

EN

# apolus

BIPHASIC DEFIBRILLATOR



INSTRAMED



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BIPHASIC DEFIBRILLATOR



**bi phasic**  
SHOCK

- Adult and infant integrated multifunctional pads.
- Indicator of ready charge and contact with the patient in the pads.
- Optional pads for internal defibrillation (adult and infant).
- Connection for synchronism with the external cardiac monitor (cardioversion).



THE BEST COST-BENEFIT IN AN EQUIPMENT MADE FOR THE BASIC FUNCTION OF DEFIBRILLATION, WITHOUT GIVING UP THE SAFETY OF A CONSECRATED MANUFACTURER.

### VERSATILE:

Light and robust, it presents a low, wide base that facilitates its use and permits horizontal operation or hanging vertically.

Large straps on both sides and a design without sharp corners, projected for emergency transport.

### EASY TO OPERATE:

Main functions concentrated in just one button.

Operation with the standard 1, 2, 3 - using the same control layout as the CardioMax line facilitating its use by professionals who are already familiar with Instramed equipment, resulting in less investment and training time.

### INTELLIGENT:

Infocenter - by the LCD display, the user receives information about the operation of the equipment and alerts from the functional test.

### ADVANCED:

Biphasic energy delivered at up to 360J, electronically limited to 50J when using infant pads.

Instantaneous initiation.

Ready for shock in less than 6 seconds.

### SAFE:

Count on the security and technology of a brand with more than 25 years of attendance to the market of medical professionals.

Exclusive dedication to the development and manufacturing of equipment for the cardiology segment with an emphasis on simplicity of use, resistance and quality.

Presence on all continents by a network of local representatives that guarantee permanent technical assistance, parts and original accessories.





# TECHNICAL INFORMATION

## GENERAL SPECIFICATIONS

- **Dimensions with pads:**
  - 44.5 cm (17.52 in) length.
  - 24.5 cm (9.65 in) depth.
  - 20.0 cm (7.87 in) height.
- **Weight:**
  - Device - 3.90 Kg (8.6 lbs).
  - Ext. pads - 0.85 Kg (1.87 lbs).
- **Internal battery:**
  - Type: NiMH, 14.4 VDC 4 A/h.
- **Duration:**
  - Battery in good conditions with full charge - minimum of 140 shocks at 360 Joules or minimum of 200 shocks at 200 Joules.
  - Battery full-charge time (completely unloaded): 8 hours.
- **Battery storage:**
  - Storage of the battery for long periods in temperatures over 35°C (95°F) will reduce its capacity and useful life.
- **Classification:**
  - Internally energized equipment.
  - CF Type.
- **Functional mode:**
  - Frequent operation.

## ENVIRONMENTAL SPECIFICATIONS

- **Temperature:**
  - Operational: 0 to 50 °C (32 to 122°F).
  - Storage: 0 to 70 °C (32 to 122°F).
- **Humidity:**
  - Operational: 10 to 95% RH, without condensation.
  - Storage: 10 to 95% RH, without condensation.

## DEFIBRILLATOR

- **Adult/external defibrillation:**
  - Scales: 5, 10, 15, 20, 30, 40, 50, 80, 100, 150, 200, 250, 300 and 360 Joules.
  - Maximum energy limited to 50 J with internal or infant pads.
- **Wave form:**
  - Biphasic truncated exponential.
  - Waveform parameters adjusted in terms of the patient's impedance.
- **Shock application:**
  - By means of multi-functional pads (adhesive) or defibrillation pads.
- **Controls:**
  - Control keys: CHARGE, APPLY, DISARM and SYNCHRONIZE, operating in the standard sequence "1 – 2 – 3", located in the upper panel of the equipment.
  - Selector Key: allow device on/off, as with the selection of the energy scales and initiate the functional test mode.
- **Charge control:**
  - CHARGE button on the front panel
  - Button on the external pads.
- **Shock control:**
  - APPLY button on the front panel
  - Button on the external pads.
- **Abort control:**
  - ABORT button on the front panel
- **Synchronized control:**
  - SYNC button on the front panel
- **Charge indicators:**
  - Sound signal of equipment being charged.
  - Sound signal of completed charge.
  - LED in the external pads and charge level indicated on the display.

- **Maximum charge time:**
  - Network and battery < 6s.
- **Electrode size:**
  - Adult: 10.3 cm x 8.5 cm (4.05 in x 3.35 in). Contact area: 81.9 cm<sup>2</sup> (32.24 in<sup>2</sup>).
  - Infant: 4.5 cm x 4.0 cm (4.05 in x 3.35 in). Contact area: 18 cm<sup>2</sup> (32.24 in<sup>2</sup>).
- **Cardioversion:**
  - < 60ms.
- **Pads (options):**
  - Adult and infant external (included).
  - Adult and infant internal (optional).
- **Maximum exit voltage:**
  - 2000 V.
- **Maximum exit current:**
  - 80 A (25 ohms).

## DISPLAY

- **Battery level indicator:**
  - Yes.
- **Size:**
  - 99 mm x 19 mm (3.9 in x 0.75 in)
- **Type:**
  - Alphanumeric LCD.

## STANDARDS:

- NBR IEC 60601-1
- NBR IEC 60601-1-2
- NBR IEC 60601-1-6
- NBR IEC 60601-2-4
- or equivalent IECs