GM9 Fast Plasma Glucose Analyser

for Clinical and Research Applications

APPLICATION AREAS

- Metabolic Studies
- Biochemical Research
- Diabetic Research
- Glucose Clamping

MAIN FEATURES

- Plasma, serum and other aqueous solutions or whole blood via Analox collection systems
- Small sample sizes from 2.5 - 10 µl
- Printed results in under 20 seconds
- No sample turbidity or opacity errors
- Simple YES/NO operation
- Fully sterilizable fluid pathways
- Data output facility
- Compact size
- Fully portable version available

PRINCIPLE OF OPERATION

In the presence of molecular oxygen, β-D-glucose is oxidised by the enzyme glucose oxidase (GOD) to gluconic acid and hydrogen peroxide,

$$\beta\text{-D-Glucose} + O_2 \xrightarrow{\textit{Glucose Oxidase (GOD)}} \text{D-Gluconic acid} + H_2O_2$$

Under the conditions of the assay, the rate of oxygen consumption is directly proportional to glucose concentration.

ANALYTICAL PERFORMANCE

	Accuracy	Linearity	Precision (Within Run)
Glucose >	i) Method comparison vs Hexokinase: y(Analox) = 0.985x – 0.14 mmol/L, r = 0.999, n = 156 ii) Method comparison vs Beckman: y(Analox) = 1.005x – 0.07 mmol/L, r = 0.999, n = 123 iii) Method comparison vs YSI: y(Analox) = 1.008x – 0.01 mmol/L, r = 0.999, n = 97	30.0 mmol/L (540 mg/dl) for 10 µl samples; 50.0 mmol/L (900 mg/dl) for 5 µl samples	C.V. of 1.0 % @ 5 mmol/L (plasma) C.V. of 1.4 % @ 10 mmol/L (plasma) C.V. of 0.85 % @ 12 mmol/L (whole blood)

INSTRUMENT SPECIFICATIONS

Method	>	Enzymatic oxygen-rate	Statistical Programmes	>	Sequential, giving mean, S.D and C.V.
Sensor	>	Clark-type amperometric oxygen electrode	Interface	>	Serial data port, optional Windows software available
Sensitivity	>	0.1, or 0.01, selectable			
Reaction Temperature	>	30°C	Power	>	100-250V AC, 50-60Hz, 12-15V DC, 60VA
Display	>	32 character backlit LCD	Dimensions	>	Width 23cm, (9 ins) x Depth 29cm, (11¼ ins) x Height 15cm, 6¼ ins
Printer	>	16 column dot matrix, 1 line/sec	Weight	>	3.8 kg, 8 lb 6 oz Portable Model 5.9 kg, 13 lb

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