

BS-120

Chemistry Analyzer

Technical Specifications

System Function:

	Automatic, discrete, random access, STAT sample priority
Throughput:	Up to 100 tests/hour (without ISE), up to 300 tests/hour with ISE (3 ions)
Measuring principles:	Absorbance photometry, turbidimetry, Ion Selective Electrode technology
Methodology:	End-point, fixed-time, kinetic, optional ISE
	Single/dual reagent chemistries, monochromatic/bichromatic linear/non-linear multipoint calibration
Programming:	Open system with user defined profiles and calculations

Reagent/Sample Handling:

Reagent/Sample tray:	Up to 33 positions for sample, up to 35 positions for reagent; 24 hour non-stop refrigerated compartment (4~15°C)
Reagent volume:	
R1:	180~450µl, step by 1µl
R2:	30~250µl, step by 1µl
Sample volume:	3~45µl, step by 0.5µl
Reagent/Sample probe:	Liquid level detection, collision protection and inventory checking
Probe cleaning:	Automatic washing both interior and exterior Carry-over < 0.1%
Automatic sample dilution:	Pre-dilution and post-dilution dilution ratio up to 1: 150
Dilution vessel:	Disposable cuvette

External Bar Code Reader (optional):

Used for sample and reagent programming; Applicable to various bar code systems including Codabar, ITF (Interleaved Two of Five), Code128, Code39, UPC/EAN, Code93; capable to communicate with LIS in a bi-directional mode

ISE Module (optional):

Measure parameter: K^+ , Na^+ , Cl^-

Reaction System:

Reaction rotor:	Rotating tray, containing 40 cuvettes
Cuvette:	Optical length 5mm
Reaction volume:	180~500µl
Reaction temperature:	37±0.1 °C
Mixing system:	Independent mixing bar

Optical System:

Light Source:	Halogen-tungsten lamp
Wavelength:	340nm, 405nm, 450nm, 510nm, 546nm, 578nm, 630nm, 670nm
Linear range:	0~3.5Abs

Control and Calibration:

Calibration mode:	Linear (one-point, two-point and multi-point), Logit-Log 4P, Logit-Log 5P, Spline, Exponential, Polynomial, Parabola
Control rules:	Westgard multi-rule, Cumulative sum check, Twin plot

Operation Unit:

Operation system:	Windows® XP Professional/Home SP2, Windows® 7 or above Windows® VISTA Home/Business
Interface:	RS-232

Working Conditions:

Power Supply:	AC 200~240V, 50/60Hz, 800W or AC 100~130V, 50/60Hz, 800W
Temperature:	15~30 °C
Humidity:	35~85%
Water consumption:	2.5L/hour
Dimension:	Bench top: 690mm(W)x570 mm(D)x595 mm(H)
Weight:	75 Kg



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Chemistry Analyzer



PT. MULTIMEDILAB KARYAMANDIRI
MEDICAL & LABORATORY EQUIPMENTS

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BS-120

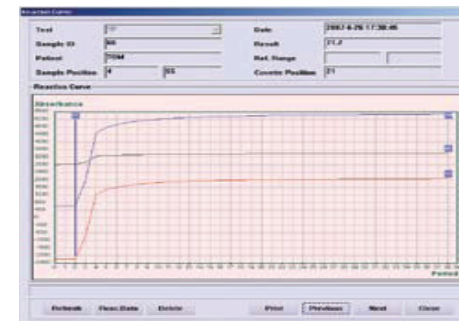
Chemistry Analyzer

- Discrete, random access, fully automated
- 100 tests per hour, up to 300 tests per hour with ISE
- Up to 33 onboard chemistries and 3 ions
- Refrigerated reagent compartment
- Flexible configuration for sample/reagent positions
- Automatic probe cleaning, liquid level detection & collision protection
- 8 wavelengths: 340~670nm
- Automatic dilution for abnormal sample
- External bar code reader (optional)
- Bi-directional LIS interface



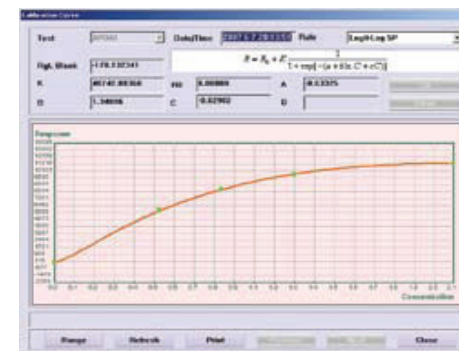
Dynamic and Real-time display of running status

- Running status of reagent/sample tray and reaction tray
- Real-time monitoring of reagent residual volume
- Real-time diagnosis of system working status



Original reaction data record

- Real-time monitoring of reaction
- Bichromatic testing to avoid interference
- Simultaneously display primary and secondary wavelengths
- Detailed profile of alert messages



Optimum calibration curve

- Linear curve types: One-point linear, Two-point linear and Multi-point linear
- Nonlinear curve types: Logistic-Log 4P, Logistic-Log 5P, Exponential 5P, Polynomial 5P and Spline



Flexible sample/reagent tray

- Optional external reagent/sample bar code reader
- Up to 33 positions for sample, up to 35 positions for reagent
- Up to 20/10 virtual sample/reagent trays can be programmed
- 24 hour non-stop cooling with Peltier elements



High quality ISE module (optional)

- Measurements of K+, Na+, Cl-
- 6 months shelf life



Disposable reaction cuvettes

- Disposable cuvettes to avoid carry-over and to save testing costs
- Automatic cuvettes blank testing to assure precise results



High performance mixer design

- Avoid cross contamination
- Optimal homogenization in minimum time
- Thoroughly mixes after dispensing of sample or second reagent



Mindray solution for clinical chemistry

After more than 10 years of research and development on reagents, Mindray can now provide 48 parameters of dedicated reagents(more than 17 others are coming), covering hepatic, renal, cardiac, lipids, diabetes, pancreatitis, inorganic ions and immunalassays, etc.,together with original calibrators with metrological traceability as well as controls for BS-120 chemistry analyzer.



Original Calibrators with traceability :

Reference Method (Certified by ‘Joint Committee for Traceability in Laboratory Medicine’ (JCTLM))

- International Federation of Clinical Chemistry and Laboratory Medicine (IFCC)
- National Institute of Standards and Technology(NIST)
- Centers for Disease Control and Prevention (CDC, USA)
- American Association for Clinical Chemistry (AACC)

Reference Material

- Institute for Reference Materials and Measurements (IRMM) standards
- National Institute of Standards and Technology (NIST) standards
- World Health Organization (WHO) standards
- Japan Committee for Clinical Laboratory (JCCLS) standards



Chemistry Reagents

Hepatic	Lipids
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) Adenosine deaminase (ADA) * α-L-fucosidase (AFU) * 5'-nucleotidase (5'-NT) *	Total Cholesterol (TC) Triglycerides (TG) HDL-Cholesterol (HDL-C) LDL-Cholesterol (LDL-C) Apolipoprotein A1 (ApoA1) Apolipoprotein B (ApoB) Lipoportein(a) [LP(a)]
	Pancreatitis
	α-Amylase (α-AMY) Lipase (LIP)
	Diabetes
	Glucose (Glu) GOD-POD Method Glucose (Glu) HK Meth Fructosamine (FUN)
	Inorganic ions
	Calcium (Ca) Magnesium (Mg) Phosphate Inorganic (P)
	Rheumatism
	High sensitivity C-reactive protein (hs-CRP) * Rheumatoid Factor (RF) Antibodies Against Streptolysin O (ASO)
	Immune
	Immunoglobulin A (IgA) Immunoglobulin G (IgG) Immunoglobulin M (IgM) Immunoglobulin E (IgE) * Complement C3 (C3) Complement C4 (C4) C-Reactive Protein (CRP)
	Others
	Glucose-6-phosphate dehydrogenase (G6PD) * D-dimer* Angiotensin converting enzyme (ACE) * Retinol binding protein (RBP) * D3-hydroxybutyric acid (D3-HB) *

* Coming soon