

O.R. monitor provides superior flexibility and performance

Standard 3/5 lead ECG with ST segment monitoring, NIBP, SpO₂, Resp. and Dual Temp.

Also available with dual invasive blood pressures, EtCO₂, a battery and a built-in recorder



The DRE Waveline Pro displays as many as eight colorful waveforms on a crisp 15" high resolution screen. It is lightweight, portable and measures multiple parameters, including ECG (3 or 5 lead) with ST segment monitoring, resp., dual temp., SpO₂ and NIBP. Configurations are available that measure capnography, dual channel IBP, and anesthetic agents. The Waveline Pro is also available with a built-in thermal printer.

A Quick Look

- » Standard 3/5 lead ECG with ST segment monitoring, NIBP, SpO₂, respiration and dual temperature
- » Optional CO₂ (mainstream and/or sidestream), dual invasive blood pressure monitoring, anesthetic agent monitoring, and strip chart printer
- » 8-waveform display with large waveforms and digits
- » Simultaneous multi-lead ECG monitoring
- » Auto setting of alarm limits
- » Color-coded alarms
- » Graphical and tabular trends (48 hour)
- » Patient data entry
- » Battery backup (2 removable batteries)
- » Networking capability (wireless and non-wireless)



Available with EtCO₂ and 5-agent analysis!

DRE Waveline Pro

Multi-Function Patient Monitor

Equipment for the way *you* operate

Physical Dimensions & Weight

Base Unit: 12.1"/309 mm (H) x 14.4"/365 mm (W) x 6.3"/159 mm (D)
 Weight: 17.6 lbs/8.0 kgs (including anesthetic agents module and batteries)

Application

Neonatal, pediatric and adult patients

Performance Specifications

Display: 15" color TFT, Resolution 1024 x 768
 Trace: 8 waveforms
 Indicator: Alarm indicator
 Power indicator
 QRS beep and alarm sound
 Trend time: 1 ~ 48 hours
 Recorder: Built-in, thermal array, 2 channels
 Record width: 1.9"/48 mm
 Recorder paper: 2"/50 mm
 Record speed: 25 mm/s, 50 mm/s

ECG

Input: 5-lead ECG cable and standard AAMI line for connection
 Lead Choice: I, II, III, aVR, aVL, V, TEST
 Gain Choice: x0.5, x1, x2, x4
 Frequency Characteristic: 0.05 ~ 35 HZ (+3dB)
 ECG Waveforms: 7 channels
 Penetration Voltage: 4000VAC 50/60Hz
 Sweep Speed: 12.5, 25 and 50 mm/s
 HR Display Range: 30 ~ 300bpm
 Accuracy: ± 1 bpm or $\pm 1\%$, whichever is greater
 Alarm Limit Range Setting: Upper limit 100 ~ 200 bpm; Lower limit 30 ~ 100 bpm

RESP

Measure Method: RA-LL impedance
 Range: 0 ~ 120 rpm
 Accuracy: ± 3 rpm
 Alarm Limit Setting: Upper limit 6 ~ 120 rpm; Lower limit 3 ~ 120 rpm
 Sweep Speed: 12.5 and 25 mm/s

TEMP

Range: 25° ~ 50° (C)
 Accuracy: $\pm 0.2^\circ$ C (25.0° ~ 34.9° C)
 $\pm 0.1^\circ$ C (35.0° ~ 39.9° C)
 $\pm 0.2^\circ$ C (40.0° ~ 44.9° C)
 $\pm 0.3^\circ$ C (45.0° ~ 50.0° C)
 Display Resolution: 0.1° C
 Alarm Limit Setting: Upper limit 0° ~ 50° C, lower limit 0° ~ 50° C
 Channel: 2 channels

SpO₂

ASpO₂: Anti-motion SpO₂
 SpO₂ % Range: 0 ~ 100%
 SpO₂ Accuracy: $\pm 2\%$ (70 ~ 100%, non-motion) $\pm 3\%$ (70 ~ 100%, motion)
 Pulse Rate Range: 30 ~ 250 bpm
 Pulse Rate Accuracy: ± 2 bpm (non-motion) ± 3 bpm (motion)
 Alarm Limit Setting: Upper limit 70 ~ 100%, lower limit 70 ~ 100%
 SpO₂ Probe: Red light LED wavelength; 660nm \pm 5nm
 Infrared light LED wavelength; 940nm \pm 10nm

NIBP

Measuring Technology: Automatic oscillating measurement
 Cuff Inflating: <30s (0 ~ 300 mmHg, standard adult cuff)
 Measuring Period: AVE<40s
 Mode: Manual, Auto
 Measuring Interval in AUTO Mode: 2 min ~ 4 hrs
 Pulse Rate Range: 30 ~ 250 (bpm)
 Measuring Range: Adult/Pediatric Mode
 SYS: 40 ~ 250 (mmHg) DIA: 15 ~ 200 (mmHg)
 Neonatal Mode
 SYS: 40 ~ 135 (mmHg) DIA: 15 ~ 100 (mmHg)
 Resolution: 1mmHg
 Accuracy: Maximum Mean error: ± 5 mmHg
 Maximum Standard deviation: 8mmHg
 Overpressure Protection: Adult Mode: 300(mmHg) Neonatal Mode: 160 (mmHg)
 Alarm Limit Setting: SYS: 50 ~ 240 mmHg DIA: 15 ~ 180 mmHg

IBP

Measurement Range: -50 ~ 300mmHg
 Channel: 2 channels
 Pressure Transducer: Sensitivity, 5 μ V/V/mmHg
 Impedance Range: 300 ~ 3000 Ω
 Transducer Sites: ART, PA, CVP, RAP, LAP, ICP
 Unit: mmHg/kPa selectable
 Resolution: 1 mmHg
 Accuracy: ± 1 mmHg or $\pm 2\%$, whichever is greater
 Alarm Range: -10 ~ 300 mmHg

EtCO₂ (Oridion)

CO₂ Measurement Range: 0 ~ 99 mmHg
 Accuracy: ± 2 mmHg (0 ~ 38 mmHg)
 39-99 mmHg $\pm 5\%$ of reading + 0.08% for every 1 mmHg (above 38 mmHg)
 Sampling Rate: 50 ml/min
 Initialization Time: 30 seconds (typical), reaches $\pm 5\%$ steady-state accuracy within 3 minutes
 Respiration Rate: 0 ~ 150 breaths/min
 Mode: Adult, neonate

Anesthetic Agents

Method: Infrared absorption
 Gas Sorts: Halothane, Isoflurane, Enflurane, Sevoflurane, Desflurane, CO₂, N₂O (optional Automatic Agent ID)
 Measurement Range: Halothane, Isoflurane: 0 ~ 8.5%
 Enflurane, Sevoflurane: 0 ~ 10%
 Desflurane: 0 ~ 20%
 CO₂: 0 ~ 10%
 N₂O: 0 ~ 100%

Bias:

Halothane, Isoflurane, Enflurane, Sevoflurane, Desflurane: $\pm(0.15 \text{ Vol}\% + 15\% \text{ rel.})$
 CO₂: $\pm(0.5 \text{ Vol}\% + 12\% \text{ rel.})$
 N₂O: $\pm(2 \text{ Vol}\% + 8\% \text{ rel.})$

Networking

Industry standard 802.11b/g wireless network

Power

Source: External AC power or internal battery
 AC Power: 100 ~ 240VAC, 50/60Hz, 150VA
 Battery: Built-in and rechargeable
 Charge Time: 4 hours

Environmental Specifications

Temperature: Operating: 5° ~ 40° C
 Storage: -20° ~ 65° C
 Humidity range: Operating: $\leq 80\%$
 Storage: $\leq 80\%$

Specifications subject to change without notice.

