RADIOMETER

ABL90 FLEX PLUS analyzer

Time on your side
17 critical parameters from a blood sample as small as 65 µL

Test menu

pH, pCO_2, pO_2, sO_2, $ctHb$, FO_2Hb, $FCOHb$, $FMetHb$, $FHHb$, $FHbF$, cK^+, cNa^+, cCa^{2+}, cCl^-, $cGlu$, $cLac$, $ctBil$

35 seconds!

That's how fast you get blood gas results on the new ABL90 FLEX analyzer.

Measure up to 17 parameters with full lab quality from 65 µL samples.

Radiometer's next generation, cassette-based analyzer offers benchtop features in a compact design.

Plus get full IT connectivity, automatic quality management and minimum maintenance where you need it the most: at the point of care.

Fast results and always ready
- 35 seconds to results for 17 acute care parameters
- High uptime of more than 22 hours per day
- Cycle time 60 sec

Complete flexibility
- 100, 300, 600 , 900 and 1200 test cassettes
- Portable or with rolling stand
- Fully operational on battery
- Sample volume of just 65 µL for all parameters
- Syringe, capillary and test tube without adapter

Easy to use
- Instructional videos for easy on-screen user guidance
- Automatic opening and closing of inlet
- Selection of sample type on large touch screen
- Automatic mixing for safePICO syringes in just 7 seconds

Easy to maintain
- Up to 30-days in-use lifetime of consumables
- Smart chips simplify installation and QC's are done automatically
- Remaining tests from a consumable can be used on another ABL90 FLEX analyzer
- Customizable pre-warnings
- Automatically detects and removes obstacles such as clots

Regulatory compliance
- IQCP not required
- External QC not required by CAP or TJC
- Automatic quality control
- Dedicated QC solutions for correct quality control
- Continuous system and analysis checks
- Automated corrective actions

Data integrity
- Standard protocols
- Full IT connectivity to AQURE point of care data management system

Data integrity
- Communication protocols
- Full IT connectivity to the AQURE point-of-care management system

1st Automatic ready
- Radiometer's 1st Automatic scans and links together sampler and patient ID at the bedside
- Correct patient information is automatically sent to the analyzer and linked to the correct result
- Increased patient safety and reduced risk of preanalytical errors

1ST AUTOMATIC READY

CMS • CAP • JOINT COMMISSION
IQCP NOT REQUIRED

For more information visit
www.radiometeramerica.com

RADIOMETER

ABL90 FLEX PLUS analyzer Specifications

Measured parameters

Type	Parameter	Units	Range of indication	Reportable range (default)
pH	pH	pH scale	6.3 – 8.0	6.818 – 7.797
Blood gas	pCO_2	mmHg; Torr	5 – 250	15.4 – 98.3
		kPa	0.67 – 33.3	2.05 – 13.1
	pO_2	mmHg; Torr	0 – 800	30.1 – 488
		kPa	0 – 107	4.0 – 65.0
Electrolyte	cK^+	mmol/L	0.5 – 25	2.1 – 10.5
		meq/L	0.5 – 25	2.1 – 10.5
	cNa^+	mmol/L	7 – 350	116 – 180
		meq/L	7 – 350	116 – 180
	cCa^{2+}	mmol/L	0.2 – 9.99	0.50 – 2.48
		meq/L	0.4 – 19.98	1.00 – 4.96
		mg/dL	0.8 – 40.04	2.00 – 9.92
	cCl^-	mmol/L	7 – 350	86 – 151
		meq/L	7 – 350	86 – 151
Metabolite	cGlu	mmol/L	0 – 60	0.5 – 41
		mg/dL	0 – 1081	9 – 738
	cLac	mmol/L	-0.1 – 31	0.4 – 24
		meq/L	-0.1 – 31	0.4 – 24
		mg/dL	-1 – 279	4 – 216
Oximetry	sO_2	%	-2 – 102	3.3 – 100.0
		fraction	-0.02 – 1.02	0.033 – 1.000
	ctHb	g/dL	-0.48 – 27.7	0.1 – 24.0
		g/L	-4.8 – 277	0.8 – 240
		mmol/L	-0.30 – 17.2	0.05 – 14.9
	FO_2Hb	%	-2 – 103	3.3 – 98.5
		fraction	-0.02 – 1.03	0.033 – 0.985
	FCOHb	%	-2 – 103	1.00 – 92.2
		fraction	-0.02 – 1.03	0.010 – 0.910
	FMetHb	%	-2 – 103	1.00 – 91.0
		fraction	-0.02 – 1.03	0.010 – 0.910
	FHHb	%	-2 – 102	2.4 – 98.5
		fraction	-0.02 – 1.02	0.024 – 0.985
	FHbF	%	-25 – 121	21 – 83
		fraction	-0.25 – 1.21	0.21 c
	cBil	µmol/L	-20 – 1000	27 – 648
		mg/dL	-1.2 – 58.5	1.6 – 37.9
		mg/L	-12 – 585	16 – 379

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).
The *Reportable range* is the range of results from a testing system or method over which a specified analytical performance is claimed.

Derived parameters

$pH(T)$
$pCO_2(T)$
$cHCO_3^-(P)$
cBase(B)
cBase(B,ox)
cBase(Ecf)
cBase(Ecf,ox)
$cHCO_3^-(P,st)$
cH^+
$cH^+(T)$
$ctCO_2(P)$
$ctCO_2(B)$
pH(st)
$pO_2(T)$
$pO_2(A)$
$pO_2(A,T)$
p50
p50(T)
p50(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
$ctO_2(x)$
FShunt
FShunt(T)
RI
RI(T)
VO_2
mOsm
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 actions to get more precise results.

Sensor cassette

In-use lifetime	30 days
Shelf life	4 months
Storage temperature	2 – 8 °C
Automatic QC	Yes
Thermosat control	Sensor cassette: 37±0.15 °C Oximetry: 37±0.30 °C
BG / LYT / OXI with QC: BG / LYT / MET / OXI with QC:	600 tests 100/300/600/900/1200 tests

Solution pack

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

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

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: UPC/EAN, Code 128, Code 39, Code 93, I 2 of 5, Discrete 2 of 5, Codabar and more
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
Frequency supported:
  2.4 GHz/5.0 GHz
Communication standards supported:
  802.11 b/g/n/ac
  Encryption standards supported:
  Open/WEP/WPA/WPA2 TKIP/AES

Sample handling

Auto inlet

Automatic opening and closing of inlet
Aspiration from syringe, test tubes and capillary tubes without adapter. Specific short probe position for low volume samples

Sample mixer

Mixing time 7 seconds
For *safe*PICO samplers

Additional information

Dimensions

Width	9.8 in
Height	17.7 in
Depth	11.4 in
Weight	24.4 lbs

Other

Operating environment	15 – 32 °C
Altitude correction	13,124 ft
Power	100 – 240 VAC, 50/60 Hz, 90W

Data subject to change without notice.