RADIOMETER

ABL90 FLEX analyzer Specifications

Measured parameters

Type	Parameter	Units	Range of indication
pH	pH	pH scale	6.3 – 8.0
Blood gas	pCO_2	mmHg; Torr	5 – 250
		kPa	0.67 – 33.3
	pO_2	mmHg; Torr	0 – 800
		kPa	0 – 107
Electrolyte	cK^+	mmol/L	0.5 – 25
		meq/L	0.5 – 25
	cNa^+	mmol/L	7 – 350
		meq/L	7 – 350
	cCa^{2+}	mmol/L	0.1 – 9.99
		meq/L	0.2 – 19.98
		mg/dL	0.4 – 40.04
	cCl^-	mmol/L	7 – 350
		meq/L	7 – 350
Metabolite	cGlu	mmol/L	0 – 60
		mg/dL	0 – 1081
	cLac	mmol/L	-0.1 – 31
		meq/L	-0.1 – 31
		mg/dL	-1 – 279
Oximetry	sO_2	%	-2 – 102
		fraction	-0.02 – 1.02
	ctHb	g/dL	-0.48 – 27.7
		g/L	-4.8 – 277
		mmol/L	-0.30 – 17.2
	FO_2Hb	%	-2 – 103
		fraction	-0.02 – 1.03
	*F*COHb	%	-2 – 103
		fraction	-0.02 – 1.03
	*F*MetHb	%	-2 – 103
		fraction	-0.02 – 1.03
	*F*HHb	%	-2 – 102
		fraction	-0.02 – 1.02
	*F*HbF	%	-25 – 121
		fraction	-0.25 – 1.21
	ctBil	µmol/L	-20 – 1000
		mg/dL	-1.2 – 58.5
		mg/L	-12 – 585

The *Range of indication* for a parameter is the range within which the analyzer is physically capable of measuring, as defined in the 'International vocabulary of basic and general terms in the metrology' (VIM).

Derived parameters

*p*H(*T*)
$pCO_2(T)$
$cHCO_3^-$(P)
*c*Base(B)
*c*Base(B,ox)
*c*Base(Ecf)
*c*Base(Ecf,ox)
$cHCO_3^-$(P,st)
cH^+
$cH^+(T)$
$ctCO_2$(P)
$ctCO_2$(B)
pH(st)
$pO_2(T)$
pO_2(A)
pO_2(A,*T*)
*p*50
*p*50(*T*)
*p*50(st)
pO_2(A–a)
pO_2(A–a,*T*)
pO_2(a/A)
pO_2(a/A,*T*)
pO_2(a)/FO_2(I)
pO_2(a,*T*)/FO_2(I)
cCa^{2+}(pH=7.40)
Anion Gap(K^+)
Anion Gap
DO_2
Hct
pO_2(x)
pO_2(x,*T*)
ctO_2(B)
ctO_2(a–$\bar{v}$)
BO_2
ctO_2(x)
*F*Shunt
*F*Shunt(*T*)
RI
RI(T)
VO_2
*m*Osm
Qx
Q_t
V(B)
sO_2
FO_2Hb

Measuring system

Sample volume (all parameters)	65 µL
Measuring time (all parameters)	35 sec
Cycle time	60 sec
Throughput	44 samples/hour
Average uptime	more than 23.5 hours/day

Security and QA features

Advanced planning of replacement and QC schedules
Optional automatic QC at startup and after replacements
Customizable QC and calibration schedule.
Continuous sensor status monitoring with corrective more precise results.

Sensor cassette

In-use lifetime	30 days
Shelf life	4 months
Storage temperature	2 – 8 °C
Automatic QC	Yes
BG / LYT / OXI with QC: BG / LYT / MET / OXI with QC:	600 tests 100/300/600/900/1200 tests

Solution pack

Estimated lifetime of solution packs (days)

No of tests per day	5	10	15	20	30	50
SP90 (680 activities)	30	30	24	20	15	10
SP90 XL (980 Activities)	30	30	30	30	23	15

In-use lifetime	30 days
Shelf life	6 months*
Storage temperature	2 – 25 °C
Startup time	10 minutes

* Germany 3 months

Sample handling

Inlet

Position for syringe as well as capillary and test tube
Aspiration from capillary tube without adapter

Sample mixer

Mixing time 7 seconds
For *safe*PICO samplers

Hardware

Computer specifications

8” color TFT-LCD, resolution 800 × 600 SVGA Touch screen
Thermal-sensitive printer

Interface

Built-in barcode reader for operator & sampler ID
  Accepted codes: Code 128, Code 39, Code 93, Interleaved 2 of 5, Codabar
Serial interface RS232 with power for external barcode reader
3 USB connections
Optional external keyboard
Optional external mouse
Optional external barcode reader

Software

Software platform

Microsoft® embedded software
SAP® SQL Anywhere

Data capacity

Patient log: 2000
Activity log: 5000
Calibration adjustment log: 1000
Data secured by password protection
8 different user profiles

Printer display options

Auto print (on/off)
Select derived parameters
Select input variables
Reference ranges with results

Communication

HIS/LIS communication
High-level protocols:
  ASTM
  HL7
  POCT1-A
Low-level serial protocols:
  ASTM 1381-91, E1394-91
  Serial RAW
Low-level network protocols:
  TCP/IP

Radiometer IT solution
Interface via Ethernet adapter

Wireless communication
Communication standards supported:
  802.11 b/g/n
Encryption standards supported:
  Open/WEP/WPA/WPA2 TKIP/AES

Additional information

Dimensions

Width	25 cm
Height	47 cm
Depth	29 cm
Weight	11 kg

Other

Operating environment	15 – 32 °C
Altitude correction	3000 m above sea level
Power	100 – 240 VAC, 50/60 Hz, 90W

Data subject to change without notice.