NEW Accurate Certified and Synchronized Patient Monitor Testing....
In the Palm of Your Hand

AccuSim - Total Patient Simulator

The New AccuSim combines the power of Clinical Dynamics' unrivaled NIBP and SpO2 technologies into one powerful hand held instrument. Total Patient Simulator accurately simulates, tests and calibrates all of your patient monitors. AccuSim provides unmatched synchronized simulation accuracy by utilizing our industry standard NIBP CalTables and SpO2 Simulation R-Curves. These were developed in cooperation with, and approved by, the world's leading patient monitoring manufacturers. The AccuSim is the only instrument with:

- Fully Synchronized Patient Monitor Simulation System
- Built-In Pressure Meter with High Accuracy Pressure Transducer
- Accurate NIBP Simulation with CalTables
- Built In Adult NIBP Cuff Mandrel
- Accurate Second Generation SpO2 Simulation with R-Curves
- Accurately tests Masimo's® Rainbow Technology & Other New Pulse Oximetry Technologies
- Respiration Simulation
- Temperature Simulation
- 12 Lead ECG Simulation
- Invasive Blood Pressure Simulation
- Arrhythmias and Pacer
- USB Connectivity
- Internet Updateable Firmware

Certified by Masimo for testing Masimo® & Masimo® Rainbow Pulse Oximetry Technologies

Only Manufacturer Certified Simulator with Accurate NIBP CalTables & SpO2 R-Curves!

AccuPulse NIBP CalTables™

Welch-Allyn Propaq Encore
Zoll Advantage/Propaq MD
Welch Allyn VSM300
Welch Allyn VSM6000
Welch Allyn Spot VSM
Welch Allyn Spot LXI
Welch Allyn BP3400
Datascope Accutorr Plus
GE Medical Dash 4000
GE Medical Dinamap Pro
Philips Medical M3
Philips Medical VS1
Colin Medical
Criticare
CAS Medical
SunTech
Smiths Medical Advisor
SpaceLabs SL 90207
SpaceLabs SL 90217
### Fully Synchronized NIBP Simulator

NIBP Cal Tables™ includes all CalTables available in our AccuPulse NIBP Simulator. Please contact factory for the availability of specific calibration tables.

<table>
<thead>
<tr>
<th>BP Presets</th>
<th>Syntetic/Diastolic (mmHg)</th>
<th>Neonatal</th>
<th>Adult 240/190</th>
<th>200/150</th>
<th>150/100</th>
<th>100/60</th>
<th>100/50</th>
<th>80/50</th>
<th>80/30</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>150/120</td>
<td>120/90</td>
<td>100/70</td>
<td>80/50</td>
<td>60/30</td>
<td>35/15</td>
<td></td>
</tr>
</tbody>
</table>

### Pulse Rate

| Pulse Rate Range | 15 - 350 bpm | +/-.05 bp | 301 - 330 bpm | +/+.1 bp |

### Pulse Amplitude

<table>
<thead>
<tr>
<th>Pulse Amplitude Range</th>
<th>0 - 152%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pulse Amplitude Resolution</td>
<td>1%</td>
</tr>
<tr>
<td>Pulse Amplitude Accuracy</td>
<td>Better than 0.1%</td>
</tr>
</tbody>
</table>

### BP Simulation

Range: 10 mmhg–206 mmhg
Accuracy: +/-0.5 mmhg

### Technical Specifications

- **SpO2 R-Curves!**
- **Accurate NIBP Simulator with CalTables & CE Mark Certified**
- **Only Manufacturer Certified Simulator with Accurate NIBP CalTables & SpO2 R-Curves!**

#### Fully Synchronized SpO2 Simulator

Oxygen Saturation (SpO2)
- Range: 0-100 SpO2%
- Resolution: 1 SpO2%
- ±0.5 SpO2%, 70-100 SpO2%
- Accuracy: ±1 SpO2%, 50-69 SpO2%

#### Pulse Rate

- Pulse Rate Range: 15 - 330 bpm
- Pulse Rate Accuracy: 15 - 300 bpm /+-.05 bp
- 301 - 330 bpm: +/+.1 bp

#### Pulse Amplitude

- Pulse Amplitude Range: 0 - 152%
- Pulse Amplitude Resolution: 1%
- Pulse Amplitude Accuracy: Better than 0.1%

#### BP Simulation

- Range: 10 mmhg–206 mmhg
- Accuracy: +/-0.5 mmhg
- Pop-Off Pressure: 10 - 400 mmhg
- Instantaneous Pressure: 0 - 400 mmhg
- Dynamic NIBP Cuff Pressure Waveform
- Leakage Test Time and Pressure: 3 programmable selections
- Time Range: 30-999 seconds
- Resolution: +/-0.1 mmHg
- Accuracy: +/-0.5 mmHg
- Pressure Range: 0.0 to 400.0 mmHg

#### R-Waves

- Frequency: 40-120 m/s (adjust in 40 steps of 0.01)
- Frequency: 0.15-5.00 mV (adjust in steps of 0.01)
- Resolution: 1%
- Accuracy: ±1%

#### Flicker Frequency Presets

- 60 Hz
- 120 Hz
- 121 Hz
- 50 Hz
- 100 Hz
- 101 Hz

#### Motion Artifact

- Amplitude Range: 0-100
- PVC
- Atrial
- Brachycardia

#### OverPressure Test

- Automatic Inflation
- Instantaneous Pressure: 0 - 400 mmhg
- Pop-Off Pressure: 10 - 400 mmhg

### Fully Synchronized Patient Simulator

#### ECG Type

- NSR (Normal Sinus Rhythm)
- (Heart) RATE: 30 - 330 BPM (adjust in steps of 1)
- AMP: 0.15 – 5.00 mV (adjust in steps of 0.01)
- MODE: Continuous , Triggered

#### ECG Faults

- Tachycardia, Bradycardia, VT, VF or Asystole
- Pacer
- Atrial Pacer
- Polarity: Ve+, Ve-
- Polarity: Ve+, Ve-

#### R-Waves

- Width: 1-15ms
- AAMP: 0.15-5.00 mV (adjust in steps of 0.01)
- Sync: Pacer Only, Pacer AP, Pacer AP, ST Segment
- ST Segment
- ST Elevation
- ST Elevation Enabled, Disabled
- Direction: 7%, 13%, 20%
- Slope: Flat, Positive Slope, Negative Slope
- Myocardial Infarction: Isc, Ini, Inf, Iinf

#### Tall T wave

- RATE: 30 - 330 BPM (adjust in steps of 1)
- AMP: 0.15 – 4.00 mV (adjust in steps of 0.01)
- Height: 0 – 125% (adjust in steps of 1%)

#### OverPressure Test

- Automatic Inflation
- Instantaneous Pressure: 0 - 400 mmhg
- Pop-Off Pressure: 10 - 400 mmhg

### General Specifications

- **Display**
  - Graphic LCD
  - Resolution: 128 x 64 pixels
  - LED Backlight
- **Communication Port**
  - Universal Serial Bus (USB)
- **Power Supply**
  - 100-240 VAC, 50 watts, 50-60 Hz, Desktop
  - Switched Output: 24VDC @ 2.1A, 6-foot cable
  - UL, CE, TUV
  - Lithium Rechargeable Battery
- **Weight**
  - 1.9 pounds (0.86 kilograms)
- **Dimensions**
  - 4.25" Wide x 2" High x 11.5" Long (10.5" long w/ECG option)
  - Includes built-in adult cuff support

### Standard Accessories

- External Power Supply
- Stand
- Operation Manual
- Neonatal Mandrel
- Optional Accessories
  - Hose Adapter Kit
  - Cavi Case
  - Motion Simulate Wave Frequency: 1-25 Hz
  - ECG Auto Sequences
- Respiration
  - 0.01 Hz (adjust in steps of 0.01)
  - 1-9 Hz (adjust in 1Hz steps)
  - 10-100 Hz (adjust in 10Hz steps)
  - ECG Arrhythmias
  - PAC1, PAC2, PVC, MB, AS, AFB
  - ECG Auto Sequences
  - RWD, Tall T, Ppc, Toc
  - Thermistor Only
  - Patient Simulator Kit
  - Optional Accessories
- Adaptor Hoses
  - Optional Adaptor Hoses insert between the NIBP device, cuff, and analyzer. These adaptors are compatible with osilometric NIBP monitors.
  - Male/Female Luer
  - Male/Female Clipper (GE Medical, Draeger/Siemens)
  - Colder/CPC (GE Medical, Protocol Systems)
  - OBAC Quick Release (Philips Medical)
  - Universal 5/32" I.D. Hose
- Autosequences
  - All available sequences automatic pulse oximeter testing. User configurable sequences.
- Remote Control
  - Remote control operation available through USB.
- Calibration
  - The following simulator and probe analyzer cables are available for purchase.
  - Please contact Clinical Dynamics for details.
- Optional SpO2 Simulator Adapter Cables:
  - BCI, Criticare, CSI-Spot, Datascopes, Datex, Hewlett-Packard (Philips), Masimo, Nellcor / OxiMax, Nihon Kohden, Nonin, Novametrix, Sensormedics, & TuffSat

### AccuPulse Handheld

- 2008 Clinical Dynamics
- AccuAccuSim
- Total Patient Simulator
- All rights reserved.
- Ce Mark Certified
- RoHs Compliant (Lead-Free)
- www.clinicaldynamics.com
  - or visit our web site for updates at www.clinicaldynamics.com

### Clinical Dynamics

- Safety Agency Approvals: UL, CE, TUV
- Output: 24VDC @ 2.1A, 6-foot cable
- Switcher
- Standard Accessories
  - External Power Supply
  - Stand
  - Operation Manual
  - Neonatal Mandrel
- Optional Accessories
  - Hose Adapter Kit
  - Cavi Case
  - Motion Simulate Wave Frequency: 1-25 Hz
  - ECG Auto Sequences
- Respiration
  - RATE 4-120 BPM (beats per minute)
  - Base Impedance 250, 500, 750, 1000 ohms (variation) Dynamic Impedance 1, 5, 10, 15 ohms
- Invasive Blood Pressure
  - Static Pressure: 0 mmhg to 300 mmhg (adjust in steps of 1)
  - Dynamics Pressure: 100/60, 120/80
  - Simulated Wave Contact Factory for availability of additional Waves
  - Gain: 5uV/V, 40uV/V
- Temperature
  - Probe: 400, 700 series
  - Temperature: 30, 37 degrees C

### Fluid Specifcations

- Specifications are measured at an ambient temperature between 65-75°F after a 15-minute warm-up and are subject to change without notice.
- All rights reserved.