

# MINDRAY

[www.mindray.com](http://www.mindray.com)



## **BS-300** Chemistry Analyzer



# BS-300

## Chemistry Analyzer

- Discrete, random access, fully automated
- 300 tests per hour, up to 480 tests per hour with ISE
- Up to 50 onboard chemistries and 4 ions
- Refrigerated reagent compartment
- Onboard capacity of 60 sample positions
- Automatic probe cleaning, liquid level detection & collision protection



- 9 wavelengths: 340-700nm
- Automatic dilution for abnormal sample
- External hand-held /Internal bar code reader (optional)
- Bi-directional LIS interface
- Low carry-over



### Multi-function reagent probe

- Internal and external probe washing
- Liquid level detection
- Collision protection
- Probe depth adjustment automatically
- Pre-heating



### Multi-function sample tray

- 60 sample positions, Non fixed positions for sample, control, calibration or STAT
- Up to 300 samples can be programmed in the 5 virtual sample trays
- Primary tube and various sample cup can be used
- Automatic dilution of high concentration sample



### Multi-function sample probe

- Internal and external probe washing
- Liquid level detection
- Collision protection
- Probe depth adjustment automatically
- Sampling for ISE



### Unique intelligent cuvette loading system

- Disposable cuvette to avoid carry over
- Up to 30 racks on board (300 cuvettes)
- Automated cuvette blank examination
- Intelligent cuvette loading



### High performance mixer design

- Optimal homogenization in minimum time
- Absence of cross contamination
- It functions immediately (within the same period) depending of sample or the second reagent



### Internal bar code reader

- Used for sample programming
- Be applicable to various bar code systems of code 128, code 39, code 93, codabar, ITF, UPC/EAN
- Capable to link with LIS bi-directional



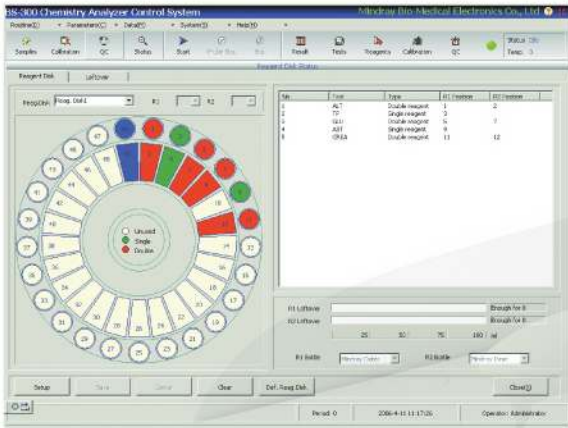
### Refrigerated reagent tray

- 50 reagent positions for R1 and R2
- 24 hour non-stop cooling with Peltier element
- Automatic reagent residue volume monitoring



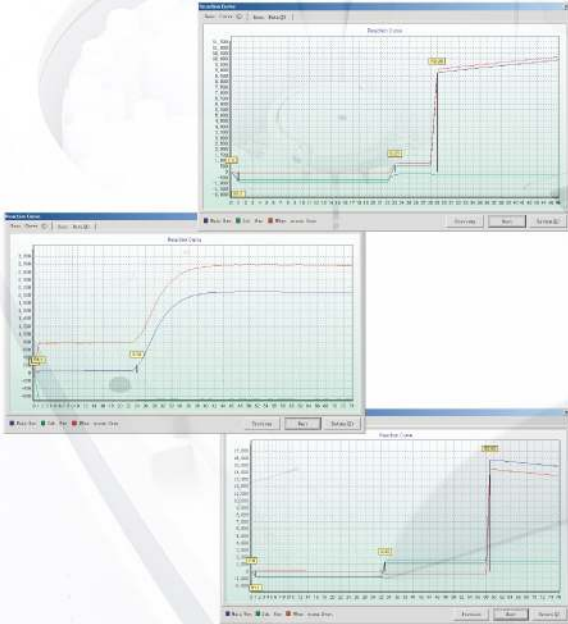
### ISE Module

- Optional selection for  $K^+$ ,  $Na^+$ ,  $Cl^-$  /  $K^+$ ,  $Na^+$ ,  $Cl^-$ ,  $Li^+$
- Throughput: Up to 180 or 240 tests per hour



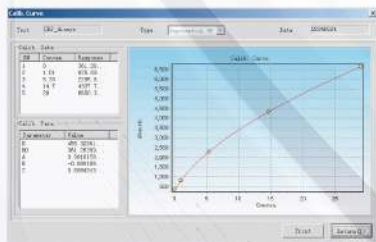
### Dynamic and real-time display of running status

- Running status of sample tray, reagent tray and reaction tray
- Real-time monitoring of reagent residual volume and reaction temperature control curve
- Optimum test sequence setting program to avoid carry-over



### Original reaction data record

- Real time monitoring of reaction curve
- Simultaneously display primary and secondary wavelengths to avoid interference
- Detailed profile of alert messages
- Real time diagnosis of system working status



### Optimum calibration curve

- Selection of calibration methods-Factor, Linear, Point to Point, Spline, Log Logit, Exponential



Enzymes
ALT
AST
LDH
CK
CK-MB
ALP
ACP
r-GT
AMY
HBDH
CHE
AFU
LIP

Substrates
TG
TC
HDL Cholesterol
LDL Cholesterol
Glu
Lactate
UREA
Cr
UA
TP
Alb
TBIL
DBIL
TBA
FMN

Drug of Abuse
Alcohol
Amphetamines
Barbiturates
Benzodiazepine
Cocaine Metabolite
Methadone
Methaqualone
Phencyclidine
Propoxyphene

Electrolytes
Na <sup>+</sup>
K <sup>+</sup>
Cl <sup>-</sup>
Li <sup>+</sup>

Specific Proteins
APOAI
APOB
Lp(a)
ASO
C3
C4
CRP
IgA
IgM
IgG
Microalbumin
RF
β 2- MG
Myoglobin
TF
FIB
Prealbumin
HbA1c

# BS-300

## Chemistry Analyzer

### Technical Specifications

**System Function:** Automated, discrete, random- access for routine, STAT, urine and homogeneous immuno assays; STAT sample priority

**Throughput:** 300 tests/hour, up to 480 tests/hour with ISE

**Measuring principles:** Absorbance photometry, Turbidimetry

**Methodology:** End-point, Fixed time, Kinetic, Single/Dual reagent chemistries, Monochromatic/Bichromatic, Linear/Non-linear multipoint calibration

**Programming:** User defined profiles and calculation

### Sample Handling:

**Sample tray:** 60 positions for primary or secondary tubes sample cup

**Sample volume:** 3~45  $\mu$ l, step by 0.5  $\mu$ l

**Sample probe:** Liquid level detection and collision protection

**Probe cleaning:** Internal and external washing < 0.1%

**Automatic sample dilution:**

Pre-dilution and post-dilution

Dilution ratio up to 150

Dilution vessel: Cuvette

### Internal bar code reader:

Used for sample programming

Be applicable to various bar code systems of code 128, code 39, code 93, codabar, ITF, UPC/EAN

Capable to link with LIS in a bi-directional mode

### ISE Module

Optional selection for  $K^+$ ,  $Na^+$ ,  $Cl^-$  /  $K^+$ ,  $Na^+$ ,  $Cl^-$ ,  $Li^+$

**Throughput:** Up to 180 or 240 tests per hour

### Reagents Handling:

**Reagent tray:** 50 positions in refrigerated compartment (4~10°C)

**Reagent volume:** 30~450  $\mu$ l, step by 1  $\mu$ l

**Reagent probe:** Liquid level detection and collision protection reagent pre-heating and inventory checking

**Probe cleaning:** Internal and external washing carry-over < 0.1%

### Reaction System:

**Reaction rotor:** Rotating tray, 80 disposable cuvettes with automatic loading

**Cuvette:** Optical length 5mm

**Reaction volume:** 180~500  $\mu$ l

**Operating temperature:** 37 $\pm$ 0.1°C

**Mixing:** Independent mixer

### Optical System:

**Light Source:** Halogen-tungsten lamp

**Photometer:** reversed optics, static fiber spot photometry

**Wavelength:** 340, 405, 450, 510, 546, 578, 630, 670, 700nm

**Resolution:** 0.001Abs

### Control and calibration:

**Calibration mode:** Linear (one point, two points and multi-points), Logit-Log 4P, Logit-Log 5P, Spline Exponential 5P, Polynomial 5P, Parabola

**Control software:** X-R, L-J, Westgard multi-rule, Cumulative sumcheck, twin plot

### Operation Unit:

**Operation system:** Windows XP Professional/Home SP2 or above Windows VISTA Home/Business

**Interface:** RS-232

### Working Conditions:

**Power Supply:** 200 - 240V~50/60Hz, 1000W or 100 - 130V~50/60Hz, 1000W

**Temperature:** 15-30°C

**Humidity:** 35-80%

**Water consumption:** 3.5 L/hour De-ionized water

**Dimension:** 980mm x 710mm x 1200mm (W x D x H)

**Weight:** 175kg



**MINDRAY™**

Mindray Building, Keji 12th Road South, High-tech Industrial Park, Nanshan, Shenzhen 518057, P. R. China

Tel: +86 755 26582492, 26582688 Fax: +86 755 26582680

E-mail: intl-market@mindray.com Website: www.mindray.com



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