MASIMO
Rad-57™
The world’s most versatile handheld oximeter, featuring fully upgradable rainbow technology

Get gold-standard Masimo SET® oxygen saturation, pulse rate, and perfusion index now— and upgrade later to total hemoglobin, oxygen content, carboxyhemoglobin, methemoglobin, and PVI.
Technology

More than 100 independent and objective studies demonstrate Masimo SET provides the most reliable SpO2 and pulse rate measurements even under the most challenging clinical conditions, including patient motion and low peripheral perfusion.

Masimo Rainbow® SET technology analyzes multiple wavelengths of light to accurately measure total hemoglobin (SpHb™), oxygen content (SpOC®), carboxyhemoglobin (SpCO™), methemoglobin (SpMet®), and PVI® noninvasively and continuously.

Clinical Benefits

- Masimo SET pulse oximetry - Virtually eliminates false alarms without missing true clinical events.
- Upgradeable Rainbow SET Pulse CO-Oximetry - Compared to traditional invasive measurements, noninvasive and immediate measurements may allow clinicians to provide faster diagnosis, initiate treatment earlier, and improve efficiency.
- Total Hemoglobin (SpHb) - Detect chronic or acute anemia, identify hemorrhaging earlier, aid in optimal transfusion management.
- Oxygen Content (SpOC) - By calculating hemoglobin and oxygen saturation, SpOC provides a more complete picture of your patients’ oxygenation status.
- Carboxyhemoglobin (SpCO) - Detect carbon monoxide (CO) poisoning.
- Methemoglobin (SpMet) - Identify methemoglobinemia, a dangerous and deadly reaction caused by many drugs routinely administered in the hospital.
- PVI - Predict fluid responsiveness, aid fluid management.

Features

- User may program default power-up settings.
- Deliver more than 10 hours of continuous battery life.
- Up to 72 hours of trending memory.
- FastSat™ tracks rapid changes in arterial O2 with unmatched fidelity.
- SmartTone™ beeps in sync with pulse, even under patient motion conditions.
- Sensitivity options of APOD®, Normal, and MAX provide flexibility to support a range of clinical applications.

Product Overview

- Quick and easy-to-use—requires no user calibration and does not require patient cooperation or consciousness.
- Complete replacement for existing handheld pulse oximeters, with factory-ordered options or simple field-installed software upgrades to continuous monitoring and spot check measurements of SpHb, SpOC, SpCO, SpMet, and PVI.
- Rugged and lightweight—ideal for field or hospital settings.
- Awarded Airworthiness Release Certification by the United States Army.

Screen Displays

- SQI bar provides continuous indication of signal quality levels.
- PI bar provides continuous indication of perfusion index.
- Low Signal IQ® (SIQ) Indicator highlights conditions of low signal quality.
- The Alarm Status Indicator flashes when an alarm condition is present.

The Masimo Rad-57’s easy-to-read screen provides at-a-glance patient status data.

Screen Displays

- PI bar provides continuous indication of perfusion index.

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**Reusable Sensor Options**

- Rainbow® reusable sensors available in 3 ft., 8 ft., and 12 ft. cable lengths.
- Red reusable sensors available in 3 ft. and 12 ft. cable lengths.
- Masimo Rad-57 can also be used with Masimo LNOP® and LNCS® adhesive sensors.
- Rainbow sensors must be used when reading SpHb, SpCO, and SpMet. Red sensors can be used for SpOz, PR, and PI only.

**Rad-57 Comes standard with Oxygen Saturation (SpOz), Pulse Rate, and Perfusion Index | PN9188**

**Available Upgrades**

<table>
<thead>
<tr>
<th>Available Upgrades</th>
<th>PN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hemoglobin (SpHb) and Oxygen Content (SpOC)</td>
<td>2630</td>
</tr>
<tr>
<td>Carboxyhemoglobin (SpCO)</td>
<td>2296</td>
</tr>
<tr>
<td>Methemoglobin (SpMet)</td>
<td>2297</td>
</tr>
<tr>
<td>Measure of Fluid Responsiveness (PVI)</td>
<td>2313</td>
</tr>
</tbody>
</table>

**PERFORMANCE**

**MEASUREMENT RANGE**

<table>
<thead>
<tr>
<th>Measurement</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>SpOz</td>
<td>0% - 100%</td>
</tr>
<tr>
<td>SpCO</td>
<td>0% - 99%</td>
</tr>
<tr>
<td>SpHb</td>
<td>D - 25 g/dL</td>
</tr>
<tr>
<td>SpOC</td>
<td>D - 35 mL of O2/dL of blood</td>
</tr>
<tr>
<td>SpMet</td>
<td>0% - 99.9%</td>
</tr>
<tr>
<td>Pulse Rate</td>
<td>25 - 240 bpm</td>
</tr>
<tr>
<td>Perfusion Index</td>
<td>0.02% - 20%</td>
</tr>
</tbody>
</table>

**ARTERIAL OXYGEN SATURATION ACCURACY**

<table>
<thead>
<tr>
<th>Saturation</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>No Motion</td>
<td>±3%</td>
</tr>
<tr>
<td>Adults, Infants, Pediatrics</td>
<td>±2%</td>
</tr>
<tr>
<td>Neonate</td>
<td>±3%</td>
</tr>
<tr>
<td>Motion</td>
<td>±2%</td>
</tr>
<tr>
<td>Low perfusion</td>
<td>±3%</td>
</tr>
</tbody>
</table>

**TOTAL HEMOGLOBIN SATURATION ACCURACY**

<table>
<thead>
<tr>
<th>SpHb</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 - 17 g/dL</td>
<td>±1 g/dL</td>
</tr>
</tbody>
</table>

**CARBOXYHEMOGLOBIN SATURATION ACCURACY**

<table>
<thead>
<tr>
<th>SpCO</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1% - 40%</td>
<td>±3%</td>
</tr>
</tbody>
</table>

**METHEMOGLOBIN SATURATION ACCURACY**

<table>
<thead>
<tr>
<th>SpMet</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>1% - 5%</td>
<td>±1%</td>
</tr>
</tbody>
</table>

**PULSE RATE ACCURACY**

<table>
<thead>
<tr>
<th>No Motion</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults, Infants, Pediatrics, Neonate</td>
<td>±3 bpm</td>
</tr>
<tr>
<td>Motion</td>
<td>±5 bpm</td>
</tr>
<tr>
<td>Low perfusion</td>
<td>±3 bpm</td>
</tr>
</tbody>
</table>

**RESOLUTION**

<table>
<thead>
<tr>
<th>SpOz</th>
<th>Sensitivity</th>
</tr>
</thead>
<tbody>
<tr>
<td>1%</td>
<td>2, 4, 8, 10, 12, 14, or 16 seconds</td>
</tr>
</tbody>
</table>

**DISPLAY/INDICATORS**

- Data Display: %SpOz, SpHb g/dL, SpOC mL/dL, %SpMet, SIQ bar, PI bar, Pulse Rate, Perfusion Index, Patient Volume Index, low signal IQ, alarm status, alarm silenced status, and battery status
- Type: LED

**COMPLIANCE**

- EMC Compliance: EN60601-1-2, Class B
- Equipment Classification: IEC 60601-1-1
- Degree of Protection: Type BF-Applied part

**BATTERIES**

- Type: 4 AA Alkaline
- Capacity: up to 10 hours

**ENVIRONMENTAL**

- Operating Temperature: 0° F to 129° F (-18°C to 54°C)
- Storage Temperature: -40° F to 158° F (-40°C to +70°C)
- Operating Humidity: 5% to 95%, non-condensing
- Operating Altitude: 500 mbar to 1060 mbar pressure, 1,000 ft to 18,000 ft (-304m to 5,486m)

Effective battery life will be reduced when operating the instrument below 5 degrees Fahrenheit due to alkaline battery technology.

**DIMENSIONS**

- Handheld: 6.2" x 3.0" x 1.4" (15.8 cm x 7.6 cm x 3.6 cm)

**WEIGHT**

- Handheld: 13 oz (.37 kg)

**TRENDING**

- Provides 72 hours of trending at 2-second resolution of SpOz, SpCO, SpHb, SpMet, Pulse Rate, Perfusion Index, and PVI. Output to PC running Masimo TrendCom™ Utility.

* Pending FDA Clearance