PALM ECG’S are designed for general practitioners or for domestic users who suffer from cardiovascular diseases such as hypertension, coronary disorders, giving the possibility of a daily ECG test. Records can be saved and used as a reference for clinical applications.

4 measurement modes: palm, leg, chest or lead wire traditional measurement.

Main features:
- small, portable and easy to use
- 30 second ECG waveform and measurement results
- 600 (CARDIO-A) or 1200 (CARDIO-B) ECG waveform can be saved
- 5 hours (CARDIO-A) or 10 hours (CARDIO-B) ECG continuous measurement data storage
- analysis and report of 8 types (CARDIO-A) and 17 types (CARDIO-B) of ECG waveform
- USB 2.0 interface with option data cable and ECG viewer software
- CARDIO B with bluetooth module for wireless data transmission.

To download data on your smartphone or tablet, compatible with Android.

CARDIO-C: 3 CHANNEL POCKET ECG

- 33245 CARDIO-C POCKET ECG 3 channel
  - small size, light-weight and easy to carry
  - one-key measurement
  - clear ECG waveform and interpretation of results on colour dot-matrix TFT 3.5” screen
  - up to 19 types of measurement results
  - high capacity built-in memory: 24 hours records storage and review for single channel waveform and 8 hours record storage and review for 3-channel waveforms
  - quick measurement: by built-in metal electrodes, on palm, chest or leg or by external lead wires (needs optional limb and chest electrodes)
  - data management to review or delete data records locally or to upload to PC
  - Supplied with ECG viewer software, USB cable, power transformer, ECG 4 pins lead wire, 25 disposable electrodes.
  - Other accessories see at page 235.

• 33364 SET OF 4 LIMB CLAMP ELECTRODES (4 COLOURS) - adult
  • 33327 DISPOSABLE TNT ELECTRODES Ø 55 mm

**TECHNICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>ECG</th>
<th>CARDIO A</th>
<th>CARDIO B</th>
</tr>
</thead>
<tbody>
<tr>
<td>ECG bandwidth:</td>
<td>0.5 Hz - 40 Hz</td>
<td>1 Hz - 40 Hz</td>
</tr>
<tr>
<td>Heart rate measuring range:</td>
<td>30 – 240 bpm ± 2 bpm</td>
<td>30 – 240 bpm ± 2 bpm</td>
</tr>
<tr>
<td>LCD back light display:</td>
<td>128x64 dot matrix</td>
<td>240x160 dot matrix</td>
</tr>
<tr>
<td>Display size:</td>
<td>49x25 mm</td>
<td>57.6x40 mm</td>
</tr>
<tr>
<td>Power:</td>
<td>2xAA batteries</td>
<td>2xAA batteries</td>
</tr>
<tr>
<td>Dimensions:</td>
<td>115x58x18 mm</td>
<td>125x70x21.5 mm</td>
</tr>
<tr>
<td>Weight:</td>
<td>65 g</td>
<td>106 g</td>
</tr>
</tbody>
</table>

**ACCESSORIES**

- 33265 ECG viewer software+USB 2.0 cable - for 33260, old 33261 since SN: XXS02JL01044 - Jan 2014
- 33264 Old ECG banana lead cable - 3 leads - optional
- 33260 ECG viewer software+USB 2.0 cable - for 33260, old 33261 since SN: XXS02JL01044 - Jan 2014
- 33264 Old ECG banana lead cable - 3 leads - optional
**MINDRAY BENEHEART R3 ELECTROCARDIOGRAPH**

- **33301 MINDRAY BENEHEART R3 ELECTROCARDIOGRAPH 3 channels**

BENEHEART R3 is a lightweight portable cardiograph for resting ECG diagnosis.

**Reliable analysis - Glasgow algorithm**

BeneHeart R3 utilizes the University of Glasgow ECG analysis algorithm, one of the world-leading resting ECG interpretations with 50 years of history.

**Great Portability - only 1.2 kg**

The BeneHeart R3 weighs only 1.2 kg with battery, easy to carry.

5" clear colour display

5" colour screen offers the highest resolution in industry, enabling clinicians to observe real-time waveforms accurately.

**Convenient operations**

ECG recording is automatically unfolded on the writing pad at the top of the unit for notes or signature.

**Unique recorder - Z-fold or rolling paper**

Compatible with both rolling paper and Z-fold paper. You can easily switch between these two styles of paper without dismantling the pressure lever.

**TECHNICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Power</th>
<th>Baseline drift filter: 0.05 Hz, Baseline Drift Removal (BDR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power supply</td>
<td>AC input without external power adapter or battery operation</td>
</tr>
<tr>
<td>AC power</td>
<td>100 to 240 VAC ± 10% 60 VA</td>
</tr>
<tr>
<td>Battery-type</td>
<td>rechargeable Lithium ion battery</td>
</tr>
<tr>
<td>- capacity</td>
<td>11.1 V typical, 2,500 mAh</td>
</tr>
<tr>
<td>- charge time</td>
<td>3.5 hours with power off</td>
</tr>
<tr>
<td>Processing</td>
<td>ECG amplifier: DC-coupled</td>
</tr>
<tr>
<td>ECG analysis</td>
<td>500 samples/second (sps)</td>
</tr>
<tr>
<td>ECG sampling rate</td>
<td>1,000 samples/second/channel</td>
</tr>
<tr>
<td>Pacer detection</td>
<td>16,000 samples/second/channel</td>
</tr>
<tr>
<td>DC-coupled</td>
<td>ECG amplifier: DC-coupled</td>
</tr>
<tr>
<td>Acquisition mode</td>
<td>Pre-acquisition or post-acquisition provide 10 seconds of</td>
</tr>
<tr>
<td></td>
<td>instantaneous ECG acquisition</td>
</tr>
<tr>
<td>Resolution</td>
<td>800x400</td>
</tr>
<tr>
<td>Display data</td>
<td>Patient ID, gender, age, heart rate, clock, battery power</td>
</tr>
<tr>
<td></td>
<td>indicator, waveforms, lead labels, speed, gain, filter</td>
</tr>
<tr>
<td></td>
<td>settings, warning messages, information messages, network</td>
</tr>
<tr>
<td></td>
<td>status and USB</td>
</tr>
<tr>
<td></td>
<td>TFT LCD with LED graphics backlit</td>
</tr>
<tr>
<td>Thermal printer</td>
<td>Dot array/Width 80 mm/speed 5, 12.5, 25, 50 mm/s</td>
</tr>
</tbody>
</table>

**Software**

- Measurement and interpretation: according to University of Glasgow ECG analysis algorithm
- Resting ECG mode: Records and prints 12-lead resting ECG with 10-second duration as a standard
- Multi-language internal software: GB, FR, IT, DE, ES, PT, TR
- Report formats: GB, FR, IT, ES, DE, PL, PT, TR, RU, HU, RO, CZ, CN
- Thermal printer/PDF/A4/letter

**STANDARD ACCESSORIES**

- Cable with banana plugs, IEC
- Limb clamp set of 6
- Chest bulb set of 6
- ECG CAD gram to locate coronary artery disease and ischemia
- Patient information: Patient ID, secondary ID, age, date of birth, gender, race, medication class and V3 electrode placement
- 800 ECGs in internal memory
- 90s resting ECG full disclosure
- 3-VCG analysis

**33320 PC-ECG + ECG LAB SOFTWARE**

Innovative PC-ECG device that can be connected to your PC via USB port. No power cable is required as it is powered through the USB PC cable. The unit is supplied with a 10 banana plug ECG cable (length 295 cm) and a powerful interpretation software (GB, FR, IT, DE, ES, PT, CN).

Main software features:

- 12 lead resting ECG with interpretation
- vector ECG
- sampling screen colour customization
- standard or thermal paper print, B&W or colour
- auto interpretation On or Off
- auto interpretation On or Off
- tests comparison
- multi hour ECG monitoring with holter analysis
- simple exercise stress test with report
- e-mail, PDF, ASCII, HL7, Dicom, GDT Interfaces
- 33328 ECG CABLE - SPARE
- 33321 PC-ECG+CARDIOLOGY SOFTWARE
- same as code 3332 but with the following specialist functions:
  - timed vector ECG
  - SAECG (Signal Averaged ECG) ventricular late potentials analysis
  - QTd analysis
  - High Frequency ECG (HFECG)
  - Frequency CardioGram (FCECG)
- 33322 CARDIOLOGY SOFTWARE to upgrade 33320 into 33321

**TECHNICAL SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Communication port</th>
<th>Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>USB - Support HL7, Dicom interface</td>
<td>120x80x28 mm - 190 g</td>
</tr>
<tr>
<td>SV/DC (from PC USB port)</td>
<td></td>
</tr>
<tr>
<td>Patient insulation</td>
<td>4000 V AC</td>
</tr>
<tr>
<td>Defibrillation protection</td>
<td>built-in patient cable</td>
</tr>
<tr>
<td>Sample rate</td>
<td>Windows 2000, XP Vista and Windows 7</td>
</tr>
<tr>
<td>Sample accuracy</td>
<td>CPU ≥ 1 GHz - HD ≥ 40 G - RAM ≥ 256 M</td>
</tr>
</tbody>
</table>

**STANDARD ACCESSORIES**

- 4 limb electrodes
- 6 chest electrodes
- Patient cable 10 leads, 10 electrodes
- USB pen driver
- CD software
- Banana plug

**33014 ROLL THERMAL PAPER - 80 mm x 20 m - box of 10**

Cable with banana plugs, IEC

<table>
<thead>
<tr>
<th>Rechargeable battery</th>
</tr>
</thead>
<tbody>
<tr>
<td>User manual in: GB, FR, DE, HU, IT, PL, ES, TR</td>
</tr>
</tbody>
</table>

**33016 Z-FOLD THERMAL PAPER - 80x70 mm x 200 sheet - box of 25**

**STANDARD ACCESSORIES**

- 1 roll paper

**3-VCG analysis**

**QT Dispersion**

**QTD analysis with chronoma map**

Above 3 pictures refers to code 33321
3 AND 6-12 CHANNEL DIGITAL ECG WITH HIGH RESOLUTION MONITOR

- Very simple operation by pre-defined fast keys and menus
- Based on a risk processor for a full digital signal processing
Made in Italy.

TECHNICAL SPECIFICATIONS CARDIOGIMA 3M AND 6M

- Power supply: internal rechargeable Ni-Mh batteries
- AC/DC Adapter: 100-240V, 50-60 Hz; 200mA
- Battery autonomy: 3 hours
- Applied part: CF type
- Input impedance: > 100 Mohm
- Frequency response: 0.05-145Hz
- Cmr: 91 dB (33334), Cmr: 100 dB (33350)
- Time constant: > 3.2 s
- Leads: 12 standard or Cabrera

STANDARD ACCESSORIES 3M AND 6M

- Patient cable
- 4 limb electrodes
- Manual (English, Italian)
- Rapid guide: English, Spanish, Italian
- Thermal printer 8 dots/mm, paper 58 mm (3M) 110 mm (6M)
- Filters: muscles tremors 35Hz digital; power line interferences 50-60Hz digital; high pass 0.5Hz digital
- Defibrillation protection: internal
- Display/Hardcopy: 1/3 channel (3M) 3/6/12 channel (6M)
- Dimensions: 240x160x65 mm. Weight: 1.5 kg. Made in Italy

CARDIOGIMA 1M - 1/3 CHANNEL ECG WITH PARAMETERS CALCULATION

- 33329 CARDIOGIMA 1 M - 1-3 channel ECG with monitor
- A real portable ECG with small dimension and light weight, with LCD monitor 128x64 pixel, high resolution thermal printer (8 dots/mm hardcopy, 1 channel real time) and parameters calculation. With manual or automatic recording, memory 10 seconds for each lead. Includes digital filters for elimination of muscles tremors, power line and base line noises. Based on a risk processor for a fully digital signal processing. Made in Italy.
- 32996 THERMAL PAPER 58 mm x 25 m - box of 20
- 33328 ECG CABLE - spare

TECHNICAL SPECIFICATIONS

- Power supply: internal rechargeable Ni-Mh batteries
- AC/DC Adapter: 100-240V, 50-60 Hz; 200mA
- Battery autonomy: 3 hours
- Applied part: CF type
- Input impedance: > 100 Mohm
- Frequency response: 0.05-145Hz
- Cmr: > 100 dB time constant: > 3.2 s
- Leads: 12 standard or Cabrera
- Acquistion: 12 bit 800 samples/sec/channel
- Lead: 12 standard or Cabrera
- Sensitivity: 5mm/mV; 10mm/mV; 20mm/mV ±5%
- Scrolling speed: 5mm/s; 10mm/s; 25mm/s; 50mm/s
- Memory: 10s for each lead
- Printer: thermal printer 8 dots/mm, paper 58 mm (3M) 110 mm (6M)
- Filters: muscles tremors 35Hz digital; power line interferences 50-60Hz digital; high pass 0.5Hz digital
- Defibrillation protection: internal
- Display/Hardcopy: 1/3 channel (3M) 3/6/12 channel (6M)
- Dimensions: 190x120x60 mm. Weight: 1.5 kg. Conformity standards: 93/42/CEE; EN60601-1; EN60601-1-2; IEC601-2-25 Made in Italy

STANDARD ACCESSORIES

- Patient cable
- 1 bottle of gel
- Manual (English, Italian)
- Rapid guide: English, French, Spanish, Italian
- Printer: thermal printer 8 dots/mm, paper 58 mm
- Defibrillation protection: internal

FILTERS: muscles tremors 35Hz digital; power line interferences 50-60Hz digital; high pass 0.5Hz digital

Dimensions: 190x120x60 mm. Weight: 1 kg. Conformity standards: 93/42/CEE; EN60601-1; EN60601-1-2; IEC601-2-25 Made in Italy
SMART SINGLE AND THREE CHANNEL ECG

- foldable LCD screen
- built-in high resolution thermal printer
- built-in rechargeable Li-ion battery, AC/DC supply
- complete digital filter, avoid baseline drift, AC, EMG interferes
- baseline automatic adjustment
- auto/manual operation selectable
- lead-off detection and alarm

Three channel ECG also features
- interpretation tested by CSE/AHA/MIT database
- 12 Lead simultaneous acquisition
- automatic ECG parameters measurement and analysis
- auto, manual, rhythm work mode
- 12 leads grid printing on normal A4 paper by external printer

ECG Viewer Software
- compatible with Windows XP, Vista, 7
- multi format reports - XML/SCP/DICOM/PDF/JPG/BMP/TIF/PNG
- support bi-directional communication with ECG device

TECHNICAL SPECIFICATIONS

SMART ECG AND ACCESSORIES

GIMA code | SMART ECG AND ACCESSORIES
---|---
33330 | Smart SE-1 Single Channel ECG
33332 | Smart SE-3 Three Channel ECG - interpretative
33336 | ECG-Viewer Software (GB, IT, DE, PL, RU, ES, TU)
32963 | Thermal paper - roll 50mm x 25m for 33330 and 33305
32964 | Thermal paper - roll 80mm x 25m for 33332/3 and 33306
33328 | ECG cable - spare
33318 | Rechargeable Lithium battery 2200 mAh - spare
27139 | Transport bag - see page 50

33257 CARDIOPOCKET ECG - with software
- Compact and lightweight pocket device with unbeatable features:
  - wide graphic display (it allows “live” view of ECG trace and selection of all parameters)
  - rechargeable lithium battery operated (80 ECG with full charge)
  - PC software with interpretation included for storing data into PC (English/Italian)
  - multilingual internal software: GB, IT, DE, FR, ES, TR, CN
  - standard 12 leads ECG
  - real time continuous records of clear and exact single channel ECG waveform and notes. The notes include mark, sensitivity, chart speed, filter mode, etc
  - full-touch keyboard control, easy to use. Screen displays, working position, state of the instrument are clear and easy to be read.

32963 THERMAL PAPER - box of 20 rolls

33328 ECG CABLE - spare

33243 RECHARGEABLE Li-Ion BATTERY up to S.N. CD 1212100050

33244 RECHARGEABLE Li-Ion BATTERY since S.N. CD 107300000-1

TECHNICAL SPECIFICATIONS

- Power: AC: 100-240V, 50/60 Hz - DC: 12V rechargeable battery
- The instrument can work for more than 0.5 hours under DC supply
- Noise level: ≤15μVP-p
- CMRR: >100 dB
- EMG filter: 35 Hz
- Time constant: ≥3.2s
- Sensitivity display: standard sensitivity: 10mm/mV+5%
- Sensitivity setting: 1/2, 1, 2 (cm/mV), conversion deviation ≤5%
- Recording system: thermal-array, 8 dots/mm (vertical),
  16 dots/mm (horizontal, 25 mm/sec)
- Paper speed: 25mm/s - 50 mm/s ±5%
- Recording paper: 50mm, 20 m, high-speed roll
- Safety standard: IEC class I, type CF
- Input circuit current: ≤100mA
- Fuse standard: AL 220V/2A
- Weight: 800 g (with rechargeable battery and paper)

STANDARD ACCESSORIES

- Patient cable
- 1 roll of paper
- 1 rechargeable lithium battery
- 4 limb electrodes
- 6 chest limb electrodes
- 1 user manual (English)
- 1 CD software and cable for connection to PC
3/6/12 CHANNEL ECG WITH TOUCH SCREEN

- 12 channel interpretive ECG
- over 130 kinds of interpretation results based on advanced Minnesota code
- memory for up to 120 patients
- real-time preview monitor
- PC compatible through LAN
- multi-language selectable software (English, Russian, French, German, Italian, Chinese, Spanish, Turkish, Polish, Romanian, Portuguese)
- lead fault message
- pacemaker detection
- automatic arrhythmia detection
- 5 minute long term recording
- grid function allows you to use low cost plain fax paper
- wide and clear color TFT LCD (800x480)
- touch screen for easy operation
- adaptable UL (Portrait & Landscape mode)

- 33357 ECG CARDIO 7: 12 CHANNEL ECG WITH TOUCH SCREEN

- ECG cable 10 leads
- ECG cream (70 g)

TECHNICAL SPECIFICATIONS

Resolution: vertical: 8 dot/mm
horizontal: 16 dot/mm

Electrical:
Internal noise: 20 μV (p-p) max
Input circuit: floating input
Input impedance: > 10 MΩ
Input voltage range: ± ±5 mV
Common mode rejection: > 100 dB
DC offset voltage: ± ±300 mV
Time constant: 3.2 sec

Patient leakage current: < 10 μA
Frequency response: 0.05 ~ 150 Hz

Isolated and defibrillation protected

Pacemaker pulse detection

Disconnected lead detection

Signal quality control

Battery (Ni-MH):
1 hour of normal use

AC 95 ~ 240 VAC, 50/60 Hz or battery (option)

Power: AC 95 ~ 240 VAC, 50/60 Hz or battery (option)

Leads: 12 standard/Cabrera

Input channels: floating, protected from impulse defibrillating

Power: 90-240 V, 50/60 Hz

Inside rechargeable battery:
Li-Ion 7.2 V ~ 2200 mAh Li-Ion

Power consumption:
< 30VA

Dimensions: 296(W) x 305.5(H) x 92.5(D)mm, approx. 3.5 kg

Weight: < 1.8 kg

Input voltage range: ≥ ±5 mV

Input impedance: ≥10 MΩ

Input circuit: floating input

Input impedance: ≥10 MΩ

Input voltage range: ≥ ±5 mV

Common mode rejection: > 100 dB

DC offset voltage: ≥ ±300 mV

Time constant: 3.2 sec

Patient leakage current: < 10 μA

Frequency response: 0.05 ~ 150 Hz

Isolated and defibrillation protected

Pacemaker pulse detection

Disconnected lead detection

Signal quality control

Battery (Ni-MH):
1 hour of normal use

AC 95 ~ 240 VAC, 50/60 Hz or battery (option)

Power: AC 95 ~ 240 VAC, 50/60 Hz or battery (option)

Leads: 12 standard/Cabrera

Input channels: floating, protected from impulse defibrillating

Power: 90-240 V, 50/60 Hz

Inside rechargeable battery:
Li-Ion 7.2 V ~ 2200 mAh Li-Ion

Power consumption:
< 30VA

Dimensions: 296(W) x 305.5(H) x 92.5(D)mm, approx. 3.5 kg

Weight: < 1.8 kg

Input voltage range: ≥ ±5 mV

Input impedance: ≥10 MΩ

Input voltage range: ≥ ±5 mV

Common mode rejection: > 100 dB

DC offset voltage: ≥ ±300 mV

Time constant: 3.2 sec

Patient leakage current: < 10 μA

Frequency response: 0.05 ~ 150 Hz

Isolated and defibrillation protected

Pacemaker pulse detection

Disconnected lead detection

Signal quality control

Battery (Ni-MH):
1 hour of normal use

AC 95 ~ 240 VAC, 50/60 Hz or battery (option)

Power: AC 95 ~ 240 VAC, 50/60 Hz or battery (option)

Leads: 12 standard/Cabrera

Input channels: floating, protected from impulse defibrillating

Power: 90-240 V, 50/60 Hz

Inside rechargeable battery:
Li-Ion 7.2 V ~ 2200 mAh Li-Ion

Power consumption:
< 30VA

Dimensions: 296(W) x 305.5(H) x 92.5(D)mm, approx. 3.5 kg

Weight: < 1.8 kg

Input voltage range: ≥ ±5 mV

Input impedance: ≥10 MΩ

Input voltage range: ≥ ±5 mV

Common mode rejection: > 100 dB

DC offset voltage: ≥ ±300 mV

Time constant: 3.2 sec

Patient leakage current: < 10 μA

Frequency response: 0.05 ~ 150 Hz

Isolated and defibrillation protected

Pacemaker pulse detection

Disconnected lead detection

Signal quality control

Battery (Ni-MH):
1 hour of normal use

AC 95 ~ 240 VAC, 50/60 Hz or battery (option)

Power: AC 95 ~ 240 VAC, 50/60 Hz or battery (option)

Leads: 12 standard/Cabrera

Input channels: floating, protected from impulse defibrillating

Power: 90-240 V, 50/60 Hz

Inside rechargeable battery:
Li-Ion 7.2 V ~ 2200 mAh Li-Ion

Power consumption:
< 30VA

Dimensions: 296(W) x 305.5(H) x 92.5(D)mm, approx. 3.5 kg

Weight: < 1.8 kg

Input voltage range: ≥ ±5 mV

Input impedance: ≥10 MΩ

Input voltage range: ≥ ±5 mV

Common mode rejection: > 100 dB

DC offset voltage: ≥ ±300 mV

Time constant: 3.2 sec

Patient leakage current: < 10 μA

Frequency response: 0.05 ~ 150 Hz

Isolated and defibrillation protected

Pacemaker pulse detection

Disconnected lead detection

Signal quality control

Battery (Ni-MH):
1 hour of normal use

AC 95 ~ 240 VAC, 50/60 Hz or battery (option)

Power: AC 95 ~ 240 VAC, 50/60 Hz or battery (option)

Leads: 12 standard/Cabrera

Input channels: floating, protected from impulse defibrillating

Power: 90-240 V, 50/60 Hz

Inside rechargeable battery:
Li-Ion 7.2 V ~ 2200 mAh Li-Ion

Power consumption:
< 30VA

Dimensions: 296(W) x 305.5(H) x 92.5(D)mm, approx. 3.5 kg

Weight: < 1.8 kg

Input voltage range: ≥ ±5 mV

Input impedance: ≥10 MΩ

Input voltage range: ≥ ±5 mV

Common mode rejection: > 100 dB

DC offset voltage: ≥ ±300 mV

Time constant: 3.2 sec

Patient leakage current: < 10 μA

Frequency response: 0.05 ~ 150 Hz

Isolated and defibrillation protected

Pacemaker pulse detection

Disconnected lead detection

Signal quality control

Battery (Ni-MH):
1 hour of normal use

AC 95 ~ 240 VAC, 50/60 Hz or battery (option)

Power: AC 95 ~ 240 VAC, 50/60 Hz or battery (option)

Leads: 12 standard/Cabrera

Input channels: floating, protected from impulse defibrillating

Power: 90-240 V, 50/60 Hz

Inside rechargeable battery:
Li-Ion 7.2 V ~ 2200 mAh Li-Ion

Power consumption:
< 30VA

Dimensions: 296(W) x 305.5(H) x 92.5(D)mm, approx. 3.5 kg

Weight: < 1.8 kg

Input voltage range: ≥ ±5 mV

Input impedance: ≥10 MΩ

Input voltage range: ≥ ±5 mV

Common mode rejection: > 100 dB

DC offset voltage: ≥ ±300 mV

Time constant: 3.2 sec

Patient leakage current: < 10 μA

Frequency response: 0.05 ~ 150 Hz

Isolated and defibrillation protected

Pacemaker pulse detection

Disconnected lead detection

Signal quality control

Battery (Ni-MH):
1 hour of normal use

AC 95 ~ 240 VAC, 50/60 Hz or battery (option)

Power: AC 95 ~ 240 VAC, 50/60 Hz or battery (option)

Leads: 12 standard/Cabrera

Input channels: floating, protected from impulse defibrillating

Power: 90-240 V, 50/60 Hz
MULTI CHANNEL ECG WITH INTERPRETATION ON PAPER

- 33354 CARDIOGIMA 12 ECG - 3-6-12 channel
- 33355 CARDIOGIMA 12 M ECG - 3-6-12 channel with monitor

We propose two models of 12 channel resting ECG recorder which are the most economically priced without performance compromise. The simultaneous record of 12 channels has a high diagnostic value - all the 12 channels are illustrated at the same time. Their design is maximized for the user's convenience (A4 size paper, one body type).

Main Features:
- 12 leads simultaneous 10-second resting ECG with interpretation in only 60 seconds (33355 in only 5 seconds) multilanguage, internal software+printing in English, Spanish, French, Russian, German, Italian, Chinese, Turkish, Polish, Portuguese, Romanian.
- Wide Paper Printing (A4 size thermal paper, fax paper is OK)
- Combined output of all relevant curves, patient data, date, time and instrument settings
- Pacemaker and lead fault detect (only 33355)
- Connection to PC (PC interface with RS 232 port Via LAN-software)

 CARDIOLINE:
- BIONET:
  • 33328 ECG cable - 10 leads
  • 33355 CARDIOGIMA 12 M ECG - 3-6-12 channel with monitor display 12 ch.
  - preview ECG wave
  - 33356 SPIROMETER MODULE - for code 33355
    It transforms CARDIOGIMA 12M in a 2 in 1 system: ECG-SPIROMETER.
    Spirometry measuring values:
    FVC: FEV 1.0, FEV 1/FVC, FEV 0.2-1.2L, FIVC, FEV 25-75, FEV 75-85%, PEF, PEF 200-1200 ml, PEF 25%, PEF 50%, FEF 75%, FIF 50%, PIF, FET 100%, FIVC.
    SVC: SVC, ERV, IRV, TV,EC, IC, BC
    MVV: RR, TV, MVV
    Pre and post bronchodilator comparison.
    Presentation: flow volume loop, flow time plot, measurement values table. Complies with ATS standard.

- 33362 DISPOSABLE MOUTHPIECES - box of 100 pcs.

TECHNICAL SPECIFICATIONS 33354 - 33355

- ECG Leads: 3–6–12 channel illustration of ECG signals in continuous recording or 10 sec. recording with interpretation.
- Dimension: 296x305,5x92,5 mm
- Recording channel: 3, 6, 12 channel and 1 channel (60 sec.)
- Sensitivity: 2,5 (only 33355) 5, 10, auto (I–aVF: 10, V1–V6: 5) mm/mV
- Printing speed: 12,5, 25, 50 mm/s
- Filters: AC (50/60 Hz, -20 dB or better) Muade (25–35 Hz, -3 dB or better)
- Low pass filter (off, 40 Hz, 100 Hz, 150 Hz)
- Display: 2x16 character LCD display (code 33354)
- LCD display: Sensitivity, speed filter status, HR, Printing form, rythm lead
- SpO2, ECG: Sensitivity, speed filter status, HR, Printing form, rythm lead
- Keyboards: M traces
- Numeric: 15; alphanumeric: 5
- Keyboard: 120 keys, alphanumeric and symbol available
- Power: Power supply: AC or built-in battery (options)
- Power consumption: 60 W max
- Battery capacity: 1 hour of normal use (approx. 100 automatic ECG printouts)
- Battery life: 1 hour 20 min
- Connection: PC Connection with RS-232 interface and lan
- Battery: 1 hour 20 min
- Memory: 33355
- Memory: 120 patients data
- Memory: Enhanced memory function
- Data storage on PC

SOFTWARE INCLUDED FOR DATA STORAGE ON PC

- 33355
- 33356
- 33360

STANDARD ACCESSORIES

- 1 PC software (English/Italian)
- 1 ECG electrode cream (70 g)
- 1 Power cable
- 1 Patient cable - 10 leads
- 1 Recording paper rolls
- 1 ECG clip-on electrodes
- 4 ECG clip-on electrodes
- 1 Operation manual
- 1 ECG clip-on electrodes
- 6 Chest electrodes, suction for adult
- 1 Operation manual
- 1 ECG clip-on electrodes
- 6 Chest electrodes, suction for adult

EDAN: Smart SE-1, SE-3
ESAOTE: P80, P8000
GIMA: CARDIOGIMA 1M, 3M, 6M, 12, 12M
HP: Pagewriter 1513, 1548C/B, 1514D, 1515A/B, 1517A.
KONTRON EKG P80
MACQUAIRE CT100, CT200.
M4 MEDICAL: M traces
NIHON – KOHDEN: Cardiofax 651, 6581, 8110.
PROGETTI all models: EPG junior, EPG view, EPG view plus
SCHILLER AT1, AT2, AT3, AT4, AT5, AT6, AT10, CS6, CS12, CS100, CV6, P80.

EKG, MONITORS & ULTRASOUND

ECG CABLE COMPATIBLE WITH MOST ECG BRANDS

• 33328 ECG cable - 10 leads

Long lasting, individually tested cable compatible with the following ECG machines:
- BIONET: Cardiocare, Cardiotouch
- CARDIOLINE: E1, E1R, E3, Delta 300, Delta 360 C3
- CARDETTIE (Elettronica Trentina): Autoruler 12/1, Autoruler 12/3, Excel 103, Excel 106, Astron Comp 1, Astron Comp 3, Astron Comp 6, Start 100 P, Start 100 H, Start 200, Start 200HV, AR600, AR 600 ADV, AR1200, AR1200ADV
- CARDIOPHARD CAMINA: K111, K112, K33, K36, K300 M, K300 P, K600 P, K600 D, K130 B, K130 D.

Other ECG accessories at page 235-236

MADE IN ITALY

234
HOLTER ECG SYSTEM - 24 HOURS MONITORING

ECG Holter system includes ECG recorder and software connectable to a computer system or laser printer. The recorder has built-in flash storage media to increase memory capacity. The sampling rate of 1,000 sampling/sec has improved the quality of waveform. Accuracy of the system is ensured by AHA and MIT data.

Features:
- windows software interface (GB, IT, PL)
- quick and accurate analyzing system
- special editing system of R point
- perfect analysis function of ST segment
- analysis function of T wave of all channels and T wave trend graph
- review of ECG trend graph
- analysis system of HR variability, providing regular SDNN, SDANN, RMSSD, LF, HF, time domain and frequency domain
- QT analysis and QT trend graph
- acquire pacing ECG directly without separate channel; Also have the functions of VCG, VLP, TVCG, HRT, TWA

Recorder:
- 12 channel Synchronized ECG Acquisition
- small ECG recorder with OLED colour screen to display real time ECG waveform and review storage data.
- capacity up to 2G
- selectable sampling rate, 200, 500, 1,000 sampling/sec
- sampling accuracy: 12 bit
- built-in FLASH storage media, to prevent the flash card from damage due to repeated insertion and pull out
- USB interface
- operating system: Windows 98, 2000, XP, 7

• 35130 ECG HOLTER + SOFTWARE

Scale voltage: 1mV±5%
Standard sensitivity: 10mm/mV ±5%
Noise level: ≤30μV
Frequency response: 10Hz as benchmark, 0.5Hz~55Hz; -3dB
Time constant: >3.2s
Scan speed: 25mm/s ±5%
Enduring polarization voltage: ±300mV
Least measurement signal: 50μV p-p
Interference between channels: scan track deflection (result from interference between channels) <0.5mm
Product safety type: type B (internally powered)
Size: 111 (L) x60 (W) x25 (H) mm
Net weight: 105g (without battery)

STANDARD ACCESSORIES
1 Holter recorder
1 CD with software
10 leads patient cable
10 disposable ECG sensor
1 pouch for hanging recorder
1 USB cable for data downloads
1 USB security key
Instruction Manual (English, Italian)

ELECTRODES AND ADAPTORS FOR MOST ECG

GIMA code | UNIVERSAL REUSABLE ECG ELECTRODES | Minimum order
---|---|---
33363 | Set of 4 limb clamp electrodes (4 colours) pediatric | 1 set
33364 | Set of 4 limb clamp electrodes (4 colours) adult | 1 set
33368 | Set of 6 chest electrodes Ø 15 mm- silver coated | 1 set
33365 | Set of 6 chest electrodes Ø 24 mm- silver coated | 1 set
33369 | Set of 6 chest electrodes Ø 30 mm- silver coated | 1 set
33323 | Set of 6 chest elect. Ultra Ø 24 mm - silver coated | 1 set
33324 | Set of 6 chest elect. Ultra Ø 30 mm - silver coated | 1 set

UNIVERSAL DISPOSABLE ECG ELECTRODES AND ADAPTERS
33325 | Disposable FOAM electrodes Ø 36-45 mm - solid gel | 1,250 pcs.
33327 | Disposable TNT electrodes Ø 55 mm - solid gel | 1,200 pcs.
33344 | Disposable FOAM electrodes Ø 48-50 mm - liquid gel | 1,200 pcs.
33367 | Adaptors Ø 4 mm to connect ECG cable to code 33225/27/44 | 10 pcs.
33341 | Disposable pre-gelled tab electrodes 34x22 mm | 100 pcs.
33375 | Adapter for ECG cables (pin) - veterinary | 10 pcs.
33376 | Adapters for ECG cables with 4 mm banana plug | 10 pcs.
33342 | To be used with GIMAPLAY and CARDIOGIMA ECG Universal adapter with 4 mm socket for snap and alligator connection | 10 pcs.

3M RED DOT™ ELECTRODES
33378 | 3M Red Dot™ 2330 - 3.2 x 2.2 cm | 100 pcs.
33297 | Single use electrode with conductor adhesive gel | 1,000 pcs.
33329 | 3M Red Dot™ 2239 - Ø 6 cm - 20 bags box of 50 pcs
**GIMA ECG THERMAL PAPERS FOR DIFFERENT ECG BRANDS**

**ECG GEL AND SPRAY**

- **33266 ECG GEL - 250 ml - box of 40 tubes**
- **33268 ECG SPRAY GEL - 250 ml - box of 20 tubes**

Suitable for non pre-gelled electrodes, ECG latches and pendant switches in any ECG and exertional applications. Allows ECG waves clear transfer to equipment. It is hypoallergenic, does not irritate skin, does not contain oil and oily substances, does not contain formaldehyde and salt, has no toxic effects and is odourless.

- **33283 PUMP FOR BAG I**

**includes 4 empty bottles 250 ml and 1 nozzle for easy refill**

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### GIMA code | ECG MANUFACTURER AND MODEL | Type | Width mm | Length m | Sheet | Marker | Grid | Min. order |
<table>
<thead>
<tr>
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- **33283 PUMP FOR BAG I**

**includes 4 empty bottles 250 ml and 1 nozzle for easy refill**

---

**Note:**

- **ECG, MONITORS & ULTRASOUND**
- **ECG papers**
- **ECG GEL AND SPRAY**
- **GIMA ECG THERMAL PAPERS FOR DIFFERENT ECG BRANDS**

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**GIMA code | ECG MANUFACTURER AND MODEL | Type | Width mm | Length m | Sheet | Marker | Grid | Min. order |
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<td>ECG GEL - 250 ml - box of 40 tubes</td>
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<td>300</td>
<td>200</td>
<td>hole</td>
<td>orange</td>
<td>20</td>
</tr>
</tbody>
</table>
**GIMA ULTRASOUND GEL**

Hypoallergenic gel suitable for all kind of ultrasonography and doppler applications. It ensures the ultrasound waves come to the equipment display in a clear and uninterrupted way.

<table>
<thead>
<tr>
<th>GIMA code</th>
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<td>33269</td>
<td>Sterile ultrasound gel - sachet - 20ml - transparent</td>
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<tr>
<td>33271</td>
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<td>33272</td>
<td>Ultrasound gel - tube 250 ml - blue</td>
<td>box of 40</td>
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<td>33273</td>
<td>Ultrasound gel - tube 250 ml - transparent</td>
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</tr>
<tr>
<td>33274</td>
<td>Ultrasound gel - bottle 1 l - blue</td>
<td>box of 12</td>
</tr>
<tr>
<td>33275</td>
<td>Ultrasound gel - bottle 1 l - transparent</td>
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<td>33279</td>
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</tr>
<tr>
<td>33283</td>
<td>Pump for tank 5 l and bag 5 l</td>
<td>* includes 2 empty bottles 250 ml ** includes 4 empty bottles 250 ml and 1 nozzle</td>
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</tbody>
</table>

**GEL CLEANING DEVICES**

- **33281 PROBE CLEANING SOLUTION 250 ml**
  It removes the gel left over the probe, makes the image clearer and extends the probe life. Thanks to the active agents contained, it prevents the bacteria to pass from patient to patient, and it ensures hygiene.

- **33282 GEL CLEANING WIPES bottle of 70 wipes**
  Wet wipes specifically designed to remove ultrasound gel from patient body leaving it clean and dry.

**EEG PASTE**

- **33262 EEG PASTE - 400 g**
  Used beneath EEG electrodes in EEG for brain mapping. Thanks to the active substances in its content, it allows the electrode to cling to the strand of hair easily and provides conductivity. It is hypoallergenic, does not irritate skin, soluble in water and can be cleaned easily. Does not contain oil and oily substances. It has no toxic effects and odour.

**COSMETIC GEL**

**KONIX COSMETIC LASER & CAVITATION GEL**

Laser & Cavitation gel eases the pain that patients experience during depilation and makes the device last longer by cooling the device head and window. Thanks to the vacuum technology, its active substances and its high viscosity it preserves probe from damages. It is not affected by the body salt during the use, ensures an easy application.

**Technical properties:** It is hypoallergenic, does not irritate skin, is water soluble and easily cleanable. Oily substances, formaldehyde and salt free. No toxic effects and odourless.

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<tr>
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<tr>
<td>33255</td>
<td>Cosmetic gel - bag 5 l</td>
<td>box of 4 **</td>
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<tr>
<td>33283</td>
<td>Pump for bag 5 l</td>
<td>* includes 4 empty bottles 250 ml and 1 nozzle for easy refill</td>
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</tbody>
</table>
• **33967 SONY PRINTER UP-897 MD** - black/white
  Produces A6 size printings in about 2 seconds, with superb print quality with 325 dpi and grey level of 256 steps.
  110-240 V AC, 50/60 Hz.

• **33993 SONY COLOUR PRINTER UP-25 MD**
  High quality analogue A6 Dye.
  Sublimation Printer for use in medical applications.
  An ideal technology for making high quality, accurate photographic prints.

---

**GIMA PORTABLE, BIDIRECTIONAL, VASCULAR DOPPLER**

• **33230 GIMA BIDIRECTIONAL DOPPLER NON STEREO** with two probes: 4 and 8 MHz
  Continuous wave (CW) bidirectional doppler equipped with electronic probes for high sensitivity and low background noise.
  - Bidirectional graphic separation of flow (forward and reverse)
  - LCD graphic display for real time display of forward and reverse flow in bidirectional or separate mode
  - Selectable amplitude scale: 1, 2, 4, 8 kHz. during the test and before printing. Preset zero line.
  - 5 minutes (300 sec.) continuous and reviewable memorized test. Operator can select the most meaningful exam and print it.
  - Calculation of: heart rate, peak flow and mean flow.
  - Simultaneous connection of high sensitivity probes
  - Internal rechargeable large capacity battery (Ni-Cd 1.8 Ah);
    the system can be operated during charging. Autonomy 8 hours use or 1 hour print.
  - Footswitch for freezing or memorizing the graphs
  - Hardcopy may or may not include the parameter calculation
  - Printing time scale: 25 mm/s.
  - Hi-fi audio output for correct acoustic diagnosis

---

**POCKET DOPPLER WITH INTERCHANGEABLE OR FIXED PROBES**

GIMA POCKET DOPPLERS

Small, lightweight, high sensitivity pocket Doppler. Its probes are ideal for use by a General Practitioner, vascular specialist for routine vascular examination in ER for vessel location, or by specialists in diabetes, urology and gynaecology. Vascular flow signals and FHR are easily located using the transducer while internal signal processing minimises noise artefacts. The flow signal is also available to the user via the built-in loudspeaker with output level controlled by rotary volume control.

---

**SONY AND MITSUBISHI PAPER**

• **33240 GIMA BIDIRECTIONAL PROBE 4 MHz - spare for 33230**
  • **33241 GIMA BIDIRECTIONAL PROBE 8 MHz - spare for 33230**
  • **33250 THERMAL PAPER 58 mm x 25m (pack of 5 rolls)**

---

**SONY VIDEO PRINTER**

Supplied in a nice bag with 7 languages user manual: English French German Italian Spanish, Greek, Portuguese and gel tube.

- **33230 GIMA BIDIRECTIONAL DOPPLER NON STEREO** with two probes: 4 and 8 MHz

---

**SONY VIDEO PRINTER PAPERS**

- **33967 SONY PRINTER UP-110 HD - box of 5 rolls**
  High density printing paper - 110mm x 20 m
- **33971 SONY PRINTER UP-110 HG - box of 5 rolls**
  High glossy printing paper- 110mm x 18 m
- **33973 SONY COLOUR PAPER UPC-121L (4 ink rolls + 200 supports 144x100 mm)**
  MITSUBISHI VIDEOPRINTER PAPER.
- **33740 MITSUBISHI PAPER LX65HM-CE**

---

**SONY VIDEOPRINTER PAPERS**

- **33967 SONY PRINTER UP-110 MD - black/white**
  Produces A6 size printings in about 2 seconds, with superb print quality with 325 dpi and grey level of 256 steps.
  110-240 V AC, 50/60 Hz.

---

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**GIMA PORTABLE, BIDIRECTIONAL, VASCULAR DOPPLER**

• **33230 GIMA BIDIRECTIONAL DOPPLER NON STEREO** with two probes: 4 and 8 MHz
  Continuous wave (CW) bidirectional doppler equipped with electronic probes for high sensitivity and low background noise.
  - Bidirectional graphic separation of flow (forward and reverse)
  - LCD graphic display for real time display of forward and reverse flow in bidirectional or separate mode
  - Selectable amplitude scale: 1, 2, 4, 8 kHz. during the test and before printing. Preset zero line.
  - 5 minutes (300 sec.) continuous and reviewable memorized test. Operator can select the most meaningful exam and print it.
  - Calculation of: heart rate, peak flow and mean flow.
  - Simultaneous connection of high sensitivity probes
  - Internal rechargeable large capacity battery (Ni-Cd 1.8 Ah);
    the system can be operated during charging. Autonomy 8 hours use or 1 hour print.
  - Footswitch for freezing or memorizing the graphs
  - Hardcopy may or may not include the parameter calculation
  - Printing time scale: 25 mm/s.
  - Hi-fi audio output for correct acoustic diagnosis

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**POCKET DOPPLER WITH INTERCHANGEABLE OR FIXED PROBES**

GIMA POCKET DOPPLERS

Small, lightweight, high sensitivity pocket Doppler. Its probes are ideal for use by a General Practitioner, vascular specialist for routine vascular examination in ER for vessel location, or by specialists in diabetes, urology and gynaecology. Vascular flow signals and FHR are easily located using the transducer while internal signal processing minimises noise artefacts. The flow signal is also available to the user via the built-in loudspeaker with output level controlled by rotary volume control.
DIGITAL PORTABLE ULTRASOUND

• 33900 CHISON 8300 DIGITAL PORTABLE ULTRASOUND - 2 probe connector
Both are supplied with 10” SVGA monitor, CINE memory, 2 USB ports, software packages.
Without probes.
Professional portable ecograph with wide range of probes and high
good quality of images suitable in many specialist fields.
Image:
- B, B/B, 4B, M/B/M
- harmonic imaging
- 256 gray scales
- scanning depth: max 246 mm (depending on probe)
Probes: supplied with 2 probe connector
- selection of 5 probes: Electronic Convex / Linear
- Transvaginal / Transrectal / Cardiac
- wideband multi-frequency 2-10 MHz
Image processing:
- fully digital beamforming technology
- real-time dynamic imaging: RDF, RDA, DFS, DRA
- frame averaging: 8 steps
- linear averaging: 8 steps
- 6 STC slides for near far and overall gain control
- image reversing: left/right, up/down
- zoom: intelligent zoom, 4 steps
Measurement and report
- B mode: Distance, circumferene, area, Volume, ratio, angle, %stenosis, histogram, profile
- cardiology package: LV, mitral and aortic valve, CO, LVET, MCF, SV, EF, cardiac index
- M mode: distance, time, velocity, heart rate
- EDD tables, gestational age: BPD, GS, CR/L, FL, HC, AC
- fetal weight, fetal heart measurement, growth analysis, LMP, BBT
Others
- CINE: 256 frames, play back selectable
- 10 inch, SVGA high resolution monitor
- image permanent storage: hard disk, USB (2 ports)
- can use PC printer (A4) or video printer
- operating voltage: 230V - 50Hz, 110V - 60Hz on request
- image: permanent storage: hard disk, USB (2 ports)
- backlight key-board for better visibility in dark room

CHISON 600M (2012 VERSION) PORTABLE ULTRASOUND

• 33930 CHISON 600M PORTABLE ULTRASOUND 10” SVGA monitor with two probe connectors, 256 frames cine memory, USB port, VGA port, without probes
- zooming and measurement functions (max scanning depth: 252 mm)
- wide applications: GYN, urology, abdominal, small parts
- easy to use, just one day to learn all functions
- 4-steps sweep speeds for cardiac study: 2s, 4s, 6s, 8s
- 4-steps zoom with depth control: x0.8, x1.0, x1.5, x2.0
- various measurements: Distance, Circumference, Area, Volume
- full Ob/Gyn software included: 7 EDD tables (BPD, GS, CR/L, AD, AC, AC, CRL), G.A. (fetal age) from 4-43 weeks
- fetal weight, fetal heart rate measurement
- imaging reversing: up/down, left/right, positive/negative
- power supply: 110-230V, 50-60 Hz
• 33936 SONY PRINTER UP-897 MD
You can use any other printer for ecograph on the market
• 33930 TROLLEY FOR 33930

Fully portable, ergonomic design
Powerful software
Report templates: NORMAL, OB, GYN, UROLOGY, CARDIAC reports

Modern design, height adjustable trolley, provided of 4 wheels with brake.

CHISON 600M (2012 VERSION) PORTABLE ULTRASOUND
CHISON IVIS-30 AND i8 COLOURDOPPLERS

- **33960 IVIS-30 ECOCOLOURDOPPLER** - 15” flat high resolution LCD monitor. Supplied with 3 probe connectors, without probes, trolley, keyboard, large image storage: 320 GB HardDisk, 4 USB ports, DVD-RW. Affordable, compact and reliable colour doppler with the advanced technologies of volume rendering, compound imaging, multi beam former imaging, provides superb images. The Streamlined workflow, ergonomic outlook and compact design improve your work efficiency.

**Imaging modes:**
- B, 2B, 4B, B/M, M
- CFM
- PW mode
- Power Doppler / Directional PD
- duplex
- trapezoidal on linear probe
- chroma B/PW

**Image processing technology:**
- Speckle Reduction Algorithm (SRA)
- compound technology
- direct print to PC or video printer

- **33961 IVIS-30+4D PROBE AND PACKAGE**

Same as code 33960 but with 4D real time imaging.

---

<table>
<thead>
<tr>
<th>GIMA code for IVIS-30</th>
<th>GIMA code for i8</th>
<th>PROBES</th>
<th>FREQUENCY (MHz)</th>
<th>Main application</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Scanning Method</td>
<td>Main freq.</td>
<td>Probe band width</td>
</tr>
<tr>
<td>33954</td>
<td>-</td>
<td>CONVEX</td>
<td>3.5</td>
<td>2.5 - 5.3</td>
</tr>
<tr>
<td></td>
<td>33953</td>
<td>CONVEX</td>
<td>3.5</td>
<td>2.0 - 6.8</td>
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<tr>
<td>33955</td>
<td>33955</td>
<td>LINEAR</td>
<td>7.5</td>
<td>5.0 - 12.0</td>
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<tr>
<td></td>
<td>-</td>
<td>MICRO-CONVEX (TRANSVAGINAL)</td>
<td>6.0</td>
<td>4.0 - 12.0</td>
</tr>
<tr>
<td>33964</td>
<td>-</td>
<td>MICRO CONVEX (BASIC CARDIAC)</td>
<td>3.0</td>
<td>2.5 - 6.4</td>
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<tr>
<td></td>
<td>-</td>
<td>CARDIAC (PHASED ARRAY)</td>
<td>3.0</td>
<td>2.0 - 5.4</td>
</tr>
<tr>
<td></td>
<td>33958</td>
<td>PEDIATRIC</td>
<td>5.0</td>
<td>3.5 - 9.3</td>
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<tr>
<td></td>
<td>33959</td>
<td>4D CONVEX</td>
<td>4.0</td>
<td>2 - 6.8</td>
</tr>
</tbody>
</table>

- **33965 I8 ECOCOLOURDOPPLER** - 19” flat high resolution monitor

Supplied with 4 probe connector, without probes, trolley, keyboard, large image storage: 320 GB HardDisk, 6 USB port, DVD-RW, VGA format, I-image. Digital colour Doppler System with professional features:

**Imaging mode:**
- B, 2B, 4B, B/M
- CFM, B/C
- PW mode, HPRF
- Power Doppler / CW Directional PD
- instant triplex, duplex, quadplex
- trapezoidal on linear probe
- panoramic
- chroma B/M/PW/CW

Image processing technology:
- Tissue Harmonic Imaging (THI) on all probes
- Speckle Reduction Algorithm (SRA)
- Multiple Compound Imaging (MCI)

Wideband multifrequency probes
Continuously adjustable, 2-15 MHz
Operating voltage: 110-230V 50-60 Hz

- **33966 I8 ECOCOLOURDOPPLER+4D PROBE AND PACKAGE**

Same as code 33965 but with 4D real time imaging composed of 3D pictures with the addition of live motion and probe 4D convex (33959).

- **33942 CARDIAC PACKAGE** (to be ordered with colourdoppler)
  (colour M, CW, sterring M, ECG, TDI, IMT)
- **33943 I-IMAGE to improve image quality - spare**
  Intelligent I-image optimization

- **33993 SONY UP - 25 MD COLOUR PRINTER A6**
  suitable for IVIS-30 and i8
MINDRAY DP-10 AND DP-20 DIGITAL ULTRASOUND SYSTEM

DP-10 slim and smart
Good image quality, easy to use and lightweight to take it anywhere. It combines fashionable design, diagnostic confidence and economy.

DP-20 exceeds your expectations
Smart portable B/W ultrasound system with advanced features

Display modes and imaging processing:
- Broadband, multi-frequency imaging: B, B/B, 4B, B/M, M
- Imaging processing:
  - multi-frequency probes for 2D imaging modes - DP-10 only
  - iClear: speckle reduction image - DP-20 only
  - THI (Tissue Harmonic Imaging) with convex probe 33976 only
  - TSI (Tissue Specific Imaging) - DP-20 only
  - zoom function: spot zoom, pan zoom

User interface:
- alphanumeric QWERTY keyboard with backlight
- trackball: speed presettable
- 8-segment TGC
- user defined blank keys: shortcut for easy access to menus

iStation™ intelligent workflow
Intelligent patient data management system
- integrated search engine for patient data
- detailed patient information review
- intelligent data backup/restore
- patient data/image sending, data deleting (USB, DVD, DICOM)
- exam managing: activate exam

Storage/review mode:
- image archive on hard disk and USB mobile storage medium, temporary saving in cine memory, directly transfer report to PC
- 2 USB ports
- multiple image formats: BMP, JPG, DCM, AVI (DP-20 only), DCM, CIN
- iVision: demo player
- Cine review: auto, manual (auto review segment can be set), supports linked cine review for 2D, M images (DP-20 only)
- Cine memory capacity (max.)
- clip length presettable: 1-60 s

B mode: 11959 frames  M mode: 110.0 s

- Cine memory capacity (Max.) B mode: 10566 frames
- 320 GB integrated hard disk for storage
- 4 USB ports
- iStation™ Intelligent patient data management system

Intelligent Workflow/Storage/Review:
- continuously adjustable 2-14 MHz Wideband multifrequency probes: infinitely adjustable 2-14 MHz

TECHNICAL SPECIFICATIONS
- Dimension and weight: 16x29xh 35.4 cm (6.3”x11.4”xh 13.9”); 5.1 kg
- Display: 12.1” LED, high-resolution 1024x768
- Display language: DP-10, DP-20: GB, FR, DE, IT, ES, PT, RU, CZ, PL
- Power: AC100-240 V, 50-60 Hz
- Rechargeable lithium-ion battery (DP-20 only) - on request

MINDRAY DP-50 DIGITAL ULTRASOUND DIAGNOSTIC SYSTEM

- 33973 MINDRAY DP-50 PORTABLE ULTRASOUND with 15” high resolution LCD monitor, 2 probe connectors, 320GB hard disk, 4 USB ports, multiple software package, without probes.
- Imaging modes: B, B/B, 4B, B/M, M
- Image processing technology:
  - Phase Shift Harmonic Imaging - Tissue Harmonic Imaging
  - iBeam™ Spatial Compound Imaging
  - iClear™ Adaptive Speckle Suppression Imaging
  - iTouch™ Auto Optimization - Trapezoid imaging
  - iZoom™ Automatically expand the image to full screen
  - Slant scanning for linear probes (2D Steer)
  - Intelligent Workflow/Storage/Review:
    - iStation™ Intelligent patient data management system
  - 320 GB integrated hard disk for storage - 4 USB ports
  - Cine memory capacity (Max) B mode: 10566 frames
  - M mode: 66.3 s

TECHNICAL SPECIFICATIONS
- Size and weight: 19x41.5xh 37.8 cm (7.5”x16.3”xh 14.9”); 7.7 kg (17 lb)
- Display: 15” LCD
- Display language: GB, FR, IT, ES, PT, RU, PL, CZ, TR, FI, DK, NO, SE, DE
- Power: AC 100-240 V - 50/60 Hz
- Rechargeable lithium-ion battery - on request

PROBES DP-50 - FREQUENCY (MHz)

<table>
<thead>
<tr>
<th>GIMA code</th>
<th>Mindray code</th>
<th>Scanning method</th>
<th>Main freq.</th>
<th>Probe band width</th>
<th>Main application</th>
</tr>
</thead>
<tbody>
<tr>
<td>33981</td>
<td>35C50SAEB</td>
<td>Convex</td>
<td>3.5</td>
<td>2.0 - 5.0</td>
<td>Abdominal, OB/GYN, Small Parts, Cardiology, Vascular, Orthopedics, Prostate, Teleradiology, Intraoperative</td>
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<tr>
<td>33986</td>
<td>75L53EA</td>
<td>Linear 7.5</td>
<td>5.0 - 8.5</td>
<td>3.5</td>
<td>128 cm</td>
</tr>
<tr>
<td>33987</td>
<td>75C15SAEB</td>
<td>Convex 6.5</td>
<td>5.0 - 8.5</td>
<td>3.5</td>
<td>128 cm</td>
</tr>
<tr>
<td>33988</td>
<td>10L24EA</td>
<td>Linear array</td>
<td>8.0 - 14</td>
<td>3.5</td>
<td>128 cm</td>
</tr>
</tbody>
</table>

MINDRAY DP-50 PORTABLE ULTRASOUND with 15” high resolution LCD monitor, 2 probe connectors, 320GB hard disk, 4 USB ports, multiple software package, without probes.

Supplier with GB, IT manual FR on request.
For probes purchased separately from ultrasound it is necessary to supply the serial number of the device.

- 33950 CHISON Q5 COLOURDOPPLER with 2 probe connector, 15" high resolution monitor, 320 GB hardisk, 2 USB port, LAN port, Video, TV, VGA out, without probe.

- 33922 CHISON Q5, Q9 AND Q9 4D PORTABLE COLOURDOPPLER

- 33952 CHISON Q9 COLOURDOPPLER
- Same as Q5 but with TDI quantitative cardiac dialysis, THI on all probes, double phase digital beam, DPDBF, IMT calculation, needle enhancement, 160 GB hardisk.
- Suitable for cardiac use.

- 33951 CHISON Q9-4D COLOURDOPPLER
- Same as Q9 but with 4D real time imaging.

- 33993 I-IMAGE for improving image quality

For probes purchased separately from ultrasound it is necessary to supply the serial number of the device.
GIMA VITAL SIGNS MONITORS

*Vital Signs* is a line of small multi-parameter patient monitors, which can monitor the vital physiological parameters: non-invasive blood pressure (NIBP), pulse oxygen saturation ($\text{SpO}_2$), electrocardiogram (ECG), temperature (TEMP) and capnography (EtCO$_2$).

**Features:**
- Small size, clear and bright display for remote view
- Up to 400 groups of NIBP measurements can be stored and listed
- Up to 90 hours of EtCO$_2$, SpO$_2$ and HR trend curve can be displayed
- Built-in rechargeable battery, optional built-in thermal printer

**ECG, RESP, SpO$_2$**
- Built-in thermal printer
- Built-in rechargeable battery
- Visual and audible alarms
- Adult/pediatric measurement modes
- Protection against interference from defibrillator
- 7 trace ECG waveforms simultaneous display
- 480-hour graphic and tabular trends for all parameters
- Storage and recall
- Up to 800 groups parameter data & 24-hour ECG waveform
- Arrhythmia analysis and ST segment analysis
- 3 channel ECG amplification

**ECG, MONITORS & ULTRASOUND**

**ECG, MONITORS & ULTRASOUND**

**ECG, MONITORS & ULTRASOUND**

**ECG, MONITORS & ULTRASOUND**

**ECG, MONITORS & ULTRASOUND**

**TECHNICAL SPECIFICATIONS**

- **NIBP**
  - Technology: Oscillometric method
  - Standard measurement range: Systolic: Adult: 50-400mmHg Diastolic: Adult: 15-180mmHg MAP: Adult: 25-200mmHg
  - Measurement mode: Manual, Auto, STAT
  - SpO$_2$ measurement accuracy: 0%-99% ±2%
  - SpO$_2$ measurement accuracy: 75%-99% ±2%
  - Pulse rate measurement range: 30bpm~240bpm
  - Pulse rate measurement accuracy: ±2bpm or 2% whichever is greater
  - Power: AC power supply voltage: 100-250V, 50/60Hz
  - International power supply: 12VDC (rechargeable)

- **TEMP**
  - Technology: Infrared absorption method
  - Measurement range: 25°C~45°C
  - Low perfusion performance: 0.4% 50%-74% ±3%

- **ECG**
  - Measuring method: Thoracic impedance
  - Heart rate range: 20bpm~250bpm
  - Heart rate measurement: ±0.4mVp~±5mVp

- **RESP**
  - Measuring range: 30bpm~420bpm ±2bpm
  - Heart rate measurement: ±0.4mVp~±5mVp
  - Heart rate display range: 20bpm~250bpm

- **Other Technical Specifications**
  - Power supply: 100~250Vac, 50/60Hz
  - Power consumption: <80 VA
  - Display mode: 12.1 inches TFT color LCD
  - Alarming mode: Audible-visual alarm
  - Networking port: Ethernet port

**ACCESSORIES AND SPARES**

- **Monitor**
  - SpO$_2$, NIBP, ECG, CO$_2$, TEMP

- **Shipping accessories**
  - Networking port: Ethernet port

- **Standard accessories**
  - Paper 5.1 cm x 12 m - box of 5

- **Optional accessories**
  - Printer
  - Dust-protective mantle
  - Disposable electrode
  - Manual (English, Italian)

- **Other accessories**
  - Rail clamp

**STANDARD ACCESSORIES**

- Adult SpO$_2$ probe
- NIBP adult cuff
- Temperature probe - skin
- Power supply cable
- Manual (English, Italian)

**ACCESSORIES AND SPARES**

- Adult SpO$_2$ probe
- NIBP adult cuff
- Temperature probe - skin
- Power supply cable
- Manual (English, Italian)

**TECHNICAL SPECIFICATIONS**

- **NIBP Monitoring**
  - Measuring method: Oscillometric pressure
  - Measuring range: adult: 40-255mmHg pediatric: 40-200mmHg
  - Mean arterial pressure: adult: 20~110mmHg pediatric: 20~165mmHg

- **TEMP Monitoring**
  - Measuring range: 25.0°C~45.0°C ±0.2°C
  - Response time: ≤ 150 sec

- **SPO$_2$ + Pulse Rate Monitoring**
  - SpO$_2$ measuring range: 35%~100%
  - PR measuring range: 30bpm~240bpm ±2bpm

- **ECG Monitoring**
  - Measuring range: 25.0°C~45.0°C ±0.2°C
  - Response time: ≤ 150 sec

- **RESP Monitoring**
  - Measuring method: Thoracic impedance
  - Monitoring range: 0rpm~120rpm, ±5% or ±2rpm whichever is greater
**PC-3000 MULTI-PARAMETER PATIENT MONITOR**

- 35134 PC 3000 MULTI-PARAMETER PATIENT MONITOR
  - 7” high resolution colour TFT display, 5-channel waveform display
  - standard parameters: ECG, RESP, SpO₂, NIBP, 2-TEMP, PR; Arrhythmia analysis and ST segment analysis
  - up to 800 groups parameter data & 24-hour ECG waveform storage and recall
  - 480-hour graphic and tabular trends for all parameters
  - 7-channel ECG simultaneous waveforms display
  - protection against interference from defibrillator, electrosurgical knife
  - 480-hour graphic and tabular trends for all parameters
  - up to 800 groups parameter data & 24-hour ECG waveform
  - Arrhythmia analysis and ST segment analysis
  - visual and audible alarms; networking capability

**STANDARD ACCESSORIES**

- 1 ECG cable
- 1 SpO₂ probe
- 1 AC power Adapter
- 1 Li-ion battery
- 1 Body surface temperature transducer
- 1 Power cable
- 10 Disposable electrodes

**TECHNICAL SPECIFICATIONS**

- **NIBP Monitoring**
  - Measuring method: Automatic measurement by oscillating method
  - Cuff inflation time: <10 seconds (typical adult cuff)
  - Initial cuff inflation pressure: Adult mode: 180 mmHg, infant mode: 120 mmHg
  - Overpressure protection limit: Adult mode: 300 mmHg, Infant mode: 240 mmHg

- **Measuring range**
  - Systolic pressure: Adult: 40-225 mmHg, Infant: 40-200 mmHg
  - Diastolic pressure: Adult: 20-215 mmHg, Infant: 20-165 mmHg
  - Mean arterial pressure: Adult: 10-195 mmHg, Infant: 10-150 mmHg

- **Measurement accuracy**
  - Systolic ±10% Diastolic ±10% MAP ±10%

- **Automatic measuring**
  - 1-240 min

- **Intervals**
  - interval tolerance: ±10%

- **TEMP Monitoring**
  - Measuring range, accuracy: 25.0°C-45.0°C, ±0.2°C

- **SpO₂ & Pulse Rate Monitoring**
  - Transducer: dual-wave length LED
  - SpO₂ measuring range: 35% - 100%
  - Low perfusion capability: 0.4% - 5%
  - SpO₂ display accuracy: 70% - 100% ±3%

- **PR measurement range**
  - 30bpm-250bpm
  - PR measurement accuracy: ±2 bpm

- **ECG Monitoring**
  - Heart rate measurement: ±0.4 mVp- ±5 mVp
  - Heart rate display range: 20bpm-250bpm
  - Display accuracy*: ±1% or ±2 bpm, whichever is greater
  - Heart rate alarm delay time: ≤10s
  - Sensitivity: Automatic, ±1/2, ±1, ±2, ±4
  - Sweeping speed: 12.5 mm/s, 25 mm/s, 50 mm/s
  - ECG noise level: ≤30 μVp-P
  - ECG input loop current: ≤50 μA
  - Input impedance: ≥5 MΩ
  - Common-mode rejection ratio: ≥5500
  - Time constant: Monitoring mode: 0.3s
  - Diagnostic mode: ≥3.2s
  - Frequency response: Monitoring mode: 0.5Hz-25Hz
  - Diagnostic mode: 0.05Hz-75Hz

- **RESP Monitoring**
  - Monitoring range, accuracy: 0% - 120% ±5% or ±2% or ±5% or ±4% or ±3%
  - RESP alarm range: 0% - 120% ±5% or ±2% or ±5% or ±4% or ±3%

- **Other Technical Specifications**
  - Power supply: 100-250Vac, 50/60Hz
  - Power consumption: <80 VA
  - Display mode: 7 inches TFT color LCD
  - Alarming mode: Audible-visual alarm
  - Networking port: LCD serial/Net port

*Accuracy defined as mean-square root value of deviation according to ISO 9919

**WRIST PATIENT MONITOR WITH BLUETOOTH**

- 35152 WRIST PATIENT MONITOR - available June 2014

Pocket size multiparameter monitor for ECG, heart rate, respiration, blood pressure, oxygen saturation monitoring and recording. Can be used in hospitals, clinics and at home. Low power consumption. Bluetooth 4.0 technology allows data transfer to a free App available at App store. Do not support Android.

**ECG, RESP, SpO₂, NIBP, 2-TEMP, PR**

**TECHNICAL SPECIFICATIONS**

- **ECG**
  - ECG waveform gain: 0.5 mm/mV, 1.0 mm/mV, 2.0 mm/mV
  - Scanning speed: 7.5 mm/s, 15 mm/s
  - Heart rate and alarm range: Adult: 30-250 bpm (beats/minute)
    - Resolution: 1 bpm (times/minute)
    - Sensitivity: ±0.4 mVp- ±5 mVp
  - Trigger level threshold: ≥ 5 MΩ
  - Common-mode rejection ratio: ≥ 50 dB
  - Leakage current: <10 μA
  - Input signal range: ±5 mV
  - EG Abnormal types: Tachycardia, Bradycardia, VPC, Bigeminal rhythm, Thyperal rhythm, RonT, VTAC, Escape Beat and Sinus arrest
  - Frequency response: Filter: 0.67 - 40 Hz
    - Guardianship: 0.05 - 40 Hz
    - Detection: 0.05 - 100 Hz
  - Calibration signal: 6 mm/mV
  - ST segment measurement: Measured range: -2.0 mV ± 2.0 mV
    - Precise: ±0.3 mV ±0.02 mV or ±10%
    - Renew period: 10 s
  - Non Invasive Blood Pressure (NIBP)
    - Measurement: Oscillometric method
    - Measuring range: 30 - 280 mmHg ±5 mmHg or ±5%
    - Overvoltage protection: Yes
    - Alarm: Systolic / diastolic alarm error of ±2 mmHg
    - Atrial premature function
  - Measuring wrist: 135 ~ 215 mm
  - Oxygen saturation (SpO₂)
    - Measuring range: 40 - 99% ±2% (90-99%), ±4% (70-89%)
    - Pulse rate
      - Measuring range: 50 - 99% ±2 (30-80 bpm), ±4 (80-150 bpm) ±5 (150-240 bpm)
      - Pulse rate: 30-240 bpm
  - Wide option of screen views available

**35134 PC 3000 MULTI-PARAMETER PATIENT MONITOR**

- Phone not included

**ACCESORIES - SPARES**

<table>
<thead>
<tr>
<th>GIMA code</th>
<th>Accessory</th>
</tr>
</thead>
<tbody>
<tr>
<td>35135</td>
<td>Adult SpO₂ probe, spare</td>
</tr>
<tr>
<td>35136</td>
<td>Pediatric SpO₂ probe</td>
</tr>
<tr>
<td>35137</td>
<td>ECG cable, spare</td>
</tr>
<tr>
<td>35138</td>
<td>Li-ion battery, spare</td>
</tr>
<tr>
<td>35140</td>
<td>NIBP cuff, arm circumference: 10-19 cm, pediatric</td>
</tr>
<tr>
<td>35142</td>
<td>NIBP cuff, arm circumference: 18-26 cm, pediatric XL</td>
</tr>
<tr>
<td>35139</td>
<td>NIBP cuff, arm circumference: 25-35 cm, adult, spare</td>
</tr>
<tr>
<td>35143</td>
<td>NIBP cuff, arm circumference: 33-47 cm, adult XL</td>
</tr>
</tbody>
</table>

**ACCESSORIES - SPARES**

- 1 Li-ion battery
- 10 Disposable electrodes
- 1 AC power Adapter
- 1 Power cable
- 1 Body surface temperature transducer
- 1 ECG cable

**TECHNICAL SPECIFICATIONS**

- **NIPB Monitoring**
  - Measuring method: Automatic measurement by oscillating method
  - Cuff inflation time: <10 seconds (typical adult cuff)
  - Initial cuff inflation pressure: Adult mode: 180 mmHg, infant mode: 120 mmHg
  - Overpressure protection limit: Adult mode: 300 mmHg, Infant mode: 240 mmHg

- **Measuring range**
  - Systolic pressure: Adult: 40-225 mmHg, Infant: 40-200 mmHg
  - Diastolic pressure: Adult: 20-215 mmHg, Infant: 20-165 mmHg
  - Mean arterial pressure: Adult: 10-195 mmHg, Infant: 10-150 mmHg

- **Measurement accuracy**
  - Systolic ±10% Diastolic ±10% MAP ±10%

- **Automatic measuring**
  - 1-240 min

- **Intervals**
  - interval tolerance: ±10%

- **TEMP Monitoring**
  - Measuring range, accuracy: 25.0°C-45.0°C, ±0.2°C

- **SpO₂ & Pulse Rate Monitoring**
  - Transducer: dual-wave length LED
  - SpO₂ measuring range: 35% - 100%
  - Low perfusion capability: 0.4% - 5%
  - SpO₂ display accuracy: 70% - 100% ±3%

- **PR measurement range**
  - 30bpm-250bpm
  - PR measurement accuracy: ±2 bpm

- **ECG Monitoring**
  - Heart rate measurement: ±0.4 mVp- ±5 mVp
  - Heart rate display range: 20bpm-250bpm
  - Display accuracy*: ±1% or ±2 bpm, whichever is greater
  - Heart rate alarm delay time: ≤10s
  - Sensitivity: Automatic, ±1/2, ±1, ±2, ±4
  - Sweeping speed: 12.5 mm/s, 25 mm/s, 50 mm/s
  - ECG noise level: ≤30 μVp-P
  - ECG input loop current: ≤50 μA
  - Input impedance: ≥5 MΩ
  - Common-mode rejection ratio: ≥5500
  - Time constant: Monitoring mode: 0.3s
    - Diagnostic mode: ≥3.2s
  - Frequency response: Monitoring mode: 0.5Hz-25Hz
    - Diagnostic mode: 0.05Hz-75Hz

- **RESP Monitoring**
  - Monitoring range, accuracy: 0% - 120% ±5% or ±2% or ±5% or ±4% or ±3%
  - RESP alarm range: 0% - 120% ±5% or ±2% or ±5% or ±4% or ±3%

- **Other Technical Specifications**
  - Power supply: 100-250Vac, 50/60Hz
  - Power consumption: <80 VA
  - Display mode: 7 inches TFT color LCD
  - Alarming mode: Audible-visual alarm
  - Networking port: LCD serial/Net port

*Accuracy defined as mean-square root value of deviation according to ISO 9919
ECG, MONITORS & ULTRASOUND

COLOUR MULTIPARAMETER MONITORS

- **33718 GIMA BM3 MONITOR** (7" - 800x480 - TFT display)
- **33719 GIMA BM3 VET MONITOR** - VETERINARY

GIMA monitors are configured with:
- Heart/pulse rate
- ST analysis, PVC count display
- 3 lead ECG (5 lead optional)
- Non-invasive blood pressure (NIBP)
- Nellcor Pulse oximetry (SpO2) - pitch tone
- Impedance respiration
- Temperature (sensor is optional)
- Pacemaker detection indicated on ECG display
- Battery and direct DC (18 VDC) input (not for recharge)
- Built-in printer (58 mm)
- 120 hours memory trend capacity
- Remote alarm function
- 20 alarm memory
- wired or wireless LAN and HL7
- Internal software selectable in GB, DE, FR, IT, PT, PL, RO, HU, ES, CZ, BG, RU, TR, CN
- User manual: English (on request: Italian, Spanish, French, German).

**TECHNICAL SPECIFICATIONS**

**GENERAL**

- **Display:** 7" colour TFT (800x480)
- **Dimensions/Weight:** 238x250xh 163 mm/3.1 kg
- **Indicators:**
  - Up to 4 waves (2xECG, SpO2, Respiration), categorized alarms (3 priority levels), external power LED, heart rate tone, battery status
- **Thermal printer:**
  - 25, 50 mm/sec (paper width 58 mm)
  - internal battery: Li-ion
  - operating time: 2 hours (fully charged)
- **Interfaces:**
  - LAN digital output for transferring data
  - DC input connector: 18 VDC, 2.5 A max
- **Operating voltage:** 100-240 V, 50-60 Hz

**ECG**

- **Leads:** 3 leads, 5 leads(OPT)
- **Heart Rate Range:** 30 to 300 bpm
- **Heart Rate Accuracy:** ± 3 bpm
- **ST level:** yes
- **PVC Count display:**
  - yes
- **Bandwidth:**
  - 0.5 Hz to 40Hz
- **Display Sweep Speeds:** 25mm/sec
- **ECG Size (Sensitivity):** 0.5, 1, 2, 4 mV/cm
- **Pacemaker Detection Mode:** Indicator on waveform display
- **CMRR:** >90 dB at 50 or 60Hz
- **Input Dynamic Range:** ± 5 mVAC, ± 300 mVDC
- **Defibrillator Discharge:** <4 J
- **Arrhythmia analysis:** VTAC/VFIB/ ASYSTOLIC
- **Lead-Off Detection with display indicator**

**SpO2**

- **% Saturation Range:** 0% to 100%
- **Pulse Rate Range:** 0 to 254 bpm
- **SpO2 Accuracy:** 70% to 100% ±2 digits
- **Pulse Rate Accuracy:** ± 2 bpm

**NIBP**

- **Technique:** Oscillometric
- **Measurement Modes:**
  - Manual: Single measurement
  - Auto: Automatic intervals of 1, 2, 3, 4, 5, 10, 15, 20, 30 min. and 1, 2, 4, 8 hours
  - Stat: Continuous measurement for 5 minutes
- **Cuff pressure display:**
  - 50 to 300 mmHg
- **B.P. measurement range:**
  - Systolic: 0 to 260 mmHg
  - Mean Arterial Pressure:
    - Mean: 30 to 220 mmHg
    - Diastolic: 20 to 200 mmHg
- **Adjustable Cuff Inflation Pressure**

**Respirations**

- **Range:**
  - 5 to 120 breaths/min
- **Accuracy:** ± 3 breaths/min

**Temperature Unit**

- **Range:**
  - 15° to 45°C (59°F to 113°F)
- **Accuracy:** ± 0.1°C

**Compliant with:**
- YSI Series 400 Temperature Probes

**STANDARD ACCESSORIES**

**33718**

- 3 lead patient cable (ECG)
- Disposable electrodes: 10 pcs
- NIBP tubing - 3m
- Reusable adult cuff 25-35 cm
- Set of 3 veterinary cuff
- SpO2 sensor - reusable
- SpO2 sensor extension cable 2 m
- Thermal printer 58 mm
- DC adaptor (18 VDC, 2.5A)
- Battery
- User manual: English, Italian

**33719**

- 3 lead patient cable (ECG)
- Disposable electrodes: 10 pcs
- NIBP tubing - 3m
- Reusable adult cuff 25-35 cm
- Reusable child cuff
- Set of 3 veterinary cuff
- SpO2 sensor - reusable
- SpO2 sensor extension cable 2 m
- Thermal printer 58 mm
- DC adaptor (18 VDC, 2.5A)
- Battery
- User manual: English, Italian
BM5 MULTIPARAMETER MONITOR WITH EXTENDABLE PARAMETERS

- SpO2 pitch tone
- selectable software language (GB, DE, FR, IT, PT, RO, HU, ES, CZ, BG, RU, TR, CN).
- connection to central monitoring system
- direct DC input for vehicle transport
- 120 full hours trend data stored
- 58mm built-in chart recorder
- graphical and tabular trends of printing
- LAN or wireless LAN
- 120 full hours trend data stored
- direct DC input for vehicle transport
- Li-ion battery with long life time
- connection to central monitoring system
- selectable software language (GB, DE, FR, IT, PT, RO, HU, ES, CZ, BG, RU, TR, CN).

Standard accessories as BM3 monitor, page 245. Other accessories page 247-248.

- 33710 Li-Ion RECHARGEABLE BATTERY - spare

- SpO2 technology with very low-perfusion detection
- visible alarm lamp handle
- 10.4" colour TFT screen with 6 waveforms
- 7 channels
- 13 kinds of Arrhythmia analysis
- ST level PVC count display
- highly advanced CO2 monitoring technology
- visible alarm lamp handle
- 10.4" colour TFT screen with 6 waveforms
- 7 channels
- 13 kinds of Arrhythmia analysis
- ST level PVC count display
- highly advanced CO2 monitoring technology
- 4.5 hours battery operation (rechargeable li-ion)
- easy mounting to an IV pole
- only 60 mm (2.36 inch) thick and 1.0 kg (2.2lb)
- Professional multiparameter monitor in compact size:

| TECHNICAL SPECIFICATIONS FOR MONITOR 33777 - 33778 - 33779 - 33780 - 33781 |
|---|---|---|---|---|
| GENERAL |
| Dimensions/Weight: 270x185x50 250 mm/15 kg |
| Trace: 6 waveforms (ECG, SpO2, PR or ECO2, BP2) |
| Indicators: cardiovascular (3 priority levels), visual alarm lamp handle, heart rate, SpO2 pulse pitch tone |
| Battery: 4.5 hours battery operation (rechargeable li-ion) |
| Interfaces: USB digital output for transferring date |
| DC-input connector: 12 to 18 VDC, 2.5A max |
| SpO2: 0% to 100% |
| Pulse Rate Accuracy: ± 2 bpm or ± 1%, whichever is greater |
| Pulse Rate Range: 0 to 300 beats/min |
| NIBP: 0 to 400 mmHg |
| NIBP Range: 0 to 400 mmHg |
| EtCO2: 0 to 100 mmHg |
| EtCO2 Range: 0 to 100 mmHg |
| ECG: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |
| ECG Waveforms: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |
| ECG: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |
| ECG Waveforms: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |
| ECG: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |
| ECG Waveforms: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |

| SpO2, TEMP, EtCO2 technical specifications |
|---|---|---|---|---|
| Battery status, external power LED |
| SpO2: 0 to 100% |
| Pulse Rate Accuracy: ± 2 bpm or ± 1%, whichever is greater |
| Pulse Rate Range: 0 to 300 beats/min |
| NIBP: 0 to 400 mmHg |
| NIBP Range: 0 to 400 mmHg |
| EtCO2: 0 to 100 mmHg |
| EtCO2 Range: 0 to 100 mmHg |
| ECG: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |
| ECG Waveforms: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |
| ECG: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |
| ECG Waveforms: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |
| ECG: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |
| ECG Waveforms: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |

| SpO2, TEMP, EtCO2 technical specifications |
|---|---|---|---|---|
| Battery status, external power LED |
| SpO2: 0 to 100% |
| Pulse Rate Accuracy: ± 2 bpm or ± 1%, whichever is greater |
| Pulse Rate Range: 0 to 300 beats/min |
| NIBP: 0 to 400 mmHg |
| NIBP Range: 0 to 400 mmHg |
| EtCO2: 0 to 100 mmHg |
| EtCO2 Range: 0 to 100 mmHg |
| ECG: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |
| ECG Waveforms: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |
| ECG: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |
| ECG Waveforms: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |
| ECG: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |
| ECG Waveforms: 3-lead, 5-lead, 10-lead (33777/78/79/80/81) |

BM1: SLIM AND LIGHT MONITOR WITH STRONG MOBILITY

- 33714 GIMA BM1 MONITOR SpO2+NIBP optional Temp. and EtCO2
- Professional multiparameter monitor in compact size:
  - only 60 mm (2.36 inch) thick and 1.0 kg (2.2lb)
  - easy mounting to an IV pole
  - 4.5 hours battery operation (rechargeable li-ion)
  - top handle and rear grip
  - monitoring mode and spot check mode
  - 4.3" color TFT monitor for clear view 480x272 pixels
  - touch key and wheel navigation
  - external VGA output for large LCD monitor (option)
  - saves 128 hours trend and 400 cases
  - multilanguage selectable software (GB, FR, IT, ES, DE, PL, PT, RO, BG, HU, TR, CN, KR)
  - highly advanced CO2 monitoring technology
  - plug and play EtCO2 module
  - Use same accessories of BM line
  - SpO2, TEMP, EtCO2, NIBP technical specifications same as BM5.

- 33710 Li-Ion RECHARGEABLE BATTERY - spare
BM7 PREMIUM PATIENT MONITOR FOR INTENSIVE CARE

- **Date is approximative. Please select battery according to picture and specifications**

Weight: Trace

CZ, PL, PT, RO, BG, HU, TR, RU, CN, KR

Internal language (selectable)

USB memory storage

10 sec alarm waveform

Data Storage

QRS beep & SpO₂ pulse beep

Dimension

Display, Resolution

10 sec alarm waveform

EtCO₂, 2xIBP

Indicators

Sweep speed: 6.25, 12.5, 25, 50 mm/sec

EtCO₂, 2xIBP

EtCO₂, 2xIBP

Filter

Lead selection

Leads type

EKG waveform

Heart rate range

Heart rate accuracy

Sweep speed

S-T segment detection range

Arrhythmia analysis

Pacemaker detection mode

Protection

RESPIRATION

Method

Channel selection

Measurement range

Accuracy

Apnea alarm

SpO₂ range

Paper width: 58 mm

SpO₂ pitch tone

Visual alarm lamp handle and heart beat tone

EtCO₂, 2xIBP

Connectors

DC input connector: 18 VDC, 2.5 A

External VGA monitor connection DC output 5VDC, 1A max

Battery

Rechargeable Li-ion battery.

Temperature range: ±0.1°C

Temperature: 10 to 45°C (59 to 113°F)

Compatibility: YSI SERIES 400 temperature probes

Channels 2 Measurement range: -50 to 300 mmHg

Accuracy: <100 mmHg ±1 mmHg

Pulse rate measurement range: 0 to 300 bpm

Zero balancing: Range: ±200 mmHg

Transducer sensitivity: 5 μV/mmHg

Pulse rate measurement range: 0 to 300 bpm
**ECG CABLES FOR BM MONITORS**

<table>
<thead>
<tr>
<th>GIMA code</th>
<th>ECG CABLES FOR BM3 (33718, 33719, 33720, 33721, 33722, 33723, 33724, 33780, 33781)</th>
</tr>
</thead>
<tbody>
<tr>
<td>33711</td>
<td>3-lead patient cable kit (cable+snap connectors 33748)</td>
</tr>
<tr>
<td>33712</td>
<td>5-lead patient cable kit (cable+snap connectors 33749)</td>
</tr>
<tr>
<td>33726</td>
<td>3-lead patient cable kit (cable+snap connectors 33750)</td>
</tr>
<tr>
<td>33727</td>
<td>5-lead patient cable kit (snap connector 33751)</td>
</tr>
<tr>
<td>33713</td>
<td>3-lead veterinary cable kit (cable+3 clips connectors)</td>
</tr>
<tr>
<td>33748</td>
<td>3-lead snap connectors for 33711 - spare - new</td>
</tr>
<tr>
<td>33749</td>
<td>5-lead snap connectors for 33712 - spare - new</td>
</tr>
<tr>
<td>33750</td>
<td>3-lead snap type connectors for 33726 - spare - old</td>
</tr>
<tr>
<td>33751</td>
<td>5-lead snap type connectors for 33728 - spare - old</td>
</tr>
<tr>
<td>33752</td>
<td>Vet 3-lead clip type connectors for 33726-7 - spare - old</td>
</tr>
<tr>
<td>33753</td>
<td>Vet 5-lead clip type connectors for 33728 - spare - old</td>
</tr>
<tr>
<td>33760</td>
<td>Vet 3-lead clip type connectors for 33713 - spare - old</td>
</tr>
<tr>
<td>33761</td>
<td>Vet 5-lead clip type connectors for 33712 - spare - new</td>
</tr>
<tr>
<td>33762</td>
<td>3-lead patient cable</td>
</tr>
<tr>
<td>33763</td>
<td>5-lead patient cable</td>
</tr>
</tbody>
</table>

**ACCESSORIES FOR MONITOR BM3, BM5, BM7**

<table>
<thead>
<tr>
<th>GIMA code</th>
<th>ECG CABLES FOR BM5-BM7 (33777, 33778, 33779, 33797)</th>
</tr>
</thead>
<tbody>
<tr>
<td>33764</td>
<td>3-lead patient cable kit (cable + snap connector)</td>
</tr>
<tr>
<td>33765</td>
<td>10-lead patient cable kit (cable + snap connector) only 33778</td>
</tr>
<tr>
<td>33766</td>
<td>3-lead veterinary cable kit (cable + clip connector)</td>
</tr>
</tbody>
</table>

**BM1, BM3, BM5, BM7 SpO₂ SENSORS - NELLCOR COMPATIBLE**

<table>
<thead>
<tr>
<th>GIMA code</th>
<th>ACCESSORIES FOR ALL BM MONITORS</th>
</tr>
</thead>
<tbody>
<tr>
<td>33733</td>
<td>SpO₂ Extension cable*, 2 m (7 pin small SpO₂ connector) up to 2005</td>
</tr>
<tr>
<td>33734</td>
<td>Extension cable*, 2 m (6 pin SpO₂ connector) sold in 2005/6/7</td>
</tr>
<tr>
<td>33735</td>
<td>Adult reusable finger probe (&gt;45 kg) Nellcor comp. - 7 pin</td>
</tr>
<tr>
<td>33736</td>
<td>Pediatric reusable finger probe (15-45 kg) - Nellcor comp.</td>
</tr>
<tr>
<td>33737</td>
<td>Vet reusable probe - clip</td>
</tr>
<tr>
<td>33738</td>
<td>Disposable infant probe - under 3 kg - Nellcor comp.</td>
</tr>
<tr>
<td>33739</td>
<td>Disposable child probe - 3-15 kg - Nellcor comp.</td>
</tr>
<tr>
<td>33740</td>
<td>Disposable pediatric probe - 15-45 kg - Nellcor comp.</td>
</tr>
</tbody>
</table>

**SENSORS COMPATIBLE WITH BCI, NELLCOR, COMDEK**

<table>
<thead>
<tr>
<th>Sensor Picture</th>
<th>Socket Picture</th>
<th>GIMA code</th>
<th>Description</th>
<th>Recommended use</th>
<th>Patient range</th>
<th>Preferred application</th>
<th>Cable length</th>
<th>Min. order</th>
<th>To be used with GIMA codes</th>
<th>Compatible with</th>
</tr>
</thead>
<tbody>
<tr>
<td>34296</td>
<td>Infant probe</td>
<td>Disposable</td>
<td>under 3 kg</td>
<td>hand or foot</td>
<td>55 cm</td>
<td>box of 10 pcs.</td>
<td>34286, 34290, 34291, 33702</td>
<td>BCI - Comdek</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34297</td>
<td>Child probe</td>
<td>Disposable</td>
<td>3-15 kg</td>
<td>finger or toe</td>
<td>55 cm</td>
<td>box of 10 pcs.</td>
<td>34286, 34290, 34291, 33702</td>
<td>BCI - Comdek</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34298</td>
<td>Pediatric probe</td>
<td>Disposable</td>
<td>15-45 kg</td>
<td>finger or toe</td>
<td>55 cm</td>
<td>box of 10 pcs.</td>
<td>34286, 34290, 34291, 33702</td>
<td>BCI - Comdek</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34300</td>
<td>Adult probe</td>
<td>Disposable</td>
<td>over 40 kg</td>
<td>finger or toe</td>
<td>55 cm</td>
<td>box of 10 pcs.</td>
<td>34286, 34290, 34291, 33702</td>
<td>BCI - Comdek</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34292</td>
<td>Adult probe</td>
<td>Reusable</td>
<td>over 40 kg</td>
<td>finger</td>
<td>145 cm</td>
<td>1 pc.</td>
<td>34286, 34290, 34291, 33702</td>
<td>Comdek</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34294</td>
<td>Child probe</td>
<td>Reusable</td>
<td>3-15 kg</td>
<td>toe</td>
<td>40 cm</td>
<td>1 pc.</td>
<td>34286, 34290, 34291, 33702</td>
<td>BCI - Comdek</td>
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<td></td>
</tr>
<tr>
<td>34293</td>
<td>Adult probe</td>
<td>Reusable</td>
<td>over 40 kg</td>
<td>ear</td>
<td>120 cm</td>
<td>1 pc.</td>
<td>34286, 34290, 34291, 33702</td>
<td>BCI - Comdek</td>
<td></td>
<td></td>
</tr>
<tr>
<td>34299</td>
<td>Extension cable</td>
<td>Reusable</td>
<td>-</td>
<td>-</td>
<td>150 cm</td>
<td>1 pc.</td>
<td>34286, 34290, 34291, 33702, 34293, 34294</td>
<td>BCI - Comdek</td>
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<td></td>
</tr>
<tr>
<td>34288</td>
<td>Extension cable</td>
<td>Reusable</td>
<td>-</td>
<td>-</td>
<td>150 cm</td>
<td>1 pc.</td>
<td>34286, 34290, 34291, 33702, 34293, 34294</td>
<td>Nellcor - Bionics</td>
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<td></td>
</tr>
<tr>
<td>33730</td>
<td>Adult child probe</td>
<td>Reusable</td>
<td>over 15 kg</td>
<td>finger</td>
<td>1 pc.</td>
<td>34281, 33290, 33291, BM monitors</td>
<td>Nellcor - Bionics</td>
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<tr>
<td>33708</td>
<td>Vet probe</td>
<td>Reusable</td>
<td>VET</td>
<td>tongue</td>
<td>145 cm</td>
<td>1 pc.</td>
<td>33703</td>
<td>BCI - Comdek</td>
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</tbody>
</table>