Roche

9180 Electrolyte Analyzer
Electrolyte Analysis you can count on

The Power of Combination

Hospital Point of Care

The concept

The 9180 Electrolyte Analyzer combines the advantages of automated analysis with the testing capabilities of several other types of instruments in a single, stand-alone unit, designed to meet the needs of today's medical professional.

Simple operation

Electrolyte results can be obtained from just 95 μl of whole blood, serum, plasma, acetate or bicarbonate dialysate, or pre-diluted urine using a simple Yes/No dialog. Several kind of sample container – collection tube, syringe, capillary or sample cup, Roche MICROSAMPLER – can be presented to the instrument probe for sampling. All reagents, as well as waste, are sealed in the convenient SnapPak container. The Electrolyte Analyzer monitors the amount of remaining reagent and prompts the user to insert a fresh SnapPak container when required. As a safeguard, a built-in sensor ensures that SnapPak has been correctly installed.

Full automation

The analyzer is fully automatic. A two-point calibration is carried out every four hours and a one-point calibration with each test, ensuring precision and conformity to even the most stringent regulatory requirements. Reagent remaining in the SnapPak container is displayed for user reference with each calibration. To conserve reagents and maxi-mize efficiency, the 9180 Electrolyte Analyzer can automatically enter stand-by mode during idle periods.

Flexibility

The innovative 9180 Electrolyte Analyzer is one of the instruments on the market to give you a choice of seven different, inter-changeable electrolyte configurations to fit your immediate and future testing needs. To change the configuration, all you have to do is substitute the electrode and re-calibrate. There is no need to change re-agents or replace any tubing.

The 9180 Electrolyte Analyzer can be configured in the following ways:
Na^+, K^+
Na^+, K^+, Cl^-
Na^+, K^+, Ca^{2+}
Na^+, K^+, Li^+
Na^+, Li^+
Na^+, Ca^{2+}, Li^+
Li^+
Na^+, Cl^-
Na^+, Ca^{2+}

Informative display
Patient, QC results and user menus are all shown clearly on the backlit display, while the built-in printer provides hard copy of patient sample, QC and calibration results if required.

Universal SnapPak
The feature that best demonstrates the 9180 Electrolyte Analyzer user-friendliness is the convenient SnapPak container, which contains all the solutions required for any electrolyte parameter configuration together with a sealed waste container for convenience and safety.

Yes/No
Easy operation
The complete operation is controlled with the Yes/No buttons.

Interchangeable electrodes
The combination of measured parameters can be changed to one of several different configurations simply by installing the necessary electrodes.

Low maintenance

Low maintenance is one of the hallmarks of analyzers, and the 9180 Electrolyte Analyzer is no exception. With his long-life, zero-maintenance electrodes, single-pump design and simple fluidic path, the 9180 Electrolyte Analyzer keeps routine service to a minimum. Reagents and waste are sealed in the SnapPak container, eliminating the need to change individual bottles or handle bio-waste.

Quality assurance

The 9180 Electrolyte Analyzer incorporates a Quality Control program, which stores up to 35 values of each of three control levels and automatically flags out-of-range results. QC statistics, including a running mean value, standard deviation and coefficient of variation, can be printed out on all three QC levels at any time, providing the user with an immediate trend analysis of instrument performance.

Precision sensors

The long-life, maintenance-free electrodes are at the heart of every Electrolyte Analyzer. They form a totally visible sample chamber and ensures a high precision and reliability.

Quality control solution

ISETROL, a precisely formulated control, that needs no refrigeration, is the product of choice to monitor the performance of the 9180 Electrolyte Analyzer.

9180 Electrolyte Analyzer
Reliability, flexibility and ease of use …

All the features you have wanted in an electrolyte analyzer come together in the 9180 Electrolyte Analyzer.

For the first time, reliability, flexibility, ease of use and low running costs are combined in a single, competitively priced instrument. You can count on the 9180 Electrolyte Analyzer, with their simple, hands-on operation and low maintenance, to go on delivering reliable results time after time.

You can count on the 9180 Electrolyte Analyzer to provide the testing flexibility you need for your changing workload, with their interchangeable electrodes, multiple sampling and stand-by mode.

And you can count on the 9180 Electrolyte Analyzer to bring you consistently high quality and performance, with their maintenance-free electrodes, combined with extensive performance monitoring.

9180 Electrolyte Analyzer
Specifications

Electrodes

Sodium Sensor	Na$^+$	ion selective, flow-through, glass capillary electrode
Potassium Sensor	K$^+$	ion selective, flow-through, liquid membrane electrode
Chloride Sensor	Cl$^-$	ion selective, flow-through, liquid membrane electrode
Ionized Calcium Sensor	Ca^{2+}	ion selective, flow-through, liquid membrane electrode
Lithium Sensor	Li$^+$	ion selective, flow-through, liquid membrane electrode
Reference System		open liquid junction, flow-through electrode

Measuring Range (in mmol/L)

Whole Blood, Serum, Plasma, QC-Material	Na$^+$	resolution 0.1 mmol/L	range 40–205 mmol/L
	K$^+$	resolution 0.01 mmol/L	range 1.5–15 mmol/L
	Cl$^-$	resolution 0.1 mmol/L	range 50–200 mmol/L
	Ca^{2+}	resolution 0.001 mmol/L	range 0.2–5.0 mmol/L
	Li$^+$	resolution 0.001 mmol/L	range 0.1–6.0 mmol/L
Dialysate	Na$^+$	resolution 0.1 mmol/L	range 40–205 mmol/L
	K$^+$	resolution 0.01 mmol/L	range 0.8–15.0 mmol/L
	Cl$^-$	resolution 0.1 mmol/L	range 50–200 mmol/L
	Ca^{2+}	resolution 0.001 mmol/L	range 0.2–5.0 mmol/L
Urine	Na$^+$	resolution 1.0 mmol/L	range 1–300 mmol/L
	K$^+$	resolution 0.1 mmol/L	range 4.5–120 mmol/L
	Cl$^-$	resolution 1.0 mmol/L	range 1–300 mmol/L

Calcium is not measured on urine. Lithium is not measured on urine or dialysate fluid.

Operating Parameters

Sample Size	95 µl typical
Sample Type	whole blood, serum, plasma, urine dialysate, aqueous stds, QC
Sample Application	syringe, sample cup, collection tube, capillary Roche MICROSAMPLER
Analysis Time	50 seconds
Sample Rate	60 samples/hour without printout; 45 samples/hour with printout
Calibration	fully automatic, 1-point with every sample; 2-point every 4 hours
Data Management	quality control storage: 3 levels, 34 days; calculation of mean, SD and CV
Correlation Factors	user programmable for sample types: blood, urine, dialysate types
Normal Values	flagging of abnormal results; user programmable ranges
Standby Mode	user or automatically controlled
Diagnostic Programs	user-controlled diagnostics with easy to understand messages
Electronics	microprocessor controlled; memory for last 20 error messages
Display	dot matrix, 2 lines, 16 characters wide
Printout	built-in, thermal roll priner; 16 characters wide
Languages	on-board; English, German, French, Spanish, Japanese, Italian, Polish
Computer Interface	RS-232C (standard serial port)
Data Link	Interface to COMPACT 2 and 3 Blood Gas Analyzer
Temperature	room temperature, 15°C – 32°C (60°F – 90°F)
Relative Humidity	< 85%, non-condensing
Power Requirements	110 – 240 V, 50/60 Hz (self-adjusting) 1.4 Amp Max
Dimensions	H × W × D: 33.5 × 31.5 × 29.5 cm (13.2 × 12.4 × 12.0 in)
Weight	6 Kgs (13 lbs) approx.
Approvals	**CSA**
Declaration of Conformity	**CE (EN45014)**

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Roche Diagnostics

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