

## ANALOX

### LM5 Lactate Analyser



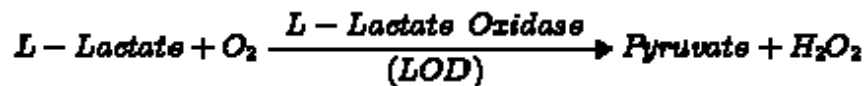
When considering oxygenation status, blood lactate levels often reveal vital information on respiratory, circulatory or metabolic performance not disclosed by acid-base data alone. In shock states, the lactate level is usually a good indication of severity, whilst serial measurements are useful in monitoring the effect of treatment, particularly in septic shock. Furthermore, in recent years the lactate level has been revealed as one of the most useful prognostic indicators of outcome when assessing patients received into ICUs in shock.

The Analox LM5 can obtain a lactate result on only 5µl of whole blood in less than 20 seconds from injection into the analyser. In fully portable form, the Analox P-LM5 lactate analyser provides one of the quickest near-patient lactate analyses available

#### Analytical Principle:

With lactate oxidase enzyme, the analyser measures the rate of oxygen uptake and, under appropriate controlled conditions, this is directly proportional to the concentration of the analyte.

Thus for Lactate in whole blood or plasma:



#### Operation:

The single action of injecting a sample is all you need to obtain a result and prepare the analyser for the next analysis. Sample injection via a very accurate positive displacement pipette also triggers the complete analytical cycle. A hard-copy result is then obtained on the integral printer within 20 seconds of sample introduction. The analyser is first calibrated with a known lactate standard.

Samples can be whole blood, plasma, serum or other biological fluids. Whole blood samples are collected in Analox capillaries or tubes containing heparin, fluoride and nitrite. Analyses are menu-driven via the 32-character display which guides the operator through the complete procedure. Subsidiary menus are reached via YES and NO buttons which enable the user to change calibration values, optimise operational modes, utilise special functions and perform statistical data analysis. The display also provides self-test diagnostics in relation to sensor electrode status and fluid movements.

<b>Analytical Performance</b>		
<b>Linearity</b>	0-10mmol/L using 5µl sample, 0-20mmol/L using 2.5µl sample	
<b>Accuracy (Recovery)</b>	Plasma, mean 99.25% (96-104%) range 2.5-10.0mmol/L	Whole blood, mean 97% (88-104%) range 3.5-11.0mmol/L
<b>Accuracy (Method Comparison)</b>	Plasma, vs Boehringer UV $y = 0.967x + 0.003$ ; n = 20, r = 0.997	Whole blood, (non lysed), vs YSI23L $y = 1.017x - 0.087$ ; n = 56, r = 0.998 Whole blood (lysed), vs Sigma UV $y = 0.992x - 0.049$ ; n = 24, r = 0.996
<b>Precision</b>	Plasma, n = 30 CV = 0.6% at 10.0mmol/L	Whole blood, n = 22 CV = 1.68% at 5.0mmol/L
<b>Sensitivity</b>	0.1mg/dl, 0.01%mmol/L (selectable)	

### Instrument Specification:

<b>Method</b>	Enzymatic oxygen-rate
<b>Sensor</b>	Clark-type amperometric oxygen electrode
<b>Reaction Temperature</b>	30°C
<b>Display</b>	32 character backlit LCD
<b>Printer</b>	16 column dot matrix, 1 line/sec.
<b>Statistics</b>	Sequential, giving mean, S.D and C.V.
<b>Interface</b>	Serial data port, optional Windows software available
<b>Power</b>	100-250VAC, 50-60Hz, 12-15VDC, 60VA
<b>Dimensions</b>	23cm(width) x 29cm(depth) x 15cm(height)
<b>Weight</b>	3.8Kg (Portable, 6Kg)

### Ordering Information:

<b>LM5 Mains</b>	Analyser, mains version
<b>P-LM5 Portable</b>	Portable analyser, rechargeable battery/mains
<b>GMRD-093/092</b>	Lactate reagent for intact whole blood - 250 and 1000 analyser cycles respectively, including 8.0mmol/L standard
<b>GMRD-100/103/102</b>	Lactate reagent for lysed whole blood - 100, 250 and 1000 analyser cycles respectively, including 8.0mmol/L standard
<b>GMRD-074</b>	Lactate quality control, 4 x 0.5ml
<b>GMRD-053/056</b>	Blood collection capillaries, pack of 100 and 500 respectively
<b>GMRD-050</b>	Record cards for collection capillaries, pack of 40
<b>GMRD-055/056</b>	Closures for collection capillaries, pack of 500 and 1000 respectively
<b>GMRD-070</b>	Heparinised capillary/microcentrifuge tube, lysing, for 'total' blood lactate (100-200µl), pack of 250
<b>GMRD-047</b>	Lysing tubes for 'total' blood lactate, 0.2ml sample, pack of 500