

# BS-240E

## Chemistry Analyzer

### Technical Specifications

#### System function

Automatic, Discrete, Random Access, Bench-top  
STAT sample priority

Throughput: Constant 240 photometric tests per hour, up to 400 T/H with ISE

Measuring principles: Absorbance photometry, turbidimetry, ion selective electrode technology

Methodology: End-point, Fixed-time, Kinetic, optional ISE, Single/Double reagent chemistries, Mono-chromatic / bi-chromatic

Original system pack reagent ready to use  
Close system and open system is optional

#### Reagent/Sample Handling

Reagent/Sample tray: 50 to 100 positions for reagents and 50 to 100 positions for samples in 24-hour refrigerated compartment (2~12 °C)

Reagent volume: R1: 100~200µL, step by 0.5µL  
R2: 10~200µL, step by 0.5µL

Sample volume: 2~35µL, step by 0.1µL

Reagent/Sample probe: Liquid level detection, horizontal and vertical collision protection, inventory checking, reagent pre-warming, optional clog detection

Probe cleaning: Automatic washing for interior and exterior  
Carry over < 0.05%

Automatic sample dilution: Pre-dilution and post-dilution

Mixing Unit: Independent mixing bar

#### Built-in 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 tray: 80 reusable cuvettes

Reaction volume: 100~360µL

Reaction temperature: 37 °C ± 0.1 °C

Cuvette Washing: Washing station with pre-warmed detergent and de-ionized water

#### ISE Module (optional)

Measuring K+, Na+, Cl-

#### Optical System

Light Source: Halogen-tungsten lamp

Wavelength: 12 wavelengths, 340nm, 380nm, 412nm, 450nm, 505nm, 546nm, 570nm, 605nm, 660nm, 700nm, 740nm, 800nm

Absorption range: 0~3.5Abs, resolution 0.0001Abs

Stray Light: 4.9Abs

#### Control and Calibration

Calibration modes: K factor, Linear (two points and multi-points), Logit-Log 4P, Logit-Log 5P, Spline, Exponential, Polynomial, Parabola, Logit-Log3P, Broken line

Control Rules: One key calibrator import function  
Westgard multi-rule, Levey-Jennings, Cumulative sum check, Twin plot

#### Operation Unit

Operation system: Windows 10

Interface: RS-232

#### Working Conditions

Power Supply: 200~240V, 50/60Hz, ≤1300VA or 100~130V, 60Hz, ≤1300VA

Dimension: 860 mm (length) × 660 mm (depth) × 550 mm (height)

Weight: 115 kg

Water Consumption: ≤6.5 L/H



## BS-240E Chemistry Analyzer

# Compact yet Robust

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## Large and flexible capacity

Up to 100 sample positions  
Up to 100 reagent positions  
(50 fixed + 50 interchangeable)



## Gratings photometer

100µL minimum reaction volume



## A Whole New Generation

with constant throughput  
of 240 photometric T/H

## Considerate design

More space to load samples



## HbA1c smart-sampling function

Automatic preparation of hemolysate

# BS-240E

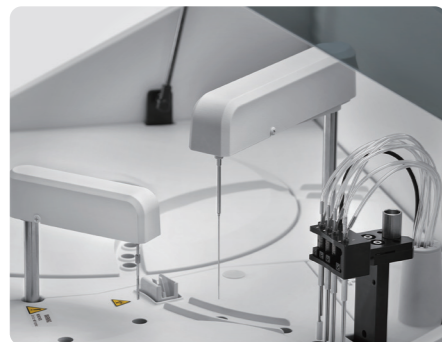
Chemistry Analyzer



Waterfall probe cleaning



Intelligent probe with optional clog detection



Constant throughput



Independent mixing bar



Optimized washing station



Built-in barcode reader



Optional ISE module easy to access

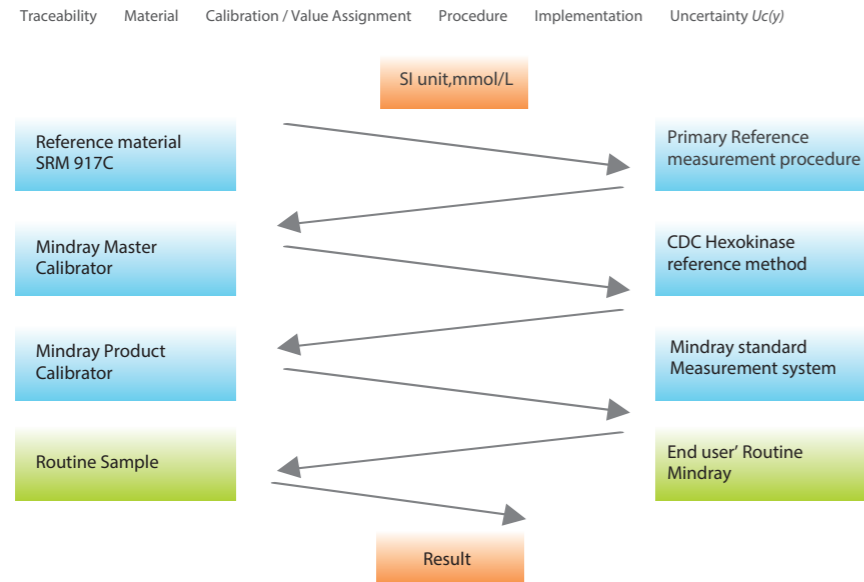


Intuitive software with more functionalities

## Complete traceability process

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

### Traceability chain of Mindray measurement system (Glu)

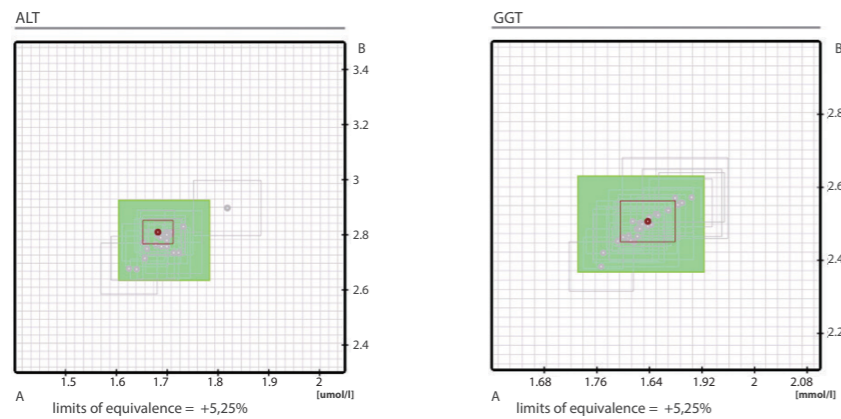


## External quality assurance for reference measurement

Mindray participates in RELA (External quality control for reference laboratory).

## 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](http://www.dgkl-rfb.de/81)

RELA

All the items Mindray participate RELA

ALT AMY ALP CK GGT GLU LDH TB TP UA UREA

## 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(MALB)  
 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)