

US DEFIB

MEDICAL TECHNOLOGIES

BIPHASIC DEFIBRILLATORS

E-HEART

CardioStart



E-HEART

- The lightest! ONLY 8,82 lbs 4Kg
- With the innovative flip down display. Multiple angles (offers greater comfort and safety wherever the patient is).
- Easy access to connectors
- Display Resolution: High Resolution Color LCD
- Flip down display: 7,5 "

Physical Characteristics

- Height: 9 In; Length: 10 In; Width: 9 In;
- Inches: 7 In



CardioStart

- Perfect match for trolleys and MICU'S
- Shock resistant and anti-flame
- Display Resolution: High Resolution Color LCD
- Weight: 9,48 Lb - 4,3 Kg

Physical Characteristics

- Height: 7 In; Length: 16 In; Width: 12 In;
- Inches: 6,3 In



OPTIONALS

- Pulse oximetry with indicator of the spo2 value and programmable alarms for maximum and minimum. (SPO2);
- External Transthoracic pacemaker, non-invasive, multi-programmable , microprocessor;
- Non- Invasive Blood Pressure (NIBP);
- AED Mode that automatically analyzes cardiac arrhythmias and patient ECG;
- Capnography that uses side stream and mainstream type sensors (ETCO2);
- Protection against defibrillator discharge, self-test, switching to emergency mode and override mode;
- Software for drug calculation;
- Software for intubation/ ventilation mode;
- 360 Joules
- 12VDC connection for MICU



MASSIMO TECHNOLOGY

- Monitoring of carbon monoxide saturation (SPCO)
- Monitoring of Metal Hemoglobin (SpMET)

CARDIOSTART & E-HEART FEATURES

Patient Analysis System

- Patient Analysis: Automatically analyses the patient thoracic impedance, increasing the defibrillation effectiveness and reducing the risk of heart damage.

Electrocardiogram FEATURES (ECG)

- 3-12 Derivations: (DI, DII, DIII) through 3-way ECG cable and (DI, DII, DIII, aVL, aVR, aVF, and VI to 6) through 5-way ECG cable.
- All derivations;
- Automatic Interpretation of the patient ECG;
- Capture of the ECG signal by the reusable or disposable electrodes or by transthoracic adhesives electrodes of the pacemaker or by their own paddles;
- Heart Rate: 10 to 300 bpm;
- Accuracy: 01 BPM, with numerical display;
- Protection against the defibrillation;
- Numerical indication of heart rate on the display;
- QRS detector;
- Detection and rejection of pacemaker;
- Very High sensitivity to the R wave Capture; sensitivity (ECG amplification stage): 5, 10, 15, 20, 30 and 40 mm / mV, line filter 60 Hz, rejection in common mode greater than 90dB.
- Audible and visual alarms: loose electrode, asystole, tachycardia, bradycardia, fibrillation with digital adjustment;
- Isolation of the patient: CF type Defibrillator proof.
- It performs a periodical self- test.
- Trace Freeze.
- It monitors the paddles impedance;

Defibrillation Scale

- 200 Joules Version: 01 02 03 04 05 06 07 08 09 10 15 20 25 30 35 40 45 50 for child defibrillation (External Paddle) and adult internal defibrillation (internal paddle) and 01, 02 03 04 05 06 07 08 09 10 15 20 25 30 35 40 45 50, 70, 90, 100, 110, 120, 150, 180, 200 Joules for adult defibrillation. (External paddle).
- 270 Joules Version: 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 15, 20, 25, 30, 35, 40, 45, 50 for child defibrillation (external paddle) and internal adult defibrillation (internal paddle) and 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 15, 20, 25, 30, 35, 40, 45, 50, 70, 90, 100, 110, 120 , 150, 180, 200, 270 Joules for adult defibrillation. (External paddle).
- 360 Joules Version: 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 15, 20, 25, 30, 35, 40, 45, 50 for child defibrillation (external paddles) and internal adult defibrillation (internal paddle) and 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 15, 20, 25, 30, 35, 40, 45, 50, 70, 90, 100, 110, 120 , 150, 180, 200, 240, 360 Joules adult defibrillation. (External paddle).
- Support to fix the paddles and carrying handle (part of the case), can be used regardless of the housing bag.
- External interchangeable paddles (Adult and pediatric), multifunctional disposable paddles (adult and pediatric) for Pacemaker and AED. Both monitors and defibrillate.
- Adaptable to any patient, it even has an intelligent safety system that limits the charge for internal use and pediatric / neonatal use.

- Use of reusable pads(adult / pediatric permanent paddles), interchangeable, which requires simultaneous activation of both controls, one in each paddle, minimizing the risk of accidental shocks.
- Selection of the charge level by "APEX" PADDLE key, it charges by pressing the "STERNUM" PADDLE key and it triggers the shock by the paddles by simultaneously pressing both paddle keys.
- Clear stages indication: charging, ready, shocking and disarming.
- Patient's thoracic impedance analysis, which increases the defibrillation effectiveness and reduces the risk of heart injuries.
- Monitoring the paddles contact on the patient's chest by the Bargraph on the display and on the shock paddles.
- With the equipment powered by the power grid or even powered by new and fully charged battery, its charging time is lower or equal to 5 seconds for 200 joules and less than or equal to 6 seconds to 360 joules. The charging times can be adjusted by the user if desired.
- Indicator of contact of the paddles with the patient, displaying the contact intensity.
- Charge canceled automatically after 30 seconds if there is no triggering or manually by pressing cancel. The information "canceled" appears on the display.
- Clock, Timer (seconds counter), Date and Shock Counter.
- It performs self-diagnostic test when it is turned on.
- It indicates the mode and charge energy on the screen.
- Automatic charge adjustment.
- When in "SYNCHRONIZED MODE", it triggers the shock synchronized with the QRS complex, with the energy delivery time <20ms.
- Maximum delay time for signal stabilization: 5 seconds after ideal connection of the sensor to the patient.
- When BIPHASIC DEFIBRILLATOR MONITOR is set in automatic mode, the energy charge follows a triggering sequence of 150J, 200J and 200J; Detection and rejection of pacemaker pulse.
- Impedance detection in the range of 25 Ohm to 50 Ohm, for the shocks.
- Displays all programming parameters, beep indicator, battery status, etc.
- Internal memory, including curves, date and time of approximately 250MB (or more), which corresponds to more than 100 hours of continuous recording; Enables continuous ECG, critical events and procedures to be recorded in the memory.
- Memory card: allows communication with PC through connection for viewing memory data; Enables the posterior reading of the ECG trace of memory of events through hardware and / or specific software (optional).

CARDIOSTART & E-HEART FEATURES

Battery Pack

- Type: Lithium Manageable rechargeable internal battery;
- Interchangeable and it can be replaced by the user; internal protection fuses; charging alarm indicators.
- Capacity: 220 Shocks - 200 J or 10 hours continuous operation with full battery.
- Standby life: 5 years
- Charging time: 4 Hours
- Power: Automatic 100/240(full range optional)
- 50hz and 60hz or directly from the ambulance battery(12Vdc)
- Index of protection: IP22

All accessories necessary for the perfect functioning of the equipment, followed in all the parameters configured. User Manual and Warranty Certificate.

Controls and Indications

- Indication of paddle contact
- Timer Clock (seconds counter)
- Shock counter
- Text and voice command whether or not a shock is advised.

Language

- English (Possibility to change language through software)

Accessories

- Professional 3 lead power cord;
- 01 set of adult reusable electrode (paddles-Interchangeable adult/pediatric);
- 01 set of 3/5 lead patient cable;
- 01 conductive gel;
- 01 transportation bag;
- User manual and warranty certificate, and more accessories for the perfect performance of the equipment.
- Extra Accessories: Internal Pads

Data Recording and Transmission

- It provides, through connection, communication with microcomputer to display;
- Memory data (optional);
- Memory for event filing.

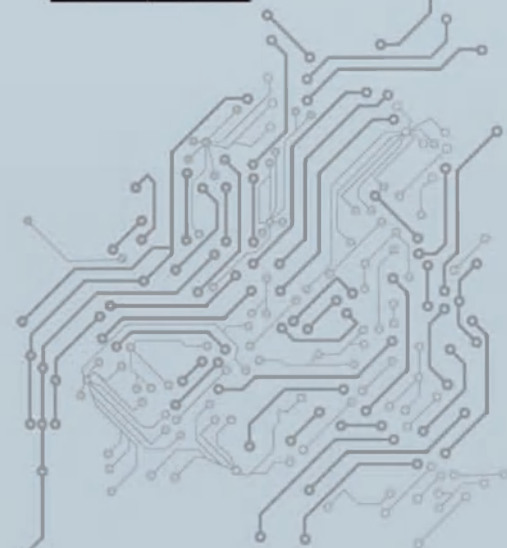
Optional Accessories

- Disposable pacemaker transthoracic electrodes;
- Adult/pediatric/neonatal oximetry sensor;
- Capnography kit;
- Cuff and hose for NIBP measuring.

Environmental

- Temperature: -40 ° to 70°;
- Relative Humidity: 10% to 100%;
- Atmospheric Pressure: 500 pHa through 1060 hPa (525 mmHg through 795 mmHg);
- Shock and Water Resistance;
- Protection Level: IP 22;
- Airplanes: Low level of electromagnetic field radiation;
- High immunity to transients and external electromagnetic fields;
- High mechanical resistance to vibration

Technical specifications are subject to change without previous notice.



DEFIBRILLATORS PARAMETERS

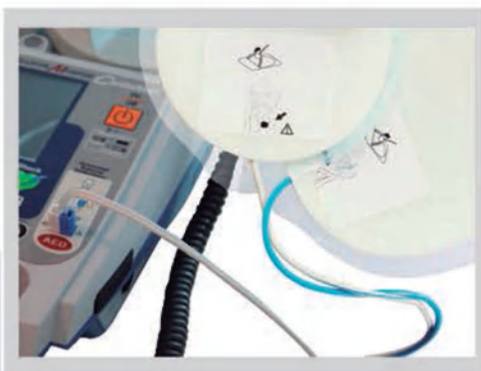
PRINTER

- High Resolution thermal printer; with manual and automatic modes; one channel (optional: two channels).
- Paper size: 48mm X 20mm approx.
- Paper speed: 12.5, 25, 50 mm/sec.
- High Resolution with registration on the occurrence of each triggering.



AED MODE (AUTOMATIC ANALYSIS SYSTEM)

- Automatic ECG evaluation, which detects QRS complexes and automatically identifies malignant arrhythmias (ventricular tachycardia and ventricular fibrillation) that require defibrillation.
- It features voice and text command on the display to instruct the rescuer during the resuscitation sequence.
- Optional: Pediatric Pads.



EXTERNAL PACEMAKER

The external pacemaker was designed to stimulate the heart in case of disturbances in the rhythm and internal faults in the conduction of its electric impulse. It is used in cardiac surgery as an emergency cardiac pacemaker. Some transthoracic applications for the pacemaker are indicated for: Treatment of symptomatic bradycardia or bradysystole, during emergency and during and after cardiac surgery to facilitate the insertion of a transvenous stimulator electrode.

External pacemaker, transthoracic, non-invasive, multiprogrammable; on the DEMAND modes, Asynchronous (fixed) and Emergency. Control of the process of stimulation through the Defibrillator keyboard. The application of stimulation pulses can be displayed by a LED on the panel.

It is possible to set the pacemaker in three different modes of operation: VOO, VVI and Emergency.

In VOO and VVI modes the pacemaker will be stimulating and transmitting information to the display (amplitude, width, frequency and mode).

Stimulation current: without charge connected: 200mA; Off: 0mA.

ECG Uptake by the adhesive paddles; output stimulation: adhesive electrodes (PADDLE's) Frequency: one can vary the frequency of stimulation between 30 and 200 ppm; Amplitude: the amplitude value can be set between 5 and 200mA;

Width: You can select pulse widths between 5 and 50ms, 25

Specification of the stimulation system

- Stimulation frequency: 30 ppm to 200 ppm at 1 ppm steps
- Pulse amplitude: 0mA to 200mA in 1 mA steps
- Pulse width: 0ms to 50ms in 1 ms steps
- Emergency: VOO 70 ppm - 100mA 20ms.

Defibrillation discharge protection: up to 400 Joules. The above specifications (frequency, amplitude and pulse width) can be changed when requested by the user.

- Pacing Mode: Demand, emergency, fixed rate.
- Pacing Rate, ppm, 30-200 ppm.
- Output current, mA: 0 to 200 mA
- Pulse Width, m sec 0 - 50 m sec.
- ECG Recorder: Yes



DEFIBRILLATORS PARAMETERS

NON-INVASIVE BLOOD PRESSURE - NIBP PAR-MEDIZIN TECHNOLOGY (GERMANY)

Systolic, diastolic and mean blood pressure measurements; by the oscillometric method in adult, pediatric and neonatal patients; safety and protection in pediatric and neonatal use.

It presents simultaneous data on the screen, manual and automatic operation mode; In the automatic mode it is programmable from 1 to 120 minutes.

Programmable interval for cuff inflating.

Auto zero before each measurement.

It has alarm for minimum, maximum and average pressure.

It has sound and visual programmable alarms that are triggered automatically when you exceed the upper and lower limits of the adjusted values for blood pressure and heart rate, and it has 03 priority levels.

Range of blood pressure measurement: up to 300MMHg;

Range of heart rate measurement: from 30BPM to 250BPM.

Optional: clamp, cuff / hose (adult, pediatric and neonatal).



CAPNOGRAPHY - ETCO2 RESPIRONICS TECHNOLOGY (USA)

The capnography module uses the sensor "Side stream" and "Mainstream" miniaturized type. After connecting the sensor, it is necessary to wait for approximately 1 minute for the set to be ready for measurements. After this time you should see a light on the sensor indicating their qualification. Once connected to the respirator tube, it shows the patient information. The capnography sensor should be placed over the adapter to prevent condensation, if it occurs, it will interfere with the reading measurement.

Capnography Functional Specifications

- Expired CO2 curve shown continuously on the screen;
- Optional self-calibration procedure that exempts the use of specific gases for periodical calibration; value of expired CO2, minimum inspired CO2 and a value of respiratory rate continuously displayed on the screen;
- Miniaturized sensor with self-calibration.

PULSE OXIMETRY - SPO2

Plethysmographic curve, indication and values of oxygen saturation and pulse rate shown on the numeric display and in percentage; plethysmographic wave amplitude adjusted on the screen; it has full alarm system and audible and visual indication of the SPO2 level, through the tone of pulse signal, the volumes of alarms and audible pulse indicator are independently adjustable, adjustable audiovisual alarm: low and high SPO2 and low and high heart rate (bradycardia and tachycardia); alarm pulse not detected, sensor disconnected; searching for pulse; silencing the alarm for 02 minutes key, good response at low perfusion.

Sampling range: approximately 70 to 100%

Accuracy of 3%. The accuracy of the measured saturation is indeterminate when it is between 0% and 69%.

Optional: adult SPO2 sensor clip, child clip, universal Y clip and ear clip.





BRAND, TRUST AND CREDIBILITY

CERTIFICATIONS

