Triglycerides

COMPREHENSIVE METABOLIC PROFILE:
Albumin
Alkaline Phosphatase
ALT
AST (GOT)
Direct Bilirubin
Calcium
Chloride
CO_2 Total
Creatinine
Glucose
Lactate
Potassium
Sodium
Total Bilirubin
Total Protein
Urea

DIABETES:
Adiponectin
Cholesterol
Creatinine
Cystatin C
Direct HDL Cholesterol
Direct LDL Cholesterol
Fructosamine
Glucose
Glycerol
HbA1c/Hb (Direct)
HbA1c/Hb (Indirect)
Microalbumin
NEFA (Non-Esterified Fatty Acids)
Ranbut (Hydroxybutyrate)
Total Protein
Triglycerides
Urinary Protein

ELECTROLYTES:
Calcium
Chloride (Nondirect)
CO_2 Total
Magnesium
Potassium (Nondirect)
Sodium (Nondirect)

HAEMOLYTIC ANAEMIA:
G-6-PDH
Haptoglobin
LDH

HEPATIC FUNCTION:
Albumin
Aldolase
Alkaline Phosphatase
ALT
Ammonia
AST (GOT)
Bile Acids
Cholinesterase
Complement Component 3
Complement Component 4
Direct Bilirubin
Gamma GT
GLDH
Glycerol
Haptoglobin
IgA
IgG
IgM
Iron (UIBC)
LDH
Total Bilirubin
Total Protein
Transferrin
Transthyretin (Prealbumin)

INFLAMMATION AND INFECTION:
ASO
CRP
Lactate
Rheumatoid Factor

LIPIDS:
Apolipoprotein A-I
Apolipoprotein AII
Apolipoprotein B
Apolipoprotein CII
Apolipoprotein CIII
Apolipoprotein E
Cholesterol
Direct HDL Cholesterol
Direct LDL Cholesterol
Lipoprotein (a)
sdLDL
Triglycerides

NEONATAL SCREENING:
CRP
CRP Full Range (0.3-160mg/l)
CRP High Sensitivity
IgE
Transthyretin (Prealbumin)

NEUROLOGICAL DISORDERS (CSF):
IgA
IgG
IgM

NUTRITIONAL STATUS:
Albumin
Copper
Ferritin
Iron
Iron (UIBC)
Lipase
Magnesium
Potassium
TIBC
Transferrin
Transthyretin (Prealbumin)
Zinc

PANCREATIC FUNCTION:
Amylase
Glucose
LDH
Lipase
Pancreatic Amylase

RENAL FUNCTION:
Albumin
Ammonia
Beta-2 Microglobulin
Calcium
Chloride
Creatinine
Cystatin C
Glucose
HbA1c/Hb (Direct)
HbA1c/Hb (Indirect)
IgG
LDH
Magnesium
Microalbumin
Potassium
Sodium
Phosphorus (Inorganic)
Urinary Protein
Urea
Uric Acid

Product availability may vary from country to country. Please check with your local Randox representative.

VETERINARY

Albumin
Alkaline phosphatase
ALT (GPT)
Aldolase
Ammonia
Amylase
AST (GOT)
Bile acids
Bilirubin
Calcium
Chloride
Cholesterol
Cholinesterase (Butyryl)
CK-NAC
CO_2 Total
Copper
Creatinine
Canine CRP
CRP
Fructosamine
Gamma-GT
GLDH
Glucose
Glycerol
HDL2/3-C
Iron (UIBC)
Lactate
Lactate dehydrogenase
LDL
Lipase
Magnesium
NEFA (Non-esterified fatty acids)
Phosphorus (Inorganic)
Potassium
Ranbut (Hydroxybutyrate)
Ransel (Glutathione peroxidase)
Ransod (Superoxide dismutase)
Sodium
Total Protein
Triglycerides
Urea
Uric Acid
Urinary protein
Zinc

TOXICOLOGY

THERAPEUTIC DRUGS:
Carbamazepine
Digoxin
Gentamicin
Lithium
Phenobarbitol
Phenytoin
Valproic Acid

DRUGS OF ABUSE:
Ethanol

PROTEINS

SPECIFIC PROTEINS:
Apolipoprotein A-I
Apolipoprotein AII
Apolipoprotein B
Apolipoprotein CII
Apolipoprotein CIII
Apolipoprotein E
ASO
Beta-2 Microglobulin
Ceruloplasmin
Complement Component 3
Complement Component 4
CRP
CRP Full Range (0.3-160mg/l)
CRP High Sensitivity
Cystatin C
Ferritin
Fructosamine
Haptoglobin
HbA1c/Hb (Direct)
HbA1c/Hb (Indirect)
IgA
IgE
IgG
IgM
Lipoprotein (a)
Microalbumin
Myoglobin
Rheumatoid Factor
Transthyretin (Prealbumin)
Transferrin

RESEARCH

ANTIOXIDANTS:
Albumin
Bilirubin
Ferritin
Glutathione Reductase
Ransel (Glutathione Peroxidase)
Ransod (Superoxide Dismutase)
TIBC
Total Antioxidant Status
Transferrin
Uric Acid

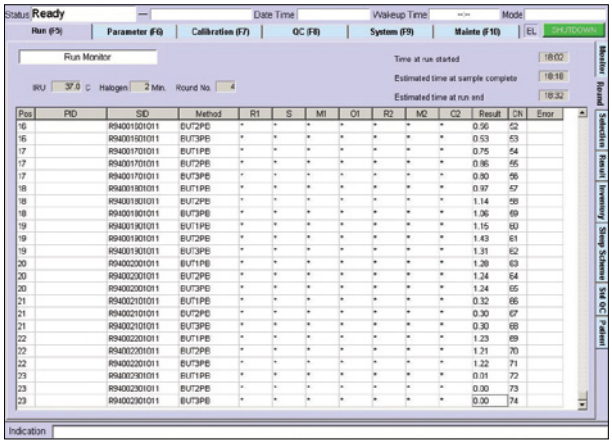
FOOD AND WINE TESTING:
Acetic acid
Ammonia
Copper
Ethanol
Glucose/fructose
Lactic acid
Malic acid
NOPA
Potassium
TAS
Total SO_2

BIOTECHNOLOGY:
Glutamate
Glutamine

Product availability may vary from country to country. Please check with your local Randox representative.

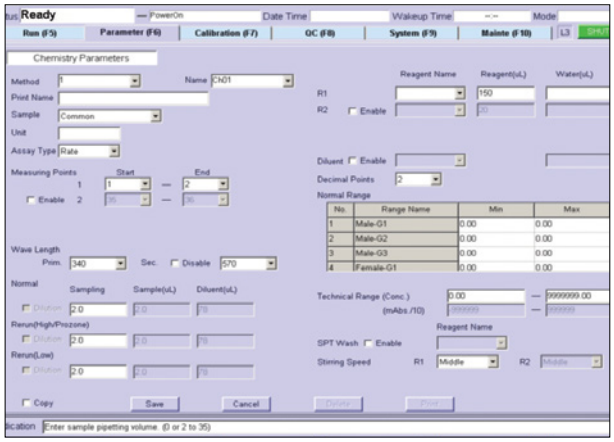
SOFTWARE

The RX imola incorporates Windows® 10 based software. This intuitive software is easy for users to navigate, enhancing productivity requiring minimal training. The main screen links to a number of tabs including: Quality Control, Parameter, Calibration and Maintenance, allowing for simple access to information and straight forward selection of the operations required. Secure remote diagnostics saves money and time by allowing access to expert technical and applications staff anytime, anywhere. LIMS (Laboratory Information Management System) connectivity is easily achievable via ASTM standard.



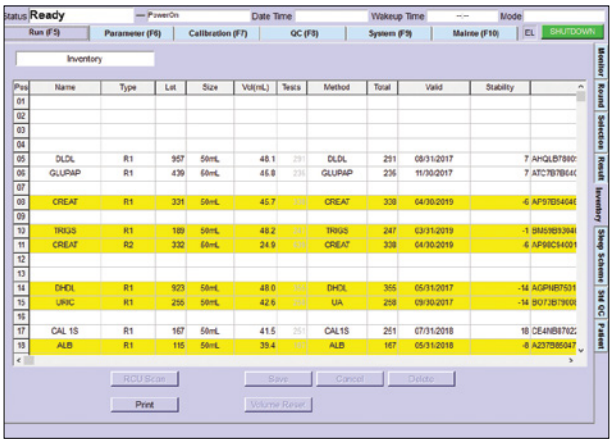
REPORTS

The operator can search for previous reports and view real time results status, including time left until completion. The RX imola has a high capacity storage of up to 30,000 patient reports.



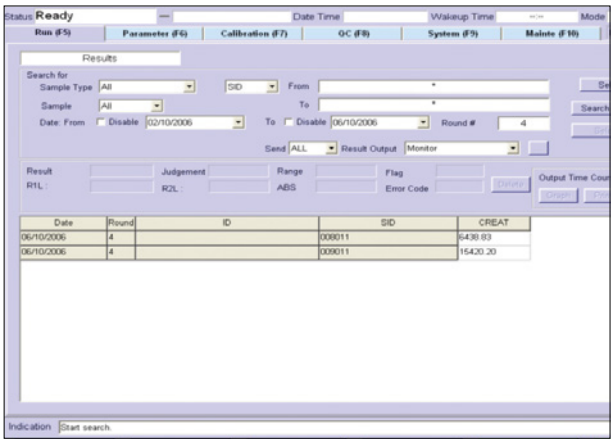
CHEMISTRY PARAMETERS

The chemistry parameters screen enables pre-sample dilution to be set up and re-running of assays as required. The user may set up to 20 different test profiles and define the order of analysis.



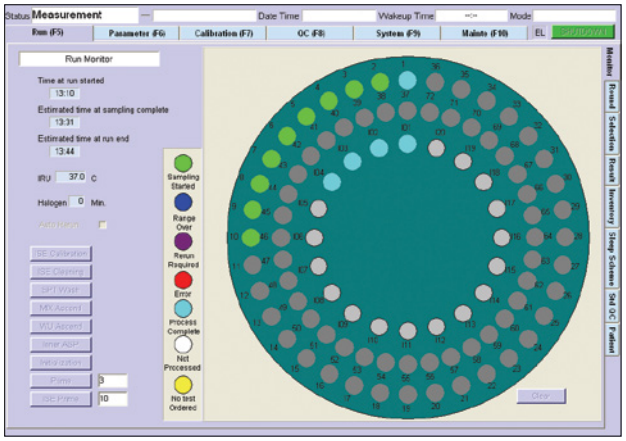
REAGENT INVENTORY

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 alert will appear, allowing the operator to resolve the situation.



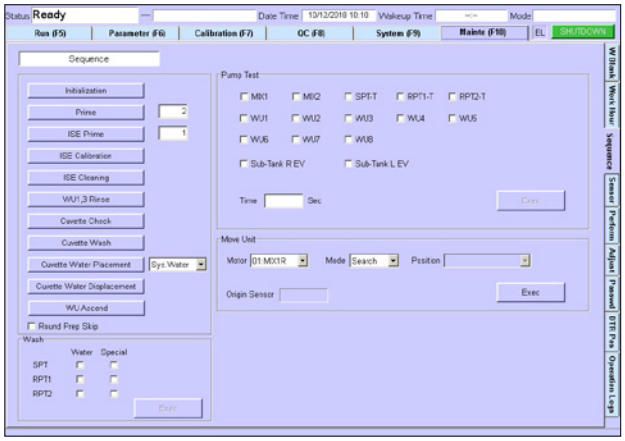
RESULTS

Results are easily retrievable via various search options, like sample type, date or sample category etc. Laboratory staff can download and print results or transmit results to the LIMS system for all relevant clinicians to view.



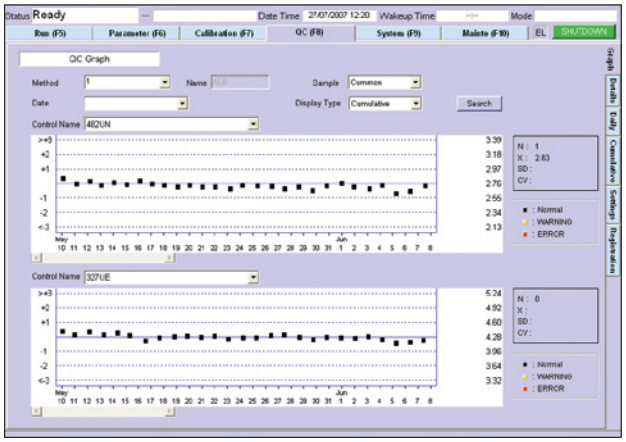
RUN MONITOR

This screen indicates the number of tests and time left until completion. STAT samples may be added without disturbing existing runs.



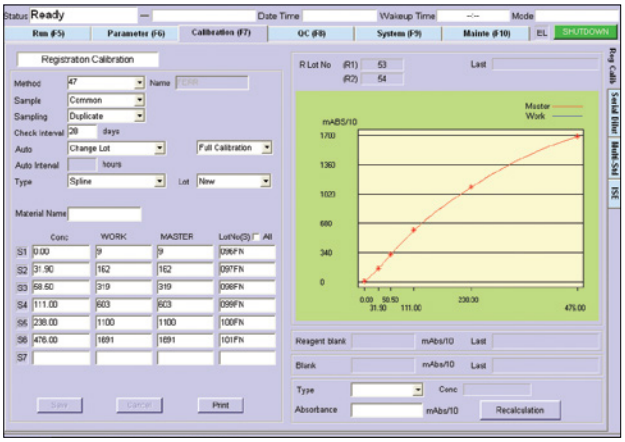
MAINTENANCE

Less than 5 minutes daily maintenance is required.



QUALITY CONTROL

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



CALIBRATION

The software displays the current valid calibration for each assay installed, the reagent blank absorbance and the calibration check interval. There are 6 calibration models available: Factor, Linear, Point to point, Log-logit, Exponential and Spline.

FEATURES AT A GLANCE

Providing excellence in clinical chemistry, the RX imola fully automated system combines robust hardware and intuitive software with a wide range of unique and innovative features.

Liquid level sensor, crash, bubble and clot detection

Low water consumption of just 18 litres per hour

Versatile reagent carousel with 60 cooled positions

Unique loading hatch allows emergency samples to be analysed quickly and easily at any time

90 permanent Pyrex® cuvettes with innovative cuvette check functionality which optimises analyser performance

Universal sample carousel with 72 positions and 20 cooled control and calibrator positions

Dual 5 speed stirrers enabling mixing to be optimised for each assays requirements

Sleep and auto start functionality and automatic re-runs of sample for faults detected

Maximum of 5 minutes daily maintenance required

ORDERING & CUSTOMER SUPPORT

In choosing to purchase the RX imola 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.

ORDERING INFORMATION

RX imola analyser	RX4900

For more information contact your local representative, or email us at: info@bgiamericas.com.

SPECIFICATIONS

PHYSICAL DIMENSIONS

Height	690 mm, 27in
Depth	582 mm, 23in
Width	970 mm, 38in
Weight	150 kg, 331lbs

PERFORMANCE CHARACTERISTICS

Throughput	400 photometric tests per hour, 240 ISE tests per hour. Combined throughput of 560 tests per hour
Analyser accreditation	CE marking in compliance with In Vitro Diagnostic Medical Device Directive 98/79/EC, FDA 510k cleared and UL certification
Analyser type	Compact fully automated random access bench top clinical analyser
Assay tests	Endpoint, kinetic, biochromatic, turbidmetric, sample blanking, reagent blanking and ISE
Maintenance	Daily maintenance-less than 5 minutes. No rear access required. Simple twice yearly preventative maintenance service
Data management	Storage of up to 30,000 patient reports, search facility, test counter
Test channels	60 photometric channels, 3 direct ISE tests - sodium, potassium and chloride
Sleep mode	User defined sleep mode capabilities with automatic wash and instrument prep

REAGENT & SAMPLE SYSTEM

Reagent capacity	Removable tray with 60 cooled positions (30 positions for 100 or 50ml bottles and 30 positions for 20ml bottles)
Reagent cooling	8-15°C
Reagent identification	Automatic barcode reagent identification
Reagent inventory	Calculation of remaining reagent volume and tests available, alert for shortage, expired reagent and expired calibration
Reagent pipette	Dedicated twin reagent micropipette with liquid level sensor and crash detection, rinsed inside and outside with purified water
Sample addition	Immediate sampling interruption for addition of samples via removable panel
Sample capacity	Removable tray with 72 positions for samples, 20 cooled position for controls and calibrators
Sample dead volume	150µl in standard or primary tubes, 100µl in paediatric cups
Sample dilution	Pre-dilution and automatic re-assay with diluted, reduced or increased sample volume. Dilution mixture 100-350µl consisting of 2-35µl of sample and 20-350µl of diluent
Sample identification	Barcode sample identification
Sample pipette	Dedicated sample micropipette with liquid level sensor, crash detection, bubble detection and 4 levels of clot detection. Rinsed inside and outside with purified water
Sample tube Size	Multiple primary tube sizes (diameter 13 to 16mm, height 75 to 100 mm), paediatric cups
Sample type	Serum, Plasma & Urine

Sample volume	2 to 35µl (0.1µl increments)
STAT sampling	Immediate STAT sampling interruption

REACTION SYSTEM

Minimum reaction volume	150µl
Stirring speed	Dual 5-speed rotating stirrers rinsed with purified water
Stirring system	Paddle type rotating stirrer cleaned with purified water
Temperature	37°C ±0.3
Cuvettes	90 reusable Pyrex® cuvettes with 5-year lifespan, min volume 150µl, Max volume 450µl, 8-stage cuvette washing system
Cuvette size	8(W) x 6.23(D) x 30(H) mm
Cycle time	9 seconds
Water consumption	18L per hour
Water requirements	NCCLS type 1 or 2 purified water supply at pressure [0.15-0.34Mpa]

OPTICAL SYSTEM

Detector method	Direct absorbance in cuvette (bichromatic and monochromatic)
Detection principal	12 wavelengths: 340, 380, 415, 450, 510, 546, 570, 600, 660, 700, 750 and 800 nm
ISE tests	Integrated ISE unit
Light source	Halogen tungsten lamp (air-cooled, 6 months service life)

CALIBRATION & QC

Quality control	Interactive Levey-Jennings Charts, Daily, Monthly and Batch QC with data archiving, Automatic QC and Automatic calibration
Calibration principal	Factor, Linear, point to point, spline, log-logit and exponential. Up to 7 calibrators per test

POWER & CONNECTIVITY

Input voltage	100 - 240 Vac
Power consumption	<900 VA
UPS requirements	1230 W (analyser and PC)
LIMS connectivity	Bi-directional; ASTM standard (RS232 connection)

OPERATING SYSTEM

Operator interface	15" LCD display and printer externally connected. Windows® based user Interface 100-249 VAC, 1230 Watt approx

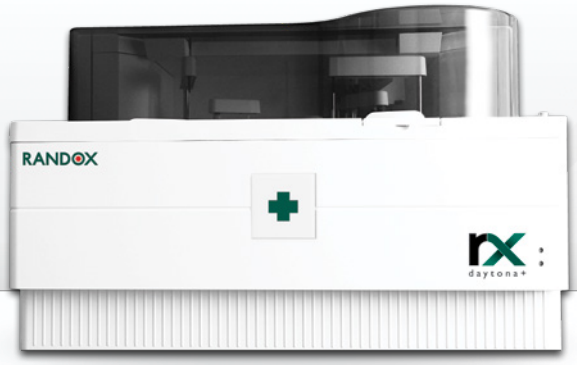
THE RX SERIES

RX MISANO

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. 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 users to import Randox-defined test menus and export patient, QC and calibration results.

RX MONACO

The RX monaco is a fully automated, cost effective solution for low to mid volume clinical chemistry testing offering the ultimate in convenience, performance and confidence. At optimal configuration, the RX monaco performs 170 tests per hour, providing cost effective, high quality testing for small to medium sized laboratories. The RX series test menu allows for complete consolidation of routine and specialised testing onto one efficient, easy to use platform.



RX DAYTONA+

The RX daytona+ is a bench-top, fully automated, random access clinical chemistry analyser capable of performing 270 photometric tests per hour, or 450 tests per hour including ISE. The most versatile analyser in its class, the RX daytona+ combines robust hardware and intuitive software with the world leading RX series test menu including routine & specialised testing and emergency STAT sampling for unrivalled performance.

RX MODENA

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 direct HbA1c. Accurate results are supported by liquid level, clot, and crash detection. The operating system utilises a modern touchscreen interface and Windows 10 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 healthcare worldwide.

REAGENTS

Randox offers an extensive range of third-party diagnostic reagents which are internationally recognised as being of the highest quality; producing accurate and precise results. At Randox, we re-invest significantly in R&D to ensure we meet the ever-changing needs of the laboratory. Consequently, Randox offer a range of novel and superior performance assays, including: sdLDL-C, Lipoprotein (a), H-FABP, Adiponectin, Copper and Zinc. Applications are available detailing instrument-specific settings for the convenient use of Randox Reagents on numerous clinical chemistry analysers.

INTERNAL QUALITY CONTROL

Acusera third party quality controls are made using the highest quality material of human origin, ensuring they react like a real patient sample. With more than 390 analytes available across the Acusera range we can uniquely reduce the number of controls required while reducing costs and time. Our product range includes clinical chemistry, immunoassay, urine, immunology and more. Qnostics molecular controls for infectious disease testing are designed to meet the demand of today's molecular diagnostics laboratory while effectively monitoring the entire testing process. Our whole pathogen molecular controls comprise hundreds of characterised viral, bacterial and fungal targets.

EXTERNAL QUALITY ASSESSMENT

RIQAS is the world's largest international EQA scheme with more than 45,000 participants worldwide. 33 comprehensive, yet flexible programmes cover a wide range of clinical diagnostic testing including chemistry, immunoassay, cardiac, urine, serology and more. Our programmes benefit from a wide range of concentrations, frequent reporting, rapid feedback and user-friendly reports. QCMD, our range of EQA programmes for molecular infectious disease testing, features a whole pathogen matrix making them a true test of patient sample analysis. With access to over 90 programmes including blood borne viruses, respiratory diseases, multi-pathogen infections and more, there is something for every laboratory.

EVIDENCE SERIES

In 2002, Randox invented the world's first, Biochip Array Technology, offering highly specific tests, coupled to the highly sensitive chemiluminescent detection, providing quantitative results instantly changing the landscape of diagnostic testing forever. The Randox Evidence Series of multi-analyte immunoanalyser's provide an unrivalled increase in patient information per sample offering diagnostic, prognostic and predictive solutions across a variety of disease areas with a highly advanced clinical and toxicology immunoassay test menu including cardiac, diabetes, drugs of abuse, metabolic and renal markers.

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Information correct at time of print. Product availability may vary from country to country. Some products may be for Research use Only.For more information on product application and availability, please contact us. Address: One Broadway, 14th Floor, Cambridge, MA 02142,U.S.A. Tel:(+1)617-500-2741. Website: https://www.bgi.com/us/. Email: info@bgiamericas.com.

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