

ABL80 FLEX

Specifications



Measured parameters

Type	Parameter	Units	Measuring range	Cassette type		
				Full Panel		BG/Hct
				w/Glu	w/o Glu	
pH Blood Gas	pH		6.00–8.00	x	x	x
	$p\text{CO}_2$	mmHg	0–150	x	x	x
		kPa	0.0–20.0			
	$p\text{O}_2$	mmHg	0–760	x	x	x
kPa		0.0–101.3				
Electrolytes	cCa^{2+}	mmol/L	0.00–5.00	x	x	
		mEq/L	0.00–10.00			
		mg/dL	0.00–20.00			
	cCl^-	mmol/L	0–250	x	x	
		mEq/L	0–250			
	cK^+	mmol/L	0.0–20.0	x	x	
		mEq/L	0.0–20.0			
	cNa^+	mmol/L	0–210	x	x	
mEq/L		0–210				
Glucose	cGlu	mmol/L	0.0–75.0	x		
		mg/dL	0–1351			
Hematocrit	Hct	%	0–85	x	x	x

The *Measuring range* is defined as the limits within which the analyzer is capable of displaying parameter values.



Derived and input parameters

Derived parameters

Parameter	Description		
cHCO ₃ (P)	Concentration of bicarbonate	Anion Gap (K ⁺)	Molecular difference in concentration of sodium and potassium and concentration of bicarbonate plus chloride
cBase(B)	Concentration of titratable base in blood (actual base excess)	Anion Gap	Molecular difference in concentration of sodium and the concentration of bicarbonate plus chloride
cBase(B,ox)	Concentration of titratable base in fully oxygenated blood	ctO ₂	Concentration of total oxygen in whole blood (O ₂ content)
cBase(Ecf)	Concentration of titratable base in extracellular fluid (standard base excess)	sO ₂	Oxygen saturation of hemoglobin
cBase(Ecf,ox)	Concentration of titratable base in extracellular fluid from fully oxygenated blood	ctHb	Concentration of total hemoglobin in whole blood
cHCO ₃ (P,st)	Concentration of bicarbonate in plasma of standardized blood (standard bicarbonate)	pO ₂ (A)	Oxygen tension in alveolar air
ctCO ₂ (P)	Concentration of total carbon dioxide in plasma	pO ₂ (a/A)	Arterio-alveolar oxygen tension ratio
ctCO ₂ (B)	Concentration of total carbon dioxide in whole blood (CO ₂ content)	pO ₂ (A-a)	Alveolo-arterial oxygen tension difference
cCa ²⁺ (7.40)	Concentration of calcium ion in whole blood at a pH of 7.40	RI	Respiratory index
		mOsm	Osmolality

Input parameters

Type	Definition		
User ID/Name	Operator identification	Department	Department responsible for sample analysis
Patient ID	Patient identification number	Date of birth	Date patient was born
Patient name	Patient name, first and last	Weight	Units of lbs or kg
Sample type	Arterial, Venous, Mixed Venous, Capillary, Other fluids, Proficiency test	Birth weight	Units of oz, g, or kg
Patient type	User-defined up to 6	Gestational age	0–99 weeks
Draw time	Time of day the sample was taken	Height	Units of inches, cm, or meters
Sample site	Other, brachial left/right, femoral left/right, radial left/right, finger left/right, heel left/right, scalp, umbilical cord, arterial line, PA catheter, bypass pump	Measured O ₂ sat	Measured oxygen saturation
Drawn by	ID of person drawing the sample	Measured Hb	Measured hemoglobin concentration
Pt. temp	Patient temperature	FO ₂ (I)	Fraction of oxygen in dry inspired air
Room number	Patient room location	Baro	Barometric pressure
Accession number	Unique sample order number	Default ctHb	Default ctHb value
Department (patient)	Patient department location	Liter Flow	Liters-per-minute flow of oxygen to the patient
		Order date	Date the sample was ordered
		Physican	ID of person ordering the test
		Gender	Male, female, unknown
		Note	Free text, 100 characters

General information

Hardware

Computer specifications

Microsoft Windows®XP Embedded operating system
Minimum 1 GB hard drive
ETX single board CPU
Minimum 512 MB EDO-RAM

Interface

Barcode reader
Serial line RS232
RJ45 Ethernet port
2 USB 1.1
PS2 keyboard

Software

Correlation correction

Standard correlation mode:
For whole blood; all parameters available
Other fluids mode: For all parameters except Hct
Hemodilution mode: For the Hct parameter only

Data capacity

Patient results: 500
System cycle results: 500
Manual QC results: 500
2-point cal. results: 500
Event records: 1500
Security records: 1500
User IDs: Unlimited

Printer display options

Autoprint (on/off)
Select derived parameters
Five lines for custom header
Temperature corrected results
QC ranges with results
Select input variables
Reference ranges with results
Analyzer name (user-defined)
Edit log

Additional information

Dimensions

Width	22 cm	9 in
Height	40 cm	16 in
Depth	28 cm	11 in
Weight	8.5 kg	19 lbs

* Not available at the time of the release

Printer

Optional custom header:
25 characters max per line
Thermal sensitive
Paper width: 80mm ± 1.10

Display

Full visual graphic array (VGA)
Full active Thin Film Transistor (TFT)
800 x 600 resolution
Resistive touch screen

Security and QA features

Automatic, on-board QC³ quality control system
Seven programmable user-access levels
Unlimited User ID and access-level verification
Automatic lockout of parameter that fails QC or option to inactivate individual sensors for failed calibration
QC statistics and on-board Levey-Jennings plots
Air-in-sample detection
Mandatory input fields

Communication

HIS/LIS communication

High-level protocols:
ASTM (E1394-97)
ASTM 6xx
HL7 (Version 2.2/2.5)
POCT1-A*

Low-level serial protocols:
ASTM (E1381-95)

Low-level network protocols:
TCP/IP

RADIANCE communication

Interface via Ethernet adapter

Other

Startup time	After sensor cassette change: ~ 8 min (~ 20–25 min with glucose)
Operating environment	12–28 °C / 54–82 °F
Altitude correction	2290 m/7513 feet above sea level
Power	100–240 VAC, 50/60 Hz, 130 VA
Thermostat control	37.0 °C ± 0.2 within 10 sec



Analyzer performance

Sensor cassette

Sample volume	~ 70 µL
Cycle time	~ 100–115 sec
Shelf life	120 days
Storage temperature	5–25 °C / 41–77 °F

Model with and without QC³

SC80	25/30	50/30	100/30	200/30	300/30	300/15
Patient tests	25	50	100	200	300	300
In-use lifetime (days)	30	30	30	30	30	15

Automatic QC

QC ³ enabled	x	x	x	x	x	x
QC ³ not enabled	x	x	x	x	x	x

Solution pack

In-use lifetime	Dependent on number of patient and QC samples and frequency of calibration. Up to 30 days maximum.			
Shelf life	120 days			
Storage temperature	5–25 °C / 41–77 °F			
	Solution 1	Solution 2	Solution 3	Solution 4
Fluidic cycles	230	110	110	110
Pouch volume	~ 440 mL	~ 220 mL	~ 220 mL	~ 220 mL

Calibration data

Details	Default interval	Interval options	Duration
Automatic: 1-point cal	With measurement	-	-
Automatic: 2-point cal as part of system cycle	8 hours	Every 2, 4 or 8 hours or manual	4 min. system cycle

ACUTE CARE TESTING