

TECHNICAL SPECIFICATIONS

BONAVERA^{CHEM}400



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Fully Automated Clinical Chemistry Analyzer

Performance Features

Analyzer Type	: Fully automated random access clinical chemistry analyzer
Throughput	: 400 Tests/Hour
Test Methods	: 1 Point End, 2 Point End, Fixed Time, Kinetic
Calibrations	: Linear and Non-Linear

Reagent and Sample System

Reagent Tray	: 90 Reagent positions (R1, R2) with 70 ml and 30 ml bottle
Reagent Probes	: 2 Dedicated reagent probes for R1 and R2 with crash and liquid level detection
Reagent Probes Cleaning	: Internal & External cleaning with detergent, additional special washing options available
Reagent Cooling	: 8-14°C
Reagent Volume	: 20 – 300 µl, Step by 1 µl
Reagent Inventory	: Calculation of remaining reagent volume, alert messages for shortage of reagent
Sample Tray	: 120 sample positions, all positions can be used for STAT, Calibration, QC and Sample
Sample Tube	: Micro cup, Test Tube, Blood Collection Tubes (Ø 12 – 13) mm - (25-100) mm
Sample Volume	: 2 – 30 µl, Step by 0.1 µl
Sample Barcode	: Available
Sample Dilution	: Available customizable Pre and Post dilution of sample
Sample Probe	: Internal and external washing with DI water, crash protection, liquid level detection, clot detection

Reaction System

Reaction Tray	: 90 reusable reaction cuvettes, Detachable segment with 15 separate cuvettes
Reaction Volume	: 150 – 330 µl
Reaction Time	: 10 Mins
Temperature Control	: Stable reaction temperature at 37 ± 0.1°C
Washing System	: 2x6 steps auto washing station (dedicated detergent compartment)
Mixer	: Paddle type mixing, prevent effectively carryover

Optical System

Light Source	: Halogen Lamp 6 V 10 W
Wavelengths	: 8 Wavelength 340 nm, 405 nm, 450 nm, 505 nm, 546 nm, 578 nm, 630 nm, 700 nm (4 Additional filters available)
Absorbance Range	: 0 – 4 Abs
Resolutions	: 0.0001 Abs, Stability ≤ 0.01Abs, Repeatability ≤ 1.5%
Cuvette path	: 6 mm
Detection Method	: Direct absorbance of Cuvette (Monochromatic and Bi-chromatic)

Operating System

Operating System	: Windows 10
Software Features	: Big Iconic Menu, Automatic Calibration with reagent blank, Panel tests, Pre and Post dilution with volume adjustment, Serum Index, Real Time Process Detection, Blank Deduction, Dirty cuvette detection, Customizable report print, Statistics of reports, QC files with L-J Charts, Sample Monitoring, QC flags, STAT Function, Sample Monitoring, Lamp Monitoring, Reaction Cuvettes Monitoring, Temperature indications, Auto checks of cuvettes, Daily maintenance programing
Interface	: Pattern TCP/IP network interface
Report Printing	: 6 Formats Available, Support Customize format

Power and Connectivity & Dimensions

Power Supply	: AC 230 V, 50 Hz, 1000 VA, The Distance between power socket and instrument should be <2.5 meters
UPS	: Online 2 KVA with isolated transformer
Earthing	: ≤5 V
Water Consumption	: 15 L/Hour, Inbuilt reservoir for continuous water supply
Dimension	: 1100 mm (L) x 765 mm (W) x 1150 mm (H)
Weight	: 200 Kgs

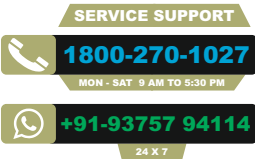


- Barcoded reagents and detachable sample and reagent tray
- On board laundry and on board refrigeration
- Clot detection system
- Compatible and time-tested system packs
- 3 Probe system - Separate probes for reagents and samples
- High precision ceramic syringe
- Easy maintenance and easy to use software
- Solid state technology for temperature of reaction tray

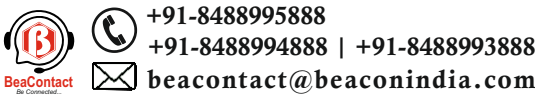
Marketed By:



Factory & Registered Office:
Plot No.1.2 Survey No. 169 (Sisodra) Near Plot No. 425,
New GIDC, Kabilpore, Navsari - 396 424, (Guj), India
Web : www.thebeacongroup.co.in | CIN No. : U24299GJ2009PTC057520



BIDPLJAN25/BC400/VER00



SYSTEM OUTLINE



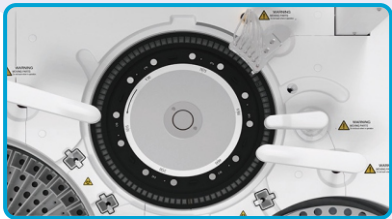
REAGENT CAROUSEL

- ◆ 90 reagent positions, 45 R1 and 45 R2 reagents
- ◆ Continuous reagent cooling at 8°C – 14°C
- ◆ Automatic barcode identification for reagent recognition
- ◆ Dedicated system packs are available



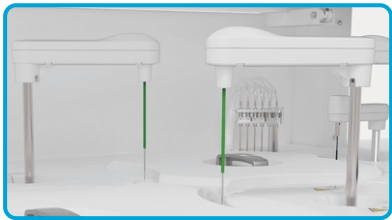
SAMPLE CAROUSEL

- ◆ 120 sample positions divided into three circles
- ◆ Facilitates for STAT, QC and Calibrators at any positions
- ◆ Support various tubes – Micro cup, test tubes and sample collection tubes
- ◆ Inbuild barcode system for smooth sampling process



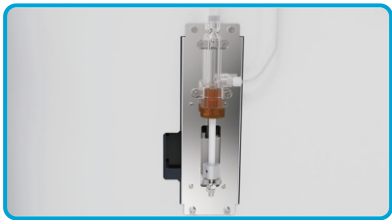
REACTION TRAY AND CUVETTES

- ◆ 90 semi-permanent cuvettes enduring long period
- ◆ Thermostat technology ensures temperature accuracy of $37 \pm 0.1^\circ\text{C}$
- ◆ 2x6 steps auto on-board laundry system, Cuvette check function ensure clean and viable cuvette is used
- ◆ Automatic cuvette check to ensure selection of quality cuvettes



REAGENT AND SAMPLE SYSTEM

- ◆ Separate reagent probes, Internal and external washing of probe ensures minimal carryover
- ◆ Mirror polished probe ensures smooth operation which reduces cross contamination chances
- ◆ Mirror polished smart sample probe having clot detection and liquid level detection ensures acceptable samples are tested
- ◆ Collision protection and auto adjustment function of probe



CERAMIC SYRINGE

- ◆ Syringes are made up of high precision ceramic piston ensures best sampling
- ◆ Accurate dispensing with step of $0.1 \mu\text{l}$
- ◆ Auto air purging for removal bubbles

Ready to use Liquid Stable System Packs

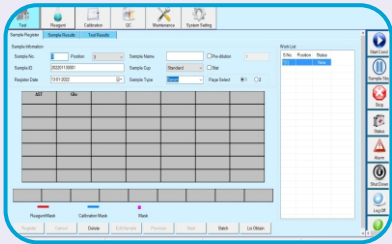
OPTICAL SYSTEM

- ◆ Integrated fully closed optical system reduces light interferences to get maximum accuracy and longevity
- ◆ Monochromatic interference filters, no complex mechanism, Connected to lamp through optical fiber



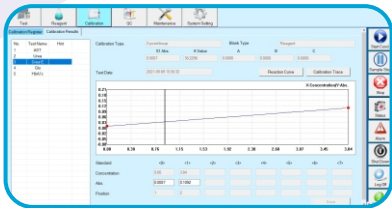
POWERFUL SOFTWARE

- ◆ Easy and Iconic operating menu
- ◆ STAT facility
- ◆ Re-run facility along with auto dilution
- ◆ Designing of tests panels available
- ◆ LIS Connectivity easily achievable
- ◆ Auto dilution facility in parameters set up
- ◆ Substrate depletion for kinetic parameters



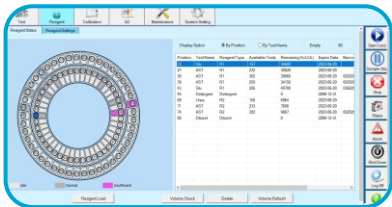
CALIBRATION AND QUALITY CONTROL

- ◆ Software displays current valid calibration, reagent blank, factors absorbance and calibration check interval
- ◆ L-J charts, provides an easy inspection to assess shifts and trends
- ◆ QC multirule can be applied to ensure accuracy of results



INVENTORY MANAGEMENT

- ◆ AI based inventory monitoring
- ◆ Display of remaining number of tests



MAINTENANCE

- ◆ Programmable daily, weekly and monthly maintenance steps which is easy for operators
- ◆ Daily maintenance is very easy and less time consuming

