epoc
Blood Analysis System
Product Specifications

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SIEMENS Healthineers

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System Specifications	
System Description	Point of care blood gas, electrolytes, metabolites and hematocrit analyzer
Sample Types	Whole blood: arterial, venous, mixed venous, capillary
Sample Size	At least 92 µL
Time to Result	Less than a minute
Calibration	Automatically performed prior to every test
Quality Control	Eurotrol GAS-ISE Metabolite control; Eurotrol Hematocrit control
Integrated Bar-code Scanner	Patient ID and Operator ID; 1D and 2D bar-code format
External Interfaces	HL7
Power Requirements	100–240 VAC; 50–60 Hz (Reader)
Battery	Yes, at least 50 test cards
Safety	IEC 61010-1, IEC 61010-2-81, IEC 61010-2-101, CSA/UL 601 (Reader)
EMC	IEC60601-1-2 (Reader with AC adapter); IEC 61326-1, IEC 61326-2-6
Operating System	MICROSOFT Windows Mobile 6.5 Classic
Communication	Real Time Wireless, LIS/HIS via data management system, POC Informatics Solutions

Test Card	
Storage	15–30°C
Shelf Life	Up to 5 months
Size	3.39 in (L) × 2.13 in (W) × 0.06 in (H) 86 mm (L) × 54 mm (W) × 1.4 mm (H)

System Dimensions	Host	Reader
Length	5.78 in 147 mm	8.46 in 215 mm
Width	3.03 in 77 mm	3.35 in 85 mm
Height	1.06 in 27 mm	2 in 50 mm
Weight	12.5 oz 359 g	<1.1 lb <500 g
Display	PENTILE 3.5 in VGA	—

Environmental Requirements		
Operating Temperature	-10°C–50°C (Host)	15°C–30°C (Reader)
	15°C–30°C (Test Card)	
Humidity	Up to 95% relative humidity, non-condensing (Host) Up to 85% relative humidity, non-condensing (Reader and Test Card)	
Barometric Pressure	400–825 mmHg (53.33–110 kPa)	

Measured Parameters

Parameter	Unit of Measure	Measurement Range
pH	pH units	6.5–8.0
pCO_2	mmHg kPa	5–250 0.7–33.3
pO_2	mmHg kPa	5–750 0.7–100
Na^+	mmol/L mEq/L	85–180
K^+	mmol/L mEq/L	1.5–12.0
Ca^{++}	mmol/L mg/dL mEq/L	0.25–4.00 1.0–16.0 0.5–8.0
Cl^-	mmol/L mEq/L	65–140
Glu	mmol/L mg/dL g/L	1.1–38.5 20–700 0.20–7.00
Lac	mmol/L mg/dL g/L	0.30–20.00 2.7–180.2 0.03–1.80
Crea	mg/dL µmol/L	0.30–15.00 27–1326
Hct	% PCV L/L	10–75 0.10–0.75

Calculated Parameters

Parameter	Unit of Measure	Measurement Range
cHgb	g/dL mmol/L g/L	3.3–25 2.0–15.5 33–250
$cHCO_3^-$	mmol/L mEq/L	1–85
$cTCO_2$	mmol/L mEq/L	1–85
BE(ecf)	mmol/L mEq/L	-30–+30
BE(b)	mmol/L mEq/L	-30–+30
cSO_2	%	0–100
eGFR	mL/min/ 1.73m^2	2–60 or >60*
eGFR-a	mL/min/ 1.73m^2	2–60 or >60*
AGap	mmol/L mEq/L	-14–+95
AGapK	mmol/L mEq/L	-10–+99
A	mmHg kPa	5–800 0.67–106.64
A-a	mmHg kPa	1–800 0.13–106.64
a/A	% fraction	0–100 0–1

Institutions should establish and set their own normal range values.

"The smart card technology of epoc reduces cost and maximizes efficiency in the hospital setting."†

Agarwal, S et al. Evaluation of the analytical performance of the modified enterprise point-of-care blood gas and electrolyte analyzer in a pediatric hospital. Point of Care 13(4): Dec 2014.

*Values >60 will be reported as >60 mL/min/1.73 m^2.
†The outcomes obtained by the Siemens Healthineers customer described here were realized in the customer's unique setting. Since there is no typical laboratory, and many variables exist, there can be no guarantee that others will achieve the same results.

Siemens Healthineers Headquarters
Siemens Healthcare GmbH
Henkestr. 127
91052 Erlangen
Germany
Phone: +49 9131 84 0
siemens.com/healthineers

Local Contact Information
Siemens Healthcare Diagnostics Inc.
Point of Care Diagnostics
2 Edgewater Drive
Norwood, MA 02062-4637
USA
Phone: +1 781-269-3000
siemens.com/healthineers

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