ABL800 BASIC analyzer

Meeting your essential needs

The facts about the ABL800 BASIC

Color touch screen

- Intuitive user interface
- Stand-by option
- User-definable shortcuts
- Parameter bar provides analyzer status at a glance
- Onboard help system via multimedia tutorials

Inlet

- Inlet design reduces risk of air bubbles
- Automated sample aspiration
- Sample volume down to 35 µL
- High sample success rate of capillary samples

Automated quality control

- Prescheduled QC checks
- Automatic storage of patient, QC, calibration and system data
- QA Portal-compatible

Connectivity

- Full LIS/HIS connectivity reduces transcription erros
- Data capture through continuous synchronization
- Remote control of decentral analyzers from central location
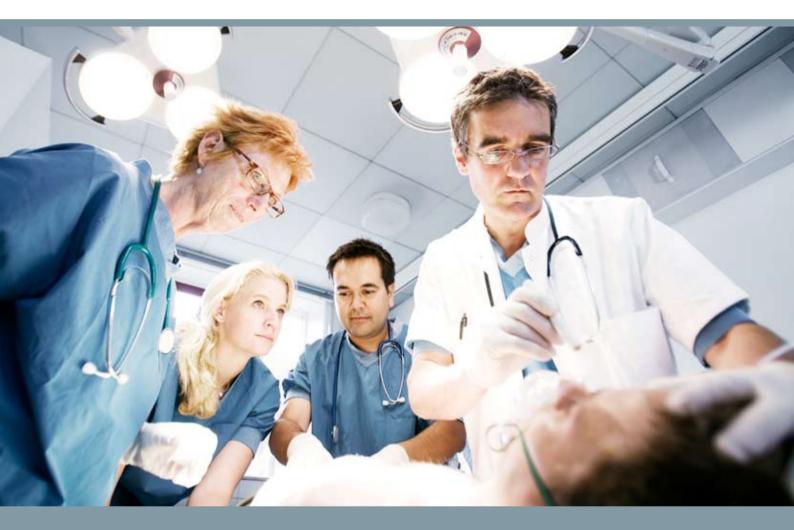
Analytical performance

- Automated micromode reduces risk of user-induced bias and ensure accuracy of samples as small as 35 µL
- Interference-protected glucose and lactate results

Test menu

pH | pCO_2 | pO_2 | sO_2 | $ctHb$ | cK^+ | cNa^+ | cCa^{2+} | cCl^-
$cGlu$ | $cLac$

Meeting your essential needs

The ABL800 BASIC is the ideal choice for you who are looking for efficiency and value in your critical care testing.

The ABL800 BASIC offers determination of the most important critical care parameters, including optimal values for total hemoglobin and oxygen saturation - with maximum accuracy and minimum effort.

Easy to use, the ABL800 BASIC provides you with fast and reliable results for fast patient treatment.

In addition, automatic quality control, automated sample aspiration and IT connectivity help reduce your workload and minimize errors.

Specifications

Default parameters

Type	Parameters	Units	Measuring ranges
pH	pH	pH scale	6.300-8.000
	cH^+	nmol/L	10.0-501
Blood gas	pCO_2	mmHg	5.0-250
		kPa	0.67-33.3
		Torr	5.0-250
	pO_2	mmHg	0.0-800
		kPa	0.00-107
		Torr	0.0-800
Oximetry	$ctHb$	g/dL	0.00-27.7
		g/L	0.0-277
		mmol/L	0.00-17.2
	sO_2	%	0.0-100
		Fraction	0.000-1.000

Measuring modes

Mode	Sample volume (µL)	Measuring time (sec)	Cycle time (sec)
All parameters	195	80	150
All parameters, micro	95	135	200
pH + BG + Oxi, micro	85	80	145
pH + BG + Oxi, micro	55	100	170
Glu + Lac, micro	35	80	145
Oxi, micro	35	80	145

Mode	Sample volume (mL)	Measuring time (sec)	Cycle time (sec)
Expired air	15	65	170

Small sample volumes.

Additional parameters

Type	Parameters	Units	Measuring ranges
Electrolyte*	cCl^-	mmol/L	7-350
		meq/L	7-350
	cCa^{2+}	mmol/L	0.20-9.99
		meq/L	0.40-19.98
		mg/dL	0.80-40.04
	cK^+	mmol/L	0.5-25.0
		meq/L	0.5-25.0
	cNa^+	mmol/L	7-350
		meq/L	7-350
Metabolite*	$cGlu$	mmol/L	0.0-60
		mg/dL	0-1081
	$cLac$	mmol/L	0.0-30
		mg/dL	0-270
		meq/L	0.0-30

* The total number of electrolytes and metabolites is limited to five.

AutoCheck automatic quality control

Number of ampoules in carousel:	0-20
Positioning of ampoules in carousel:	Random
Lot change:	2 lots of same level possible at the same time
Liquid volume in ampoule:	700 µL
Expiration of ampoules:	24 months at 25 °C/77 °F (including 15 days at up to 32 °C/90 °F)
Conditioning time (from room temperature):	15 min with filled carousel
Scanning time:	< 30 sec with filled carousel
Cycle time:	< 2 min 40 sec
Manual QC measurement possible:	Yes
Remote control:	Remote monitoring and start of measurement, e.g. via RADIANCE

Input parameters

Type	Definition
Patient ID	Patient identification number
Patient height	The height of the patient
Patient department	Which department the patient is from
T	Patient temperature
Sample type	Arterial, venous, mixed venous, capillary, prof. test, cal. verification
Patient note	Notes about the patient or sample
Patient weight	The weight of the patient
Patient Accession No.	Specific sample number
Patient age	Date of birth
Patient sex	Male or female
Draw time	When the sample was taken
Date of birth	Patient date of birth
Sample site	Not specified, brachial left/right, femoral left/right, radial left/right, finger left/right, heel left/right, umbilical cord
Patient birth weight	The weight of the newborn
Patient gestational age	Period of intrauterine fetal development from conception to birth

Type	Definition
Patient name	Name of the patient
Physician	Name of the physician
Operator	Name of the operator
Operator department	Which department the operator is from
$p50(st)$	Oxygen tension at 50 % saturation of blood at standard conditions for pH, pCO_2, $FCOHb$, $FMetHb$, $FHbF$ at 37 °C
RQ	Respiratory quotient
$FO_2(I)$	Fraction of oxygen in dry inspired air
$\dot{Q}_t$	Cardiac output
$\dot{V}O_2$	Oxygen consumption
VCO	Volume of carbon monoxide, input value for measurement of V(B)
$sO_2(\bar{v})$	Oxygen saturation of hemoglobin in mixed venous blood
$pO_2(\bar{v})$	Oxygen tension of mixed venous blood
$ctHb$	Total hemoglobin concentration (if not measured)
$FCOHb(1)$	Used for determining blood volume
$FCOHb(2)$	Used for determining blood volume

Parameters can be set for mandatory input and are user-definable.

Specifications

Derived parameters

Type	Definition
pH(T)	pH of blood at patient temperature
pCO_2(T)	Carbon dioxide tension of blood at patient temperature
$cHCO_3^-$(P)	Concentration of hydrogen carbonate in plasma
cBase(B)	Concentration of titrable base of blood (actual base excess)
cBase(B,ox)	Actual base excess at 100 % oxygen saturation
cBase(Ecf)	Concentration of titrable base of extracellular fluid (standard base excess)
cBase(Ecf,ox)	Standard base excess at 100 % oxygen saturation
$cHCO_3^-$(P,st)	Concentration of hydrogen carbonate in plasma of standardized blood (standard bicarbonate)
cH^+	Concentration of hydrogen ions in blood
cH^+(T)	Concentration of hydrogen ions in blood at patient temperature
$ctCO_2$(P)	Concentration of total carbon dioxide in plasma
$ctCO_2$(B)	Concentration of total carbon dioxide of whole blood (CO_2 content)
pH(st)	pH of standardized blood (pCO_2 = 40 mmHg)
pO_2(T)	Oxygen tension of blood at patient temperature
pO_2(A)	Oxygen tension of alveolar air
pO_2(A,T)	Oxygen tension of alveolar air at patient temperature
p50	Oxygen tension at 50 % saturation of blood
p50(T)	Oxygen tension at 50 % saturation of blood at patient temperature
p50(st)	Oxygen tension at 50 % saturation of blood at standard conditions for pH, pCO_2, FCOHb, FMetHb, FHbF at 37 °C
pO_2(A–a)	Difference of oxygen tension of alveolar air and arterial blood
pO_2(A–a,T)	Difference of oxygen tension of alveolar air and arterial blood at patient temperature
pO_2(a/A)	Ratio of oxygen tension of arterial blood and alveolar air
pO_2(a/A,T)	Ratio of oxygen tension of arterial blood and alveolar air at patient temperature

Type	Definition
pO_2(a)/FO_2(I)	Oxygen tension ratio of arterial blood to the fraction of oxygen in inspired air
pO_2(a,T)/FO_2(I)	Oxygen tension ratio of arterial blood at patient temperature to the fraction of oxygen in inspired air
cCa^{2+}(pH=7.40)	Concentration of ionized calcium in plasma at pH 7.40
Anion Gap(K^+)	Concentration difference of K^+ + Na^+ and Cl^- + HCO_3^-
Anion Gap	Concentration difference of Na^+ and Cl^- + HCO_3^-
$\dot{D}O_2$	Oxygen delivery
Hct	Fraction of the volume of erythrocytes in the volume of whole blood
pO_2(x)	Oxygen extraction tension of arterial blood
pO_2(x,T)	Oxygen extraction tension of arterial blood at patient temperature
ctO_2(B)	Total oxygen concentration of blood (O_2 content)
ctO_2(a–v̄)	Total oxygen concentration difference between arterial and mixed venous blood
BO_2	Oxygen capacity of hemoglobin. The maximum concentration of oxygen bound to hemoglobin in blood, saturated so that all deoxyhemoglobin is converted to oxyhemoglobin
ctO_2(x)	Extractable oxygen concentration of arterial blood
FShunt	Volume fraction of shunted venous blood in arterial blood
FShunt(T)	FShunt at patient temperature
RI	Respiratory Index
RI(T)	Respiratory Index at patient temperature
$\dot{V}O_2$	Oxygen consumption
mOsm	Plasma osmolarity
Qx	Oxygen compensation factor of arterial blood
$\dot{Q}_t$	Cardiac output
V(B)	Volume of blood
sO_2	Saturation
FO_2Hb	Fraction of oxyhemoglobin in total hemoglobin in blood

Calibration data

Automatic:	Default interval:	Interval options:
1-point cal.	4 hours	after measurement, 30 min, 1, 2, 4 hours
2-point cal.	4 hours	after measurement, 1, 2, 4 hours
System alignment	24 hours	
Cleaning	8 hours	8, 24 hours
Manual:		
tHb calibration	3 months	never, 7 days, 1, 2, 3, 4, 6 months

IT connectivity

Computer specifications
Intel Celeron Processor
3 USB ports
128 MB RAM
Hard disk 40 GB
TFT 10.4" VGA color touch screen
Dedicated 80386 CPU for wet-section operations

Data capacity
Patient results: 2000
Calibration results: 1000
QC results: 1500
System messages and service registrations: 5000

Communication
Access to Local Area Network for backup, etc.:
    using PC network operating systems
    supporting Windows®XP

Output protocols:
    High-level protocols
        ABL700-compatible ASTM (E1394-91)
        ABL700-compatible HL7 (Version 2.2)
        ABL5xx-compatible ASTM (E1394-91)
    Low-level protocols
        ASTM (E1381-95)
        Radiometer network protocol (TCP/IP only)
        Raw (serial only)
    Transport layer
        TCP/IP
        RS232
    RADIANCE
        Communication via TCP/IP

Simpler, faster, better

Radiometer's products and services simplify and automate all phases of acute care testing, providing you with the speed and ease of use you want and the accuracy you need.

This is acute care testing truly made simpler, faster and better.

Contact us

Radiometer is represented in more than 100 countries.
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