

cobas® b 123 POC system

A cartridge-based blood gas analyzer for your patient care



cobas® b 123 POC system

Complete blood gas solution



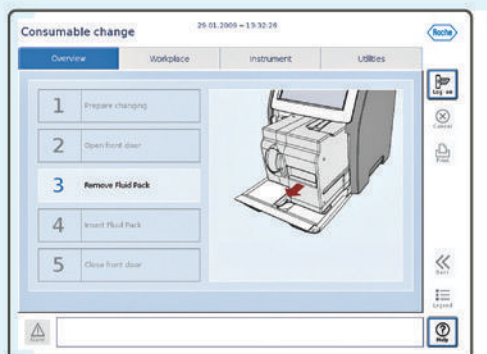
Intuitive graphical user interface

- Graphically guided sampling and consumable
- Easy installation
- Low training needed



Immediate control in one screen

- Complete overview of operational status
- SMART CHIP technology–consumables scan automatically and all important information is stored
- Consumable change display



Protection

- Comprehensive clot protection – eliminating the risk of analyzer downtime, due to clots
- Operator lock-out–only train users are allowed
- Level of access–certain specially trained users can perform advance function



Ready and safe sampling area

- Able to choose type of sample container
- Lit sample area to facilitate room with low light
- Central enclosed port makes left or right-handed user comfortable and safe
- No needle exposure with closed sample port



Result management

- Customizable out of range values
- Display of acid/base mapping
- Display of patient trending



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Flexibility



01 Instrument configurations:

- Without AutoQC and COOX
- With AutoQC
- With COOX
- With AutoQC and COOX

02 Sensor configurations:

- BG + Hct
- BG + Hct + ISE
- BG + Hct + ISE + Glu
- BG + Hct + ISE + Glu + Lac

03 Fluid Pack Configurations:

- 200 – 400 – 700 test without COOX
- 200 – 400 – 700 test with COOX

04 Automatic quality control

- 24 ampoules on three levels
- Daily/weekly programming

BG = pH, pCO₂, pO₂ Electrolyte = Na⁺, K⁺, Ca²⁺, Cl⁻ AutoQC = automatic quality control system (only in version 2 and 4)

Adapting to your needs

- With flexible configurations and a throughput of up to 30 samples per hour, cobas® b 123 can be easily customized according to the clinical needs of the critical area and the laboratory
- The full cobas® b 123 parameter panel includes pH, pCO₂, pO₂, Na⁺, K⁺, Ca²⁺, Cl⁻, Hct, tHb, SO₂, O₂Hb, HHb, CO₂Hb, MetHb, Bilirubin, Glucose, Lactate. Plus an extensive range of calculated parameters
- Flexibility and scalability allows clinically relevant and cost efficient in the management of Point of Care Testing.
- All consumables can be interchanged between different cobas® b 123 systems
- Optional mobile chart, UPS (uninterruptable power source) backup and wireless connectivity enable operation where ever needed

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Clinical value

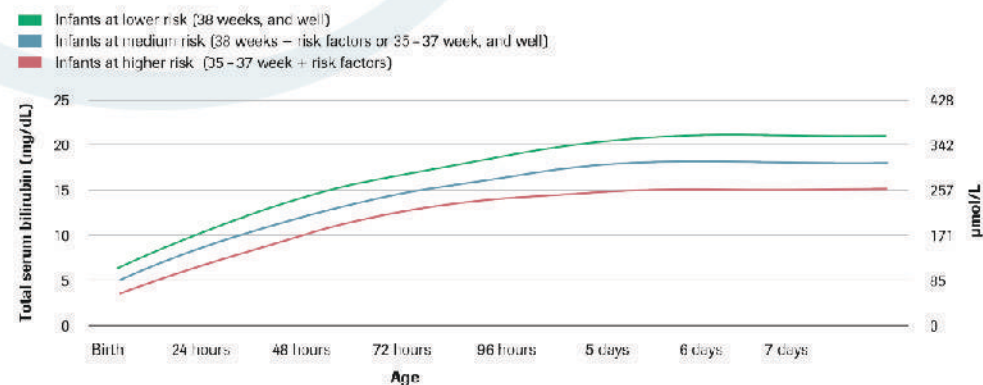
Bilirubin in neonatal care: provide rapid information on the critical care state of new born

Immediate monitoring of bilirubin in neonatal care lowers the risk of life-threatening conditions and lasting harm. More than 50 % of mature healthy newborns develop hyperbilirubinemia. In rare cases, blood bilirubin concentrations above a critical value result in kernicterus (encephalopathy), which causes death in 10 % and long-term morbidity in 70 % of cases.¹ Whether and when a child receives phototherapy or blood exchange to eliminate neurotoxin and prevent irreversible brain damage and neurological development deficits crucially depends on total serum bilirubin (TSB) and age.

The current guidelines have been developed by the American Academy of Pediatrics (AAP), representing a consensus of the AAP subcommittee on hyperbilirubinemia to update the existing guideline based on a careful review of the evidence by the New England Medical Center Evidence-Based Practice Center.³ The authors of an AAP technical report conclude high TSB levels exceeding 20 mg/dL to cause kernicterus, with an increasing probability when TSB levels are ≥ 30 mg/dL.²

“Give physicians the tools to implement the guidelines: Risk assessment tool at bedside”³.

Guideline recommendations for phototherapy in hospitalized infants of 35 or more weeks' gestation³

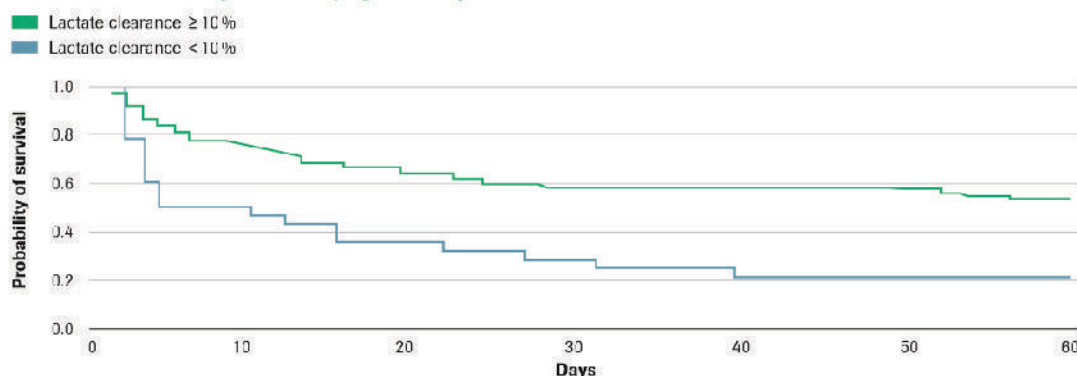


- Use total bilirubin.
- Risk factors = isoimmune hemolytic disease, G6PD deficiency, asphyxia, significant lethargy, temperature instability, sepsis, acidosis, or albumin < 3.0 g/dL (if measured)

Lactate: Key parameter in sepsis

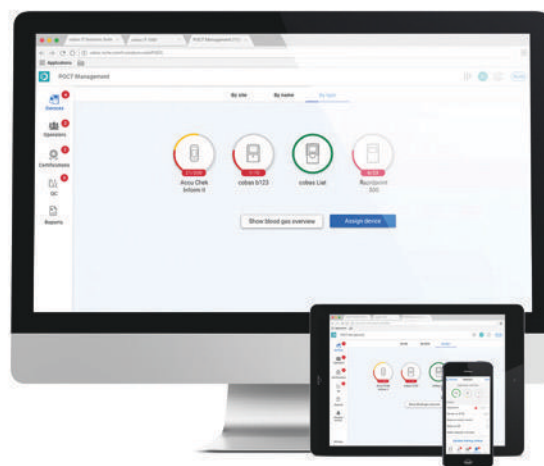
High lactate is a marker of severe physiological stress and risk of death. It represents the metabolic changes accompanying severe tissue stress and hypoperfusion. Contrary to long-standing belief, lactate is not only a marker of hypoxia but also serves as a metabolic signal.⁴ The lactate level represents a balance between generation and elimination and so should not be interpreted in isolation from oxygen status and blood pH.⁵ Measurement of blood lactate concentrations is therefore a vital addition to the blood gas analysis process. All patients with a lactate level > 4 mmol/L, whatever their blood pressure is, are entered in the early goal-directed therapy portion of the severe sepsis resuscitation bundle.⁶

Lactate clearance as a key indicator of prognosis in sepsis⁷



cobas® infinity POC solution

Complete remote management



Screen sharing for complete data management and remote control:

- Replacement of device
- Calibrations of parameters
- Quality Check



Simple and self-guided user interface



Operator lock-out



Multi-site and multi-analyzer management



Proactive and personalized instrument management

*Check your blood gas status.
Anytime. Anywhere*



Personalized alert for intelligent management of critical issues

- Last access memory
- Automatic quality control
- Check reagent and fluid pack
- Check characteristic parameter



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Product Specification

Measured parameters

Blood gases

pH	6.5 – 8.0
pCO ₂	10 – 150 mmHg (1.33 – 19.95 kPa)
pO ₂	10 – 700 mmHg (1.33 – 93.10 kPa)

Electrolytes

Na ⁺	100 – 200 mmol/L
K ⁺	1 – 15 mmol/L
Ca ²⁺	0.1 – 2.5 mmol/L
Cl ⁻	70 – 150 mmol/L
Hct	10 – 75 %

Metabolites

Lactate	1 – 20 mmol/L
Glucose	1 – 30 mmol/L

CO-Oximetry⁽¹⁾

tHb	4 – 25 g/dL (2.5 – 15.5 mmol/L)
SO ₂	30 – 100 %
O ₂ Hb	30 – 100 %
COHb	0 – 70 %
MetHb	0 – 70 %
HHb	0 – 70 %
Bilirubin (total)	3 – 50 mg/dL (51.3 – 855 µmol/L)

Calculated parameters

H⁺, cHCO₃⁻, ctCO₂(P), FO₂Hb, BE, BE_{ecf}, BB, SO₂⁽¹⁾, P₅₀, ctO₂, ctCO₂(B), pH_{st}, cHCO_{3-st}, PAO₂, AaDO₂, a/AO₂, avDO₂, RI, Shunt, nCa²⁺, AG, pH^t, H⁺⁺, PCO₂^t, PO₂^t, PAO₂^t, AaDO₂^t, a/AO₂^t, RI^t, Hct(c), MCHC, BO₂, BE_{act}, Osmolality, OER, Heart minute volume (Q_t), P/F index, Lactate clearance

Sample volume

Parameter	Volume
BG ⁽³⁾ , Hct, Electrolytes ⁽⁴⁾ , Glu, Lac, COOX	123 µL
BG, Hct, Electrolytes, Glu, Lac	102 µL
Micro mode – BG, Hct, COOX	56 – 122 µL
Micro mode – BG only	38 – 55 µL
Micro mode – COOX only (inc. Bilirubin)	25 – 37 µL



Sample types	Whole blood, aqueous and blood-based QC solutions, and dialysis solution
Calibration	Interval
System calibration	Every 24 hours
1 point-calibration	Every 60 minutes (programmable 30 or 60 minutes)
2 point-calibration	Every 12 hours are programmable for 4, 8 or 12 hours
Data processing	Intel, Celeron M, 800 Hz
Monitor	Built-in color TFT-LCD 10.4 inch flat screen (touchscreen)
Thermal printer	Built-in, 111 mm width, graphical capability
Supported protocols	POCT1-A, ASTM
Electrical requirements	
Power rating	100 – 240 V, 200 W, 50/60 Hz autoselecting
Ambient temperature	+15 to +32 °C (59 to 89.6 °F)
Relative humidity, not condensed	15 – 85 %
Power cable	A local supply required
Options	
CO-Oximeter	512 nm wavelengths
AutoQC	Automatic QC system with room for 24 QC ampoules
Barcode scanner	Hand held or benchtop
Mobile cart	
UPS (Uninterruptible power supply)	APC BACK-UPS CS 350 VA USB/SERIAL 230 V
Wireless capability	W-Lan modem recommended
Test certificate	
UL	UL3101-1
CE conformity	IVD-Directive 98/79/EC (IEC 1010-1 / EN 61010-1 / EN 61010-2-101)
Dimension/weight instrument	
Width	33 cm
Height	47 cm
Depth	32 cm
Weight (without solutions, without AutoQC)	18 kg

¹optional / ²scheduled for development / ³BG = pH, pCO₂, pO₂ / ⁴Electrolytes = Na⁺, K⁺, Ca²⁺, Cl⁻

References

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5. Handy, J. (2006). Lactate - The bad boy of metabolism, or simply misunderstood? *Current Anaesthesia & Critical Care*. 17, 71-76.
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