

## TECHNICAL SPECIFICATIONS

**BEACONIC**  
B400

### Performance Features

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

### Reagent and Sample System

Reagent Tray	: 90 Reagent positions (R1, R2), Non stop reagent cooling system at 8-14°C with 70ML and 30ML bottle
Reagent Probes	: 2 Dedicated probes for R1 and R2 with crash and liquid level detection
Reagent Probe Cleaning	: Internal & External cleaning with detergent, additional special washing options available
Reagent Cooling	: 8 – 14°C
Reagent Identification	: Optional for Open and Barcoded reagents
Reagent Volume	: 20 – 300 µl, Step by 1.0 µl
Reagent Inventory	: Calculation of remaining reagent volume, alert messages for shortage of reagent
Reagent Code	: 128 bit Barcode
Sample Tray	: 120 Sample Positions, all the 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	: 128 bit
Sample Dilution	: Available customizable Pre and Post Dilution of Sample
STAT Sampling	: Available for emergency samples
Sample Probe	: Internal and External washing with DI water, Crash Protection and Liquid level detection

### Reaction System

Reaction Tray	: 90 reusable Reaction Cuvettes
Cuvettes	: Detachable segment with 15 separate Cuvettes
Reaction Volume	: 150 – 330 µl
Reaction Time	: 10 Mins
Temperature Control	: Stable reaction temperature at 37±1 °C
Water Requirements	: NCCLS type 1 or Type 2 purified water supply
Washing System	: 2x6 steps auto washing station (dedicated detergent compartment)
Mixer	: Paddle type mixing, prevent effectively carryover

### Optical System

Light Source	: Halogen Lamp
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
Absorbance Stability	: ≤ 0.01 Abs
Absorbance 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 programming

### Power and Connectivity

Power Supply	: AC 220 - 240 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 (maximum) Inbuilt reservoir for continuous water supply

### Physical Dimensions

Dimension	: 1100 mm (L) X 765 mm (W) x 1150 mm (H)
Weight	: 200 Kg

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**B**  
**BEACON GROUP**

**BEACONIC**  
**B400**



### Fully Automatic Clinical Chemistry Analyzer

- ◆ Random access with combined throughput of 400 tests/hour
- ◆ Designed to meet constant workflow with full potency
- ◆ Perfect match for Medium and big sized laboratories gives platform to wide range of routine and protein parameters
- ◆ In choosing to purchase BEACONIC B400 from Beacon Diagnostics with having 32 years of experience in IVD industry with providing unrivalled technical service support

# SYSTEM OUTLINE



## REAGENT CAROUSEL

- ◆ 90 Reagent Position, 45 R1 and 45 R2 Reagents
- ◆ Non-stop reagent cooling at 8°C – 14°C with peltier
- ◆ Automatic Barcode Identification for smooth reagent recognition
- ◆ Dedicated system packs are available



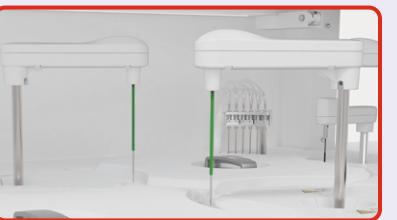
## SAMPLE CAROUSEL

- ◆ 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
- ◆ Optional inbuild barcode system for smooth sampling process



## REACTION UNIT

- ◆ 90 single reaction pyrex cuvettes, perfect transmittance
- ◆ Thermostat technology to ensures temperature accuracy of  $37 \pm 0.1$  °C
- ◆ 2x6 steps auto on-board laundry system, Cuvette check function ensure clean and viable cuvettes are used



## 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 as low as 0.1  $\mu$ l
- ◆ Air purging for removal bubbles



## Ready to use Liquid Stable System Packs

### Parameter Range :

GLUCOSE | SGOT | SGPT | UREA | URIC ACID | TG | CHOLESTEROL | HDL-D | LDL-D | RF | CRP | ASO | GGT | ENZ. CREATININE | ALBUMIN | TOTAL PROTEIN | BILIRUBIN T&D | HBA1C | FERRITIN | MAGNESIUM | LDH | ALP | CK-NAC | INORGANIC PHOSPHORUS | CALCIUM | AMYLASE | MULTICALIBRATOR | CONTROLS

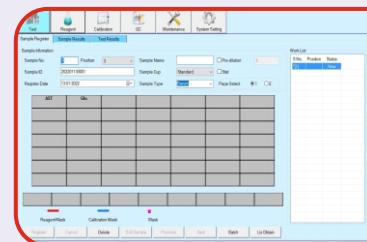
## OPTICAL SYSTEM

- ◆ 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



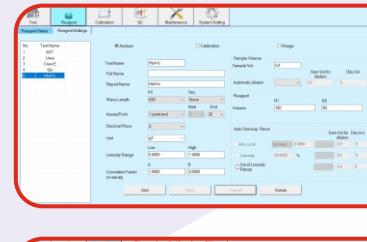
## POWERFUL SOFTWARE

- ◆ Easy and Iconic operating menu
- ◆ STAT Facility
- ◆ Rerunning Facility
- ◆ Designing of tests panels available
- ◆ LIS Connectivity easily achievable



## CHEMISTRY PARAMETERS

- ◆ Auto dilution facility in parameters set up
- ◆ Substrate depletion for kinetic parameters



## CALIBRATION

- ◆ Software displays current valid calibration, reagent blank, factors absorbance and calibration check interval



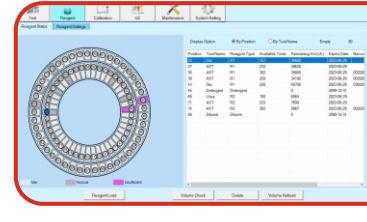
## QUALITY CONTROLS

- ◆ Generates L-J charts, provides an easy inspection to assess QC errors, further shifts and trends
- ◆ QC multirole can be applied to ensure high error detection



## INVENTORY MANAGEMENT

- ◆ Automatic calculation of remaining reagents
- ◆ Error flag on insufficient volume remained for any reagents



## MAINTENANCE

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

