

# Specs for the GEM Premier™ 3000 with iQM®

*GEM Premier 3000 simplifies and enhances critical care testing, with its self-contained cartridge, comprehensive test menu options and iQM.*

## Connectivity

GEMweb® provides a remote link from a PC to the GEM Premier 3000 using the hospital's network and a standard web browser.

## Standardization

Over 30 cartridges of various test volumes and analyte menus are available to fit every need.

## Intelligent Quality Management (iQM)

Designed to improve the quality of test results and enhance patient safety, iQM is an automated quality assurance system that replaces the use of conventional QC.

- Active, continuous, real-time quality management
- Reduces time to error detection when compared to Manual or Auto QC
- Automatically performs corrective action and documentation
- Completely integrated within the GEM cartridge



The single disposable multi-use cartridge contains: sensors, solutions, gases, pump tubing, waste container and sampler.



pH, PCO <sub>2</sub> , PO <sub>2</sub>
Na <sup>+</sup> , K <sup>+</sup> , Ca <sup>++</sup> , Hematocrit
Glucose, Lactate
tHb, O <sub>2</sub> Hb, COHb, MetHb, RHb, SO <sub>2</sub> m*
PT, Cit PT, APTT, ACT, ACT-LR**

\* With the optional GEM OPL module  
 \*\* With the optional GEM PCL Plus module

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## Product Specifications

Measured Analytes	Displayed Ranges	Resolution
pH	6.80 to 7.80	0.01
PCO <sub>2</sub>	5 to 115 mmHg*	1 mmHg
PO <sub>2</sub>	0 to 760 mmHg	1 mmHg
Na <sup>+</sup>	100 to 200 mmol/L	1 mmol/L
K <sup>+</sup>	0.1 to 20.0 mmol/L	0.1 mmol/L
Ca <sup>++</sup>	0.10 to 5.00 mmol/L	0.01 mmol/L
Glucose	20 to 500 mg/dL	1 mg/dL
Lactate	0.3 to 15.0 mmol/L	0.1 mmol/L
Hct	15 to 65%	1%

Derived Analytes	Displayed Ranges	Resolution
HCO <sub>3</sub> <sup>-</sup>	3.0 to 60.0 mmol/L	0.1 mmol/L
HCO <sub>3</sub> <sup>-</sup> std	3.0 to 60.0 mmol/L	0.1 mmol/L
TCO <sub>2</sub>	3.0 to 60.0 mmol/L	0.1 mmol/L
BE (B) ( <i>in vitro</i> )	-30.0 to +30.0 mmol/L	0.1 mmol/L
BE(ecf) ( <i>in vivo</i> )	-30.0 to +30.0 mmol/L	0.1 mmol/L
SO <sub>2</sub> c	0 to 100%	1%
Ca <sup>++</sup> (7.4)	0.10 to 5.00 mmol/L	0.01 mmol/L

\*PCO<sub>2</sub> trending to 150 mmHg available

## Physical Specifications

GEM Premier 3000 Analyzer	
Size and Weight in cm (inches)/kg (pounds)	Width 30.5 (12.0) Depth 30.7 (12.0) Height 43.2 (17.0) Weight 13.4 (29.5)
Power Requirements	Universal power input, 90-264 VAC, 50-60 Hz. Sixty minute power interrupt allows transport without power. Instrument cannot be operated during power interrupt.
Temperature Control	Electrode Chamber maintained at 37°C nominal
Data Output Port	3 RS-232 Serial I/O Ports, 1 Parallel Printer Port, 1 Ethernet Port
Product Safety	UL listed under UL-544, complies with IEC 1010-1. Complies with European CE IVD requirements.

GEM Premier 3000 with IQM Cartridge	
Size and Weight in cm (inches)/kg (pounds)	Width 21.6 (8.5) Depth 7.6 (3.0) Height 15.2 (6.0) Weight 1.9 (4.2)
Sample Type	Whole blood with addition of approximately 25 USP units/mL Sodium Heparin or Lithium Heparin
Measurement Methodology	pH, PCO <sub>2</sub> , Na <sup>+</sup> , K <sup>+</sup> , Ca <sup>++</sup> — potentiometric; PO <sub>2</sub> , Glucose, Lactate — amperometric; Hct — conductivity
QC Frequency	Automatic at regularly scheduled intervals (minimum every 30 minutes or after every patient sample)
Response Time	85 seconds from sample introduction

## Cartridge Configuration

Maximum Tests per Cartridge	BG/Hct	BG/Lytes*/Hct	BG/Lytes*/Glu/Lac/Hct	Use Life
35	✓			4 weeks
75	✓	✓		4 weeks
75	✓	✓	✓	3 weeks
150	✓	✓	✓	3 weeks
300	✓	✓	✓	3 weeks
450	✓	✓	✓	3 weeks
600	✓	✓	✓	2 weeks
Sample Volume:	135µL	135µL	150µL	

\*Lytes include Na<sup>+</sup>, K<sup>+</sup> and Ca<sup>++</sup>