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 maximize 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, interchangeable electrolyte configurations to fit your immediate and future testing needs. To change the configuration, all you have to do is substitute the electrode and recalibrate. There is no need to change reagents or replace any tubing.

The 9180 Electrolyte Analyzer can be configured in the following ways:

- Na⁺, K⁺
- Na⁺, K⁺, Cl⁻
- Na⁺, K⁺, Ca²⁺
- Na⁺, K⁺, Li⁺
- Na⁺, Li⁺
- Na⁺, Ca²⁺, Li⁺
- Li⁺
- Na⁺, Cl⁻
- Na⁺, Ca²⁺

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.

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

Low maintenance
Low maintenance is one of the hallmarks of analyzers, and the 9180 Electrolyte Analyzer is no exception. With its 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 SnapPack 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.

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 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.

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.
### 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**
  - Ca²⁺ ion selective, flow-through, liquid membrane electrode
- **Lithium Sensor**
  - Li⁺ ion selective, flow-through, glass capillary electrode

### Reference System
- Open liquid junction, flow-through electrode

### Measuring Ranges (in mmol/L)

<table>
<thead>
<tr>
<th>Sample Type</th>
<th>Na⁺</th>
<th>K⁺</th>
<th>Cl⁻</th>
<th>Ca²⁺</th>
<th>Li⁺</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Blood, Serum, Plasma, QC-Material</td>
<td>0.1 resolution 0.1 mmol/L</td>
<td>0.01 mmol/L</td>
<td>0.1 mmol/L</td>
<td>0.001 mmol/L</td>
<td>0.001 mmol/L</td>
</tr>
<tr>
<td>Range</td>
<td>40–205 mmol/L</td>
<td>1.5–15 mmol/L</td>
<td>50–200 mmol/L</td>
<td>0.2–5.0 mmol/L</td>
<td>0.1–6.0 mmol/L</td>
</tr>
<tr>
<td>Dialysate</td>
<td>0.1 resolution 0.1 mmol/L</td>
<td>0.01 mmol/L</td>
<td>0.1 mmol/L</td>
<td>0.001 mmol/L</td>
<td>0.001 mmol/L</td>
</tr>
<tr>
<td>Range</td>
<td>40–205 mmol/L</td>
<td>0.8–15.0 mmol/L</td>
<td>50–200 mmol/L</td>
<td>0.2–5.0 mmol/L</td>
<td>0.1–6.0 mmol/L</td>
</tr>
<tr>
<td>Urine</td>
<td>1.0 resolution 1.0 mmol/L</td>
<td>0.1 mmol/L</td>
<td>1.0 mmol/L</td>
<td>0.001 mmol/L</td>
<td>0.001 mmol/L</td>
</tr>
<tr>
<td>Range</td>
<td>1–300 mmol/L</td>
<td>4.5–120 mmol/L</td>
<td>1–300 mmol/L</td>
<td>0.2–5.0 mmol/L</td>
<td>0.1–6.0 mmol/L</td>
</tr>
</tbody>
</table>

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**: sample cup, collection tube, capillary Roche MICROSAMPLER
- **Analysis Time**: 50 seconds
- **Sample Rate**: 60 samples/hour without printout; 45 samples/hour with printout
- **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
- **Interface**: built-in, serial printer: 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**: range temperature, 15°C – 32°C (60°F – 90°F)
- **Relative Humidity**: < 85%, non-condensing
- **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

---

**SMAPPAK, ISETROL and Roche MICROSAMPLER are trademarks of a member of the Roche Group.**

**www.roche-diagnostics.com/npt**

**Diagnostics**

Roche Diagnostics GmbH
Roche Near Patient Testing
D-68298 Mannheim
Germany