



CL-2000i

Chemiluminescence Immunoassay System

mindray
healthcare within reach

Mindray Solution for Immunoassay Tests

01 >>

High Throughput

Up to 240 tests/hour

04 >>

Flexible Scalability

Flexible connection with BS-800M and BS-2000M series as well as lab automation in the future*

*In development



02 >>

Large Capacity

- 300 samples in one batch
- Support continuous loading
- 36 onboard capacity for reagent cartridges
- 1134 cuvettes loaded in one batch

03 >>

Easy Operation

- Intuitive interface for software
- Real-time indication of cuvettes, waste and wash buffer status
- Step-by-step maintenance guide

Test Menu

Thyroid

FT3

FT4

T3

T4

TSH

Anti-TG*

Anti-TPO*

Thyroglobulin (TG)*

Fertility

Total β -HCG

FSH

LH

PRL

E2

E3

TESTO

PROG

Tumor Marker

CEA

AFP

CA125

CA15-3

CA19-9

FPSA

TPSA

FERR

NSE*

CYFRA 21-1*

CA72-4*

Infectious Disease

HBsAg**

Anti-HBs**

HBeAg**

Anti-HBe**

Anti-HBc**

HIV**

Anti-HCV*

Anti-TPPA (syphilis)*

Cardiac Marker*

Myoglobin

Troponin I

BNP

CK-MB(mass)

Diabetes*

Insulin

C-peptide

Bone Marker*

PTH

Calcitonin

Vitamin D Total

Anemia*

Folic Acid

Vitamin B12

Hormone*

ACTH

DHEA-S

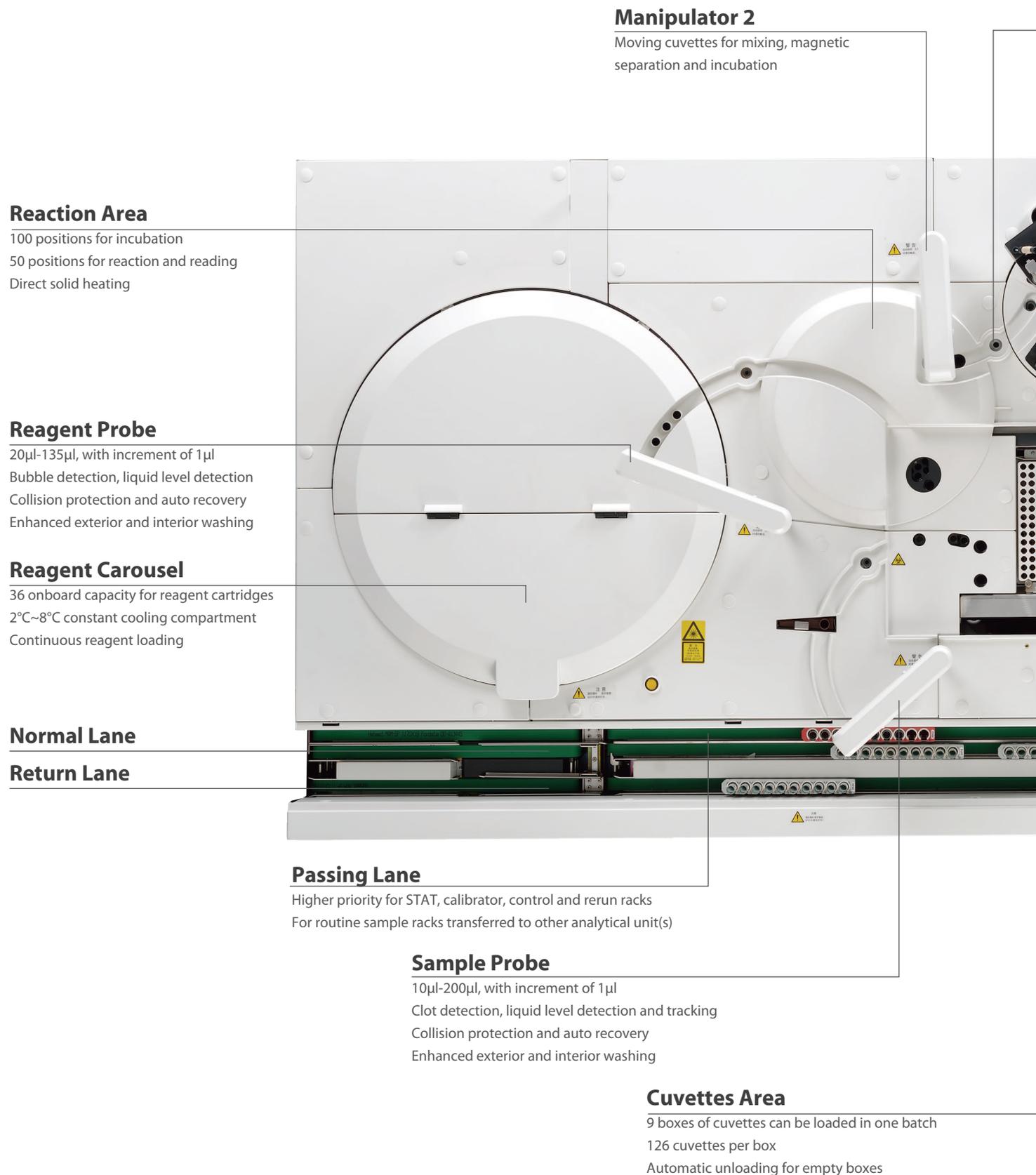
Cortisol

*In development

**CE ready in 2015

CL-2000i

Chemiluminescence Immunoassay System



Reaction Area

100 positions for incubation
50 positions for reaction and reading
Direct solid heating

Reagent Probe

20 μ l-135 μ l, with increment of 1 μ l
Bubble detection, liquid level detection
Collision protection and auto recovery
Enhanced exterior and interior washing

Reagent Carousel

36 onboard capacity for reagent cartridges
2°C~8°C constant cooling compartment
Continuous reagent loading

Normal Lane

Return Lane

Passing Lane

Higher priority for STAT, calibrator, control and rerun racks
For routine sample racks transferred to other analytical unit(s)

Sample Probe

10 μ l-200 μ l, with increment of 1 μ l
Clot detection, liquid level detection and tracking
Collision protection and auto recovery
Enhanced exterior and interior washing

Manipulator 2

Moving cuvettes for mixing, magnetic separation and incubation

Cuvettes Area

9 boxes of cuvettes can be loaded in one batch
126 cuvettes per box
Automatic unloading for empty boxes

System Layout

Mixing Unit

High speed vortex mixing for reaction solution

Magnetic Separation Unit

4-step washing

Sample Delivery Module (SDM)

Up to 300 samples to be loaded
Continuous sample loading and offloading

STAT and RUN buttons

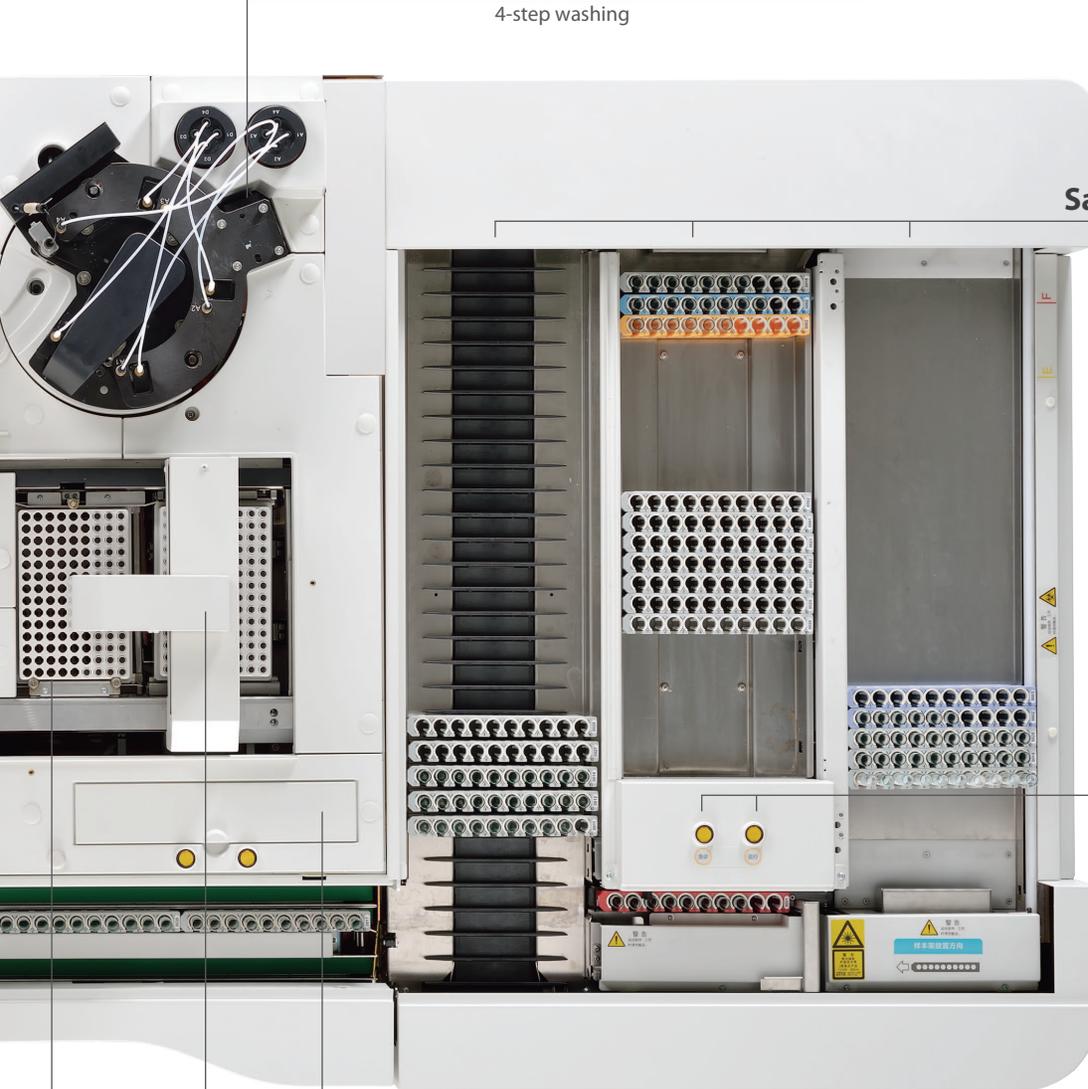
Flexible STAT rack loading
One touch to initiate analysis

Substrate Bottles

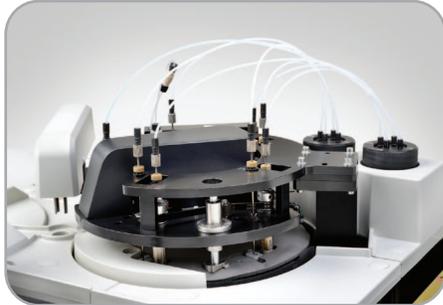
2 bottles for equilibrium
2 bottles ready for aspirating
Bottom piercing to eliminate contamination

Manipulator 1

Moving cuvettes for dispensing
Intelligent cuvette detection

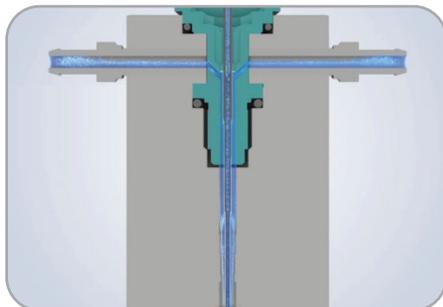


Reliable Results



Enhanced Reaction System

- Non-touch vortex mixing for reaction solution without any contamination
- Precisely controlled temperature for magnetic separation, incubation & reaction by maintenance free direct-solid heating technology
- Reliable clinical performance with enhanced PMT chemiluminescent detection system



Efficient Washing System

- Interior & exterior probe washing with high pressure pre-heated water
- Programmed enhanced washing with detergent for reagent and sample probes
- 4-step washing for magnetic separation unit with high efficiency

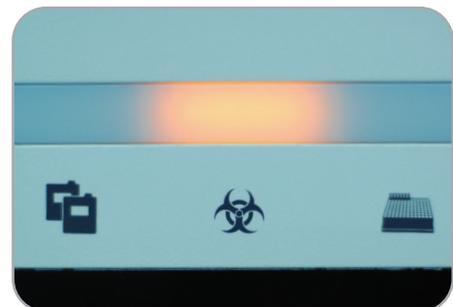
Stable Reagent Cartridges Utility

- 2°C~8°C constant cooling compartment for reagents cartridges
- Membrane sealed liquid reagent ready-to-use
- Intelligent magnetic particles mixing by reagent carousel rotation



Intelligent Indication for Daily Operation

- Real-time indication of cuvettes, waste and wash buffer status
- Real-time monitoring for substrates consumption
- Easy operation for replacing cuvettes, wash buffer and placing new substrates



Advanced Software

User-friendly Interface

- Unified platform of BS-2000M series, BS-800M series, BS-480 and future system
- Real-time status monitoring for analytical unit, SDM and carousels
- Intelligent distribution for STAT samples



Real-time QC Status Monitoring

- Westgard Rules and Two-Control Evaluation check
- Levey-Jennings chart and Twin-Plot chart for review
- Real-time alarm and locating when QC result(s) is out of range
- Auto QC setup capability



Traceable Test Results

- Reagent, calibrator and control information can be recalled from archive history
- Intuitive software design, easy to trace results



Reflex and Re-run Function

- Pre-defined reflex and Re-run assays will be performed automatically when preset criteria is met



Test Summary Function

- Test summary during certain period, including calibration, QC, Sample, valid tests and rerun tests
- Facilitate to computation of total test costs within a defined period
- The summary can be archived into excel files or printed to review and backup



Step-by-step Maintenance Guide

- Scheduled maintenance and maintenance guide for analytical unit
- Ensure performance reliability and reduce unnecessary service calls
- Error report transferrable to service engineers for immediate troubleshooting which can minimize instrument downtime



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Chemiluminescence Immunoassay System

Technical Specifications

General Information

Throughput	Up to 240 tests/hour
Measurement Principle	Micron superparamagnetic particles platform with alkaline phosphatase (ALP) labeled reagents and AMPPD substrate

Sample Assembly

Sample Feeder	Rack system with Sample Delivery Module Up to 300 onboard samples with 30 racks.
Sample Probe	Steel probe, liquid level detection, clot detection, horizontal and vertical collision protection
Sample Volume	10 μ l~200 μ l, with increment of 1 μ l
Sample Dilution	Automatic dilution with 1:2 ~ 1:40

Reagent Assembly

Reagent Disk	36 reagent positions, continuous loading, real-time mixing for magnetic particles
Cooling System	2°C~8°C
Reagent Barcode	Automatic scanning
Reagent Probe	Steel probe, liquid level detection, bubble detection, horizontal and vertical collision protection
Reagent Volume	20 μ l~135 μ l, with increment of 1 μ l

Substrate System

Substrate Bottle	500 tests per bottle, bottom piercing
Substrate Loading	Capable of continuous loading during testing 2 bottles ready for aspirating, and 2 bottles for equilibrium
Substrate Heating	Constant heating
Aspiration Volume	200 μ l

Magnetic Separation Unit

Separation Assembly	4-step magnetic separation with unique separation buffer
Temperature	Accuracy: 37 \pm 0.3°C, fluctuation: \pm 0.1°C
Wash Buffer	Ready for use Real-time monitoring for status

Measurement and Reaction System

Detection Mode	Photon counter
Reference Source	LED
Detector	PMT
Reaction Disk	150 positions
Cuvette	Disposable
Cuvette Loading	Cassette assembly, 1134 onboard cuvettes
Waste Cuvette Recycling	2 waste boxes, overflow detection for cuvette recycling assembly
Temperature	Accuracy: 37 \pm 0.3°C, Fluctuation: \pm 0.1°C
Mixing Unit	Non-touch vortex mixing
Reaction Volume	Sample and reagent reaction volume: maximal 350 ul Auto-dilution sample and reagent mixing volume: maximal 400 ul

Working Conditions

Power Supply	110V/115V~, 60Hz; 220V-240V~, 50Hz; 20V/230V~, 60Hz
Input Power	3200VA
Operating Temperature	15°C~30°C
Relative Humidity	35%RH~80%RH, without condensation
Dimension(mm)	Main Unit: 1450mm*1020mm*1200mm (W*D*H) SDM: 710mm*1020mm*1200mm (W*D*H) Total: 2150mm*1020mm*1200mm (W*D*H) Weight: 550kg
Altitude	-400m~2000m (optional external compressor for 2000m~4000m)

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