

Technical Specifications

iMEC12
Monitor size: 362 mm x 273 mm x 122 mm
Weight: 3.2 kg, Standard parameters configuration, including a lithium battery and a recorder
3.6 kg, Standard and optional parameters configuration, including touchscreen, a lithium battery and a recorder

Display
Type: iMEC 12: 12.1" color LED backlight screen
Resolution: 800 x 600 pixels
Waveforms: up to 8
External display: 1 display through VGA

ECG
3-lead: I, II, III
5-lead: I, II, III, aVR, aVL, aVF, V
Gain: x0.125, x0.25, x0.5, x1, x2, x4, Auto
Sweep speed: 6.25 mm/s, 12.5 mm/s, 25 mm/s, 50 mm/s
Bandwidth: Diagnostic Mode: 0.05-150Hz
Monitor Mode: 0.5-40Hz
Surgical Mode: 1-20Hz
ST Mode: 0.05-40Hz

Defib. protection: Withstand 5000V (360J) defibrillation
Recovery time: <10 s
CMRR: Diagnostic Mode: >90dB
Monitor Mode: >105dB
Surgical Mode: >105dB
ST Mode: >105dB
-2.0 to 2.0 mV

ST analysis: Yes
Arr analysis: Yes
QT/QTc: Yes
ECG summary: Yes

Heart Rate
Range: Adu: 15 to 300 bpm
Ped: 15 to 350 bpm
Neo: 15 to 350 bpm
1 bpm
Accuracy: ±1 bpm or ±1%, whichever is greater

Respiration
Range: Adu: 0 to 200 rpm
Ped/Neo: 0 to 200 rpm
Resolution: 1 rpm
Accuracy: 7 to 150 rpm: ±2 rpm or ±2%, whichever is greater
0 to 6 rpm: Not specified
1 or II (default: lead II)
Lead: 3 mm/s, 6.25 mm/s, 12.5 mm/s or 25 mm/s, or 50 mm/s
Sweep speed:

SpO₂
Mindray/Nellcor range: 0 to 100%
Masimo range: 1% to 100%
Resolution: 1%
Mindray accuracy: ±2% (70-100%, Adu/Ped)
±3% (70-100%, Neo)
Unspecified (0-69%)
Masimo accuracy: ±2% (70-100%, Adu/Ped, non-motion)
±3% (70-100%, Neo, non-motion)
±3% (70-100%, motion)
Unspecified (1-69%)
Nellcor accuracy: Actual accuracy depends on probe. Refer to the operator's manual
Refreshing rate: 1 s

Pulse Rate
Range: Mindray SpO₂: 20 to 300 bpm
Masimo SpO₂: 25 to 240 bpm
Nellcor SpO₂: 20 to 300 bpm
IBP Module: 25 to 350 bpm
NIBP Module: 30 to 300 bpm
Accuracy: Mindray SpO₂: ±3 bpm
Masimo SpO₂: ±3 bpm (non-motion), ±5 bpm (motion)
Nellcor SpO₂: ±3 bpm (20-250 bpm)
Unspecified (251-300 bpm)
IBP Module: ±1 bpm or ±1%, whichever is greater
NIBP Module: ±3 bpm or ±3%, whichever is greater
Resolution: 1 bpm
Refreshing rate: 1 s

NIBP
Method: Automatic Oscillometric
Operation mode: Manual, Auto, STAT, Sequence
Parameters: Systolic, Diastolic, Mean
Systolic range: Adu: 25 to 290 mmHg
Ped: 25 to 240 mmHg
Neo: 25 to 140 mmHg
Diastolic range: Adu: 10 to 250 mmHg
Ped: 10 to 200 mmHg
Neo: 10 to 115 mmHg
Mean range: Adu: 15 to 260 mmHg
Ped: 15 to 215 mmHg
Neo: 15 to 125 mmHg
Accuracy: Max mean error: ±5 mmHg
Max standard deviation: 8 mmHg
Resolution: 1 mmHg

Temperature
Range: 0 to 50°C (32 to 122°F)
Resolution: 0.1°C
Accuracy: ±0.1°C or ±0.2 F (without probe)
Parameters: T1, T2 and TD

IBP
Channel: up to 2 channels
Range: -50 to 360 mmHg
Resolution: 1 mmHg
Accuracy: ±2% or ±1 mmHg, whichever is greater (without sensor)
Sensitivity: 5 μV/V/ mmHg

Impedance range: 300 to 3000Ω
C.O.
Method: (Not an option for iMEC8)
Range: Thermomodulion
C.O.: 0.1 to 20 L/min
TL: 0 to 27°C
Accuracy: C.O.: ±5% or ±0.1 L/min, whichever is greater
TL: 0 to 27°C
Resolution: TB, TL: ±0.1°C (without sensor)
C.O.: 0.1 L/min
TB, TL: 0.1°C

Sidestream CO₂
CO₂ Range: 0 to 99 mmHg
Accuracy: 0 to 40 mmHg: ±2 mmHg
41 to 76 mmHg: ±5% of the reading
77 to 99 mmHg: ±10% of the reading
Adult: 70, 100, 120, 150 ml/min
Ped/Neo: 70, 100 ml/min
Accuracy: ±15% or ±15 ml/min, whichever is greater.
Warm-up time: 15s accuracy mode: 45 s
Full accuracy mode: 10 min
awRR range: 0 to 120 rpm
awRR precision: ±2 rpm
Response time: When using neonatal water trap and 2.5 m neonatal sampling line
<4 s @ 100 ml/min
<4.5 s @ 70 ml/min
When using adult water trap and 2.5 m adult sampling line
<4.5 s @ 150 ml/min
<5 s @ 120 ml/min
<5.5 s @ 100 ml/min
<6.5 s @ 70 ml/min
10 s, 15 s, 20 s, 25 s, 30 s, 35 s, 40 s

Microstream CO₂
CO₂ Range: 0 to 99 mmHg
Accuracy: 0 to 38 mmHg: ±2 mmHg
39 to 99 mmHg: ±5% of reading +0.08% for every 1mmHg (above 38mmHg)
50ml/min
Accuracy: -7.5/+15ml/min
Initialization time: 30 s (typical)
awRR range: 0 to 150 rpm
awRR precision: 0 to 70 rpm: ±1 rpm
71 to 120 rpm: ±2 rpm
121 to 150 rpm: ±3 rpm
Measured with a FilterLine of standard length
2.9 s (typical)
4.5 s (Maximum)
10 s, 15 s, 20 s, 25 s, 30 s, 35 s, 40 s

Mainstream CO₂
CO₂ Range: 0 to 150 mmHg
Accuracy: 0 to 40 mmHg: ±2 mmHg
41 to 70 mmHg: ±5% of the reading
71 to 100 mmHg: ±8% of the reading
101 to 150 mmHg: ±10% of the reading
0 to 150 rpm
±1 rpm
<60 ms
Apnea time: 10 s, 15 s, 20 s, 25 s, 30 s, 35 s, 40 s

Data Storage & Software Functions
Trend data: 120 hrs (interval 1 min), 4 hrs (interval 5 sec), 1 hrs (interval 1 sec)
Alarm events: 100 events and associated waveforms
Arr. events: 100 Arr. events and associated waveforms
NIBP: 1000 measurements
Waveforms: Max. 48 hrs full disclosure waveforms (specific storage time depends on the type and number of waveforms stored)
MEWS, NEWS and User-defined Scoring
Calculations: Dose, Oxygenation, Ventilation, Hemodynamic and Renal calculations

Battery
Type: Chargeable Lithium-Ion
Number: 1 pc
Voltage: 11.1 VDC
Capacity: 2600 mAh (4500 mAh optional)
Run time: 2 hrs (2600 mAh)
4 hrs (4500 mAh)
4.5 hrs maximum (2600 mAh)
8 hrs maximum (4500 mAh)
Recharge time: 4.5 hrs maximum (2600 mAh)
8 hrs maximum (4500 mAh)

Interfacing
Connectors: 1 AC power connector
1 RJ45 network connector
1 USB 2.0 connector
1 VGA output connector
1 multifunctional output connector (output ECG, IBP, nurse call and Defib. Synch. Signals)
1 built-in dual-band WiFi module (2.4G/5G)

Recorder
Type: Thermal dot array
Speed: 25 mm/s, 50 mm/s
Trace: 3

Power Requirements
AC Voltage: 100 to 240 VAC, 50/60Hz
Current: 1.1 to 0.5 A

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iMEC12 Patient Monitor

Green Patient Monitor for More Efficient Bedside Care

mindray
healthcare within reach

100% Performance with 50% Energy

An innovative patient monitor with “green” credentials, Mindray’s iMEC helps you to reduce your hospital’s ecological footprint and to contribute to a sustainable care environment.

Based on its optimized hardware design, iMEC achieves a **50% lower power consumption** compared to conventional patient monitors. This allows for an improved battery life and a fan-less design, providing cleaner and quieter performance. It also offers a robust but thin and lightweight structure, making iMEC very easy to carry.

The touch screen allows you to operate iMEC in a quick and convenient way.

With Wi-Fi capability, iMEC integrates seamlessly with Mindray’s Hypervisor VI Central Monitoring System. This provides you with convenient access to real time patient information - even during transport.

Its preconfigured measurement parameters meet all standard clinical requirements and allow iMEC to operate in various hospital settings, including Emergency Rooms, Recovery Units, General Wards and Outpatient areas.



Exceptional Design and Cost-Effective Monitoring



“No-fan design” allows for a quiet care environment. Preventing dust collection and reduces the risk of airborne contamination.

Weighing 3.2Kg with an integral **carry-handle**, the lightweight iMEC12 is ideal as a portable monitor.

Alarm light is visible from 360 degrees

The user-configurable **touch screen** is available in 12.1” size, with 800 x 600 high-resolution and up to 8 traces.

Ergonomic buttons enable quick access to commonly used functions, such as alarm silence, alarm pause and start NIBP.

Optional measurement capability of IBP, Cardiac Output and EtCO₂ to meet your advanced monitoring requirements

The integral 3-trace **thermal recorder** provides waveform and data reports for diagnostic support.

Quick keys help caregivers to rapidly access frequently used functions such as trend review, and alarm settings and useful display modes, including large fonts and mini-trends.

Powerful data storage for up to 48 hours full-disclosure, 120 hours of tabular and graphic trends, 1,000 NIBP measurements and 100 alarm events.

Li-ion battery allows for up to 4 hours of continuous monitoring.

Reliable Technology for Improved Usability

Patient Care in One Touch

Through its simple and intuitive touch screen display, iMEC offers instant access to all functions and allows you to monitor your patients in a quicker and more convenient way.

Customizable hot keys provide shortcuts to the most frequently used functions, saving you time for patient care.

Quick and Easy Monitoring

A compact and light weight design make iMEC easy to carry while optional bedrail mounting allows for convenient in-hospital transport.

An optional rolling stand provides iMEC with maximum mobility. Both rolling stand and wall mount feature simple mounting and quick release.

iMEC’s user-friendly interface is intuitive and easy to use.

- Dynamic mini-trends provide up to 8 hours of useful information on your patient’s status.
- EWS assists with detection of physiological changes and helps identify patients at risk of further deterioration.
- ECG summary offers a quick view of abnormal ECG information in the previous 24 hours.



Auto detectable 3 or 5 lead ECG and self-adjusting ECG, SpO₂ and IBP waveforms allow you to spend more time on patient care and less time on operating the monitor.

The centralized alarm system enables you to quickly review and modify alarm settings.

The logical review of alarms, events, trends and full-disclosure data helps you to quickly and accurately assess a patient’s situation.

With LAN and Wi-Fi capability, your iMEC can communicate with the HyperVisor VI Central Monitoring System both from the bedside and during transport.

Optimized Structural Design – Simplifying Upgrades and Maintenance

The iMEC is designed to simplify maintenance and make it easy to perform future upgrades.

Future software upgrades can be performed on one iMEC or multiple iMECs simultaneously through a standard RJ45 port.

The USB port allows you to transfer patient data to a PC and to copy your personalized user settings to different iMECs.

The maintenance-free Li-ion battery offers up to 4 hours continuous monitoring.