

# CS-300B

## Auto-Chemistry Analyzer

### Overall performance

Equipment type	Fully automatic, discrete, STAT priority
Throughput (Theoretical max)	300T/H for photometry tests only 450T/H for only ISE tests
Test principle	Colorimetry, turbidimetry, ISE
Analysis method	End-point, kinetics, fixed-time, etc. support single/double wavelength and 1-2 reagent item, linear and non-linear calibration
Simultaneous analysis item	66 colorimetric items and 3 ISE items (K, Na, Cl optional)

### Sample unit

Sample position	115 sample positions, including 50 routine sample positions, 20 STAT positions, 34 calibration positions, 8 QC positions, 3 detergent positions.
Sample cuvettes specification	Standard cup, original blood tube, multi-specification tube available (Φ12~16) mm × (25~100) mm
Sample barcode	12 of 5, code128, code39, UPC/EAN, code93
Sample volume	2μl~35μl, 0.1μl stepping
Sampling technology	liquid level detection and collision protection
Sample probe carrying rate	automatic warm water cleaning. Carrying rates ≤ 0.1%
Automatic sample dilution	3~170 times

### Reagent unit

Reagent probe	1, with the function of liquid level detection and collision detection
Reagent volume	20μl~350μl, 1μl stepping
Reagent position	Single reagent disk, maximum 67 positions available, continuous 5~15°C cooling within, 24 hours, loading 70ml, 20ml or 100ml standard reagent kit
Reagent barcode	code128
Reagent probe carrying rate	automatic warm water cleaning. Carrying rates ≤ 0.1%

### Reaction unit

Reaction cuvette	120 optical plastic cup, optical diameter is 6 mm
Total volume of reaction liquid	150μl~450μl
Reaction temperature	37°C, ±0.1°C
Reaction disk constant temperature	circulating water
Stirrer	1, after adding reagent, blending immediately
Wastewater treatment	two diffusers for high and low concentration waste water. With the function of concentrated waste liquid level alarming

### Optical system

Light source	20W/12V halogen lamps.
Monochromator	Grating photometry
Photoelectron road	Rear spectrophotometry
Wavelength	340nm, 380nm, 405nm, 450nm, 480nm, 505nm, 546nm, 570nm, 600nm, 660nm, 700nm, 750nm or 800nm
Detector	photodiode LED array
OD linear range	0~3.3Abs

### Calibration and QC

Calibration method	1 point linear method, 2 point linear method, multiple point linear method, non-linear method
Calibration tracking	automatic description calibration K-value trends
QC method	real-time QC, individual QC and monthly QC
Out of control processing	alarming for out of control sample and record lost control reason

### Operating system

PC operating system	Windows XP
Analysis control software	English version graphical operating software
Main function of software	automatic calibration, automatic barcode scanning, item compounding test, reagent info management, serum index, whole reaction process monitoring, dirty cup memory evading, prevent cross-contamination procedure, patient information memory and association input, automatic report audit, data multiple parameter query, report format statistic and printing, reference range classification, alarming information classification, user operating right classification, automatic dormancy and wake, real-time online help, Alarm for daily, weekly and monthly maintenance
Report printing	report formats support the user-defined mode, QC and state information etc
PC configuration	CPU ≥ 2.2GHz (dual-core processor); Memory ≥ 1G; Harddisk ≥ 160G; 17 inch LCD display; Stylus, inkjet or laser printer (optional)
System connection	TCP/IP network connection, standard RS-232C

### Others

Volume	1060mm×790mm×1150mm
Weight	230Kg
Power supply	voltage AC 220V±22V, 50/60Hz, power 1.5KVA

Beauty reads its charm while world enjoys its fame



## CS-300B Auto-Chemistry Analyzer



Certified to  
ISO 9001:2008 and ISO 13485:2003

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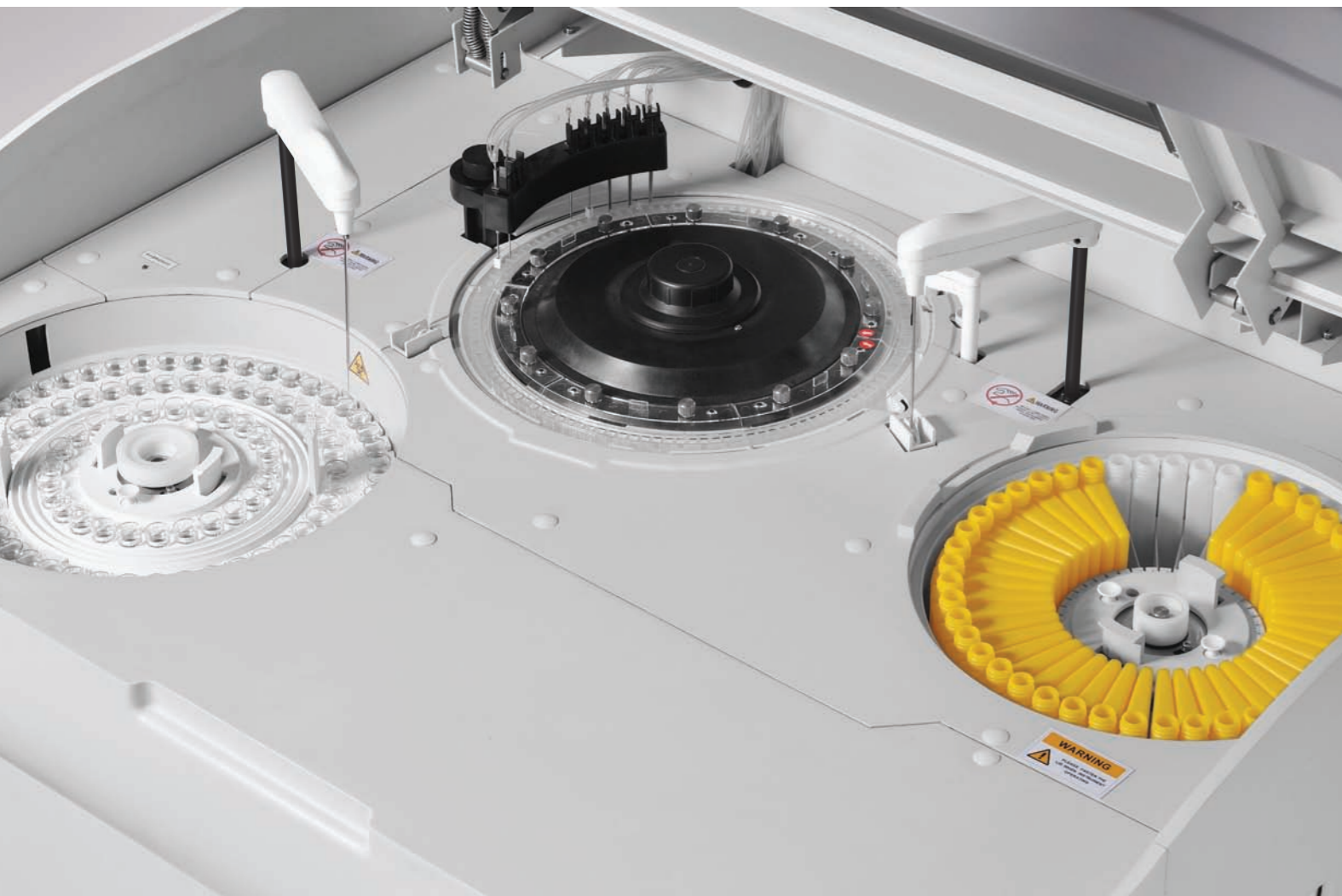
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# CS-300B

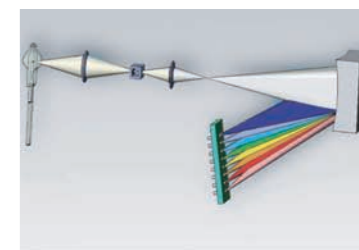
## Auto-Chemistry Analyzer



### Sample/reagent pipeting mechanism

- 2 probes, one for sample, one for reagent. The probes are polished with nano processing technology, which reduces the cross-contamination effectively
- Automatic liquid level detection: the probe detects the liquid level automatically, which ensures the probe and liquid minimum touching and reduces contamination of probe surface
- The syringe is made of long life high-precision ceramic piston, which ensures high precision of sampling and low maintenance cost
- 2 probes with collision protection function, reset function.

- Water degassing technology: The analyzer has special degassing device to remove the air dissolved in the tube system, which helps quick, accurate and small volume pipetting
- Automatically detect sample volume, reagent remaining volume and available testing times. It alarms when there are inadequate volumes to keep continuous analysis
- Probe washing: High-pressure rinsing internal wall, and waterfall washing external wall



### Photometry system

- Monochromator with holographic concave flat field grating, rear spectrophotometric 12 ways parallel measuring technology, which reduces ambient light interference to get better accurate result
- Cluster – condensing light (point light source) technology to reach super-microanalysis, which saves more reagent
- 20W/12V long life light source, adopting water cooling method, the best position design, no signal attenuation, strong anti-interference
- 12 ways photodiode array detector, 12 ways high dynamic range logarithmic amplifier,
- Rigid plastic reaction cuvette, with good penetrating of Ultraviolet (UV), resistance against acid and alkali and long life span



### Semiconductor low-temperature refrigerated reagent disk

- Separated reagent disc with 67 reagent positions, which can load 70ml, 20ml or 100ml reagent bottle, the whole disk can be easily replaced with handle
- Reagent disk continuous cooling condition secures the quality of reagent
- One/double reagent testing, multiple testing items to satisfy the future development needs



### Multi-function sample disk

- Total 115 sample positions, the whole disk can be easily replaced with handle
- Supports various tubes and trace samples cup, specification (Φ12~16) mm × (25~100) mm
- The automatic LED indicator for sample disk spinning can ensure the safety of sample loading

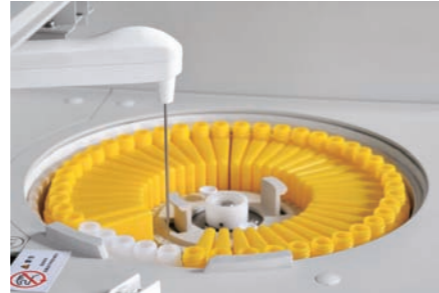


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## Auto-Chemistry Analyzer

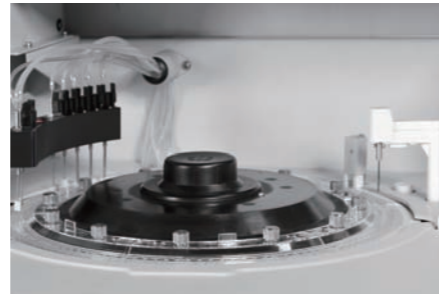
### Stirrer stirring function

- The stirrer evenly mixes the reagent when reagent be input into mix well
- The surface of stirrer is teflon-coated to avoid liquid suspension and reduce cross contamination
- The stirrer is using "flat paddle" design and using swirl rinsing which has the best cleaning effect



### Reaction cuvette constant temperature device

- Using recycling water constant temperature device, automatically changing water and adding defoamer
- Reaction cuvette immersed into warm water which heats the cup evenly and reduces the ambient temperature influence
- PID thermostat technology ensures temperature is 37°C ; the temperature control variation is  $\pm 0.1^\circ\text{C}$

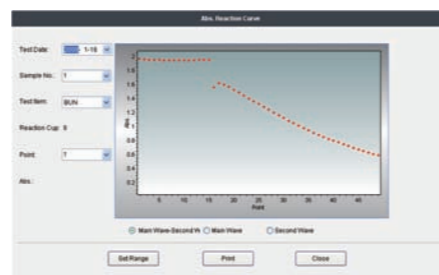
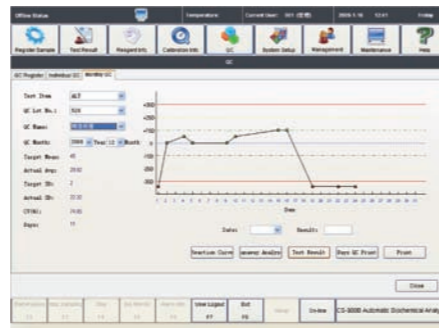


### Reaction cup automatic rinsing

- 7 steps 11 steps reaction cuvette rinsing with warm water and detergent ensures complete cleanness
- Vacuum draining liquid and waste water separately treatment

### Calibration and QC function

- Linear and non linear calibration, over time alarm
- 9 types of calibration fitting formula to satisfy different items analysis demand
- Each item can use 6 different levels' calibrators
- It has calibration tracing function, depicting calibration K value variation trends, helps to reduce system error
- Real time, today, days QC function ensure the instrument is working at the best analysis condition
- QC rule: default as Westgard multi rules
- QC graph : automatic depict and print relative QC plot, L-J, Cumulative, Twin Plot
- All record storage for reason of out of control and primary data which comply with the lab QC management



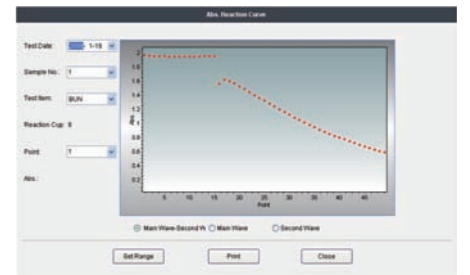
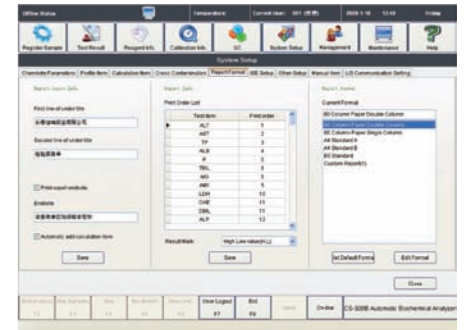
### Operating software

- English version graphical operating software. Simple interface and user-friendly
- Real-time online help system
- Simple and easy software operating, perfect function, consistent with the use of clinical testing requirement
- Multiple self-monitoring functions ensure the analyzing process intelligent
- Multiple report formats, user-defined , automatic print function



### Monitoring and calculating function

- Automatic execute linearity limit over, reference limit over, substrate depletion, antigen surplus, no reaction equilibrium point auditing program
- Serum index checking function, remove interference from hemolysis lipemic, icteric
- Against cross-contamination program, avoid interference from different reagent
- Instrument analysis alarm hierarchical handling to arrange the job sequence by priorities
- User authority hierarchical management to enhance system security



### ISE module(optional)

- K, Na, Cl measurement
- Throughput: 450 tests per hour
- Automatically rinsing, calibration
- 37°C pre-temperature function for ion reagent
- 3 syringes for reagent sampling, of which are made from long-life piston to keep high precision and low maintenance cost
- Less sample consumption (Only 15uL serum /urine per test)

