

GM7 Micro-Stat

Rapid Multiassay Analyzer



- **Extended Range of Analytes for Diabetes Research Studies**
- **Printed Results in 20-25 Seconds**
- **Windows RS232 Interface**
- **Small Sample Size**
- **One Low-cost Electrode Membrane for all Analytes**

Analog
INSTRUMENTS

Range of Analytes

The Analox Model GM7 laboratory analyzer enables researchers to obtain fast, accurate results for key analytes in clinical research studies. Its unique analysis menu includes programs for:

Glucose	Lactate	Acetoacetate	3-Hydroxybutyrate
Triglycerides	Glycerol	Uric Acid	Cholesterol
Pyruvate	Urea	Creatinine	Ammonia
Glutamine	Alcohol		

Samples

All assays accept plasma or serum samples. Glucose, lactate and urea may also be measured in whole blood. The GM7 requires only a small sample volume, typically 3-25 μ l depending on assay.

Application Areas include:

Diabetes Research	Clinical Research	Sports Medicine
Pediatric Studies	Biochemical Research	Metabolic Studies

Principle and Operation

For oxidase enzyme reactions, the analyzer measures the rate of oxygen consumption, which is directly proportional to the substrate concentration. Some assays proceed via dehydrogenase reactions in which the oxidation of the co-enzyme NADH (produced or consumed) is monitored.

For many assays, the simple injection of a sample is all that is needed to obtain a result and prepare the analyzer for the next analysis. Sample injection via an accurate positive displacement pipette triggers the complete analytical cycle and a hard-copy result is then obtained within 20-25 seconds.

Analyses are menu-driven via the display which guides the operator through the complete program. The calibration procedure ensures that the research user has full control of the analysis at all times. Reagent changeover between analytes is performed quickly and simply and all fluid pathways can be rapidly sterilized without compromising performance.

Typical Analytical Performance

	Glucose	Lactate
Linearity	0-540mg/dl (10 μ l sample) 0-900mg/dl (5 μ l sample)	0-90mg/dl (10 μ l sample) 0-180mg/dl (5 μ l sample)
Precision (plasma)	CV=1.0% @ 180mg/dl (n=20)	CV=0.6% @ 90mg/dl (n=30)
Accuracy Method comparison	Plasma, vs Hexokinase $y(\text{GM7}) = 0.96\text{HK} - 2.5\text{mg/dl}$ n=156, r=0.999	Whole blood, vs YSI $y(\text{GM7}) = 0.983\text{YSI} + 0.45\text{mg/dl}$ n=56, r=0.999

Instrument Specifications

Method	Enzymatic oxygen-rate
Sensor	Clark-type amperometric oxygen electrode
Printer	Integral; 16 column dot matrix, 1 line/sec
Interface	Serial data port, optional Windows software available
Power	100-250V AC, 50-60Hz, 12-15V DC, 60VA (Portable P-GM7 also has 5Ah integral rechargeable battery and charger unit)
Models	GM7 Mains, P-GM7 Portable (rechargeable, battery/mains)
Dimensions/Weight	10.6ins (width) x 13.8ins (depth) x 9.8ins (height) - 12.7lbs (Portable P-GM7 18.5lbs)

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