

Compact Yet Efficient

AutoQuant 100 Amara™



AutoQuant 100 AmaraTM

There is an increase in the laboratories opting for automation, from manual & semi-automated systems. Meril introduces an Analyzer which is perfect for such laboratories looking for a basic Analyzer meeting its requirements. Meril has designed a Fully Automated Analyzer, AutoQuant 100 Amara that offers number of automated features, to enable their users to achieve optimal productivity. AutoQuant 100 Amara includes everything from intelligent sample management and remote system diagnostics to automated dilution, calibration and quality control (QC) – and a host of other advanced features.

Reagent & Sample Tray

- 22 refrigerated reagent positions & 22 sampling positions concentrically arranged
- Reagent & Sample positions are bar code enabled
- Detachable Reagent Tray
- Peltier based cooling system to maintain temperature between 8°C to 12°C
- 20 ml Reagent bottles
- Primary tubes & samples cups can be used
- Continuous loading



Figure. 1

Sample probe, Reagent probe & Stirrer

- Hydrophobic probes which prevents cross contamination
- Internal and external probe washing
- Probe carry over < 3%
- Capacitive level detection
- Vertical and horizontal obstruction detection facility to prevent probe crash
- Long life pipetting system with plunger driven by precised stepper motor
- Stainless Steel Stirrer

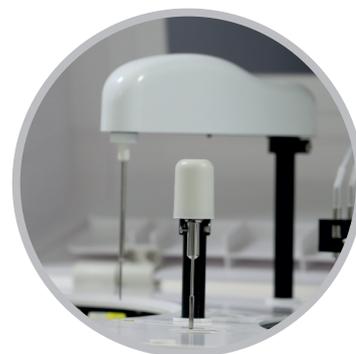


Figure. 2

Reaction & Optical System Unit

- 60 discrete, dismountable, easily replaceable and reusable cuvettes with 6.0 mm optical path
- Cuvette material ensures high transmittance with long life of 18 months
- 7-step on board washing, carry over < 1%
- Continuous cuvette blank checking, if blank exceeds the limit, cuvette is skipped

Software

- Online curve for all types of chemistries
- User defined reflex action ensures time management
- Pre-dilution & Auto-dilution facility
- Real Time online monitoring for running status of
 - Sample tray
 - Reagent tray
 - Reaction cuvette

Cooling System for Peltier

- Water based cooling system for peltier
- Prolongs the life of peltier
- Reduces the internal heat dissipation of instrument
- Ensures high onboard stability of reagents
- Reduce the electronic failure

Compact Yet Efficient



- **Accuracy:**
On board cooling and On board laundry system
- **High Precision:**
Meril cutting edge technology for volume measurement by ceramic block piston
- **Flexibility:**
Processing of emergency samples can be dealt on priority with STAT function
- **Artificial Intelligence:**
Auto-execution of rerun function enables intelligent sample management with defined auto-dilution facility
- **Ease of Operation:**
Windows based software, compact design

AutoQuant System Reagents

Mat Code	Material Description	Pack Size
ALBAQ1-01	ALBUMIN	6 x 20 ml
AMYAQ1-01	AMYLASE	4 x 20 ml
ALPAQ1-01	ALKALINE PHOSPHATASE	4 x 15 ml
GPTAQ1-01	ALAT (GPT)	6 x 20 / 6 x 5 ml
GOTAQ1-01	ASAT(GOT)	6 x 20 / 6 x 5 ml
BITAQ1-01	BILIRUBIN TOTAL	5 x 15 / 5 x 5 ml
BIDAQ1-01	BILIRUBIN DIRECT	5 x 15 / 5 x 5 ml
CAAAQ1-01	CALCIUM (A)	4 x 20 ml
CREAQ1-02	CREATININE	5 x 15 / 5 x 15 ml
CKNAQ1-01	CREATINE KINASE NAC	2 x 20 / 2 x 5 ml
CKMAQ1-01	CREATINE KINASE MB	2 x 20 / 2 x 5 ml
CHOAQ1-01	CHOLESTEROL	6 x 20 ml
HDLAQ1-01	HDL CHOLESTEROL (Direct)	2 x 18 / 2 x 6 ml
LDLAQ1-01	LDL CHOLESTEROL (Direct)	1 x 18 / 1 x 6 ml
CHDAQ1-01	CHLORIDE	4 x 20 ml
GGTAQ1-01	g-GLUTAMYL TRANSFERASE	1 x 20 / 1 x 5 ml
GLUAQ1-01	GLUCOSE	10 x 20 ml
LDHAQ1-01	LACTATEDEHYDROGENASE	1 x 20 / 1 x 5 ml
MAGAQ1-01	MAGNESIUM	4 x 20 ml
PHOAQ1-01	PHOSPHORUS	4 x 20 ml
TPRAQ1-01	TOTAL PROTEIN	6 x 15 ml
MTPAQ1-01	MICROPROTEIN	4 x 20 ml
TRGAQ1-01	TRIGLYCERIDE	6 x 20 ml
URCAQ1-01	URIC ACID	4 x 15 ml
UREAQ1-01	UREA	6 x 20 / 6 x 5 ml
MALAQ2-01	Micro Albumin	2 x 20 / 2 x 5ml
CRPAQ2-01	CRP	2 x 20 / 2 x 5ml
LIPAQ2-01	LIPASE	1 x 20 / 1 x 12 ml
HBAAQ2-01	HbA1c	2x15/2x5.5/1x75/4x0.5 ml

Controls & Calibrators:

CRNCNC-01	BioNorm	1 x 5 ml
CRPCNC-01	BioPath	1 x 5 ml
CALCNC-01	Bio Cal	4 x 3 ml

Technical Specifications

Throughput 120 tests / hour

System Functions

Analysis method End Point, Fixed Time (2-point), Kinetic Rate-A, Kinetic Rate-B
Assay modes Colorimetry, Turbidimetry, Single and Double reagent, Multi standard, Mono and Bi – Chromatic

Sample / Reagent handling

Sample position 22
Sample volume 2 - 50 μ l 0.1 μ l step
Sample dilution Dilution ratio of 2 to 40 times
Reagent positions 22 for R1 and R2
Reagent volume Reagent 1: 180 - 350 μ l (Adjustable in 1 μ l step)
Reagent 2: 0 or 10 - 350 μ l (Adjustable in 1 μ l step)

Reaction System

Reaction cuvettes 60 (Dismountable)
Cuvette washing On board laundry with 7 step washing system
Water consumption Approx. 3 litres / hour
Optical length of cuvette 6.0 mm
Reaction volume 180 - 550 μ l
Reaction time 30 to 600 sec (Depending on the designated cycle time and number of reagents)
Reaction temperature 37°C \pm 0.2°C

Optical System

Measurement Photometry
Light source Halogen Tungsten lamp with fiber optics
Detector Silicon photodiode
Wavelength Total 9 filters (340, 405, 450, 510, 546, 578, 620, 670, 700 nm)
Absorbance range 0 - 3.0 Abs
Resolution 0.0001 Abs

Calibration

K-Factor, Linear (one, two and multi point), Logit-log, Spline, Exponential, Polynomial (second, third and fourth order)
Calibration points Multipoint curves for up to 6 points execution by repeat run list or auto execution
Auto re-run Auto execution according to abnormal marking or range over

Data Storage

Test results: Unlimited tests
Reaction curve: Unlimited tests
Profiles: 20 per sample type
Within day as well as day-to-day X and X-R control diagram (L-J Graph)

Quality Control

Real time quality control based on Multi-rule method mean, SD, %CV, R is calculated for all parameters for sample replicates

Working Conditions

Power supply 110/220 VAC, 50/60 Hz (Max. Power 250 W)
Temperature 10° C - 30° C
Humidity 40% - 80% free from water dew formation

Operation System Input and Output

Windows XP , Windows 2007, Windows 8, Windows 10 or Winfix
Input RS 232 interface/computer
Output Multi Format Printout

Dimensions

550 mm (W) x 420 mm (D) x 380 mm (H)

Weight

Approx. 23 kgs

Meril Park



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