

Validity

Biochemistry Auto Analyzer

aV-500

Technical specifications

General Information

Machine type	Random access, barcoded reagents
Test speed	Constant 330 tests/hour (Mono reagent or double reagent), 490 tests/hour (ISE included)
Test principle	Colorimetric method, turbidimetry, kinetic method
Test method	1 point end, 2 point end, Fixed-Time, Kinetics
Calibration type	Linear, Multi point linear, Spline, Logit-Log, Exponential

Sample unit

Sample tray	50-100 sample positions
Sample tube	Micro cup & test tube & blood collection tube can be used.
Sample volume	1.6-45µL, step by 0.1µL
Sample probe	Liquid level detection, reagent test quantity monitorization, collision protection
Sample barcode	Internal sample barcode reader (optional)

Reagent unit

Reagent tray	100 reagent positions (50 for R1 & 50 for R2), In continuous refrigerated compartment for 24 hours 2°C-8°C.
Reagent volume	10-300µL, step by 1µL
Reagent probe	Liquid level detection, liquid volume/level monitorization. Collision avoidance.
Reagent barcode	Reagent barcode reader

Reaction unit

Reaction tray	68 reaction cuvettes, new technology amorphous reaction cuvettes
Reaction volume	90µL - 350µL
Reaction time	10 minutes
Temperature	Peltier sytem incubation technology Temperature fluctuation ± 0.1 °C



Mixing system

Mixer	Separate mixing probe with optimum carry - over avoiding surface
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Optical system

Light source	Halogen tungsten lamp
Wavelength	340nm; 405nm; 505nm; 546nm; 578nm; 600nm; 660nm; 700nm (3 more options)
Absorbance range	0-4.0 Abs
Resolution	0.0001 Abs

Washing Unit

Washing Station	4-stage, 2 times automatic washing system. Include specific chemical cleaning function and pump.
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Operating system

Operation system	Windows 10, Windows 11
Data processing	Automatic calibration, test profile, effective time management of reagents, serum index, whole process detection, linear expansion of enzyme, blank deduction, dirty cuvette memory, cross contamination prevention, patient information memory and association input, automatic report audit, data fuzzy query, report statistics and printing, reference range grading, alarm information classification, user operation privilege classification management.
Report printing	6 formats optional, surpport customization pattern
Interface	TCP/IP network interface

Working conditions

Power supply	110/230V, 50/60 Hz,
Water consumption	14 L/hour (maximum)
Dimension	750mm * 700mm * 500mm(L*W*H)
Weight	130 Kg



aV-500

Biochemistry Auto Analyzer
330 Tests/Hour, Double Reagent
490 Tests/Hour (ISE included)



Biochemistry Auto Analyzer

General Specifications

Reagent tray & Sample tray

- 100 reagent (50R1 + 50R2) & 50~100 sample positions
- Continuous cooling system with peltier system
- Barcode reader

Reaction tray

- Re-usable 68 reaction cuvettes
- Optimum test results with minimum reaction volume 90µL
- Stable & accurate temperature (37±0.1°C) for reaction

Multifunctional precision sampling probe

- External&Internal specific metal coating with excellent cleaning.
- External & Internal probe surface cleaning function with less carry over risk
- Collision protection function with automated probe vertical level adjustment system

Excellent mixer design

- Teflon coated mixer, no water dropping (reducing carry-over)
- Excellent mixing effect with standard mixing procedure

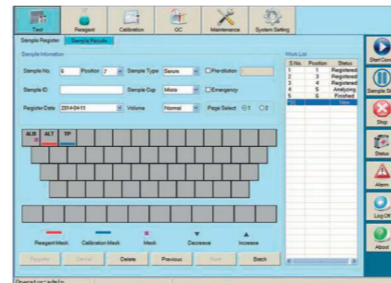
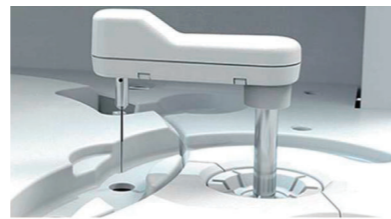
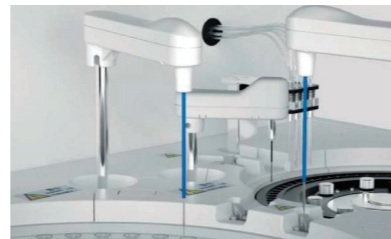
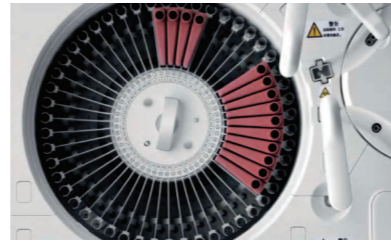
Advanced operating system

- User friendly interface easy to operate
- Sample automatic dilution (decrease, increase, normal)
- Reaction result automatic checking and warning, calibration result automatic checking, warning alarm log
- Linear & nonlinear calibration, Multi-points calibration up to 8 points
- Quality control apply to westgard specifications, L-J plot, cumulative

High precision ceramic syringe

- Permanent ceramic piston
- Accurate dispensing as low as 0.1 µL
- Separate sample probe, reagent probe and syringe

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Biochemistry Auto Analyzer

Validated Reagent Solutions

After rigorous, detailed CLSI (Clinical & Laboratory Standards Institute) based validation and verification studies

Validity & **archem DIAGNOSTICS** cooperation now can provide wide range of dedicated reagents together with original calibrators with metrological traceability as well as controls for Validity Biochemistry analyzer with Archem's reagent manufacturing experience since 1998.

- CLSI based validations can be supplied upon request for any single biochemistry parameter.
- Reagents provided with analyzer – specific wedge barcoded original vials.
- “Advanced Carry Over Evaluation and Prevention System” with reagent- item specific smart wash procedures.
- Preceding and following test sequence design with sophisticated program and deep carry-over experience.



Biochemistry Reagents Panel

Hepatic	Lipids	Immune
Alanine Aminotransferase (ALT)	Total Cholesterol (TC)	Immunoglobulin A (IgA)
Aspartate Aminotransferase (AST)	Triglycerides (TG)	Immunoglobulin G (IgG)
Alkaline Phosphatase (ALP)	HDL-Cholesterol (HDL-C)	Immunoglobulin M (IgM)
γ-GlutamylTransferase (γ-GT)	LDL-Cholesterol (LDL-C)	Immunoglobulin E (IgE)
Direct Bilirubin (D-Bil)	Apolipoprotein A1 (ApoA1)	Complement C3 (C3)
Total Bilirubin (T-Bil)	Apolipoprotein B (ApoB)	Complement C4 (C4)
Total Protein (TP)	Lipoprotein(a) [LP(a)]	Zinc
Albumin (ALB)		Copper
Total Bile Acids (TBA)	Pancreatitis	Lithium
Prealbumin (PA)	α- Amylase (α-AMY)	Sodium (Enzymatic or ISE)
Cholinesterase (CHE)	Lipase(LIP)	Potassium (Enzymatic or ISE)
Adenosine deaminase (ADA)		Chloride (Enzymatic or ISE)
Cardiac	Renal	
Creatine Kinase (CK)	Urea (UREA)	
Creatine Kinase -MB (CK-MB)	Creatinine (CREA) Modified Jaffe Method	Others
Lactate Dehydrogenase (LDH)	Creatinine (CREA) Enzymatic Method	Glucose-6-phosphate dehydrogenase (G6PD)
α- Hydroxybutyrate Dehydrogenase (α-HBDH)	Uric Acid (UA)	Angiotensin Converting Enzyme (ACE)
Homocysteine (HCY)	Carbon dioxide (CO2)	
Diabetes	Microalbumin	Toxicology/DOA
Glucose (Glu) GOD-POD Method	Cystatin C (CysC)	Amphetamines
Glucose (Glu) HK Meth		Benzodiazepine Methadone
Glycated Albumin (GA)	Inorganic ions	Cocaine
Hemoglobin A1c (HbA1c)	Calcium (Ca)	Opiate
Fructosamine (FUN)	Magnesium (Mg)	THC Cannabinoid
	Phosphorus Inorganic (P)	
Ferrum	Rheumatism	
Iron (Fe)	C-Reactive Protein (High Sensitive HsCRP)	
Ferritin (FER)	C-Reactive Protein (CRP) (Wide Range)	
Transferrin (TRF)	Rheumatoid Factor (RF)	
Unsaturated Iron Binding Capacity (UIBC)	Anti Streptolysin O (ASO)	