

M300

Sample unit

- Sample position: 115 sample positions, including 50 routine sample positions with barcode scanner, and 65 positions with hand-hold barcode scanner include 20 STAT positions, 34 calibration positions, 8 QC positions, 3 wash solution positions.
- Continuously cooling at calibration and QC positions to keep 5-15°C within 24 hours.
- Sample cuvettes specification: Standard cup, original blood tube, multi-specification tube available (Φ12-16) mm * (25~100) mm.
- Sample barcode: 15 of 5, code128, code39, UPC/EAN, code93.
- Sample volume 2~35µl, 0.1µl stepping.
- Sampling technology: Liquid level detection, clot detection and collision detection.
- Sample probe carrying rate: Automatic warm water cleaning, Carrying rate ≤ 0.1%
- Automatic sample dilution: 2~170 times.

Operating system.

- PC operating system: Windows
- 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.
- Report printing: report formats support the user-defined mode, QC and state information etc
- PC configuration: CPU ≥ 2.2 GHz (dual-core processor); Memory ≥ 1G; Hard disk ≥ 160G; 17 inch LCD display, Stylus, inkjet or laser printer (optional).
- System connection: TCP/IP network connection, standard RS-232C.



Calibration and QC

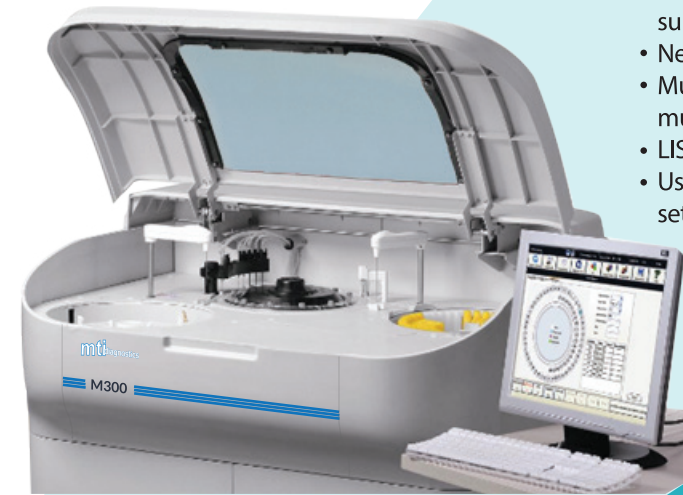
- Calibration method: 1 point linear method, 2 point linear method, multiple point linear method, non-linear method.
- Calibration tracking: automatic description calibration K-value trends.
- QC method: real-time QC, days QC and day QC.
- Out of control processing alarming for out of control sample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

Others

- Volume 1060mm x 790mm x 1150mm.
- Weight 230Kg
- Power supply: voltage AC 220V ± 22V, 50Hz ± 1Hz, power 1.5KVA
- Working temperature: 15°C – 33°C
- Humidity: < 85%
- Power water consumption ≤ 25 L/H

Auto-Chemistry Analyzer

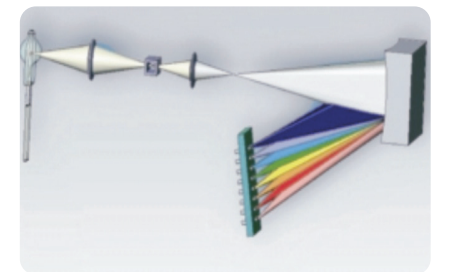
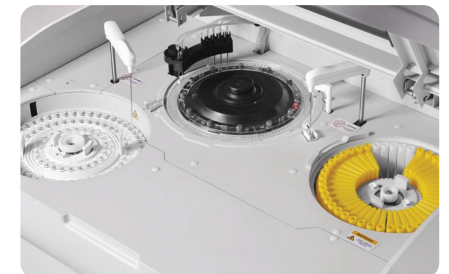
M300



- Discrete constant speed 300T/H (Single/double reagent), or 750T/H with ISE.
- Rear spectrophotometry of holographic concave flat field grating, Cluster – optical path, realizing super micro volume detection of reaction solution.
- 60 nm polished probe, liquid level detection and collision protection.
- Automatic digital liquid level detection, stable performance, reduces probe surface contamination.
- New design reagent disk, less reagent consumption and more test items.
- Multiples function sample disk, original blood tube and multi-specification tubes compatible.
- LIS/HIS interface, supports remote maintenance.
- User defined combined batch input of patient information, applicable to fast setting for special hospital, blood station and physical examination.

Sample and reagent pipetting mechanism

- 2 probes, one for sample, one for reagent. The probe is polished with nano processing technology, which reduces the cross-contamination effectively.
- Automatic liquid level detection: the probe automatically detects the liquid level, which ensures the needle and liquid minimum touching and reduces the 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 are equipped with collision protection function, reset function. The automatically pipetting sample reagent function ensures the probe safety.
- Intelligent clot detection: Pipetting tube has pressure sensor which can detect the status of clot the tube contains high pressure rinsing function to clean clot, which ensures the pipetting volume reliable.
- 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 inner wall, and streaming washing external wall
- Automatic dilute sample for 2-170 times.



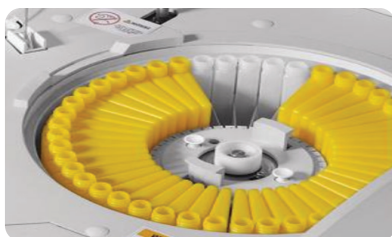
Photometry system

- 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, total reaction volume is as less as 150µl, which saves more reagents.

- 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, the range can be 6Abs without distortion. It ensures high concentration sample testing without data overflow.
- 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

- 67 reagent positions, including 1 detergent positions, 66 single reagent or 33 double reagent positions. Each reagent position can load 70ml, 20ml or 100ml universal reagent bottle, the whole disk can be easily replace 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 (Φ 12~16) mm x (25~100) mm
- The automatic LED indicator for sample disk spinning can ensure the safety of inserting sample randomly.

Stirrer stirring function



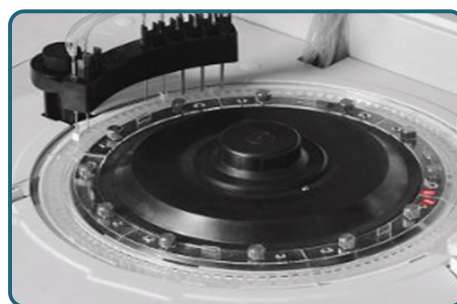
- The stirrer evenly mixes the reagent when reagent is input into mix well.
- The surface of stirrer is telfon coating to avoid liquid suspension and reduce cross contamination.
- The stirrer is using "Flat paddle" design and using swirl rinsing which has the best cleaning effect.

Reaction cuvette constant temperature device

- Using recycling water constant temperature device, automatically changing water and adding defoamer.
- Reaction cuvette is emerged 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 + 0.1°C.

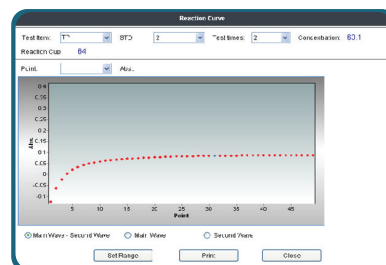
Reaction cup automatic rinsing.

- 7 steps 11 steps reaction cuvette warm water rinsing ensures better cleanness.
- Vacuum draining liquid and warm water high pressure rinsing enhances the cleanness.



Calibration and QC function.

- Linear and nonlinear calibration, which can be setup with time, reagent lot number, etc, with flexible calibration methods.
- 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, to ensure the instrument is working at the best analysis condition.
- QC rule: default as Westgard multi rules.
- QC Plot: 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 to 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 function.

Monitoring and calculating function

- Automatic execute super linear limit, super limit reference, substrate depletion, antigen surplus, no reaction equilibrium point auditing program.
- Serum checking function, remove interference from hemolysis, blood lipid, jaundice.
- 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: up to 450 tests per hour.
- Automatically rinsing, calibration,
- 37°C pre-temperature function for ion reagent.
- 3 syringes for ion reagent sampling, the piton are made from long-life porcelain to keep high precision and low maintenance cost.
- Less sample consumption (Only 15uL serum/urine is used for each test).



Overall performance

- Equipment type: Fully automatic, discrete, STAT priority
- Analysis rate: Constant speed 300T/H (Single/double reagent), or 750T/H with ISE
- Test principle: Colorimetry, turbidimetry, ISE
- Analysis method: End-point, kinetics, fixed-time, etc support single/double wavelength and 1-2 multiple reagent item, linear and non-linear calibration
- Simultaneous analysis item: 66 colorimetric items and 3 ISE items (K, Na, Cl optional).

Reaction unit

- Reaction cuvette: 120 optical plastic cup, optical diameter is 6 mm.
- Total volume of reaction liquid: 150μL - 450 μL.
- Reaction time: random setting with 4, 5, 6, 20 minutes.
- Reaction temperature: 37°C + 0.1°C
- Reaction disk constant temperature: circulating water.
- Stirrer: 1 unit, after inputting reagent, blending immediately
- Wastewater treatment: two difference for high and low concentration waste water. With the function of concentrated waste liquid level alarming.

Reagent unit

- Reagent probe: 1, with the function of liquid level detection and collision detection.
- Reagent volume: 20μl ~ 350μl, 1μl stepping.
- Reagent position: double reagent disk, 67, 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 rate ≤ 1%.

Optical system.

- Light source: 20W/12V halogen tamps. Life is 2000 hours.
- Monochromator: Grating photometry.
- Photoelectron road: after spectrophotometry.
- Wavelength: 340nm, 380nm, 405nm, 450nm, 480nm, 505nm, 546nm, 570nm. 600nm. 660nm. 700mm. 750nm.
- Detector photodiode LED array.
- OD linear range: 0-3.3Abs.

