

Case No.	CAS-0013225018	Instrument Model	ELECTROLYTE ANALYZER W/O STARTERKIT 9180		
Order No.	ORD-0017062730	Instrument Serial No.	22159		
Contract Type	PREVENTATIVE MAINTENANCE & PARTS	Finance Status	CASH		
Lab/Inst./hosp.Name	Arth Diagnostics Pvt Ltd				
Customer No.	0052070145				
Contact Name :	ARVINDER Singh				
Contact Number :	+919929093266				
Address :	Plot#4C,Apex Chamber,				
City :	Udaipur				
Call Received Date/Time:	31.03.2021 13:45	Call Attended Date/Time:	12.05.2021 14:00		
Job Type	PM Visit				
Job Description	PM VisitFlash Comments/////				
Action Summary	Workdone:Preventive Maintenance done Calibration Done Customer Satisfaction RatIn5 (1-5):5				
Spare Part Replaced					
Part No	Parts Description	Batch No	Batch Expiry Date	Qty	Invoice Type
03074064001 ⁽¹⁾	HARNES, MAIN TUBING, 918X ⁽¹⁾			1	Free of charge

(1): Customer owned

Time Report

Effective Visit Date : 12.05.2021		Complete Date : 12.05.2021
Date	Type	Time
2021.05.12	Travel Time--Standard	1
2021.05.12	Working Time--Standard	0.75
Total:		1.75
Customer's Signature Name : Mahendra K Sen	Service Engineer/Application Specialist Name : Manoj Vishwakarma	
Date: 12.05.2021	Date: 12.05.2021	

Disclaimer

1. This Service report has been signed by the authorized representative of your organization.

Preface

The 9180 Electrolyte Analyzer is a powerful tool designed to quickly, accurately and efficiently conduct basic electrolyte testing in the convenience of the laboratory.

This manual has detailed descriptions of 9180 Electrolyte Analyzer features and general operational concepts, specification functions and use of controls, operating techniques, emergency procedures, product labeling and maintenance procedures.

How to use this manual





- Keep this Instructions for Use in a safe place to ensure that it is not damaged and remains available for use.
- This Instructions for Use should be easily accessible at all times.



To help you find information quickly, there is a table of contents at the beginning of the book and each chapter. In addition, a complete index can be found at the end.

Conventions used in this manual

Visual cues are used to help locate and interpret information in this manual quickly. This section explains formatting conventions used in this manual.




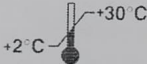







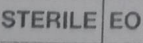
Symbols The following symbols are used:

Symbol	Used for
▶	Start of procedure
•	List item
👁	Cross-reference
☞	Call-up (software reference)
💡	Tip
	Attention All sections / passages that are marked with this symbol describe procedures and/or indicate conditions or dangers that could damage or lead to a malfunction in the 9180 Electrolyte Analyzer.
	Warning Sections marked with this symbol contain information that must be observed to avoid potential injuries (to patients, users and third parties).

Symbol	Used for
	<p>Risk of infection!</p> <p>All sections and parts of texts that are marked with this symbol describe procedures that may involve risk of infection.</p>
	<p>ESD protective measures</p> <p>All sections / text passages that are marked with this symbol refer to components that require special care with respect to electrostatic discharges. Packaging with this label may be opened by trained personnel only.</p>

IVD symbols

The symbols are used in accordance with DIN EN ISO 15223-1^(a) and DIN EN ISO 780^(b).

Symbol	Description
	<p>Conformité Européenne:</p> <p>This product complies with the requirements in the guideline for In Vitro Diagnostic 98/79/EC.</p>
	Batch code
	<p>Consumables: use by... (expiry date)</p> <p>The product should not be used after expiry of the specified date. If a day is not indicated, apply the last day of the respective month.</p>
	<p>Temperature limitation</p> <p>The conditions necessary to preserve the product's shelf life before opening.</p>
	In Vitro Diagnostic Medical Device
	<p>Manufacturer</p> <p>(according to In Vitro Diagnostic guidelines 98/79/EG)</p>
	Catalogue number
	Caution, consult accompanying documents.
	Consult Instructions for Use.
	Serial number (model plate)
	Do not use if package damaged.
	<p>Valid only for Roche MICROSAMPLER PROTECT:</p> <p>Method of sterilization using ethylene oxide</p>

(a) DIN EN ISO 15223-1: Medical devices - Symbols to be used with medical device labels, labelling and information to be supplied - Part 1: General requirements

(b) DIN EN ISO 780: Packaging - Pictorial marking for the handling of goods

Measurement and calibration procedures

Measurement procedure

The 9180 Electrolyte Analyzer methodology is based on the ion selective electrode (ISE) measurement to determine the measurement values

👁 see Chapter 4 *Theoretical foundation*, section *Measurement principle* on page A-36.



It is very important that the main door be closed during sampling to provide shielding from sources of electromagnetic and electrostatic interference.

There are six different electrodes used in the 9180 Electrolyte Analyzer: sodium, potassium, chloride, ionized calcium, lithium and a reference electrode. Each electrode has an ion-selective membrane that undergoes a specific reaction with the corresponding ions contained in the sample being analyzed. The membrane is an ion exchanger, reacting to the electrical charge of the ion causing a change in the membrane potential, or measuring voltage, which is built up in the film between the sample and the membrane.

A galvanic measuring chain within the electrode determines the difference between the two potential values on either side of the membrane. The galvanic chain is closed through the sample on one side by the reference electrode, reference electrolyte and the "open terminal".

The membrane, inner electrolyte and inner electrode close the other side.

A difference in ion concentrations between the inner electrolyte and the sample causes an electro-chemical potential to form across the membrane of the active electrode. The potential is conducted by a highly conductive, inner electrode to an amplifier. The reference electrode is connected to ground as well as to the amplifier.

The ion concentration in the sample is then determined by using a calibration curve determined by measured points of standard solutions with precisely known ion concentrations.

Calibration procedure

A 2-point calibration is performed automatically every 4 hours in [READY] mode and a 1-point calibration is automatically performed with every measurement.

An automatic calibration procedure is also performed shortly after power-on or reset. A calibration cycle can also be initiated manually at times when no sample measurements are performed.

Measurement evaluation

The validity of the test results from the 9180 Electrolyte Analyzer must be carefully examined by a clinical-medical specialist who will take the patient's clinical condition into consideration before any clinical decisions are reached based on the test results.

In order to ensure the quality of the measurement results, complete a quality control test on 3 levels (1=low, 2=normal, 3=high) after each electrode exchange, after each replacement of the SnapPak, after startup of the instrument as well as after monthly, semi annual and annual maintenance steps.

Additionally, at least once daily one QC measurement has to be performed in alternating levels (1=low, 2=normal, 3=high) (e.g., day 1 - level 1, day 2 - level 2, day 3 - level 3, day 4 - level 1, etc.). When required by local regulations, QC measurements must be performed more often.

A quality control program for electrolytes includes the analysis of sample materials with known ranges of expected values and the comparison of these values with analyzer results.

👁 For further information, see Chapter 8 *Quality control*.

Important safety instructions

For your own safety and the proper operation of your equipment, always follow these precautions when working with the 9180 Electrolyte Analyzer:

- Keep the analyzer away from all sources of liquids such as sinks and wash basins.



Do not use ammonia-based or alcohol-based cleaners, which can chemically react with plastic, on or around the analyzer.

- Always handle blood samples and collection devices with appropriate care.
- Use approved protective gloves to avoid direct contact with sample.
- Aseptic procedures are required when cleaning the sampling probe to avoid contamination.
- Dispose of SnapPak according to local regulations.

Sample collection and handling

While handling samples, all necessary regulations concerning hygiene must be observed.

Dangerous pathogenic agents could be present.

👁 For further information, see Chapter 7 *Measurement*.

R.3

L-3

- 9180 -
ELECTROLYTE ISE
- NA-K-CL -
19MAY22 23:41

Name:
.....

Sample: SERUM

Sample No.-3573

Na= 153↑ mmol/L
K = 6.2↑ mmol/L
Cl= 115↑ mmol/L

*PERFORM DAILY *
* MAINTENANCE! *