

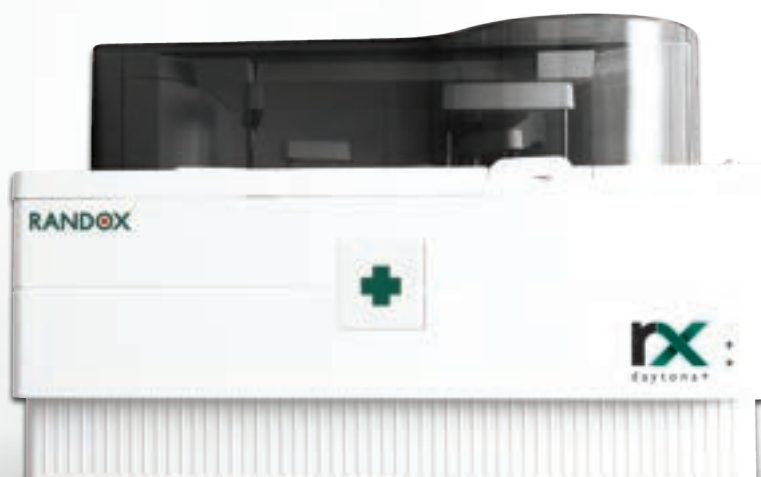
RANDOX

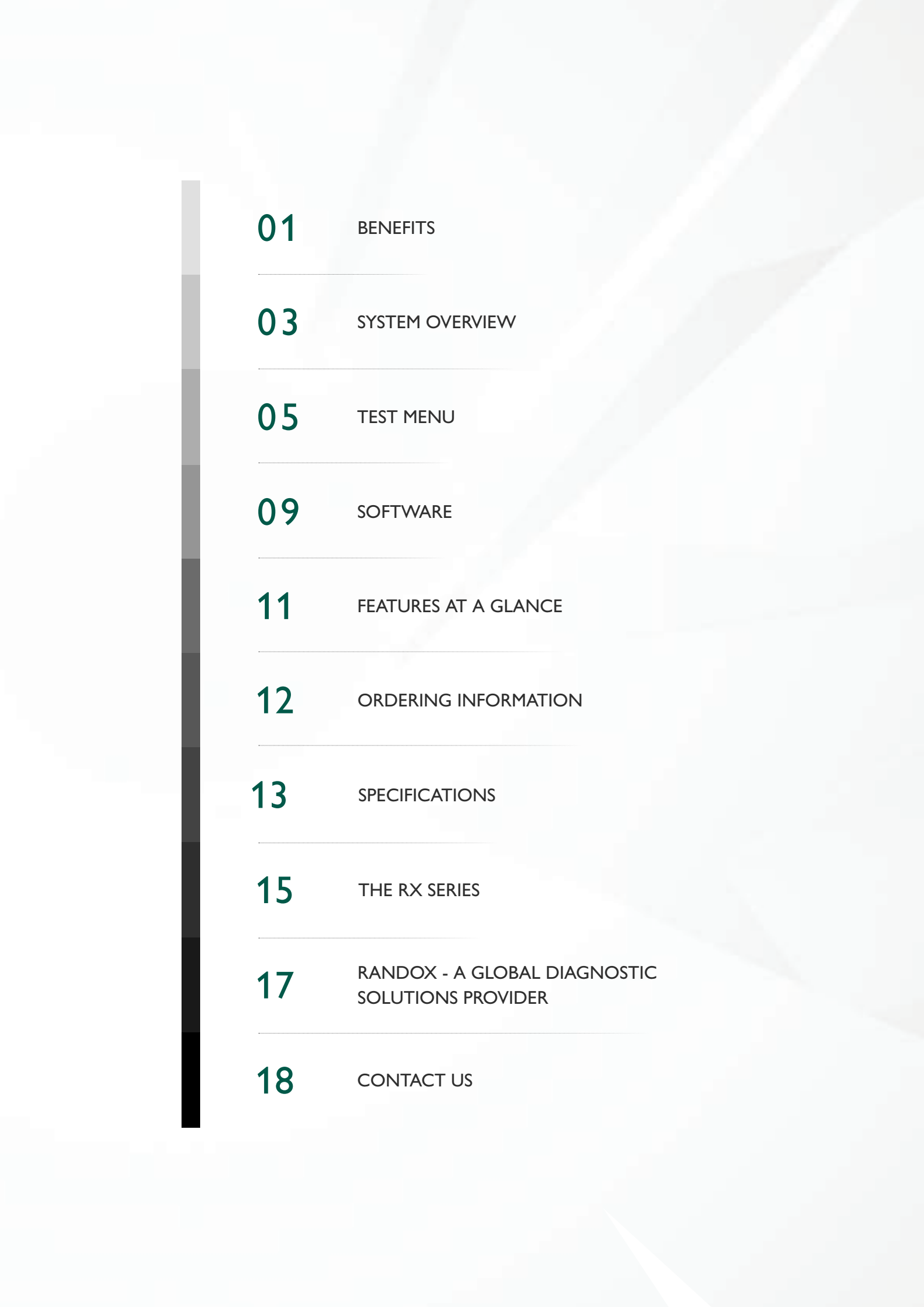
RX DAYTONA+
Clinical Chemistry Analyser



COMBINED THROUGHPUT OF 450 TESTS PER HOUR

HIGH QUALITY TESTING ON A COMPACT EASY TO USE CLINICAL
CHEMISTRY ANALYSER FOR ACCURATE RESULTS YOU CAN TRUST





01

BENEFITS

03

SYSTEM OVERVIEW

05

TEST MENU

09

SOFTWARE

11

FEATURES AT A GLANCE

12

ORDERING INFORMATION

13

SPECIFICATIONS

15

THE RX SERIES

17

RANDOX - A GLOBAL DIAGNOSTIC
SOLUTIONS PROVIDER

18

CONTACT US

BENEFITS

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



TEST MENU & CONSOLIDATION

Our extensive dedicated test menu comprises routine chemistries, lipids, antioxidants, cardiac markers and diabetes testing allowing laboratories to expand their testing capabilities while reducing additional costs associated with outsourcing samples for external testing. Direct, on-board, HbA1c testing capabilities provide many time saving benefits in the laboratory.



ACCURATE RESULTS

Dedicated sample and reagent pipettes on-board to minimise carryover with liquid level sensors and crash detection. Serum indices 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, delivering unrivalled precision with excellent CVs.



QUALITY CONTROL

The RX daytona+ provides simple, operational and testing efficiency. 7 different calibration options increase confidence, with optimum algorithms being used to achieve the most accurate results. Users can view QC history with automatically generated Levey-Jennings Charts, Calibration Curves and QC statistics putting patient safety at the centre of your laboratory.



FLEXIBILITY & VERSATILITY

12 wavelengths generated via diffraction grating (340 - 800nm) ensure a multitude of chemistries are possible on one system. The RX daytona+ allows for rapid and efficient STAT testing for emergency samples. Managing workflow, and processes the on-board barcode readers for both reagent and samples demonstrate flexibility and ease of use .



UNRIVALLED PERFORMANCE

Providing superior performance with maximum uptime and swift reporting of results, there is no interruption to workflow. Sensitive clot detection sensors and on-board cuvette checking ensures only clean and viable reaction vessels are used. With a built-in inventory management system, the RX daytona+ automatically calculates remaining reagent volume and the number of tests available.



COST SAVINGS

Minimal maintenance required with just 2 preventative maintenance services per year for reduced downtime. Our extensive test menu allows consolidation of testing, the ability to run specific proteins removes the need for a separate nephelometry system, with a low sample volume required. The RX daytona+ delivers on economic efficiencies with a low water consumption of only 5L per hour.

SYSTEM OVERVIEW

1

REAGENT CAROUSEL

50 reagent positions for 70ml & 20ml bottles, all cooled between 8 to 15°C. Automatic barcode identification ensures smooth recognition of reagents. Dedicated reagents optimised for use on the RX series, are available from Randox.

2

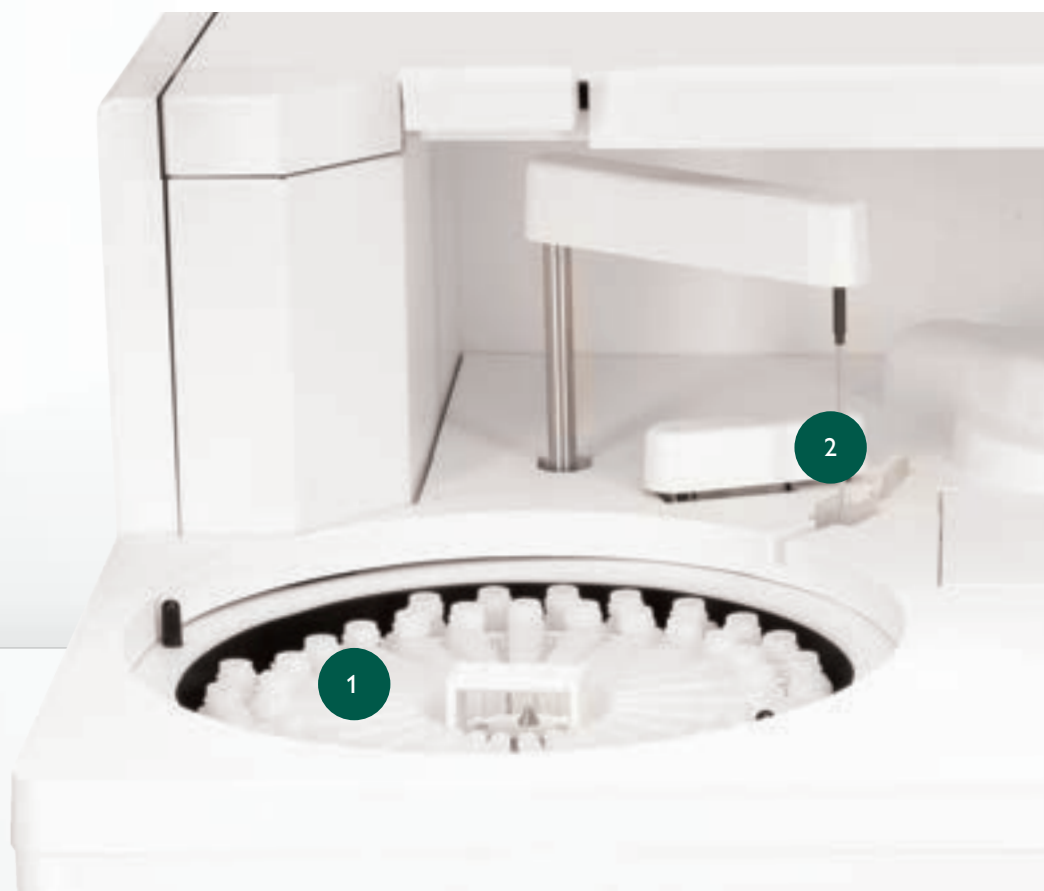
MIXING SYSTEMS

Equipped with dual five speed stirrers, optimised mixer speeds are pre-set based on assay parameters to ensure best performance. Thorough mixing of reaction solutions removes any bubbling or frothing which could affect precision.

3

WASH STATION

A thorough 12 stage washing process with acid, alkali and pure water wash steps is employed. Liquid level sensors at stations 1-5 prevent cuvette overflows.



SAMPLE CAROUSEL

4

50 positions are contained within the universal sample carousel, including 10 bespoke positions for calibrators and controls. The emergency loading port allows for the processing of STAT samples. Barcode sample identification ensures accurate matching of patient identification to sample. Low sample volumes (1.5 - 35µl) enable easy testing of paediatric and veterinary patients.

SEMI-PERMANENT CUVETTES

5

72 semi-permanent reaction cuvettes lasting for 3 - 6 months help to reduce consumable costs. On-board cuvette checking function ensures only clean and viable reaction vessels are used.

OPTIONAL ISE UNIT

6

Providing cost savings, the RX daytona+ 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 and reducing consumable costs.



THE RX SERIES TEST MENU



CLINICAL

AUTOIMMUNE:

CRP
CRP Full Range (0.3-160mg/l)
CRP High Sensitivity
IgA
IgE
IgG
Rheumatoid Factor

BASIC METABOLIC PROFILE:

Calcium
CO₂ Total
Creatinine
Glucose
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
CO₂ Total
Creatinine
Glucose
Lactate
Total Bilirubin
Total Protein
Urea

DIABETES:

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

ELECTROLYTES:

Calcium
CO₂ Total
Magnesium

HAEMOLYTIC ANAEMIA:

G-6-PDH
LDH

HEPATIC FUNCTION:

Albumin
Aldolase
Alkaline Phosphatase
ALT
Ammonia
AST (GOT)
Bile Acids
Cholinesterase
Direct Bilirubin
Gamma GT
GLDH
IgA
IgG
Iron (UIBC)
LDH
sTfR
Total Bilirubin
Total Protein
Transferrin

INFLAMMATION AND INFECTION:

ASO
CRP
Lactate
Rheumatoid Factor

LIPIDS:

Apolipoprotein A-I
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

NEUROLOGICAL DISORDERS (CSF):

IgA
IgG

NUTRITIONAL STATUS:

Albumin
Copper
Ferritin
Iron
Iron (UIBC)
Lipase
Magnesium
TIBC
Transferrin
Zinc

PANCREATIC FUNCTION:

Amylase
Glucose
LDH
Lipase
Pancreatic Amylase

RENAL FUNCTION:

Albumin
Ammonia
Calcium
Creatinine
Cystatin C
Glucose
HbA1c (Direct)
IgG
LDH
Magnesium
Microalbumin
Phosphorus (Inorganic)
Urinary Protein
Urea
Uric Acid



VETERINARY

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

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

Lactate
Lactate Dehydrogenase
LDL
Lipase
Magnesium
NEFA (Non-Esterified Fatty Acids)
Phosphorus (Inorganic)
Ranbut (D-3-Hydroxybutyrate)
Ransel (Glutathione Peroxidase)
Total Protein
Triglycerides

Urea
Uric Acid
Urinary Protein
Zinc



TOXICOLOGY

THERAPEUTIC DRUGS:
Valproic Acid

DRUGS OF ABUSE:
Ethanol



PROTEINS

SPECIFIC PROTEINS:

Apolipoprotein A-I
Apolipoprotein B
Apolipoprotein CII
Apolipoprotein CIII
Apolipoprotein E
ASO

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

HbA1c (Direct)
IgA
IgE
IgG
Lipoprotein (a)
Microalbumin

Rheumatoid Factor
sTfR
Transferrin



RESEARCH

ANTIOXIDANTS:

Albumin
Bilirubin
Ferritin
Ransel (Glutathione Peroxidase)
TIBC
Total Antioxidant Status
Transferrin
Uric Acid

FOOD AND WINE TESTING:

Acetic Acid
Ammonia
Copper
Ethanol
Glucose/Fructose
Malic Acid
TAS

SOFTWARE

The RX daytona+ utilises familiar Windows10® 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, calibration curves and QC statistics for reliable patient reporting. LIMS (Laboratory Information Management System) connectivity is easily set up ensuring rapid transfer of information between host and analyser systems.



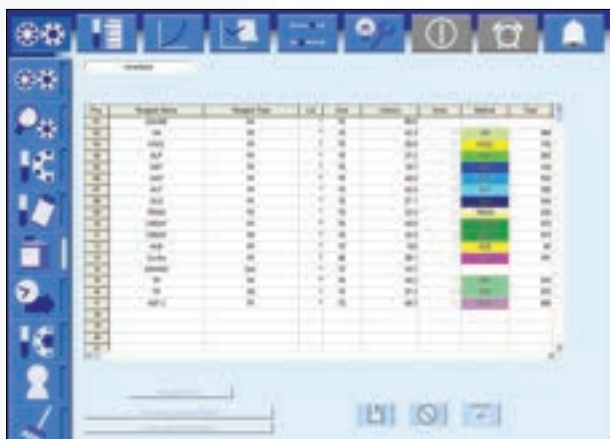
REPORTS

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



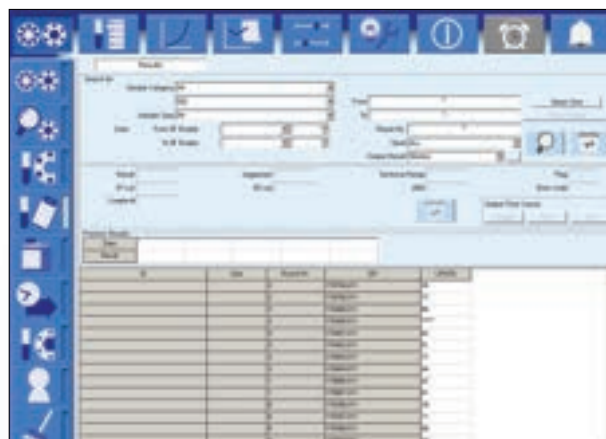
CHEMISTRY PARAMETERS

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.



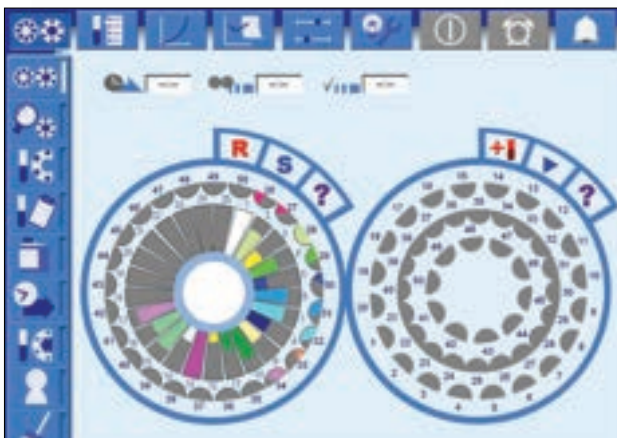
REAGENT INVENTORY

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 alarm will sound, allowing the operator to resolve the situation.



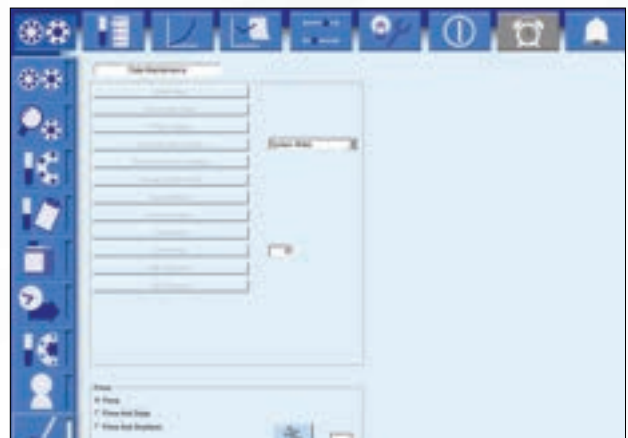
RESULTS

Results are easily searchable via options such as sample type or date. Laboratory staff can download and print results or transmit results to the LIMS system for all relevant clinicians to view.



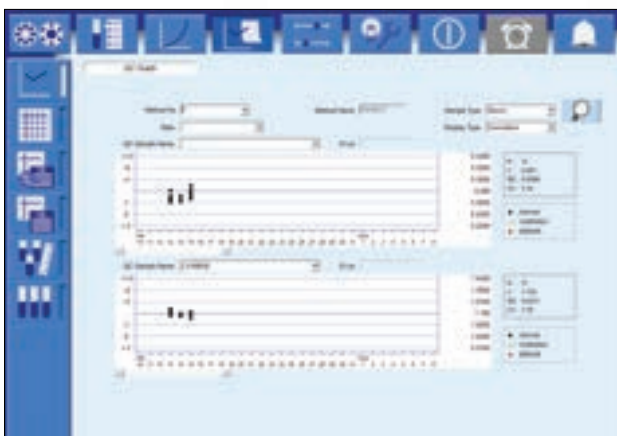
RUN MONITOR

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



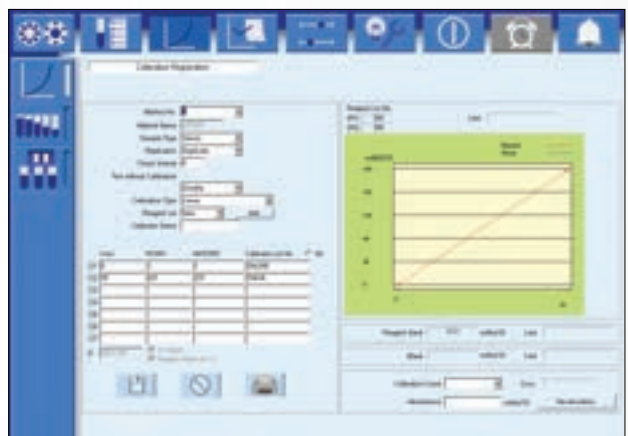
MAINTENANCE

Less than 5 minute daily maintenance is required. Autostart function allows for cleaning of cuvettes and probes at the start of each day saving the user time and effort.



QUALITY CONTROL

The QC screen generates Levey-Jennings charts and calibration curves 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

Providing excellence in clinical chemistry, the RX daytona+ fully automated system combines robust hardware and intuitive software with a wide range of unique and innovative features. Renowned for quality and reliability, the RX daytona+ testing capabilities suit all laboratory sizes and types. The RX daytona+ leads the way with the RX series extensive dedicated clinical chemistry test menu.

As the most versatile analyser in its class, the RX daytona+ not only provides laboratories with increased functionality, flexibility and efficiencies, but excels in performance delivering unrivalled precision with low CVs. The RX daytona+ provides laboratories with the upmost in reliability, analyser uptime and accuracy of patient results.



TESTING FUNCTIONALITY

- Dual 5 speed stirrers enabling mixing to be optimised for each assays requirement
- Reagent micropipette with liquid level sensor and crash detection to alert users to errors
- Unique loading hatch allows emergency samples to be analysed quickly and easily at any time



SYSTEM COMPONENTS

- Versatile reagent carousel with 50 cooled positions
- Universal sample carousel with 40 positions and 10 cooled control and calibrator positions
- 72 semi-permanent cuvettes with a 3 - 6 month lifespan and on-board cuvette checking system



LOW MAINTENANCE

- Maximum of 5 minutes daily maintenance required
- Automatic wake and sleep mode and pre-programmable instrument preparation
- Low water consumption of just 5L per hour

CUSTOMER SUPPORT



In choosing to purchase the RX daytona+ 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. Customer 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 unrivalled technical support and service.

ORDERING INFORMATION

RX daytona+ with ISE
RX daytona+ without ISE

RX4040
RX4041

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

SPECIFICATIONS

PHYSICAL DIMENSIONS

Height	625mm
Depth	670mm
Width	870mm
Weight	120kg

PERFORMANCE CHARACTERISTICS

Throughput	270 tests per hour; 450 tests per hour with ISE
Analyser type	Compact fully automated random access bench top clinical analyser
Assay type	Endpoint, kinetic and ISE
Maintenance	Daily maintenance - less than 5 minutes. Simple twice yearly preventative maintenance service

REAGENT & SAMPLE SYSTEM

Data management	Storage of up to 30,000 patient reports, search facility
Test channels	50 photometric channels, 3 direct ISE
Sleep mode	User defined sleep mode capabilities with automatic wash and instrument prep
Reagent pipette	Dedicated reagent micropipette with liquid level sensor and crash detection
Reagent capacity	Removable turntable with 50 cooled positions for 20ml and 70ml bottles
Reagent cooling	8 to 15°C
Reagent identification	Barcode reagent identification
Reagent inventory	Calculation of remaining reagent volume and tests available Alert for shortage or expired reagents
Sample addition	Sampling interruption for addition of samples
Sample capacity	50 positions are contained within the universal carousel, including 10 bespoke positions for calibrators and controls
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; crash protection and clot detection
Sample tube size	Multiple primary tube sizes (diameter 12 to 16mm, height 55 to 100mm), Paediatric cups
Sample type	Serum, Plasma, Urine, CSF & Whole Blood
Sample volume	1.5 to 35µl (0.1µl increments)
STAT sampling	STAT samples can be added immediately via emergency loading port

REACTION SYSTEM

Reaction time	10 minutes (R1: 5 min. + R2: 5 min.)
Reaction volume	100 to 350µl
Stirring speed	5 speed levels available
Stirring system	Dual 5 speed stick type rotating stirrers
Temperature control	Dry bath
Water consumption	Maximum 5L per hour
Water requirements	NCCLS type 1 or 2 purified water supply
Wash unit	12 stage washing process
Cuvettes	72 semi-permanent cuvettes
Incubator temperature	37°C ± 0.1°C
Cycle time	13 seconds

OPTICAL SYSTEM

Detector method	Direct absorbance in cuvette (bi-chromatic and monochromatic)
Detection principal	12 wavelengths generated via diffraction grating: 340, 380, 415, 450, 510, 546, 570, 600, 660, 700, 750 and 800nm
ISE unit	Optional ISE unit available
Light source	Halogen tungsten lamp air cooled by fan

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

Power requirement	AC100V to 120V, 6.5A (Max.) AC 200 to 230V, 3.3A (Max.) 50/60Hz
Power consumption	650VA
Permissible voltage variation	± 10% (Max.)
LIMS connectivity	Bi-directional ASTM Standard (RS232 connection)

OPERATING SYSTEM

Operator interface	Windows10® based software
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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 IMOLA

The RX imola is a cost effective system that delivers consistent high quality results. With a throughput of 400 photometric tests and up to 560 tests per hour including ISE, the RX imola provides rapid, comprehensive testing on a small footprint analyser. The RX imola is a fully automated system with random access and STAT sampling functionality, boosting productivity and saving time when it matters most.



RX MODENA

A fully automated, random access, floor standing clinical chemistry analyser with a photometric throughput of 800 tests 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 Windows10® 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, renal and stroke markers.

CONTACT US

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