



RANDOX

RX monza

A high performance semi-automated clinical chemistry analyser



RX series

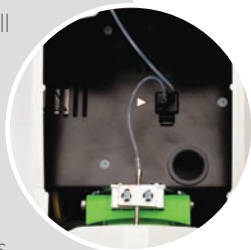
Precision. Reliability. Accuracy.

The RX monza is a compact semi-automated analyser with astonishing functionality. The RX monza is capable of laboratory standard, high precision results at a competitive cost per test.

With 192 channels the RX monza can open new and exciting opportunities for both routine and specialised

Cuvettes & Flow Cell

- Option to run in cuvette or flow cell mode
- Flow cell washing
- Multi-purpose temperature controlled reaction chamber encompassing 3 measurement modes; flow cell, cuvette and micro cuvette mode and coagulation tubes



On Board Printer

- Internal thermal printer
- Full graphics facility
- Capable of displaying 4 columns of information



System Overview

testing. The flexibility of pre-programmable channels and an extensive RX series test menu ensures complete patient profiling. Simple step by step onboard instructions and easy to follow reports ensure the RX monza provides a consistent user performance producing results you can trust.

Operator Interface

- Adjustable display screen
- 115mm x 86mm active area with backlit monochrome colour display
- Easy access to all user needs from one home screen



Direct Access Keys

- 32 Direct Access keys for dedicated parameters
- Requires minimal training, saving time and cost
- Direct access keys to ensure an easy and efficient user experience



RX series

Precision. Reliability. Accuracy.



- Ability to run both clinical chemistry and coagulation testing on the same platform
- Analysis of a wide range of analytes from as little as 5µl of sample
- Superior built in QC software automatically generates Levey-Jennings charts
- 192 channels in total, including 79 dedicated parameters
- Automatic flagging ensures inaccurate results and testing errors are easily detected
- Ability to run flow cell mode or cuvette mode ensures optimal efficiency in testing
- Eight wavelengths generated via optical filters (340nm -700nm)
- Minimal servicing and maintenance required
- Minimum reaction volume of 500µl results in a low cost per test
- Automatic storage of up to 1000 patient results
- Onboard printer with optional dry block thermostat for incubating cuvettes
- Direct access keys and user friendly software



CALIBRATION:18 - GLU

DATE & TIME
MAR 7 12:1

CURVE TYPE
LINEAR

REPL
2

STANDARD	CONC. (-)	ABS	FACTOR
S0	0		
S1		1.0625	
S2	5.5500	1.5469	
S3			11.4572
S4			
S5			
S6			
S7			
S8			
S9			
S10			
S11			

± REPL LIM

± FACT DEV%

CURVE FIT LIM

Benefits at a glance

Accurate Testing

- No confirmatory testing required with high quality results first time, every time, saving unnecessary additional costs
- Automatic flagging ensures inaccurate results and testing errors are detected
- The 18 bit photometer increases the sensitivity of the analyser meaning there is reduced need for test re-runs that require a low sensitivity

Ease of Use

- Intuitive operations ensure straightforward testing for enhanced productivity
- Minimal user training required
- User prompts displayed at each step

Cost Savings

- Low maintenance requirements and one annual service carried out by the user removes cost of expensive engineer call outs
- Standardised cuvette usage reduces consumable costs
- Minimum reaction volume of 500µl results in decreased cost per test
- Halogen tungsten lamp with stand-by mode and automatic monitoring of lamp life up to 1000 hours.

Extensive Dedicated Test Menu

- Availability of both routine and specialised assays facilitates complete patient profiling for a well informed and accurate diagnosis
- Test menu includes-Routine Chemistry-Lipids-Diabetes-Electrolytes-Cardiac-Renal Liver Function, Coagulation,Veterinary and Food and Wine testing

Flexibility

- RX monza is capable of running monochromatic, bi-chromatic, endpoint, kinetic, ISE, sample blanking and reagent blanking assays
- Up to eight wavelengths can be generated via optical filters e.g. 340, 415, 510, 548, 578, 600 660 and 700nm ensuring a multitude of chemistries are possible on one system
- 192 channels in total including 113 open channels for user definable, unrestricted testing
- On board printer with results printed automatically or on request

Reduced Sample Volume

- Analyse a wide range of analytes from as little as 5µl of sample
- Small sample volume allows multiple tests to be performed from a single sample, ideal for paediatric testing

Versatility

- Space saving compact bench top design
- Ability to run flow cell mode or cuvette mode ensures a maximum number of chemistries can be performed on one system
- Wide range of calibration types available including Linear; K-Factor; Point to Point, Spline and Log-Logit

Advanced Security

- Password protection function for QC result inclusion/exclusion, analyser setup and assay management ensures only those who should have access can gain access

Test Menu

CLINICAL

AUTOIMMUNE:

CRP
IgA
IgG

ANAEMIA:

Iron
G6P-DH
Transferrin

BASIC METABOLIC PROFILE:

Calcium
CO₂ Total
Chloride
Creatinine (Jaffe)
Glucose
Potassium
Sodium
Urea

CARDIAC:

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

COMPREHENSIVE METABOLIC PROFILE:

Acid Phosphatase
Albumin
Alkaline Phosphatase
ALT
AST (GOT)
Bilirubin (Total/Direct)
Calcium
Chloride
CO₂ Total
Creatinine (Jaffe)
Glucose
Potassium
Sodium
Urea

DIABETES:

Cholesterol
Creatinine
Cystatin C
Direct HDL Cholesterol
Direct LDL Cholesterol
Glucose
Glucose Hexokinase
HbA1c/Hb
Microalbumin
NEFA
Ranbut (Hydrobutyrate)
Total Protein
Triglycerides
Urinary Protein

ELECTROLYTES:

Calcium
Chloride
CO₂ Total
Magnesium
Potassium
Sodium

INFLAMMATION:

Aldolase
ASO
CRP

HEPATIC FUNCTION:

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

LIPIDS:

Apolipoprotein A-I
Apolipoprotein B
Cholesterol

Direct HDL Cholesterol
Direct LDL Cholesterol
Triglycerides

NEONATAL SCREENING:

CRP

NUTRITIONAL STATUS:

Albumin
Iron
Magnesium
Potassium
Transferrin
Zinc

RENAL FUNCTION:

Albumin
Beta-2 Microglobulin
Calcium
Creatinine
Cystatin C
Glucose
HbA1c/Hb
IgG
Microalbumin
Potassium
Sodium
Phosphorus (Inorganic)
Urinary Protein
Urea
Uric Acid

VETERINARY

Albumin	Gamma-GT	Uric Acid
Alkaline phosphatase	GLDH	Urinary protein
ALT (GPT)	Glucose	
Ammonia	Ransel (Glutathione peroxidase)	
Amylase	Ranbut (Hydroxybutyrate)	
AST (GOT)	Iron	
Bile acids	Lactate	
Bilirubin	Lipase	
Calcium	Magnesium	
Chloride	NEFA (Non-esterified fatty acids)	
Cholesterol	Phosphorus (Inorganic)	
Cholinesterase (butyryl)	Potassium	
CK-NAC	Sodium	
CO ₂ Total	Ransod (Superoxide dismutase)	
Copper	Total Protein	
Creatinine	Urea	

RESEARCH

ANTIOXIDANTS:

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

FOOD AND WINE TESTING:

Acetic acid
Ammonia
Copper
Ethanol
Glucose/fructose
Lactic acid

Malic acid
NOPA
Potassium
TAS
Total SO₂

SPECIALITY TEST

Ethanol (DOA)
Acid Phosphotase

COAGULATION

Activated Partial Thrombin Time (APTT)
Antithrombin (ATIII)
Prothrombin Time (PT)
Thrombin Time (TT)

RX series

Precision. Reliability. Accuracy.



REPORT- DAY TO DAY- PATIENT

DATE: TO

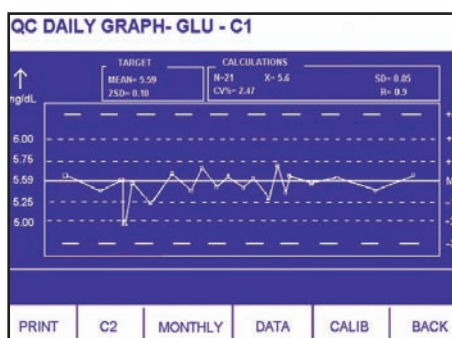
TOTAL RECORDS FOUND: 46

TIME	SAMPLE NO.	ASSAY	RESULT	UNIT	FLAG
NOV 01 2009					
10:12	GC01	GLU	166	mg/dl	H
10:15	A23415	GLU	101	mg/dl	
10:16	A23416	GLU	64	mg/dl	L
11:34	GC01	ALT	84	U/L	H
11:39	A23415	ALT	33	U/L	
14:22	GC01	CRE	1.8	mg/dl	
14:39	A23415	CRE	4.1	mg/dl	H

GENERATING REPORT. COMPLETED

PRINT PAGE UP PAGE DN BACK

Report Screen



Quality Control Screen

PARAMETERS: 18 - GLU PAGE 2 OF 2

% LINEARITY:

ASP VOLUME: SLOPE a:

MIN RX ABS: SAMP VOLUME: INTERCEPT b:

MAX RX ABS: R1 VOLUME:

MIN RGT ABS: R2 VOLUME:

MAX RGT ABS: R3 VOLUME:

PLEASE SELECT FIELDS BY SCROLLING AND PRESS ENTER TO MODIFY

PRINT CALIB PAGE UP PAGE DN SAVE BACK

Parameter Screen

Run monitor screen

- Run tests, calibrations and quality control
- View status in real time including time to completion

Report Screen

- Search by date and filter by patient results, calibrations or QC

Calibration Screen

- Wide range of calibration type
- Ability to view calibration curves

Quality Control Screen

- View daily or monthly QC data including Levey-Jennings charts

Utilities Screen

- Less than five minutes daily maintenance required
- Includes functions such as pump wash and flow cell wash

System settings screen

- Adjust system settings including date, time, numbering format etc

Parameter Screen

- Open channels for custom chemistry parameters required for non-routine or research applications

Easy read Reports

- Real time results status, including built in timer providing a count down to completion
- Advanced built in QC software automatically displays reaction curves, calibration curves and levey-jennings charts, enabling full traceability of results.

Specifications

PHYSICAL DIMENSION

Height	225-280 mm, 8.9-11 in (depending on screen angle)
Depth	445 mm, 17.5 in
Width	405 mm, 15.9 in
Weight	12 kg, 26 lbs

PERFORMANCE CHARACTERISTICS

Absorbance range	0.0 to 3.0 Absorbance units (cuvette and flow cell modes)
Analyser accreditation	CE, ROHS, WEEE complaint and UL certification
Analyser type	Semi-automated, flow cell based, bench-top clinical chemistry analyser (Also compatible with conventional cuvettes)
Assay tests	1 point (Endpoint), 1 point with sample blank, 2 point (fixed time), kinetic, absorbance
Calibration principal	K-Factor, Linear, point to point, spline, log-logit. 3 calibrations can be stored for each assay
Chemistry parameters	79 pre-programmed channels, 113 open channels are available
Cuvettes	Multi-purpose temperature controlled reaction chamber encompassing 3 measurement modes; flow cell, cuvette and micro cuvette mode and coagulation tubes
Data management	Storage of up to 1000 results, stores the last three calibrations
Detector	Silicon photo-diode
Detection principal	Direct monochromatic/bichromatic absorbance in flow cell or external cuvette. 8 wavelengths: 340, 415, 510, 546, 578, 600, 660, 700 nm
Flow cell washing	Semi-automatic wash system removes reaction waste
Light source	Halogen tungsten lamp with standby mode and lamp life measurement (Life expectancy ≥ 1000 hours)
Maintenance requirements	Daily: Flow cell wash Weekly: Calibration of peristaltic pump and photometer Annual PM service (Lamp and tubing)
Measurement interval	For kinetic assays single wavelength, every 1 second. Total measurement time is selectable from 1 second to 999 seconds
Operator interface	115 mm x 86 mm active area, backlit monochrome colour display with adjustable display angle
Printer	Internal thermal printer with full graphics facility
Quality Control	3 types of QC for each method, within day as well as day to day interactive Levy Jennings charts, mean, SD and % CV is calculated for each assay
Relative humidity range	Indoor humidity: 80% up to 31°C, decreasing linearity to 50% at 40°C
Sample aspiration mode	Semi-automatic aspiration of reaction mixture into the flow cell using peristaltic pump. External cuvettes can also be used with manual dispensing of the reaction mixture
Sample type	Serum, plasma, urine, wine, CSF
Temperature of flow cell /cuvette	20 to 40°C in steps of 1°C

POWER & CONNECTIVITY

Input voltage	100-120 V AC/ 60Hz, 200-240 V AC/50 Hz
Power consumption	75W max
UPS	UPS system recommended

ORDERING INFORMATION

RX monza analyser	RX2901
RX monza cuvette Incubator	M701-484
Coagulation start up kit	RX2908

DRY BLOCK THERMOSTAT

A dry block thermostat for incubating cuvettes.

Optimised for use with RX monza assays

ADVANTAGES

Minimises consumable usage

Flexible temperature settings between 20-40°C

Improves throughput capabilities with the RX monza

COAGULATION

Coagulation testing on the RX monza enables clinical chemistry and coagulation testing to be performed on a single platform which is extremely unique for a semi-automated analyser. Ensuring the same high level of performance from our existing clinical chemistry applications, the option to perform coagulation testing on the RX monza allows for effective evaluation of clotting and bleeding as well as risk

assessment in patients before and after surgery. A full set of Randox Coagulation Controls are available and cover all coagulation tests.

Coagulation testing on the RX monza is carried out using the coagulation adaptor and micro-cuvettes. The adaptor fits directly onto the analyser where the standard cuvette/flow cell is normally held. Our customized

adaptor and tubes allow for accurate measurement of PT, APTT, TT and ATIII in conjunction with the latest software. The RX monza guides the operator through the measurement process with the on screen instructions and an audible alarm for reagent addition. Once the clot is detected by the software the instrument will automatically print the result. The RX curve option shows the reaction progression in real time.



Acetic Acid
Acid Phosphatase
Activated Partial Thrombin Time (APTT)
Albumin
Aldolase
Alkaline Phosphatase
ALT
ALT (GPT)
Ammonia
Amylase
Antithrombin (ATIII)
Apolipoprotein A-I
Apolipoprotein B
ASO
AST (GOT)
Beta-2 Microglobulin
Bile acids
Bilirubin (Direct)
Bilirubin (Total)
Calcium
Chloride
Cholesterol
Cholinesterase
Cholinesterase (butyryl)
CK-MB
CK-NAC
CO Total
Copper
Creatinine
Creatinine (Jaffe)
CRP- (Canine)
Cystatin C
D-3-Hydroxybutyrate (Ranbut)

Direct HDL Cholesterol
Direct LDL Cholesterol
G-6-PDH
Gamma-GT
GLDH
Glucose
Glucose Hexokinase
Glutathione Peroxidase (Ransel)
Glutathione Reductase
Glycerol
HbA1c/Hb
Iron
Lactate
Lactic Acid
Lipase
Magnesium
Malic Acid
Microalbumin
NEFA (Non-esterified fatty acids)
Phosphorus (Inorganic)
Potassium
Prothrombin Time (PT)
Sodium
Superoxide Dismutase (Ransod)
Thrombin Time (TT)
Total Antioxidant Status
Total Protein
Transferrin
Triglycerides
Urea
Uric Acid
Urinary protein
Zinc

The RX series has been developed by Randox to meet the growing needs of clinical laboratory testing. Robust hardware combined with intuitive software ensures exceptionally low downtime with unrivalled precision and accuracy for results you can trust.



RX monza

The RX monza is a compact semi-automated analyser with astonishing functionality, offering 192 channels, 79 of which have dedicated parameters. The RX monza will open exciting opportunities for both routine and specialised testing including coagulation testing.



RX monaco

The RX monaco is a fully automated random access clinical analyser capable of carrying out 170 tests per hour. It provides unrivalled performance for low to mid volume testing.



RX daytona+

Superior performance for mid volume laboratories. The RX daytona+ is capable of running 270 photometric tests per hour or 450 tests per hour including ISEs.



RX imola

Efficiency for medium sized laboratories. The RX imola is a random access benchtop clinical analyser with a throughput of 400 photometric tests per hour or 560 tests per hour including ISEs.



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