

# Merilyzer | AutoQuant 400i<sup>TM</sup>

## Fully-Automated Discrete & Random Access Biochemistry Analyzer



### Innovative Features

- Throughput: 400 Tests / hour
- Analysis Modes: End Point, Fixed Time (2-point), Kinetic Rate-A, Kinetic Rate-B
- Measurement Principles: Colorimetric (Rate & End point), Turbidimetry Immunoassay
- Facility of STAT function from any free position
- 75 Sample Positions with barcode identification
- 60 Reagent Positions maintained by water cooled refrigeration unit with barcode identification
- Two Reagent Probes and 1 Sample Probe
- 80 Semi Disposable Cuvettes, with cuvette check function before testing
- 9 Static Filters (340, 405, 450, 510, 546, 578, 620, 670, 700 nm)
- User defined Reflex Testing
- User defined Forbidden Pairs
- 7-step Laundry System
- Teflon coated Stirrer
- Calibration Points: K-Factor, Linear (one, two and multi point), Logit-log, Spline, Exponential, Polynomial (2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> order)
- Low water consumption of 6-8 litres per hour
- Easy-to-use Windows based software (Windows XP)

# Technical Specification



## Item

## Description

### Sampling Unit

System Type:	Turn Table type tray
Sample positions:	75 positions
STAT samples:	Any free position
Sampling:	Sample volume: 2-75 $\mu$ l ( 0.1 $\mu$ l steps); Sample replication possible for same test
Sampling probe:	Micro-pipette with level sensor; External & Internal washing with de-ionized water
	Equipped with Vertical & Horizontal obstruction detection facility
Rerun:	Execution by repeat run list or auto execution
Sample dilution:	Dilution ratio: 2X to 40X
Sample identification:	Barcoded for sample details and position

### Reagent Unit

Type:	Turn table type tray
Reagent tray:	60 positions for R <sub>1</sub> & R <sub>2</sub>
Reagent cooling:	16°C below ambient (cooled with refrigeration unit)
Reagent probe:	Micro-pipette with level sensor; Washing solution: external & internal washing with de-ionized water
	Equipped with Vertical & Horizontal obstruction detection facility
Reagent volume:	Reagent 1: 180 – 350 $\mu$ l (adjustable in 1 $\mu$ l steps); Reagent 2: 0, or 10 – 200 $\mu$ l (adjustable in 1 $\mu$ l step)
Mixing:	Teflon Coated Stirrer
Reagent identification:	Position ID; Barcode Identification for reagents
Carry over actions:	Wash with System Water/ Select Reagent/ Wash Solution

### Reaction Unit:

Type:	Turn Table
Reaction tray:	80 Reaction Cuvettes
Reaction temperature:	37 $\pm$ 0.2°C
Reaction Time:	30-600 seconds
Cuvettes:	80 Semi Disposable Cuvettes; Optical path length: 6.0 mm; Reaction volume: 180 $\mu$ l to 550 $\mu$ l

### Optical System:

System:	Multiple wavelength, Post Spectrometer with Fiber optics cable & sealed filters, maintenance free
Light source:	Halogen Tungsten lamp
Linearity:	0 to 3.0
Filters:	9 Static Filters (340, 405, 450, 510, 546, 578, 620, 670, 700 nm)

### Calibration & Quality Control:

Calibration:	Maximum 20 calibrators; 6 calibrators maximum per Chemistry
	One point to multipoint calibration possible with serial dilution for concentrated calibrator
Calibration curve:	K-Factor, Linear (one, two point and multipoint), Logit-log, Spline, Exponential, Polynomial
	Multipoint curves for up to 6 points
Quality control:	Within day as well as day-to-day X and X-R control diagram (L-J Graphs)
	Real time quality control based on Multi-rule method
	Mean, SD, %CV, R calculated for all parameters for sample replicates

### Process Management:

Reflex:	Reflex pair can be programmed by defining panic ranges
Monitor function	Offline / Online Reaction curve, Calibration curve and Operation status display
	Real Time Operation Status
Data storage capacity:	Test results: 1,000,000; Reaction curve: 40,000 tests
Report / list format:	Unique Alphanumeric patient id; Report generation: Patient wise, Test wise, Date wise, Doctor / Hospital wise
	Financial statistics to know reagent consumption based on tests and also price for each test
Alarms:	Sample / Reagent depleted, low DI water level and Waste container full
	Detergent level low and bio-hazard container full; Prompts on display with audible alarm
Water Supply:	Approximately 6-8 litres / hour (De-ionized water)

### Working Condition:

Power supply:	110/220 VAC, 50/60 Hz (Max. Power 250 W)
Temperature:	15 – 30 °C variation during operation: less than $\pm$ 2 °C per hour
Relative humidity:	40 – 80% free from water dew formation
Dimensions:	770 (W) x 640 (D) x 600 (H)
Weight:	Approximately 75 kg

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**Meril Diagnostics Pvt. Ltd.**

D1 - D3, Second Floor, Meril Park, Survey No. 135/2/B & 174/2, Muktanand Marg, Chala, Vapi - 396191, India

601, Midas, Sahar Plaza Complex, J.B Nagar, Andheri East, Mumbai - 400059

**Tel:** +91 22 30732400 | **Fax:** +91 22 39350777 | **Customer Care:** 1-800-266-3745 (Toll Free) | **Email:** diagnostics@merillife.com