FAST... LOW SAMPLE VOLUME... RELIABLE

Vi-CELL MetaFLEX ANALYZER

- pH
- pO₂
- pCO₂
- Glucose
- Lactate
- Electrolytes: K⁺ Na⁺ Ca²⁺ Cl⁻
R&D, QC and Manufacturing Applications

Ideal for micro to large scale cell culture applications, the Vi-CELL MetaFLEX is designed for rapid and accurate Bioanalyte analysis.

Analyzer Performance

<table>
<thead>
<tr>
<th>Measuring System</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample volume (all parameters)</td>
<td>65 μL</td>
</tr>
<tr>
<td>Measuring time (all parameters)</td>
<td>35 sec</td>
</tr>
<tr>
<td>Cycle time</td>
<td>60 sec</td>
</tr>
<tr>
<td>Throughput</td>
<td>44 samples / per hour*</td>
</tr>
<tr>
<td>Average uptime</td>
<td>23.5 hours / per day**</td>
</tr>
</tbody>
</table>

* May vary during startup
** May vary during startup; 2.5 min for system calibration is the longest activity

Sensor Cassette

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>In-use lifetime</td>
<td>30 days (or until max number of tests)</td>
</tr>
<tr>
<td>Shelf life</td>
<td>4 months</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>2-8° C / 35-46° F</td>
</tr>
<tr>
<td>Automatic QC</td>
<td>Yes</td>
</tr>
<tr>
<td>Number of tests</td>
<td>300</td>
</tr>
</tbody>
</table>

Solution Pack

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>In-use lifetime</td>
<td>30 days (or until solution pack is empty)</td>
</tr>
<tr>
<td>Shelf life</td>
<td>6 months</td>
</tr>
<tr>
<td>Storage temperature</td>
<td>2-25° C / 35-77° F</td>
</tr>
</tbody>
</table>

Reliable

Ready for use when you need it, high uptime of 23 hours per day

Fast

Results in 35 sec.

Small Sample Volume

65μL sample volume

Quality Management

Automatic quality management system
• 3 dedicated QC solutions
• Automatic detection and correction of failures
• Continuous system and analysis checks
• Air detection
• Automatic lockout of parameter that fails QC
• Customizable QC schedule
### Measured Parameters

<table>
<thead>
<tr>
<th>Type</th>
<th>Parameter</th>
<th>Units</th>
<th>Range of indication</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH</td>
<td>pH</td>
<td>pH scale</td>
<td>6.3 - 8.0</td>
</tr>
<tr>
<td>Cell Culture Gas</td>
<td>$pCO_2$</td>
<td>mmHg; Torr</td>
<td>0.67 - 33.3</td>
</tr>
<tr>
<td>Cell Culture Gas</td>
<td>$pO_2$</td>
<td>mmHg; Torr</td>
<td>0 - 107</td>
</tr>
<tr>
<td>Electrolyte</td>
<td>$cK^+$</td>
<td>mmol/L</td>
<td>0.5 - 25.0</td>
</tr>
<tr>
<td>Electrolyte</td>
<td>$cNa^+$</td>
<td>mmol/L</td>
<td>7 - 350</td>
</tr>
<tr>
<td>Electrolyte</td>
<td>$cCa^{2+}$</td>
<td>mmol/L</td>
<td>0.1 - 9.99</td>
</tr>
<tr>
<td>Electrolyte</td>
<td>$cCl^-$</td>
<td>mmol/L</td>
<td>7 - 350</td>
</tr>
<tr>
<td>Metabolite</td>
<td>$c$ Glu</td>
<td>mmol/L</td>
<td>0.4 - 40.04</td>
</tr>
<tr>
<td>Metabolite</td>
<td>$c$ Lac</td>
<td>mmol/L</td>
<td>0 - 60</td>
</tr>
</tbody>
</table>

The Range of indication for a parameter is the range within which the analyzer is physically capable of measuring.

### Ordering Information

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>B93015</td>
<td>Vi-CELL MetaFLEX</td>
</tr>
<tr>
<td>B93029</td>
<td>Vi-CELL MetaFLEX Solution Pack</td>
</tr>
<tr>
<td>B93030</td>
<td>Vi-CELL MetaFLEX Sensor Cassette</td>
</tr>
</tbody>
</table>

### Regulatory Compliance

**Establishing a strong partnership.**

**21 CFR Part 11**

The Electronic Records and Electronic Signatures Rule (21 CFR Part 11) was established by the Food and Drug Administration (FDA) to define the requirements for submitting documentation in electronic form and the criteria for approved electronic signatures. Since analytical instrument systems such as the Vi-CELL MetaFLEX generate electronic records, these systems must facilitate compliance with the Electronic Records Rule. The Vi-CELL MetaFLEX features the following key system components to facilitate 21 CFR 11 compliance:

- Sample results log: 2000
- Activity log: 5000
- Calibration adjustment log: 1000
- Data secured by password protection
- Electronic signature capability
- Secure user sign-on
- 8 user level permissions
- Administrative configuration tools
### Hardware

**Computer specifications**
- Processor Intel Celeron® M 600 MHz with 512K L2 Cache
- 1 GB RAM
- 2 GB SolidState storage
- 8.4” color TFT-LCD, resolution 800 x 600 SVGA Touch screen
- 4” thermal-sensitive printer

**Interface**
- Built-in barcode reader for operator & sampler ID
  - Accepted codes: UPC/EAN, Code 128, Code 39, Code 93, 1 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

**Inlet**
- Left/right hand operation
- Position for syringe as well as capillary and test tube
- Aspiration from capillary without adapter
- Aspiration time 5 seconds

### Software

**Software platform**
- Windows® 7 Embedded
- Sybase® SQL Anywhere

**Security and QA features**
- Advanced planning of replacement and QC schedules
- Optional automatic QC at startup and after replacements
- Customizable QC and calibration schedule

**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

### Additional Information

**Dimensions**
- Height 45 cm 17.7 in
- Width 25 cm 9.8 in
- Depth 29 cm 11.4 in
- Weight 11 kg 24.4 lbs

**Other**
- Startup time 1.5 hours average (less than 4 hours)
- Operating environment
  - 15 - 32° C / 59 - 89.6° F, 20 - 80% RH
- Altitude correction
  - Up to 4000 m / 13,124 feet above sea level
- Power
  - 100 - 240 V; 50 - 60 Hz; 250 VAC
- Thermostat control
  - Sensor cassette: 37 ± 0.15° C / 98.6 ± 32.2°F
  - Oximetry: 37 ± 0.30° C / 98.6 ± 32.5°F