




-  Bedside blood gas analysis
-  Lightweight and portable
-  34 parameters in one test



# Blood Gas Analyzer

EG-i Series

EAGLENOS Co., Ltd.

# Blood Gas Analyzer



## Accurate, reliable and maintenance-free

Self-calibration for each test

Accurate results in approximately 5 minutes

Dry chemistry method, no reagent pack required, no carry-over contamination



## Lightweight and portable

Rechargeable lithium battery: more than 50 tests

Size: 235mm×210mm×160mm

Weight: 3±0.5 kg (including battery)



## Easy-to-use

Quick start tutorial

8-inch full HD touchscreen



## Smart identification in cartridge

Feedback of cartridge insertion

Identification of the cartridge expiration date



## Automatic quality control

Regular QC reminders

Power on Self-Test

Dual quality control: electronic simulator and controls



# Blood Gas Test Cartridge

10/25/50/100 tests/box



## 34 parameters of blood gases, electrolytes and metabolites

10 measured parameters: K<sup>+</sup>, Na<sup>+</sup>, Cl<sup>-</sup>, iCa<sup>2+</sup>, pH, pCO<sub>2</sub>, pO<sub>2</sub>, Glu, Lac, Hct

24 calculated parameters: cH<sup>+</sup> (T), pH (T), pCO<sub>2</sub> (T), pO<sub>2</sub> (T), pO<sub>2</sub> (A-a) (T), pO<sub>2</sub> (a/A) (T), RI (T), pO<sub>2</sub> (T) /FIO<sub>2</sub>, cH<sup>+</sup>, iCa<sup>2+</sup> (7.4), HCO<sub>3</sub>-act, HCO<sub>3</sub>-std, BE (B), BB (B), AG, sO<sub>2</sub> (est), tHb (est), TCO<sub>2</sub>, pO<sub>2</sub> (A-a), pO<sub>2</sub> (a-A), RI, mOsm, pO<sub>2</sub>/FIO<sub>2</sub>



## Precise industrial design

High performance sensors

Microfluidic technology and integrated flow control system

Unique sample quantification design to precisely control sample volume



## Instant detection, cost-effective and environment friendly

Rapid analysis of blood (venous/arterial) without sample processing

Single-use cartridge to avoid waste and cross-contamination



## Accurate

Automatic calibration upon each test to ensure accurate results



# Test parameters and clinical significance

## Electrolytes

### Potassium ion ( $K^+$ )

Even small changes in extracellular  $K^+$  concentration will have significant effects on the transmembrane potential gradient, and thereby the function of neuromuscular and cardiac tissues.

### Sodium ion ( $Na^+$ )

As the most abundant extracellular fluid solute,  $Na^+$  is the major determinant of its osmolality and thereby the principal determinant of water distribution between the intracellular and extracellular compartments. This highlights the role of  $Na^+$  in the maintenance of blood volume and thereby blood pressure.

### Chloride ion ( $Cl^-$ )

As the second most abundant extracellular fluid ion after  $Na^+$ , and the most abundant extracellular fluid anion,  $Cl^-$  is essential for the maintenance of normal plasma osmolality.

### Free calcium ion ( $iCa^{2+}$ )

The maintenance of  $iCa^{2+}$  within normal limits is not only important for the structural integrity of bones but for a range of physiological functions, including: hemostasis, cardiac and skeletal muscle cell contraction, neuromuscular transmission and action of many hormones (calcium-signaling).

## pH, Blood Gas

### Acidity and alkalinity ( pH )

The pH level is an indicator of the acidity and alkalinity of the blood. The abnormal pH level indicates an acid-base imbalance.

### Carbon dioxide partial pressure ( $pCO_2$ )

$pCO_2$  is the partial pressure generated by physically dissolved  $CO_2$  molecules in the blood and is an important indicator of the effectiveness of alveolar ventilation.

### Oxygen partial pressure ( $pO_2$ )

$pO_2$  is the partial pressure generated by the physically dissolved  $O_2$  molecules in the blood and reflects the oxygen uptake by the pulmonary capillary blood.

## Biochemical metabolites/Hematocrit

### Glucose concentration ( Glu )

Glucose is the primary source of energy for the organism and the only source of specialized nutrition for brain tissue. The measurement of blood glucose levels is extremely important for the diagnosis and treatment of patients with diabetes and hypoglycemia.

### Lactic acid concentration ( Lac )

Lactate is an indicator to assess the degree of tissue hypoperfusion and cellular hypoxia.

### Hematocrit ( Hct )

The percentage of red blood cells to whole blood volume is the main indicator of blood viscosity, anemia, severe blood loss and the body's ability to transfuse oxygen.

## Application Scenario



### Emergency Department

Monitoring of blood gases, metabolites and electrolyte parameters for emergency critical care patients such as poisoning, coma and convulsions



### ICU

Monitoring of blood gases, metabolites, electrolytes and acid-base balance for critically ill patients



### Anesthesiology

Blood gases and electrolyte monitoring during surgical anesthesia (preoperative, intraoperative, postoperative)



### Surgery

Blood gases, electrolyte and acid-base balance monitoring during surgery



### Pediatrics/ Fever Clinic

Electrolyte monitoring for outpatient infusion



### Respiratory

Determine the classification of respiratory failure, assessment of the degree of hypoxia, and guidance on ventilator adjustment



### Gastroenterology

Electrolyte and acid-base balance monitoring in patients with diarrhea and vomiting with coma



### Cardiology

Blood gases and electrolyte monitoring in patients with heart attack



### Endocrinology

Blood gases, metabolites, electrolyte and acid-base balance monitoring in patients with diabetic ketoacidosis



### Neurology

Blood gases and acid-base balance monitoring in patients with stroke and coma



### Obstetrics and Gynecology/ Neonatology

Diagnosis of neonatal asphyxia, assessment of neonatal pulmonary disease and monitoring of acid-base balance

# Specification

Parameter	Accuracy	Range	Precision
K <sup>+</sup>	±3.0%	2.0-9.0 mmol/L	≤1.5%
Na <sup>+</sup>	±3.0%	100-180 mmol/L	≤1.5%
Cl <sup>-</sup>	±3.0%	65-140 mmol/L	≤1.5%
iCa <sup>2+</sup>	≥1.00 mmol/L, ±5.0%; <1.00 mmol/L, ±0.05 mmol/L	0.25-2.50 mmol/L	≤1.5%
pH	±0.04	6.500-8.000	≤0.02
pCO <sub>2</sub>	≥62.0mmHg, ±8.0%; <62.0mmHg, ±5.0 mmHg	10.0-150.0 mmHg	≥62.0mmHg, CV≤4.0%; <62.0mmHg, SD≤2.5 mmHg
pO <sub>2</sub>	≥50mmHg, ±15.0%; <50mmHg, ±7.5 mmHg	10-700 mmHg	≤5.0%
Glu	≥4.0 mmol/L, ±10.0%; <4.0 mmol/L, ±0.4 mmol/L	1.1-38.0 mmol/L	≥4.0 mmol/L, CV≤5.0%; <4.0 mmol/L, SD≤0.2 mmol/L
Lac	≥5.00 mmol/L, ±12.0%; <5.00 mmol/L, ±0.6 mmol/L	0.50-20.00 mmol/L	≥5.00 mmol/L, CV≤6.0%; <5.00 mmol/L, SD≤0.3 mmol/L
Hct	≥50%PCV, ±6.0%; <50%PCV, ±3%PCV	10%-70%PCV	≥50%PCV, CV≤3%; <50%PCV, SD≤1.5%PCV

# Operation instruction



Step1: Scan the barcode on the cartridge pouch.



Step2: Fill the inlet with sample and slide the cap to seal the sample inlet.



Step3: Insert the cartridge until it clicks. Wait for the results.



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\*For health care professionals only