

TECHNICAL SPECIFICATIONS

Physical Dimensions

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

Performance Features

Analyzer Type	: Fully automated random access clinical 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 System	: 90 Reagent positions, 45 for R1 and 45 for R2
Reagent Probes	: Dedicated probe for R1 and R2 with crash and liquid level detection
Reagent Cooling	: 2 – 14 °C
Reagent Identification	: Optional for Open and Barcoded reagents
Reagent Volume	: 20 – 300 µl, Step by 0.1 µl
Reagent Inventory	: Calculation of remaining reagent volume, alert messages for shortage of reagent
Sample System	: 120 Sample Positions
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	: Optional
Sample Dilution	: Available customizable Pre and Post Dilution of Sample
STAT Sampling	: Available for emergency samples
Sample Probe	: Internal and External washing with purified 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
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
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 XP, Windows 7, Windows 8 and 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

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



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VBPL/JAN22/UNI480/VER1.0



UNICORN 480
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 UNICORN 480 from Vector Biotek Pvt. Ltd. with having 20 years of experience in IVD industry with providing unrivalled technical service support

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SYSTEM OUTLINE



REAGENT CAROUSEL

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



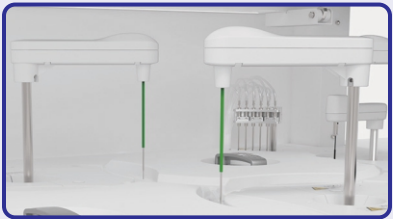
SAMPLE CAROUSEL

- ◆ 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 TRAY AND CUVETTES

- ◆ 90 semi-permanent cuvettes enduring long period
- ◆ Thermostat technology to ensures temperature accuracy of 37 ± 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 with step of $0.1 \mu\text{l}$
- ◆ Air purging for removal bubbles

Barcoded
Reagent
and Detachable
Sample and
Reagent Tray

On Board
Laundry and
On Board
Refrigeration

Clot
Detection
System

Compatible
and Time-tested
System Packs

Separate
Probes for
Reagents

High
Precision
Ceramic
Syringe

Easy
Maintenance
and Easy
to Use
Software

Constant
Temperature
of Reaction
Tray



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 |
CK NAC | INORGANIC PHOSPHORUS | CALCIUM | ALP | AMYLASE | MULTICALIBRATOR | CONTROLS

OPERATING 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

