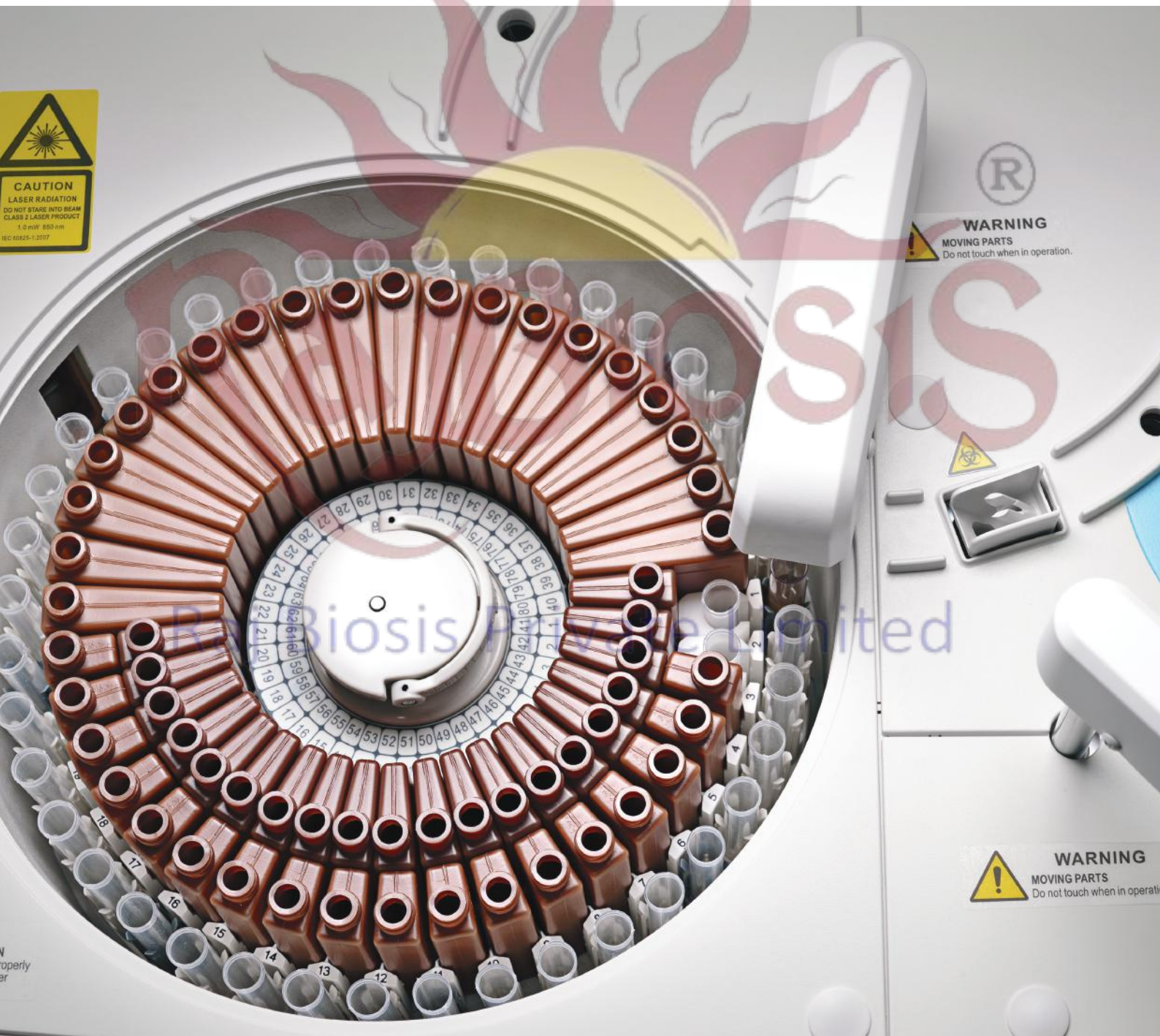
mindray

BS-240

Clinical Chemistry Analyzer



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Flexible loading:

Up to **80** sample positions,

Up to **80** reagent positions.

(40 fixed + 40 interchangeable)

Smart-Sampling Technology

Automatic hemolysate preparation for

HbA1c test

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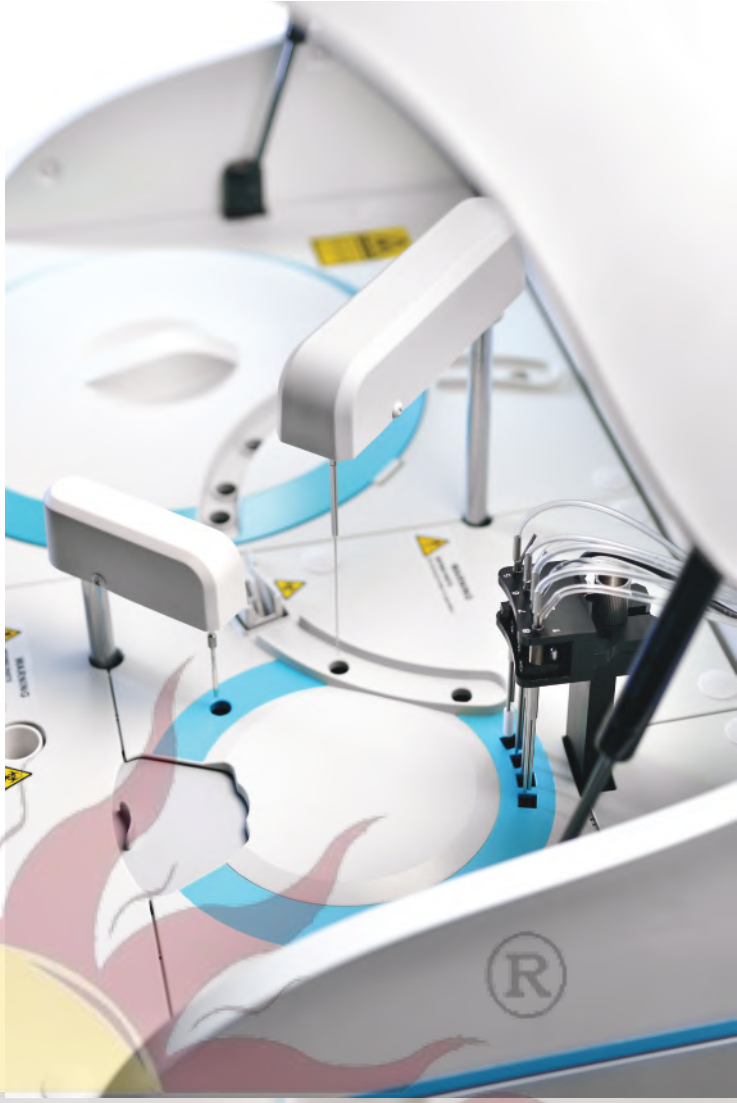
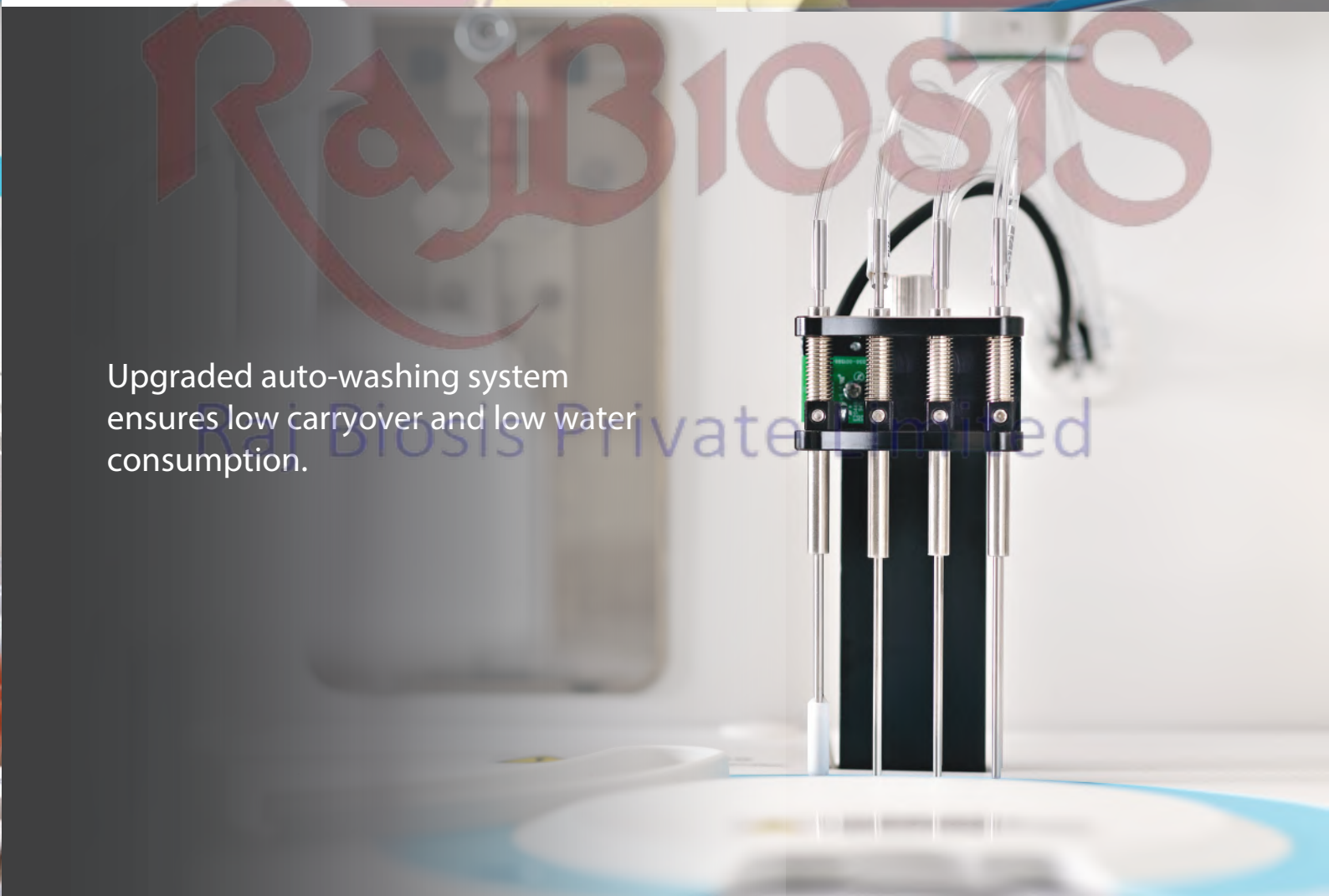
100µl

minimum reaction volume



Upgraded auto-washing system ensures low carryover and low water consumption.



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BS-240

Clinical Chemistry Analyzer

Compact Size with Robust Functions

Independent mixing bar

Built-in barcode reader

Intelligent software with user-friendly interface

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Step-by-step maintenance guide

Waterfall probe cleaning

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BS-240

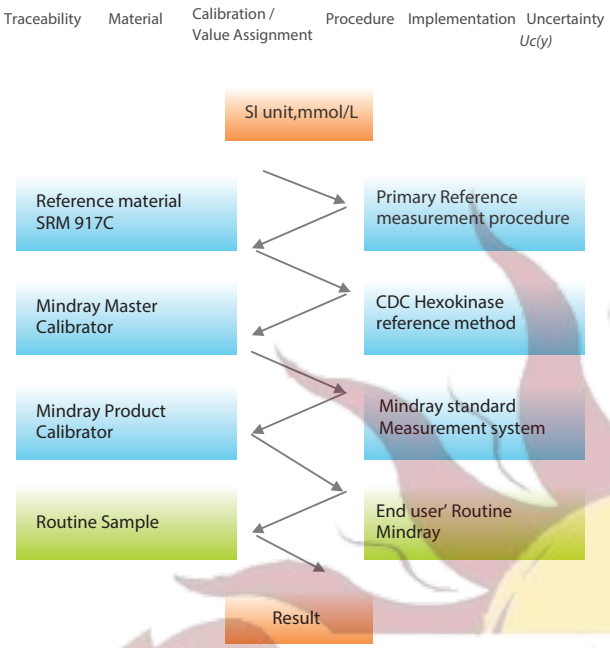
Complete traceability process

Complete calibration hierarchy and traceability chain are based on ISO standard (EN/ISO17511) from reference system to routine measurement system.

External quality assurance for reference measurement

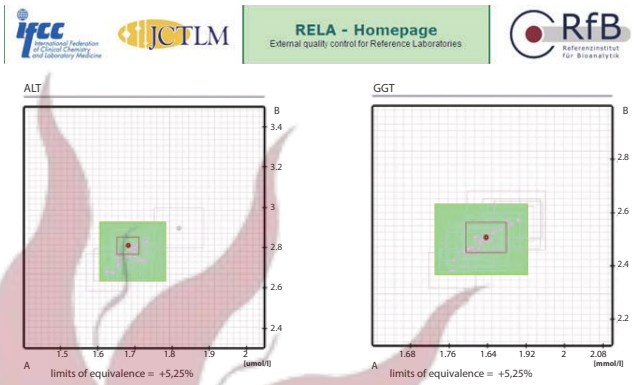
Mindray participates in RELA (External quality control for reference laboratory) and CAP (College of American Pathologists external quality control).

Traceability chain of Mindray measurement system (Glu)



EQA for Mindray Reference laboratory——RELA

Mindray reference laboratory has passed RELA for 6 consecutive years.



More RELA results please refer to: www.dgkl-rfb.de/81

RELA

All the items Mindray participate RELA

ALT AMY ALP CK GGT GLU LDH TB TP UA UREA

EQA for Mindray Testing System—— CAP

Mindray testing system has passed CAP for 6 consecutive years.

College of American Pathologists
325 Waukegan Road, Northfield, Illinois 60093-2750
800-323-4040 • http://www.cap.org
Advancing Excellence

CAP Number: 7198395-01 **Kit#** 1
Institution: Shenzhen Mindray Biomed Elec Co Ltd
Attention: Lixing Liu MD
City / State: Hongkong HK CH 518055

Kit ID: 25733824
Kit Mailed: 6/3/2013
Original Evaluation: 7/8/2013

EVALUATION
ORIGINAL

C-B 2013 Chemistry

CAP

CAP #: 7198395 **Subspecialty :** Routine Chemistry

Regulated Analyte	Proficiency Event 2012 3 Test Event	Score	%	Proficiency Event 2013 1 Test Event	Score	%	Proficiency Event 2013 2 Test Event	Score	%	Current Event Performance Interpretation	Cumulative CLIA '88 Performance Interpretation
ALT	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Albumin	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Alkaline Phosphatase	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Amylase	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
AST	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Bilirubin, Total	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Calcium, Total	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Chloride	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Cholesterol, Total	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Cholesterol, HDL	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Creatine Kinase	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Creatinine	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Glucose	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Iron, Total	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
LD	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Magnesium	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Potassium	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Sodium	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Protein, Total	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Triglycerides	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Urea Nitrogen	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful
Uric Acid	C-C	5/5	100	C-A	5/5	100	C-B	5/5	100	Satisfactory	Successful

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Reagent menu

Hepatic Panel

- Alanine Aminotransferase (ALT)
- Aspartate Aminotransferase (AST)
- Alkaline Phosphatase (ALP)
- γ-GlutamylTransferase (γ-GT)
- Direct Bilirubin (D-Bil) DSA Method
- Direct Bilirubin (D-Bil)VOX Method
- Total Bilirubin (T-Bil) DSA Method
- Total Bilirubin (T-Bil)VOX Method
- Total Protein (TP)
- Albumin (ALB)
- Total Bile Acids (TBA)
- Prealbumin (PA)
- Cholinesterase (CHE)
- α-L-fucosidase (AFU)
- 5'-nucleotidase (5'-NT)

Renal Panel

- Urea (UREA)
- Creatinine (CREA) Modified Jaffé Method
- Creatinine (CREA)Sarcosine Oxidase Method
- Uric Acid (UA)
- Carbon dioxide (CO2)
- Microalbumin
- β2-Microglobulin (β2-MG)
- Cystatin C (CysC)
- Retinol binding protein(RBP)

Immune Panel

- Immunoglobulin A (IgA)
- Immunoglobulin G (IgG)
- Immunoglobulin M (IgM)
- Complement C3 (C3)
- Complement C4 (C4)

Diabetes Panel

- Glucose (Glu) GOD-POD Method
- Glucose (Glu) HK Method
- Hemoglobin A1c (HbA1c)
- Fructosamine (FUN)
- β-Hydroxybutyrate(β-HB)

Cardiac panel

- Creatine Kinase (CK)
- Creatine Kinase-MB (CK-MB)
- Lactate Dehydrogenase (LDH)
- α-Hydroxybutyrate Dehydrogenase(α-HBDH)
- High sensitive C-reaction protein(HS-CRP)

Inorganic & Anemia

- Iron (Fe)
- Ferritin (FER)
- Transferrin (TRF)
- Calcium (Ca)
- Magnesium (Mg)
- Phosphate Inorganic (P)
- Unsaturated iron binding capacity (UIBC)
- Glucose-6-phosphate dehydrogenase (G6PD)

Lipid Panel

- Total Cholesterol (TC)
- Triglycerides (TG)
- HDL-Cholesterol (HDL-C)
- LDL-Cholesterol (LDL-C)
- Apolipoprotein A1 (ApoA1)
- Apolipoprotein B (ApoB)
- Lipoprotein(a) [Lp(a)]

Rheumatism Panel

- C-reactive protein (CRP)
- Rheumatoid Factor (RF)
- Antibodies Against Streptolysin O (ASO)

Lung Panel

- Adenosine Deaminase (ADA)
- Angiotensin Converting Enzyme(ACE)

Pancreatitis Panel

- α-Amylase (α-AMY)
- Lipase (LIP)

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Technical Specifications

System function
Automatic, Discrete, Random Access, Bench-top
STAT sample priority
Throughput: Up to 200 tests/hour, up to 400 tests/hour with ISE
Measuring principles: Absorbance photometry, Turbidimetry, Ion Selective Electrode technology
Methodology: End-point, Fixed-time, Kinetic, optional ISE, Single/Dual/ reagent chemistries, monochromatic / bi-chromatic
Original system pack reagent ready to use
Close system and open system is optional

Reagent/Sample Handling
Reagent/Sample tray: 80 positions for reagents and 40 positions for samples in 24-hour refrigerated compartment (2~12℃)
Reagent volume: 10~250μl, step by 0.5μl
Sample volume: 2~45μl, step by 0.1μl
Reagent/Sample probe: Liquid level detection, vertical collision protection and inventory checking, reagent pre-warming
Probe cleaning: Automatic washing for interior and exterior
Carry over < 0.05%
Automatic sample dilution: Pre-dilution and post-dilution

Internal bar code reader (optional)
Used for sample and reagent programming
Be applicable to various bar code systems of Codabar、ITF (Interleaved Two of Five)、code128、code39、UPC/EAN、Code93
Capable to communicate with LIS in bi-directional mode

Reaction System:
Reaction rotor: Rotating tray, containing 40 cuvettes
Cuvette: Reusable, optical length 5mm
Reaction volume: 100~360μl
Operating temperature: 37℃
Temperature fluctuation: ± 0.1℃

ISE Module (optional)
Measuring K+, Na+, Cl-

Mixing Unit
Independent mixing bar
Cuvette Washing: Washing station with pre-warmed detergent and water

Optical System
Light Source: Halogen-tungsten lamp
Wavelength: 8 wavelengths, 340nm、405nm、450nm、510nm、546nm、578nm、630nm、670nm
Absorption range: 0~4.0 Abs (10mm conversion), resolution 0.0001Abs
Stray Light 5.6Abs

Control and Calibration
Calibration modes: Linear (one point, two points and multi-points), Logit-Log 4P, Logit-Log 5P, spline, exponential, polynomial, parabola
Control Rules: X-R, L-J, Westgard multi-rule, Cumulative sum check, twin plot

Operation Unit
Operation system: Windows 8
Interface: RS-232

Working Conditions
Power Supply: 200~240V, 50/60Hz, ≤1000VA or 100~130V, 60Hz, ≤1000VA
Dimension: 690 mm (length) ×580 mm (depth) ×595 mm (height)
Weight: 79 kg
Water Consumption: ≤ 4 L/H

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www.mindray.com

P/N: ENG-BS-240-210285x8P-20171017

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