

# RANDOX

## RX MISANO

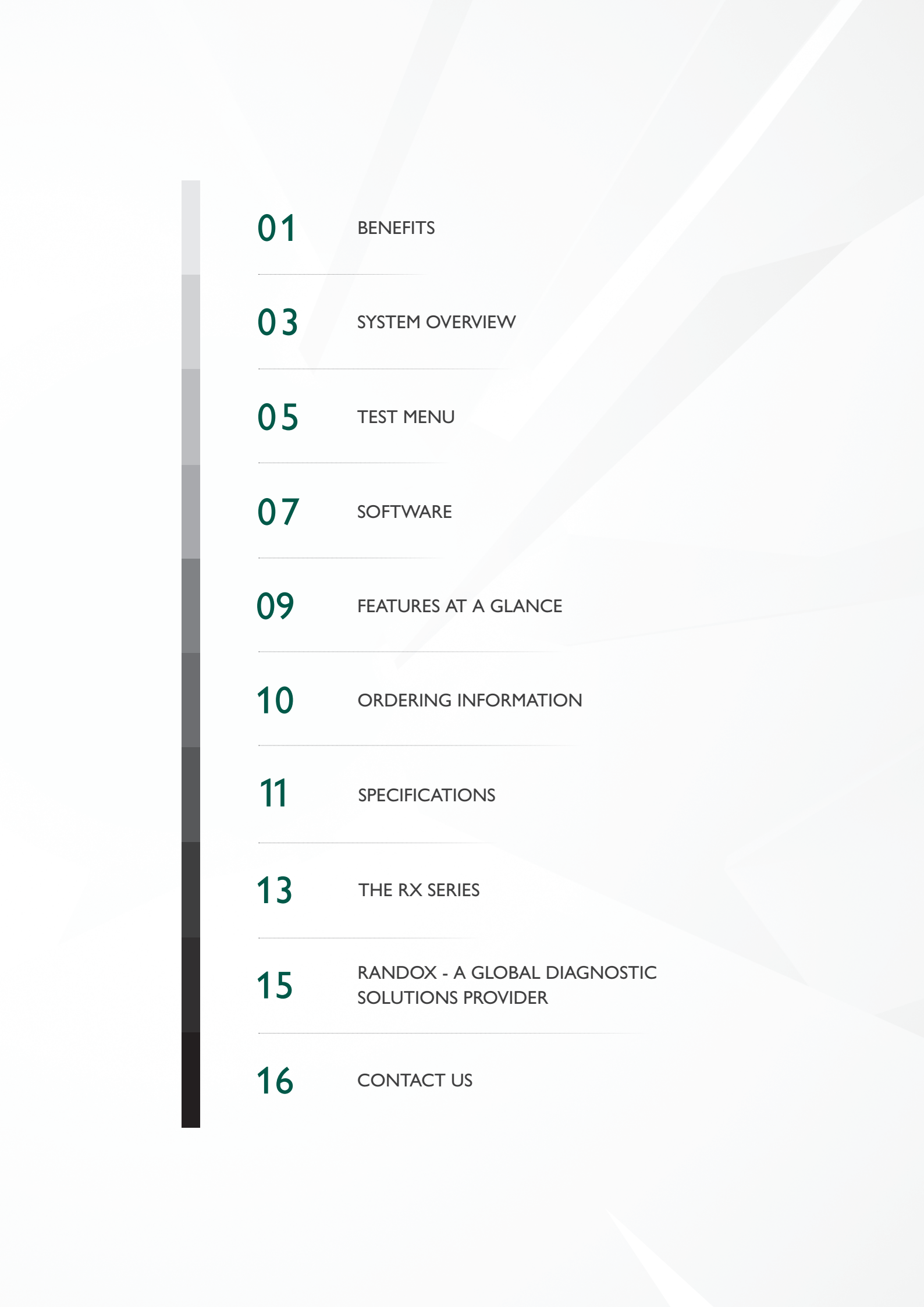

A High Performance Semi-Automated  
Clinical Chemistry Analyser



SETTING THE BENCHMARK FOR THE NEXT GENERATION

TRANSFORMING SEMI-AUTOMATED CLINICAL  
CHEMISTRY TESTING FOR LABORATORIES GLOBALLY





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# BENEFITS

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The RX misano shines a new light on semi-automated clinical chemistry testing with increased auto-functionality and groundbreaking technology. Revolutionising the RX series with its bold look, innovative design, and outstanding performance, it sets the benchmark for the next generation of the RX series clinical chemistry analysers.



## TEST MENU & CONSOLIDATION

The RX misano is capable of high standard, precise results at a competitive price per test. Expanding testing capabilities on one intuitive platform, the RX misano has the ability to perform both routine and specialised tests. These include chemistries, specific proteins, antioxidants, veterinary and diabetes testing, analysing a variety of sample types, including; Serum, Plasma, Urine, Wine & Honey.



## ACCURATE RESULTS

Achieve accurate patient results first time, every time. The RX misano is built with advanced features including automatic flagging of errors and innovative built in QC software designed to detect problems as early as possible, allowing the user to amend errors thus ensuring confidence in results. High quality results save operator time avoiding unnecessary additional costs of repeat testing reducing the possibility of patient misdiagnosis.



## FLEXIBILITY & VERSATILITY

Up to 10 wavelengths can be generated via solid state filter device (340-700nm standard, 280nm available for wine testing) giving the RX misano a wide range of testing capabilities. The ability to run flow cell or cuvette mode ensures that a maximum number of tests can be performed maximising testing capabilities.





## ADVANCED SECURITY

The RX misano guarantees patient results are safely secured with advanced password protection, assay management and QC result inclusion/exclusion. Built in advanced security ensures that only those who should have access will be able to use the system. The RX misano presents users with the complete confidence that results are securely stored and patient confidentiality is adhered to. Unique user names and passwords also increase traceability of results.



## COST SAVINGS

Designed with the user in mind, the RX misano's smart technology provides laboratories with the benefit of avoiding any additional costs. The user-friendly maintenance screen guides the user through simple step-by-step instructions removing the cost of expensive engineer call outs. The easy to use maintenance function maximises uptime in the laboratory resulting in reduced costs of sending tests out and removing the possibility of delayed patient results.



## INCREASED CONVENIENCE

Developed to improve efficiency in your laboratory, the RX misano offers an extremely small footprint taking up minimal space without minimising the range of testing capabilities. The RX misano is very easy to move throughout various stations in the laboratory with minimal effort and training required. Multiple languages are available offering unrivalled convenience for multiple users, allowing each user to navigate through the software in their native language.

# SYSTEM OVERVIEW

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1

## CUVETTES & FLOW CELL

Option to run flow cell or cuvette mode ensures a maximum number of chemistries can be performed on one system. Flow cell washing avoids contamination ensuring accurate results are produced.

2

## USB PORT

USB port for exporting patient, QC and calibration results. This enables the user to quickly export results from the analyser and convert into CSV format. An optional on-board printer is available for laboratories that prefer to directly print results from the analyser.

3

## LCD TOUCH-SCREEN DISPLAY

Quality display on a large 7" LCD touch - screen, responsive even when wearing lab gloves. Simple on-screen icon based navigation allows the user to efficiently complete their testing with minimal effort.

4

## ADVANCED PASSWORD PROTECTION

Advanced password protection function for analyser setup, assay management and QC result inclusion/exclusion. This gives laboratories confidence that their results are well protected on this system and only those who are authorised can gain access.







# THE RX SERIES TEST MENU



## CLINICAL

### ANAEMIA:

Iron  
G-6-PDH

### BASIC METABOLIC PROFILE:

Calcium  
CO<sub>2</sub> Total  
Chloride  
Creatinine  
Glucose  
Potassium  
Sodium  
Urea

### CARDIAC:

Cholesterol  
CK-MB  
CK-NAC  
Direct HDL Cholesterol  
Direct LDL Cholesterol  
Triglycerides

### COMPREHENSIVE METABOLIC PROFILE:

Albumin  
Alkaline Phosphatase

ALT  
AST (GOT)  
Bilirubin (Total/Direct)  
Calcium  
Chloride  
CO<sub>2</sub> Total  
Creatinine  
Glucose  
Potassium  
Sodium  
Urea

### DIABETES:

Cholesterol  
Creatinine  
Cystatin C  
Direct HDL Cholesterol  
Direct LDL Cholesterol  
Glucose  
Glucose Hexokinase  
Microalbumin  
NEFA  
D-3-Hydroxybutyrate  
Total Protein  
Triglycerides  
Urinary Protein

### ELECTROLYTES:

Calcium  
Chloride  
CO<sub>2</sub> Total  
Magnesium  
Potassium  
Sodium

### INFLAMMATION:

Aldolase  
ASO

### HEPATIC FUNCTION:

Aldolase  
Albumin  
ALT  
AST (GOT)  
Bile Acids  
Bilirubin (Total/Direct)  
Cholinesterase  
Total Protein

### LIPIDS:

Apolipoprotein A-1  
Apolipoprotein B  
Cholesterol

Direct HDL Cholesterol  
Direct LDL Cholesterol  
Triglycerides

### NUTRITIONAL STATUS:

Albumin  
Iron  
Lipase  
Magnesium  
Potassium  
Zinc

### RENAL FUNCTION:

Albumin  
Beta-2 Microglobulin  
Calcium  
Creatinine  
Cystatin C  
Glucose  
Microalbumin  
Potassium  
Sodium  
Phosphorus (Inorganic)  
Urinary Protein  
Urea  
Uric Acid



## VETERINARY

Albumin  
Alkaline phosphatase  
ALT (GPT)  
Ammonia  
Amylase  
AST (GOT)  
Bile acids  
Bilirubin  
Calcium

Chloride  
Cholesterol  
Cholinesterase  
CK-NAC  
CO<sub>2</sub> Total  
Copper  
Creatinine  
Gamma-GT  
GLDH

Glucose  
Ransel (Glutathione peroxidase)  
Ranbut (Hydroxybutyrate)  
Iron  
Lactate  
Lipase  
Magnesium  
NEFA (Non-esterified fatty acids)  
Phosphorus (Inorganic)

Potassium  
Sodium  
Ransod (Superoxide dismutase)  
Total Protein  
Urea  
Uric Acid  
Urinary protein



## RESEARCH

### ANTIOXIDANTS:

Glutathione Reductase  
 Ransel (Glutathione Peroxidase)  
 Ransod (Superoxide Dismutase)  
 Total Antioxidant Status

### FOOD & WINE TESTING:

Acetic acid  
 Ammonia  
 Copper  
 Ethanol  
 Glucose/fructose  
 Malic acid  
 Potassium  
 TAS

# THE RX MISANO A-Z TEST MENU

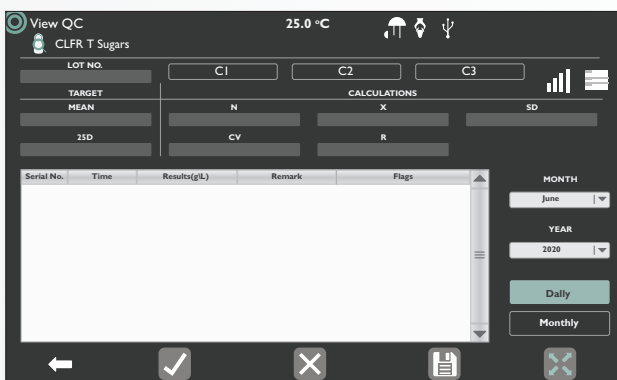


## SEMI-AUTOMATED (RX misano)

Acetic Acid	Calcium	Gamma-GT	Microalbumin
Albumin	Chloride	GLDH	NEFA (Non-Esterified Fatty Acids)
Aldolase	Cholesterol	Glucose Oxidase	Phosphorus (Inorganic)
Alkaline Phosphatase	Cholinesterase	Glucose Hexokinase	Potassium
ALT (GPT)	CK-MB	Glutathione Peroxidase (Ransel)	Sodium
Ammonia	CK-NAC	Glutathione Reductase	Superoxide Dismutase (Ransod)
Amylase	CO <sub>2</sub> Total	Glycerol	Total Antioxidant Status
Apolipoprotein A- I	Copper	Iron	Total Protein
Apolipoprotein B	Creatinine	Lactate	Triglycerides
AST (GOT)	D-3-Hydroxybutyrate (Ranbut)	Lactic Acid	Urea
Bile acids	Direct HDL Cholesterol	Lipase	Uric Acid
Bilirubin (Direct)	Direct LDL Cholesterol	Magnesium	Urinary protein
Bilirubin (Total)	G-6-PDH	Malic Acid	Zinc

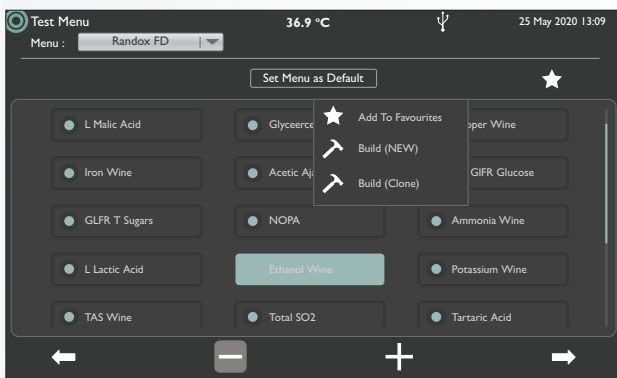
# SOFTWARE

The RX misano has been developed with the user in mind by incorporating a user-friendly responsive touch-screen display. The various different software screens allow the user to navigate through the analyser features at the touch of a button. The RX misano has a number of different screens including a home screen, quality control screen, parameter screen, reports screen, maintenance screen, and settings screen. Patient results, QC, and calibration data can all be extracted from the RX misano via USB port and transferred into CSV format allowing the user to format the data to their preference.



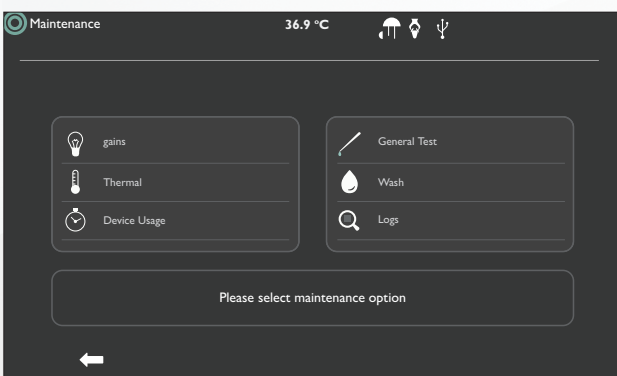
## QUALITY CONTROL SCREEN

The quality control screen on the RX misano allows the user to view daily or monthly QC data including reaction curves, calibration curves and Levey-Jennings charts enabling full traceability of results. This will allow the laboratory to monitor the performance of the analyser and ensure that everything is working properly. Results will be clearly displayed on Levey-Jennings charts allowing laboratory staff to review results and correct any errors in a timely manner, ensuring accurate results are produced.



## PARAMETER SCREEN

The RX misano features a parameter screen with a simple search function allowing the user to choose the tests they want to run from the extensive RX series test menu. On this analyser the user can create favourite test menus by clicking on the star icon at the bottom of this screen to select commonly run tests, this will ultimately save time when running frequent tests. Open channels for custom chemistry parameters required for non-routine or research applications ensures a maximum number of tests can be run.



## MAINTENANCE SCREEN

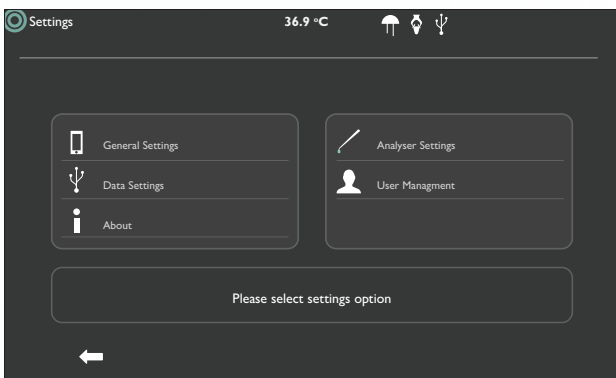
The maintenance screen guides the user through simple step-by-step instructions. This will reduce the amount of analyser downtime in the laboratory and save additional costs of engineer call out fees. Minimal daily maintenance is required which saves time for the operator. The maintenance screen includes functions such as an aspiration check to ensure the pump accurately works during flow cell mode.





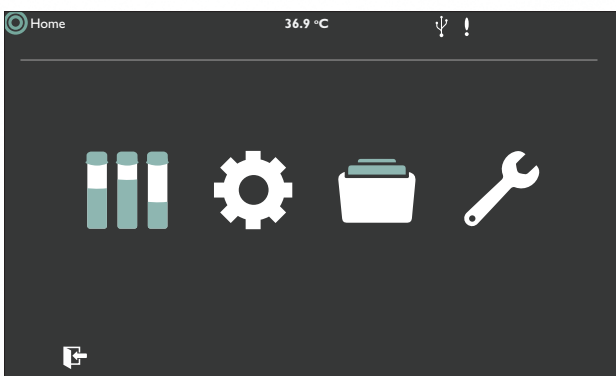
## REPORT SCREEN

The user can easily search for reports by clicking on the reports icon on the home screen. A number of search variations can be used, including date, test name, test type, username, batch ID etc. and filtered by patient results, calibrations or QC. Simple touch screen search function makes it easy to find reports allowing the user to review and compare reports.



## SYSTEM SETTINGS SCREEN

Enables the user to update the general settings on the system software. These settings include date, time, numbering format etc. This ensures that all reports generated reflect the correct date and time guaranteeing all results are fully traceable.



## HOME SCREEN

Displays four icons enabling easy navigation through the different features of the software using simple icon based technology. These icons include tests, settings, reports & maintenance. The date and time are clearly displayed at the top of the screen, along with the temperature allowing the user to check if the analyser is at the correct temperature to run tests under recommended settings.

# FEATURES AT A GLANCE

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Providing excellence in clinical chemistry and setting the benchmark for the next generation of the RX series of clinical chemistry analysers, the RX misano presents users with increased auto-functionality and groundbreaking technology with the world's largest semi-automated clinical chemistry test menu. The RX misano allows users to quickly perform analysis with simple and easy steps.



## SIMPLE PROCESS

- Simply plug in & after warm up select start button.
- Select run test, analyte and select play to run sample.
- View reports and export results via USB or on-board printer.



## TESTING FUNCTIONALITY

- Option available to build custom test menus by adding commonly run chemistries to analyser favourites.
- Multiple languages available for extra convenience if required.



## SYSTEM COMPONENTS

- Option to perform flow cell & cuvette mode to perform analysis.
- Extremely small footprint, takes up minimal space in the laboratory and is easily transported.
- Easy to use icon based software improving navigation and extensive training requirements.
- Automatic flagging of errors with advanced QC software allowing performance to be monitored.
- Users can search, view and export results for the RX misano in seconds.




## LOW MAINTENANCE

- 5 minutes daily maintenance required with on-screen instructions to guide the user.



# CUSTOMER SUPPORT

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In choosing to purchase the RX misano 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 an unrivalled technical support service.

## ORDERING INFORMATION

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RX misano analyser	RX6015
RX misano cuvette incubator	A702-496
RX misano analyser (honey analysis)	RX6017
RX misano analyser with printer (honey analysis)	RX6018

For more information contact your local representative, or email us at: [theRXseries@randox.com](mailto:theRXseries@randox.com)



# SPECIFICATIONS

## PHYSICAL DIMENSIONS

Width	235mm
Depth	330mm
Height	305mm
Weight	6.5kg

## PERFORMANCE CHARACTERISTICS

Analyser type	Semi-automated, flow-cell based, primarily closed bench-top system with possibility to create open assays
Analysis method	UV/Colormetric (rate/endpoint), Turbidimetric Immunoassay
Aspiration volume	Programmable aspiration volume of 250-500uL
Assay types	1-Point, 2-Point, Rate-A, 1-PT-S Blank, Absorbance, Wine Colour, Wine Hue
Calibration principal	Linear, K-Factor, Spline, Point-to-Point, Log-logit, Storage of up to 1 calibration curve per method
Chemistry parameters	User can import, build, edit and save up to 20 different test menus containing 100 tests each
Cuvettes	Flow cell (volume 18µl) mode or cuvette mode in plastic, quartz or glass Cuvette temperature controlled by dry block thermostat (optional)
Detection principal	Multiple wavelength solid state filter device. 9 wavelengths 340-700nm (340, 420, 520, 546, 578, 600, 620, 660, and 700nm), or 10 wavelengths including optional 280nm for phenols testing in wine products
Error sensors	Automatic flagging of inaccurate results/testing errors Humidity & Temperature sensors Pressure sensor alert if liquid absent or removed prior to completion of aspiration
Light source	Halogen Tungsten Lamp (12 V 20 W) (estimated service life 1000 hrs at 23°C ambient)
Maintenance requirements	Minimal. Includes step-by-step icon-based on-screen instructions
Measurement interval	2 to 999 sec
Operator interface	Unique, embedded icon-based software available in multiple languages & password protected USB port for importing Randox-defined test menus, updating software and exporting patient, QC and calibration results
Open/closed channels	Open channels available

Quality control	Advanced built-in QC software automatically displays reaction curves, calibration curves & Levey - Jennings charts
Reaction temperature	Programmable +20°C to +40°C steps in 1°C, +/- 0.5°C (room temperature)
Sample volume	5µl - 1,000µl
Relative humidity range	Indoor humidity: 80% up to +31°C , down to 50% at +40°C
Report generation	Date, Time, Test Name, Test Type, Batch ID, Batch #, Test Menu, and Username
Sample aspiration mode	Aspiration via water-proof capacitive touch-start button
Sample types	Serum, Plasma, Urine, Wine, Honey
Storage capacity	1,000 main records each holding 1,000 results, 1,000 calibrator results and 1,000 QC results
Temperature control	Heats to 37°C < 30 seconds & cools from 37°C to 25°C in <1minute

## POWER & CONNECTIVITY

Display	7" high resolution LCD (RGB)(800x480) touch-sensitive screen (responsive to lab gloves)
Input voltage	Universal Power Supply: 100 to 240 V RMS, at 50/60Hz
Power consumption	130 W Max
System connections	USB Port for importing and customising test menus as well as exporting results

## OPTIONAL ACCESSORIES

Printer	Integrated thermal printer with full graphics facility
Cuvette incubator	Incubation for 10 cuvettes before measurement

## ACCESSORIES

Accessories and consumables	Aspiration tubing, peristaltic pump tubing, waste tubing, spare lamp, printer paper, cleaning cloth, Randox CellClean, USB pen
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# THE RX SERIES

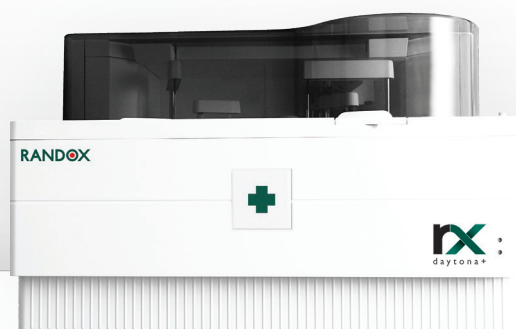
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## RX MONACO

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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+

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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 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 on-board, 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

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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.

## CONTACT US

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

## HEADQUARTERS

Randox Laboratories Ltd, 55 Diamond Road, Crumlin, County Antrim, BT29 4QY, United Kingdom  
+44 (0) 28 9442 2413 • [theRXseries@randox.com](mailto:theRXseries@randox.com) • [randox.com](http://randox.com)

## 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 67515000



### 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

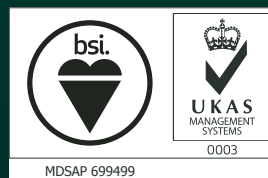


### VIETNAM

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

## FOR TECHNICAL SUPPORT CONTACT:

[technical.services@randox.com](mailto:technical.services@randox.com)



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