RX daytona plus

A compact, fully automated solution for high quality clinical chemistry testing
The RX daytona plus provides high quality testing on a compact, easy to use clinical chemistry analyser for accurate results you can trust.

The RX daytona plus is a bench-top, fully automated, random access clinical chemistry analyser capable of performing routine & novel testing and emergency STAT sampling. With the world leading RX series test menu, the RX daytona plus provides excellent opportunity for consolidation and is perfect for use as a back up analyser in the larger laboratory.

RX daytona plus system overview

- Versatile reagent carousel with 50 coded positions
- Dedicated reagent micropipette
- 72 reaction cuvettes
RX daytona plus ensures superior performance in the laboratory:

- The largest clinical chemistry test menu on the market allowing consolidation of routine and specialised testing onto one platform
- Ability to run emergency samples ensures optimum efficiency in the laboratory and rapid turnaround of STAT samples
- Dedicated RX support teams provide instant technical support when you need it, minimising downtime

RX daytona plus is suited to many laboratory settings including:

- Clinical chemistry
- Research
- Education
- Veterinary
- Forensic toxicology
- Food and wine testing

D 12 step wash unit

E Dual Teflon coated five speed stirrers

F Universal carousel with 40 sample and 10 control and calibrator positions

G Optional integrated ISE
Why RX daytona plus?

Highly accurate testing of routine and novel tests on a compact, random access analyser

Highly accurate testing

• Separate sample and reagent pipettes minimise the risk of carryover
• Dedicated micropipettes are equipped with liquid level sensors and crash detection
• Dual five speed Teflon coated stirrers optimise mixing for each assay
• Serum indices detect lipaemic, icteric and haemolytic samples, building confidence in results and reducing the need for expensive repeats

Ease of use

• Easy to use Windows® based software
• Just one click opens the emergency sample ordering screen for rapid STAT testing
• Barcode readers for both sample and reagent identification
• Ability to register samples for routine measurement with an auto-template function
• Symbol based software - for ease of use

Superior performance

• Sensitive clot detection sensor detects clots such as fibrin at the sample pipette
• 72 cuvettes onboard with cuvette check function ensuring only clean and viable reaction vessels are reused
• Built in inventory management system automatically calculates remaining reagent volume and the number of tests available

Optimum laboratory efficiency

• Low minimum reaction volume of 100 µl improves cost-effectiveness and reduces waste
• Automatic test re-run function saves time and reduces risk of human error
• Automatic sample dilution
• Automatic wake up and sleep functionality

High throughput

• 270 photometric tests per hour
• 450 tests per hour including ISE
Unique loading hatch allows emergency samples to be analysed quickly and easily at any time.

Minimal maintenance required
Easy to install and set up, saving on costs associated with lengthy installations
Economic platform with low water consumption of only 5 litres per hour
Bar-coded reagents and samples mean no time is wasted programming routine assays

Widest range of tests available from a sole supplier, including routine and novel assays
Ability to run specific proteins removes the need for a separate nephelometry system

12 wavelengths generated via diffraction grating: 340, 380, 415, 450, 510, 546, 570, 600, 660, 700, 750 and 800nm
Capable of running monochromatic, bi-chromatic, endpoint, kinetic, ISE, sample blanking and reagent blanking assays
Seven different calibration option available including; factor, linear, point to point, log-logit, exponential, spline and spline 2

Generation of Levey-Jennings charts, calibration curves and QC statistics for reliable results
View QC history

Minimal maintenance required
Easy to install and set up, saving on costs associated with lengthy installations
Economic platform with low water consumption of only 5 litres per hour
Bar-coded reagents and samples mean no time is wasted programming routine assays
RX daytona plus software

User friendly software ensures straight-forward operation

- View real time results status, including time to completion
- Familiar Microsoft Windows® based software offers ease of navigation
- Intuitive symbol based software results in minimal training requirements and enhanced productivity
- Software capable of connecting to LIMS system via ASTM standard

Reagent Carousel and Sample Carousel screen
The symbol based intuitive software allows easy access to information and control of operations from the main screen with informative tabs.

**Run monitor**
- Displays full patient demographics
- View status in real time including time to completion
- Indication of amounts of tests remaining

**Quality control**
- Generation of Levey-Jennings charts, calibration curves and QC statistics offer simple assessment of results

**Calibration**
- Sets calibrator serial dilution and displays multipoint calibration curves

**Results**
- Download and print results
- Send to host automatically

**Maintenance**
- Minimal daily maintenance required

**Inventory**
- Automatically calculates remaining reagent volume and the number of tests available

**Chemistry Parameters**
- Enables sample dilution and test re-runs
- Set up to 20 test profiles and define order of analysis
### 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 Enzymatic
- Creatinine (jaffe)
- 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
- Digoxin
- Direct HDL Cholesterol
- Direct LDL Cholesterol
- Heart-Type Fatty Acid Binding Protein (H-FABP)
- Lipoprotein (a)
- Myoglobin
- sLDL
- Triglycerides
- TxB Cardio

**Comprehensive Metabolic Profile:**
- Albumin
- Alkaline Phosphatase
- ALT
- AST (GOT)
- Direct Bilirubin
- Calcium
- Chloride
- CO₂ Total
- Creatinine Enzymatic
- Creatinine (jaffe)
- Glucose
- Lactate
- Potassium
- Sodium
- Total Bilirubin
- Total Protein
- Urea

**Diabetes:**
- Cholesterol
- Creatinine Enzymatic
- Creatinine (jaffe)
- Cystatin C
- Direct HDL Cholesterol
- Direct LDL Cholesterol
- Fructoseamine
- Glucose
- Glycerol
- HbA1c/Hb
- Microalbumin
- NEFA (Non-Estified Fatty Acids)
- Ranbut (Hydroxybutyrate)
- Total Protein
- Triglycerides
- Urinary Protein

**Electrolytes:**
- Calcium
- Chloride (Direct / Nondirect)
- CO₂ Total
- Lithium
- Magnesium
- Potassium (Direct / Nondirect)
- Sodium (Direct / Nondirect)

**Haemolytic Anaemia:**
- G6P-DH
- Haptoglobin
- LDH

**Hepatic Function:**
- Albumin
- Aldolase
- Alkaline Phosphatase
- Alpha-1 Antitrypsin
- ALT
- Ammonia
- AST (GOT)
- Cholinesterase
- Complement Component 3
- Complement Component 4
- Direct Bilirubin
- Gamma GT
- GLDH
- Glycerol
- Haptoglobin
- IgA
- IgG
- IgM
- Iron (UIBC)
- LAP
- LDH
- Total Bilirubin
- Total Protein
- Transferrin
- Transthyretin (Prealbumin)

**Inflammation and Infection:**
- Alpha-1 Acid Glycoprotein
- ASO
- CRP
- Lactate
- Rheumatoid Factor

**Lipids:**
- Apolipoprotein A-1
- Apolipoprotein AII
- Apolipoprotein B
- Apolipoprotein CIII
- Apolipoprotein CII
- Apolipoprotein E
- Cholesterol
- Direct HDL Cholesterol
- Direct LDL Cholesterol
- Lipoprotein (a)
- sLDL
- Triglycerides

**Neonatal Screening:**
- Alpha-1 Antitrypsin
- 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 Enzymatic
- Creatinine (jaffe)
- Cystatin C
- Glucose
- HbA1c/Hb
- IgG
- LDH
- Magnesium
- Microalbumin
- Potassium
- Sodium
- Phosphorus (Inorganic)
- Urinary Protein
- Urea
- Uric Acid

---

**RX daytona plus test menu**

*Largest clinical chemistry test menu on the market*
### Veterinary

<table>
<thead>
<tr>
<th>Albumin</th>
<th>Alkaline phosphatase</th>
<th>ALT (GPT)</th>
<th>Aldolase</th>
<th>Ammonia</th>
<th>Amylase</th>
<th>AST (GOT)</th>
<th>Bilirubin</th>
<th>Calcium</th>
<th>Chloride</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cholesterol</td>
<td>Cholinesterase (Butyryl)</td>
<td>CK-NAC</td>
<td>CO₂ Total</td>
<td>Copper</td>
<td>Creatinine</td>
<td>CRP</td>
<td>Fructoseamine</td>
<td>Gamma-GT</td>
<td>GLDH</td>
</tr>
<tr>
<td>Glycerol</td>
<td>HDL</td>
<td>Iron (UJBC)</td>
<td>Lactate</td>
<td>Lactate dehydrogenase</td>
<td>LDL</td>
<td>Lipase</td>
<td>Magnesium</td>
<td>NEFA (Non-esterified fatty acids)</td>
<td>Phosphorus (Inorganic)</td>
</tr>
<tr>
<td>Ranbut (Hydroxybutyrate)</td>
<td>Ransel (Glutathione peroxidase)</td>
<td>Ransod (Superoxide dismutase)</td>
<td>Sodium</td>
<td>Therapeutic drugs</td>
<td>Total Protein</td>
<td>Triglycerides</td>
<td>Urea</td>
<td>Uric Acid</td>
<td>Urinary protein</td>
</tr>
</tbody>
</table>

### Toxicology

**Therapeutic Drugs:**
- Carbamazepine
- Digoxin
- Gentamicin
- Lithium
- Acetaminophen

**Drugs of Abuse:**
- Amphetamines
- Barbiturates
- Benzodiazepines
- Cannabinoids
- Cocaine metabolite
- EDDP
- Ecstasy
- Ethanol
- Methadone
- Opiates

### Protein

**Specific Proteins:**
- Alpha-1 Antitrypsin
- Alpha-1 Acid Glycoprotein
- Apolipoprotein A-I
- Apolipoprotein B
- Apolipoprotein CII
- Apolipoprotein CIII

<table>
<thead>
<tr>
<th>Apolipoprotein E</th>
<th>Apolipoprotein A-I</th>
<th>ASA</th>
<th>Beta-2 Microglobulin</th>
<th>Ceruloplasmin</th>
<th>Complement Component 3</th>
<th>Complement Component 4</th>
<th>CRP</th>
<th>CRP Full Range (0.3-160mg/l)</th>
</tr>
</thead>
<tbody>
<tr>
<td>CRP High Sensitivity</td>
<td>Cystatin C</td>
<td>Ferritin</td>
<td>Fructosamine</td>
<td>Haptoglobin</td>
<td>HbA1c/Hb</td>
<td>IgA</td>
<td>IgE</td>
<td></td>
</tr>
<tr>
<td>IgG</td>
<td>IgM</td>
<td>Lipoprotein (a)</td>
<td>Microalbumin</td>
<td>Myoglobin</td>
<td>Rheumatoid Factor</td>
<td>Transthyretin (Prealbumin)</td>
<td>Transferrin</td>
<td></td>
</tr>
</tbody>
</table>

### Research

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

**Biotechnology:**
- Glutamate
- Glutamine

**Food and Wine Testing:**
- Acetic Acid
- Ammonia
- Calcium
- Copper
- Glucose
- Glucose/Fructose
- Glycerol
- Iron
- L-Lactic Acid
- Malic Acid
- Potassium
- Total Antioxidant Status

**Speciality:**
- Acid phosphatase
At Randox our highly specialised RX support team is on hand with expert advice and support regardless of where you are in the world. Our global team of expert technical and applications staff ensure unbeatable service.

We know time is critical in any laboratory; dedicated specialists answer all queries in a quick and thorough manner. Our field agents are also on hand at any time so you can be sure of a quick response.

**Remote Access diagnostics**

The LIS/HIS interface supports remote maintenance allowing immediate access to your system reducing down time and the expense associated with timely engineer call outs. Randox is committed to the smooth running of your laboratory, ensuring your system remains operational with optimum productivity.

In addition to unrivalled customer support Randox also offers a comprehensive and diverse range of internal quality controls as well as RIQAS, the world’s largest global EQA scheme and 24/7 an interlaboratory data management and peer group reporting software package.

email: rxsupport@randox.com
Our global network, ensuring local support
RX family of analysers

The RX family provides high quality testing on a compact, easy to use clinical analyser for results you can trust.

Clinical chemistry testing has advanced dramatically in recent years with demands fixed on consolidation, speed, quality and cost. Randox is committed to advancing diagnostic testing to suit our customers. Investing heavily into research and development, Randox has developed a full range of clinical chemistry analysers to suit any working environment.

RX monza
Versatility for reduced cost, low-volume manual testing. The RX monza semi-automated clinical analyser has an integral screen, keyboard and printer.

RX monaco
A fully automated solution for low to mid volume clinical chemistry testing. The RX monaco offers speed and efficiency with a throughput of 170 tests per hour.

RX daytona plus
Superior performance for mid volume laboratories. The RX Daytona plus is capable of running up to 270 photometric tests per hour and 450 tests per hour including ISEs.
including clinical, paediatric, research, veterinary, toxicology and pharmaceutical laboratories.

The RX series of clinical analysers have an impressive range of time-saving and cost-saving features. All offer outstanding flexibility coupled with optimum reliability.

**RX imola**
Efficiency for medium sized laboratories. The RX imola is a random access bench top clinical analyser with a throughput of 560 tests per hour including ISEs.

**RX suzuka**
Increased efficiency and productivity for high throughput laboratories. The RX suzuka is a fully automated, random access clinical analyser capable of carrying out up to 1200 tests per hour including ISEs.
## Specifications

### Physical Dimensions

<table>
<thead>
<tr>
<th>Specification</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height</td>
<td>625mm</td>
</tr>
<tr>
<td>Depth</td>
<td>670mm</td>
</tr>
<tr>
<td>Length</td>
<td>870mm</td>
</tr>
<tr>
<td>Weight</td>
<td>120kg</td>
</tr>
</tbody>
</table>

### Performance Characteristics

<table>
<thead>
<tr>
<th>Specification</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analyser Type</strong></td>
<td>Compact fully automated random access bench top clinical analyser</td>
</tr>
<tr>
<td><strong>Assay Tests</strong></td>
<td>Monochromatic, bi-chromatic, endpoint, kinetic, sample and reagent blanking and ISE (via optional integrated ISE unit)</td>
</tr>
<tr>
<td><strong>Calibration Principal</strong></td>
<td>Factor, Linear, Point to point, Log-logit, Exponential, Spline and Spline 2</td>
</tr>
<tr>
<td><strong>Cuvettes</strong></td>
<td>72 semi-disposable cuvettes</td>
</tr>
<tr>
<td><strong>Cycle Time</strong></td>
<td>13 seconds</td>
</tr>
<tr>
<td><strong>Data Management</strong></td>
<td>Storage of up to 30,000 patient reports, search facility</td>
</tr>
<tr>
<td><strong>Detection Principal</strong></td>
<td>12 wavelengths generated via diffraction grating: 340, 380, 415, 450, 510, 546, 570, 600, 660, 700, 750 and 800nm</td>
</tr>
<tr>
<td><strong>Detector Method</strong></td>
<td>Direct absorbance in cuvette (bi-chromatic and monochromatic)</td>
</tr>
<tr>
<td><strong>External Output</strong></td>
<td>RS-232C</td>
</tr>
<tr>
<td><strong>Incubator Temperature</strong></td>
<td>37°C ± 0.1°C</td>
</tr>
<tr>
<td><strong>ISE Unit</strong></td>
<td>Optional ISE unit available</td>
</tr>
<tr>
<td><strong>Light Source</strong></td>
<td>Halogen tungsten lamp air cooled by fan</td>
</tr>
<tr>
<td><strong>LIMS Connectivity</strong></td>
<td>Bi-directional ASTM Standard (RS232 connection)</td>
</tr>
<tr>
<td><strong>Maintenance</strong></td>
<td>Minimal daily maintenance. No rear access required. Simple twice yearly preventative maintenance</td>
</tr>
<tr>
<td><strong>Operator Interface</strong></td>
<td>Windows® based software</td>
</tr>
<tr>
<td><strong>Operating Humidity</strong></td>
<td>45-85% without condensation</td>
</tr>
<tr>
<td><strong>Quality Control</strong></td>
<td>Interactive Levey Jennings charts, daily, monthly and batch QC with data archiving. Automatic QA and automatic calibration</td>
</tr>
<tr>
<td><strong>Reaction Time</strong></td>
<td>10 minutes (R1: 5 min. + R2: 5 min.)</td>
</tr>
<tr>
<td><strong>Reaction Volume</strong></td>
<td>100 to 350µl</td>
</tr>
<tr>
<td><strong>Reagent Capacity</strong></td>
<td>Removable turntable with 50 cooled positions for 20 and 70 ml bottles</td>
</tr>
<tr>
<td><strong>Reagent Cooling</strong></td>
<td>8 to 15°C</td>
</tr>
<tr>
<td><strong>Reagent Identification</strong></td>
<td>Bar-code reagent identification</td>
</tr>
<tr>
<td><strong>Reagent Inventory</strong></td>
<td>Calculation of remaining reagent volume and tests available. Alert for shortage, expired reagent and expired calibration.</td>
</tr>
<tr>
<td><strong>Reagent Pipette</strong></td>
<td>Dedicated reagent micropipette with liquid level sensor and crash detection</td>
</tr>
<tr>
<td><strong>Reagent Volume</strong></td>
<td>R1: 20 to 250µl (1 µl increments) R2: 20 to 180µl (1 µl increments)</td>
</tr>
<tr>
<td><strong>Sample Addition</strong></td>
<td>Sampling interruption for addition of samples</td>
</tr>
<tr>
<td><strong>Sample Capacity</strong></td>
<td>Removable turntable with 40 positions for samples, calibrators and controls</td>
</tr>
<tr>
<td><strong>Sample Dead Volume</strong></td>
<td>100µl in standard or primary tubes, 50µl in paediatric cups</td>
</tr>
<tr>
<td><strong>Sample Dilution</strong></td>
<td>Pre-dilution and automatic re-assay with diluted, reduced or increased sample volume</td>
</tr>
<tr>
<td><strong>Sample Identification</strong></td>
<td>Bar-code sample identification</td>
</tr>
<tr>
<td><strong>Sample Pipette</strong></td>
<td>Dedicated sample micropipette with liquid level sensor; crash protection and clot detection</td>
</tr>
<tr>
<td><strong>Sample Tube size</strong></td>
<td>Multiple primary tube sizes (diameter 12 to 16mm, height 55 to 100 mm) Paediatric cups</td>
</tr>
<tr>
<td><strong>Sample Type</strong></td>
<td>Serum, plasma, urine &amp; supernatents</td>
</tr>
<tr>
<td><strong>Sample volume</strong></td>
<td>1.5 to 35µl (0.1µl increments)</td>
</tr>
<tr>
<td>STAT Sampling</td>
<td>STAT samples can be added immediately via emergency loading port</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>------------------------------------------------------------------</td>
</tr>
<tr>
<td>Stirring Speed</td>
<td>5 speed levels available</td>
</tr>
<tr>
<td>Stirring System</td>
<td>Dual Teflon coated stick type rotating stirrers</td>
</tr>
<tr>
<td>Temperature Control</td>
<td>Dry bath</td>
</tr>
<tr>
<td>Test Channels</td>
<td>50 photometric channels, 3 direct ISE</td>
</tr>
<tr>
<td>Throughput</td>
<td>270 tests per hour, 450 tests per hour with ISE</td>
</tr>
<tr>
<td>Water Consumption</td>
<td>Maximum 5 litres per hour</td>
</tr>
<tr>
<td>Water Requirements</td>
<td>NCCLS type 1 or 2 purified water supply</td>
</tr>
<tr>
<td>Wash Unit</td>
<td>12 stage washing process</td>
</tr>
</tbody>
</table>

### Power Requirements

<table>
<thead>
<tr>
<th>Power Requirement</th>
<th>AC100V to 120V, 6.5A (Max.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>AC200 to 230V, 3.3A (Max.)</td>
</tr>
<tr>
<td></td>
<td>50/60Hz</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>650VA</td>
</tr>
<tr>
<td>Permissible Voltage Variation</td>
<td>± 10% (Max.)</td>
</tr>
</tbody>
</table>

### Catalogue No./Ordering Info.

<table>
<thead>
<tr>
<th>RX daytona plus analyser without ISE</th>
<th>RX4041</th>
</tr>
</thead>
<tbody>
<tr>
<td>RX daytona plus analyser with ISE</td>
<td>RX4040</td>
</tr>
</tbody>
</table>