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
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.

**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.

4. SAMPLE CAROUSEL

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.

5. SEMI-PERMANENT CUVETTES

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.

6. OPTIONAL ISE UNIT

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 imprecision and reducing consumable costs.
# THE RX SERIES TEST MENU

## CLINICAL

### AUTOIMMUNE

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

### ALBUMIN

- Albumin
- Alpha 2
- Alpha 1
- IgG
- IgM
- Rheumatoid Factor

### BASIC METABOLIC PROFILE:全血生化六项

- Albumin
- Total Protein
- AST (GOT)
- ALT (GPT)
- Aldolase
- Glucose
- Urea
- Sodium
- Potassium
- Chloride
- Calcium
- Phosphorus

### CARDIAC:心脏生化

- Total Bilirubin
- Direct Bilirubin
- Albumin
- Transthyretin (Prealbumin)
- Lipoprotein (a)
- Total Protein
- Total Protein

### ELECTROLYTES:电解质

- Calcium
- Phosphorus
- Magnesium
- Sodium
- Potassium
- Chloride
- Bicarbonate

### HAEMOLYTIC ANAEMIA:溶血性贫血

- Hemoglobin
- Red Cell Distribution Width
- Mean Corpuscular Hemoglobin
- Mean Corpuscular Volume

### HEPATIC FUNCTION:肝脏生化

- Total Bilirubin
- Direct Bilirubin
- Albumin
- Transthyretin (Prealbumin)

### NEUROLOGICAL DISORDERS:神经系统疾病

- Serum Amyloid A (SAA)
- Beta-2 Microglobulin
- TTR (TTR, Transthyretin)

### NUTRITIONAL STATUS:营养状态

- Albumin
- Alpha 1
- Alpha 2
- IgG
- IgM

### PANCREATIC FUNCTION:胰腺生化

- Pancreatic Amylase
- Lipase

### RENAL FUNCTION:肾脏生化

- Serum Creatinine
- Blood Urea Nitrogen
- Total Protein
- Triglycerides

### TOXICOLOGY:毒物学

- Alcohol
- Benzoylecgonine
- Methamphetamine
- MDMA (Ecstasy)

### VETERINARY

- Albumin
- Complement Component 3
- Complement Component 4
- CRP
- CRP Full Range (0.3-160mg/l)
- CRP High Sensitivity

### PROTEINS

- Albumin
- Alpha 2
- Alpha 1
- IgG
- IgM

### SPECIFIC PROTEINS

- Protein A
- Protein B
- Protein C
- Protein E
- Protein F

### ANTIOXIDANTS:抗氧化剂

- Alpha-Tocopherol
- Glutathione

### FOOD AND WINE TESTING:食品与葡萄酒

- Alcohol
- Amines
- Conjugated Esters

### BIOTECHNOLOGY:生物技术

- TTR (TTR, Transthyretin)

### SPECIALITY:特殊

- Acid Phosphatase

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The provided information is a list of tests available in the RX SERIES TEST MENU. Each test is categorized under different sections such as AUTOIMMUNE, CARDIAC, ELECTROLYTES, HEPATIC FUNCTION, NEUROLOGICAL DISORDERS, NUTRITIONAL STATUS, PANCREATIC FUNCTION, RENAL FUNCTION, TOXICOLOGY, VETERINARY, PROTEINS, SPECIFIC PROTEINS, ANTIOXIDANTS, FOOD AND WINE TESTING, BIOTECHNOLOGY, and SPECIALITY. Each category contains a list of specific tests and parameters relevant to their respective fields.
SOFTWARE

The RX daytona+ utilises 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, 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 onboard 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.

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-log, Exponential, Spline & Spline 2.

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.
CUSTOMER SUPPORT

In choosing to purchase the RX daytona+ 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. 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.

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 utmost in reliability, analyser uptime and accuracy of patient results.

TESTING FUNCTIONALITY
- Dual 5 speed stirrers enabling mixing to be optimised for each assay’s 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

ORDERING INFORMATION

RX daytona+ with ISE  RX4040
RX daytona+ without ISE  RX4041

For more information contact your local representative, or email us at: theRXseries@randox.com
**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**: 4 to 15°C
- **Reagent identification**: Barcode reagent identification
- **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 ± 0.5°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.)
- **AC200 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
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® based software.
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), M4ABP, 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 immunanlyser’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, metabolite, renal and stroke markers.

**CONTACT US**

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

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