

# ACA - 3420

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## Auto Chemistry Analyzer



EPCC / PRODUCTS / APPLICATION / SOFTWARE / ACCESSORIES / CONSUMABLES / SERVICES

**Analytical Technologies Limited**

An ISO 9001 Certified Company

## ►► Technical Specification

- 360 tests/hour, up to 540 tests/hour with ISE(optional)
- Grating system with 12 wavelengths
- Built-in bar code reader (optional)
- 8 steps washing system
- Bi-direction LIS interface

## System Function

**Automatic, Random Access**

**STAT sample priority, available for all sample position Barcode Scanner for sample and reagent**

**Bi-direction LIS interface (HL7)**

**Throughput:** 360 tests/hour (single and dual reagent)

Up to 540 tests/hour with ISE (K<sup>+</sup>, Na<sup>+</sup>, Cl<sup>-</sup>)

**Principle:** Colorimetric, Turbidimetric

**Methodology:** End-point, Two-point, Kinetic

Discrepant Value

Single/Dual/Triple/Quadruple reagent

chemistries

Monochromatic/Bichromatic

**Programming:** Open system with user defined profiles and calculation assays

## Simple/Reagent Handling

**2 reagent probes, 1 sample probe**

**Sample tray:** 100 positions

**Reagent tray:** 80 refrigerated positions

**Refrigeration temperature:** 2 ~ 1 OOC

**Reagent volume:** 20 ~ 350 pL, 1 pl- adjustable

**R1:** 150 350 pL, 1 pl- adjustable

**R2:** 20 — 250 pL,1 pl- adjustable

## Support R3 and R4

**Sample volume:** 2 ~ 45 pL, 0.1 pL- adjustable

**Sample and Reagent probe:**

Collision protection, liquid level detection  
and inventory checking

**Probe cleaning:**

Automatic washing both interior and  
exterior, carryover <0.1%

**Pre-heating for reagent**

**Auto dilution:** 3-150 times

Built-in reagent/sample bar code reader (optional)

## Reaction System

**Reaction positions:** 100 cuvettes

**Cuvette:** Optical length 5mm

**Reaction volume:** 150 500ul

**Reaction temperature:** 37 °C, ± 0.1 °C

**2 mixing probes**

**8 steps auto-washing system**

## Measuring and Optical System

**Light Source:** Halogen tungsten lamp

**Photometer:** Grating photometry

**Wavelengths:** 340nm, 405nm,  
450nm, 505nm, 540nm, 570nm, 600nm,  
635nm, 670nm, 700nm, 760nm, 795nm

**Absorption range:** 0 ~ 2.500Abs

**Resolution:** 0.0001Abs

## Working Condition

<b>Power supply:</b>	100 ~ 240 V, AC 50/60 Hz, 1500w
<b>Temperature:</b>	10°C ~ 30°C
<b>Humidity:</b>	40% ~ 85%
<b>Water consumption:</b>	≤20 L/hour
<b>Dimension:</b>	1150mm(L)*726.5mm(w)*1150mm(H)

## ►► Reagent System

### Multi-functional reagent probe

- Interior and exterior probe washing
- Liquid level detection
- Collision protection
- Inventory checking
- Reagent volume as low as 20pl
- Probe depth adjust automatically



### Refrigerated reagent tray

- 80 reagent positions for RI ,R2,R3,R4
- Compatible with Hitachi reagent bottles
- 24 hours non-stop cooling with peltier element
- Ready-to-use stable reagent
- Built-in reagent bar code reader (optional)

## ▶▶ Sample System

### Multi-functional sample probe

- Interior and exterior probe washing
- Liquid level detection
- Collision protection
- Probe depth adjust automatically
- Sample volume as low as 2pI



### Multi-functional sample

- 100 sample positions
- 7 virtual sample disks
- Support standard tube, primary tube, EP tube
- Automatic dilution of high concentration sample
- Automatic rerun
- Built-in sample bar code reader (optional)



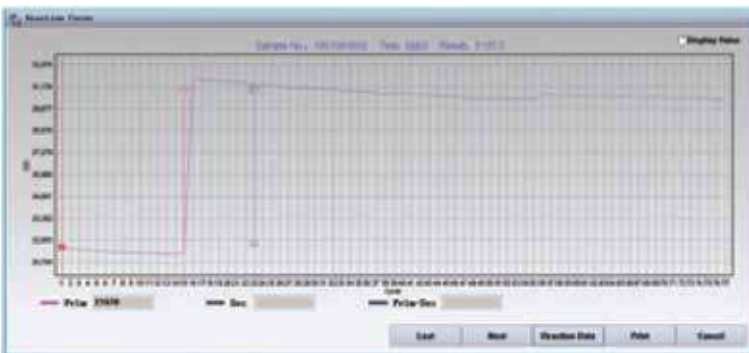
## ▶▶ Optical System

- Unique water cooling system for light source
- Maximum stabilized optical system
- Sealed optical system to prevent any dust and disturbance
- Reversed optics, grating photometry
- Maintenance free

## ▶▶ ISE module

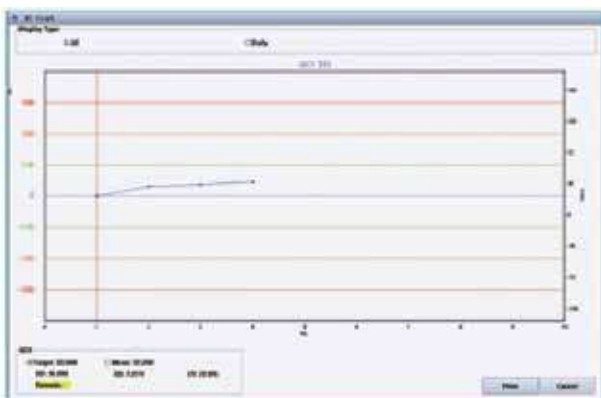
- Optional selection of K<sup>+</sup>, Na<sup>+</sup>, Cl<sup>-</sup>
- Throughput: up to 270 tests per hour
- 6 months shelf life

## ▶▶ Operation System



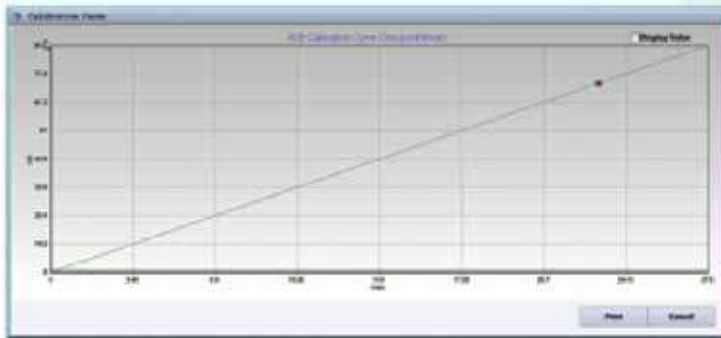
## ▶▶ Reaction Curve

- Substrate exhaust limit detection
- Equilibrium point auto search



## ►► QC Graph

- QC type: real-time QC, daily QC, day to day QC
- Control rule: multi-rules QC, intelligent QC alarm



## ►► Calibration Setting

Refitting : fitting different types of calibration curve with a certain standard data, thus choosing the best calibration curve

## ►► Reaction System

### Reaction tray

- Optimized test sequence to reduce carryover
- Total reaction volume as low as 150pl
- Contains 100 reaction cuvettes
- Real direct heating
- Real-time display of reaction tray temperature

### Unique washing station

- High precision washing liquid control to guarantee washing function
- Washing solution pre-heating to prevent any carryover
- Maintain ideal temperature for testing
- 8 steps auto-washing
- Separate drainage for high and low concentration waste
- Ceramic syringe for auto washing system, high accuracy

## ▶▶ High performance mixer design

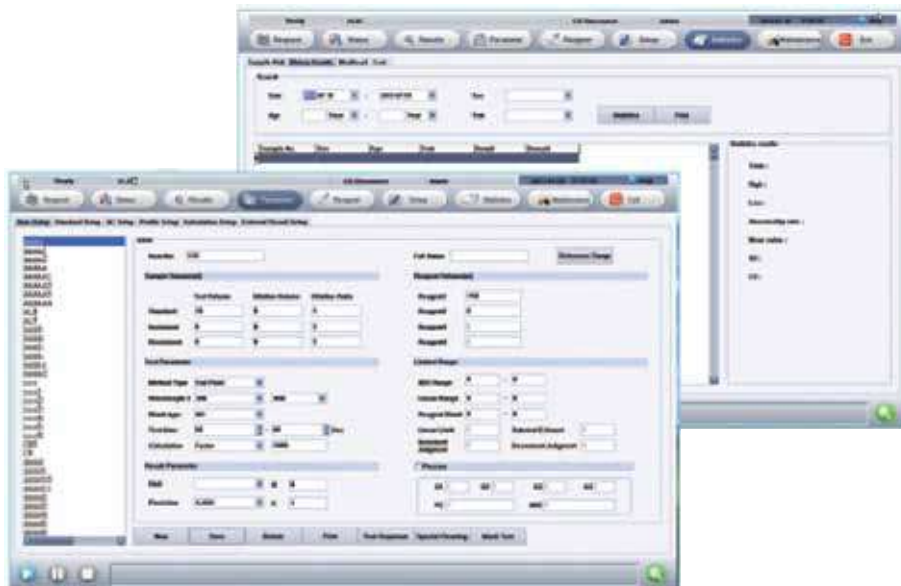
- Two independent mixers
- Optimized homogenization in minimum time
- Standardized mixing procedures
- Function immediately after sample and reagent pipetted in

## ▶▶ Parameter setting

- Different levels of user permission
- Different reference range according to gender and age
- Calculated items available
- Manual items input available
- Automatic rerun
- 3-150 times auto dilution

## ▶▶ Statistic

- Calculate the mean value, standard deviation and coefficient of variation
- Statistics of reagent usage
- Statistics of test volume





## HPLC Servicing, Validation, Trainings and Preventive Maintenance :

**HPLC Servicing** :HPLC Servicing : We have team of service engineers who can attend to any make of HPLC promptly @the most affordable cost.

**Trainings** :We also take up preventive Maintenance to reduce downtime of HPLC's Trainings.

**AMC's/CMC** :AMC's/CMC :We offer user training both in-House and at customer sites on HPLC principles, operations, trouble-shooting.

**Validations** :Validations :We have protocols for carrying out periodic Validations as per GLP/GMP/USFDA norms.

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## Our Products & Technologies



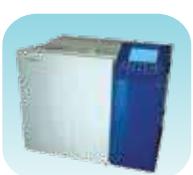
UV/VIS  
Spectro 2080+  
Double Beam



Infra FTIR



Optima Gas  
Chromatograph  
3007



Optima Gas  
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2979 Plus



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Liquid Particle  
Counter



Optical Emission  
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Analyzer



Laser Particle  
Size Analyzer



Ion Chromatograph



Water purification  
system

## Regulatory compliances



## Corporate Social Responsibility

Analytical Foundation is a nonprofit organization (NGO) found for the purpose of:



**Analytical**  
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1. Research & Innovation Scientist's awards/QC Professional Award : Quality life is possible by innovation only and the innovation is possible by research only, hence ANALYTICAL FOUNDATION is committed to identify such personalities for their contributions across various field of Science and Technology and awarding them yearly. To participate for award, send us your details of research / testing / publication at [Info@analyticalfoundation.org](mailto:Info@analyticalfoundation.org)

2. Improving quality of life by offering YOGA Training courses, Work shops/Seminars etc.

3. ANALYTICAL FOUNDATION aims to DETOXYFY human minds,souls and body by means of yoga, Meditation, Ayurveda, Health Care, Awards, Media, Events, Camps etc.



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