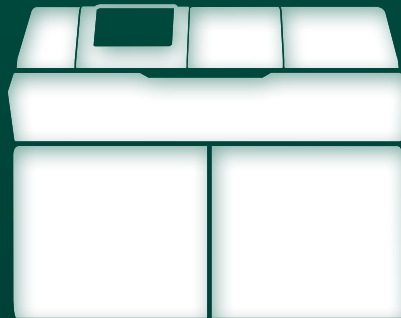


RANDOX

RX MODENA

A Fully Automated Clinical Chemistry Analyser



CAPABLE OF PERFORMING UP TO 1200 TESTS PER HOUR

» THE RX MODENA IS A FULLY AUTOMATED, CLINICAL CHEMISTRY ANALYSER, THAT PROMISES TO REVOLUTIONISE YOUR LABORATORY



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» BENEFITS

The RX modena is a high throughput, floor standing clinical chemistry analyser, capable of performing up to 1200 tests per hour including ISE. With the ever expansive, unrivalled RX series test menu, the RX modena offers a **winning combination** for large multi-disciplinary laboratories. The icon based, **interactive touch-screen technology** offers an easy to use solution. The RX modena presents a new class of **efficiency** without compromising on the precision, reliability and accuracy that the RX series is famed for.



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 and bring more testing in-house **reducing additional costs** of sending tests out.

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



ACCURATE RESULTS

Achieve accurate patient results first time, every time

The RX modena has two reagent pipettes and a sample pipette to ensure **minimal carryover** and reduce **testing errors**.

Dual five speed stirrers provide **optimised mixing** for each assay. Serum indices detect lipaemic, icteric and haemolytic samples.

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



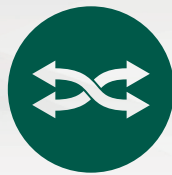
UNRIVALLED PERFORMANCE

Reliability ensures no interruption to workflow

Sensitive **clot detection sensor** detects clots such as fibrin at the sample pipette. **On-board cuvette checking** function ensures 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.

7 different calibration options are available including; Factor, Linear, Point-to-Point, Log-Logit, Exponential, Spline and Spline 2.

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



FLEXIBILITY & VERSATILITY

Increased functionality maximises testing capabilities

13 wavelengths (340nm – 800nm) can be generated via diffraction grating ensuring a multitude of chemistries are possible on one system.

Continuous loading hatch allows samples to be analysed quickly and easily during a run, enhancing productivity.

Barcode readers for both sample and reagent identification.

STAT samples can be added and prioritised during a run saving time when it matters most.



COST SAVINGS

Smart technology designed to avoid additional costs

Simple twice yearly preventative maintenance reduces the likelihood of analyser downtime.

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

Economic platform with **low water consumption** of only 20 litres per hour



rx modena

RANDOX

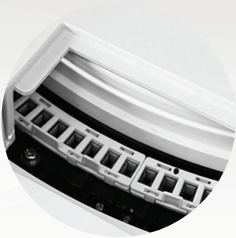
» SYSTEM OVERVIEW



REAGENT CAROUSEL



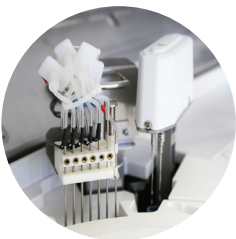
The RX modena reagent carousel has 100 cooled positions for 50x70ml & 50x20ml reagent bottles. An automatic barcode will identify the reagents added to the carousel which will be cooled between 8°C and 15°C to allow for a greater on-board stability.



CUVETTES



On-board the RX modena there are 153 semi-permanent cuvettes with a life span of 3-6 months. Cuvette check function ensures that only clean and viable reaction vessels are used. The user will be notified when cuvettes are required to be replaced.



WASH STATION



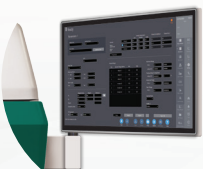
A 7 stage washing process includes acid, alkali and pure water wash steps. Stations 1-5 have liquid level sensors to prevent cuvette overflows. The washing unit washes cuvettes before and after measurement to prevent contamination and ensure accurate results each time.



SAMPLE CAROUSEL



The RX modena has 94 sample positions available and up to 10 positions for calibrators & controls. STAT functionality allows for the addition of emergency samples when required. An on-board barcode scanner will identify the sample being tested.



MONITOR



Interactive touchscreen technology with Windows® based software allows the user to easily navigate through the analyser software. The RX modena monitor is attached to the analyser via an extendable arm and is fully adjustable for the users convenience whilst testing.



CONTINUOUS LOADING



Continuous loading is facilitated through a hatch on the analyser. The sample carousel is made up of removable baskets. The software will detect a free space for the user to insert the basket allowing samples to be added quickly and easily during a run.

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
CO₂ Total
Chloride
Creatinine
Glucose
Potassium
Sodium
Urea

BONE PROFILE:

Alkaline Phosphatase
Calcium
Phosphorus
Total Protein

CARDIAC:

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

COMPREHENSIVE METABOLIC PROFILE:

Albumin
Alkaline Phosphatase
ALT
AST (GOT)
Direct Bilirubin
Calcium
Chloride
CO₂ Total
Creatinine

Glucose
Lactate
Potassium
Sodium
Total Bilirubin
Total Protein
Urea

DIABETES:

Cholesterol
Creatinine
Cystatin C
Direct HDL Cholesterol
Direct LDL Cholesterol
Fructosamine
Glucose
Glycerol
HbA1c (Direct)
HbA1c/Hb (Indirect)
Microalbumin
NEFA (Non-Esterified Fatty Acids)
Ranbut (D-3-Hydroxybutyrate)
Total Protein
Triglycerides
Urinary Protein

ELECTROLYTES:

Calcium
Chloride (Nondirect)
CO₂ 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
sTfR
Total Bilirubin
Total Protein
Transferrin
Transthyretin (Prealbumin)

INFLAMMATION AND INFECTION:

ASO
CRP
Lactate
Rheumatoid Factor

LIPIDS:

Apolipoprotein A-I
Apolipoprotein All
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 (Direct)
HbA1c/Hb (Indirect)
IgG
LDH
Magnesium
Microalbumin
Potassium
Sodium
Phosphorus (Inorganic)
Urinary Protein
Urea
Uric Acid



VETERINARY

Albumin
Alkaline Phosphatase
ALT (GPT)
Aldolase
Ammonia
Amylase
AST (GOT)
Bile Acids
Bilirubin
Calcium
Chloride

Cholesterol
Cholinesterase (Butyryl)
CK-NAC
CO₂ Total
Copper
Creatinine
Canine CRP
Fructosamine
Gamma - GT
GLDH
Glucose

Glycerol
Iron (UIBC)
Lactate
Lactate Dehydrogenase
LDL
Lipase
Magnesium
NEFA (Non-Esterified Fatty Acids)
Phosphorus (Inorganic)
Potassium
Ranbut (D-3-Hydroxybutyrate)

Ransel (Glutathione Peroxidase)
Ransod (Superoxide Dismutase)
Sodium
Total Protein
Triglycerides
Urea
Uric Acid
Urinary Protein
Zinc



TOXICOLOGY

THERAPEUTIC DRUGS:

Phenobarbitol
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

Complement Component 3
Complement Component 4
CRP
CRP Full Range (0.3-160mg/l)
CRP High Sensitivity
Cystatin C
Ferritin
Fructosamine

Haptoglobin
HbA1c (Direct)
HbA1c/Hb (Indirect)
IgA
IgE
IgG
IgM
Lipoprotein (a)

Microalbumin
Rheumatoid Factor
sTfR
Transferrin
Transthyretin (Prealbumin)



RESEARCH

ANTIOXIDANTS:

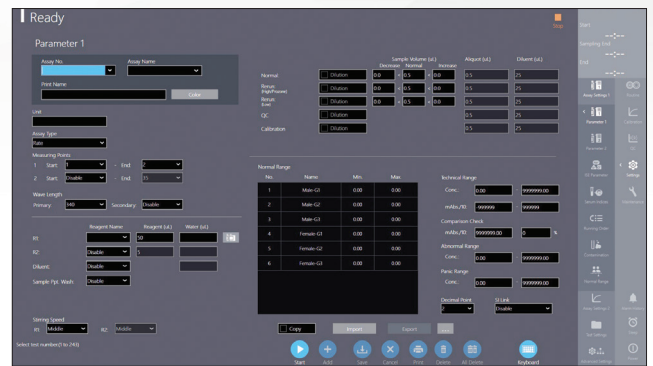
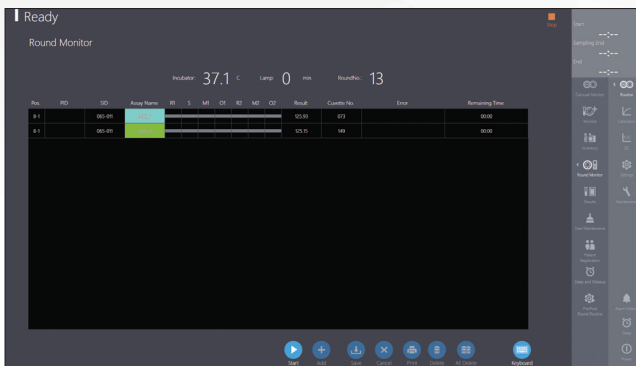
Albumin
Bilirubin
Ferritin
Glutathione Reductase
Ransel (Glutathione Peroxidase)
Ransod (Superoxide Dismutase)
TIBC
Total Antioxidant Status
Transferrin
Uric Acid

FOOD AND WINE TESTING:

Acetic Acid
Ammonia
Copper
Ethanol
Glucose/Fructose
Malic Acid
Potassium
TAS

» SOFTWARE

The RX modena offers intuitive software through an interactive, Windows based touch screen display. This technology allows the user to easily navigate through the testing screens of the analyser, enabling easy access to information and control of operations from the main screen using informative tabs. Smart software automatically calculates remaining reagent volumes and the number of tests available, including their stability. The RX modena software is capable of connecting to LIMS (Laboratory Information Management System) via ASTM standard.



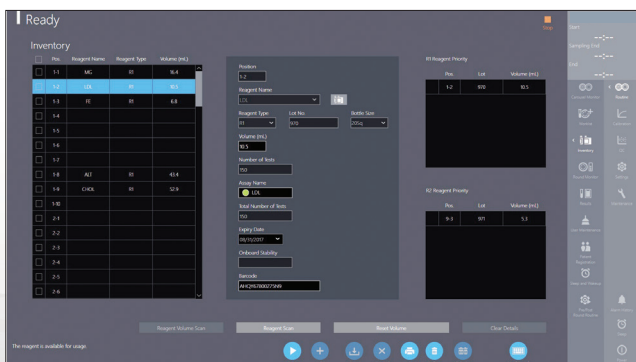
07

REPORTS

The operator can easily search for reports and view real time results status, including time left until completion. The RX modena has a high capacity storage of 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.

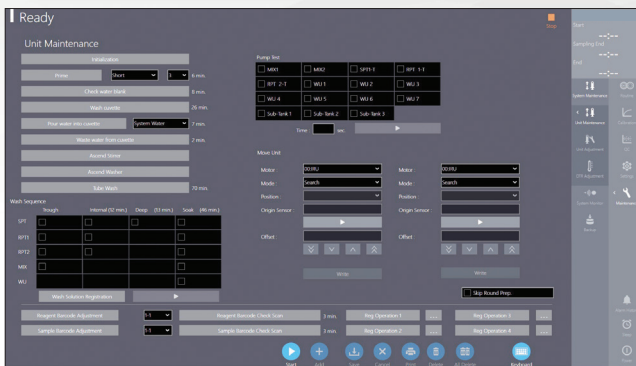


REAGENT INVENTORY

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.

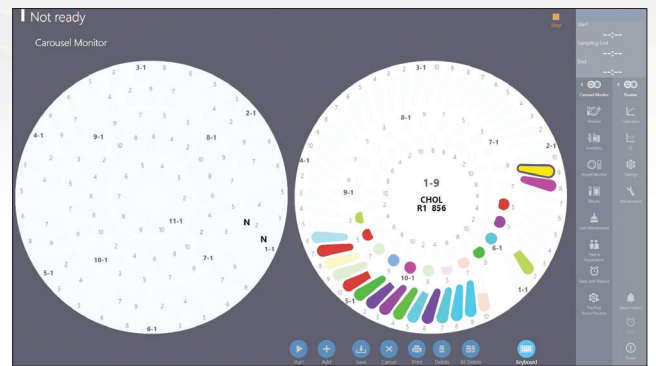
RESULTS

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



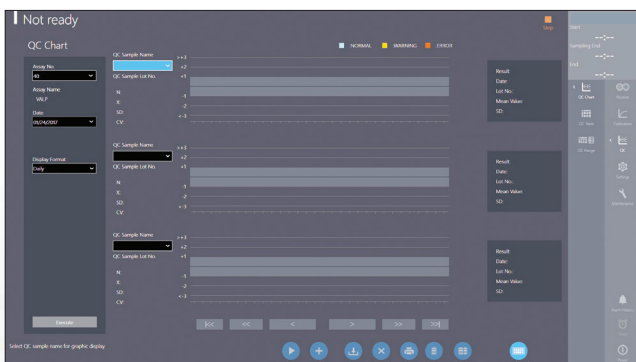
MAINTENANCE

Maintenance on the RX modena is fast and effective. There are several simple steps to carry out daily, weekly and monthly. Minimal daily maintenance is required.



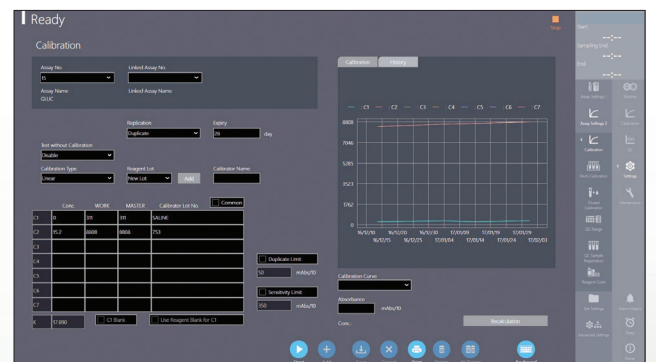
RUN MONITOR

The run monitor displays full patient demographics. This screen indicates the number of tests and time left until completion. The operator can add emergency STAT samples from this screen.



QUALITY CONTROL

The QC screen generates Levey-Jennings charts and calibration curves, allowing for 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 (if appropriate) and the calibration check interval. There are 7 calibration models available: Factor, Linear, Point to point, Log-logit, Exponential, Spline & Spline 2.

» FEATURES AT A GLANCE

Fully automated on-board haemolysis function for HbA1c testing



Economic platform with water consumption of less than 20 litres per hour at peak usage



Continuous loading hatch allows samples to be analysed quickly and easily during each run



Automatic wake up and sleep functionality including programmable daily maintenance



153 cuvettes on-board with cuvette check function



Interactive touch-screen technology with Windows® based software



» ORDERING & CUSTOMER SUPPORT



In choosing to purchase the RX modena from Randox you are partnering with a company that has over 40 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.

10

ORDERING INFORMATION

RX modena analyser

RX9000

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

theRXseries@randox.com



» SPECIFICATIONS

PHYSICAL DIMENSIONS

Height	1150mm
Depth	850mm
Width	1300mm
Weight	<300kg

PERFORMANCE CHARACTERISTICS

Throughput	1200 tests per hour including ISE 800 photometric tests per hour
Analyser accreditation	CE marking & FDA in progress
Analyser type	Compact fully automated random access floor standing clinical analyser
Assay types	End point, 2 point end, rate, 2 point rate and ISE

REAGENT & SAMPLE SYSTEM

Reagent capacity	Removable tray with 100 cooled positions (50 positions for 70ml bottles and 50 positions for 20ml bottles)
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 94 positions for samples, 10 positions 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
Sample identification	Barcode sample identification
Sample pipette	Dedicated sample micropipette with liquid level sensor, clot detection and crash detection
Sample tube Size	Multiple primary tube sizes (diameter 12-15mm, height 100mm), paediatric cups
Sample type	Serum, Plasma, Urine & Whole Blood
Sample volume	0.5-25µl (0.1µl increments) ISE: less than 22µl
STAT sampling	Immediate STAT sampling interruption

REACTION SYSTEM

Reaction time	10 minutes
Minimum reaction volume	50µl
Stirring system	Dual 5 speed paddle stirrers
Temperature	37°C ±0.2°C
Cuvettes	153 Semi-permanent cuvettes, 5nm optical path. Life span:3-6 months
Wash unit	7 stage cuvette washing system
Water consumption	<20L per hour

OPTICAL SYSTEM

Detector method	Direct absorbance in cuvette (monochromatic or bi-chromatic)
Light source	Halogen tungsten lamp (air-cooled, 6 month service life)
Detection principal	13 wavelengths 340, 380, 415, 450, 478, 510, 546, 570, 600, 660, 700 750, 800nm
ISE tests	Integrated ISE unit (sodium, potassium, chloride)
Wavelength accuracy	±2nm
Absorbance range	0 to 3 Abs

CALIBRATION & QC

Quality control	Interactive Levey-Jennings charts, daily, monthly and batch QC with data archiving
Calibration principal	Factor, Linear, Point to point, Log-logit, Exponential, Spline and Spline 2

POWER & CONNECTIVITY

Input voltage	100 - 240 Vac
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OPERATING SYSTEM

Operator interface	Windows® based user Interface Touch screen (optional keyboard and mouse available upon request) Software text/language fully editable by user
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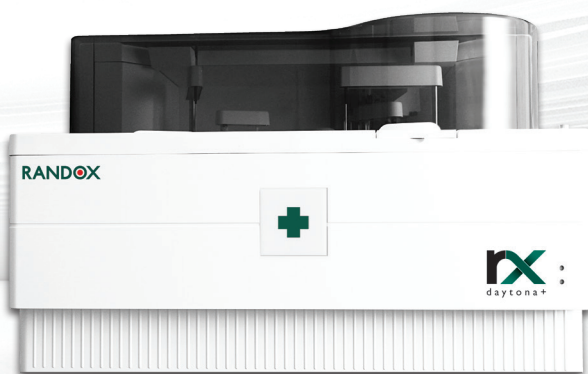
»» THE RX SERIES



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 clinical chemistry analyser with 12 wavelengths between 340-800nm and a throughput of 170 tests per hour. Available as a benchtop or floor standing model with Windows® based software and STAT sampling as standard. The low throughput of the RX monaco provides small to mid-volume laboratories with cost effective analysis and high quality testing.



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.

RANDOX - A GLOBAL DIAGNOSTIC SOLUTIONS PROVIDER

Randox has been supplying laboratories worldwide with revolutionary diagnostic solutions for over 40 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), 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 50,000 participants worldwide. 39 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, renal and stroke markers.

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

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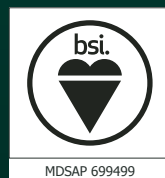


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