

PHYSIO  
CONTROL

## LIFEPAK® CR2 Defibrillator

Lifesaving technology.  
Designed for user confidence.



stryker

# An intuitive approach to public access defibrillation.

Sudden cardiac arrest (SCA) can happen to anyone—anywhere. Immediate treatment is vital. A victim's chance of survival dramatically decreases for every minute without treatment.<sup>1</sup> That's why public access defibrillators are so important. They put lifesaving technology where it can do the most good. So when an emergency happens, you should have nothing less than the best.

Visualize a future where better technology enables better outcomes—and more lives saved. Rated easiest to use and highest in overall user confidence by AED users, the groundbreaking LIFEPAK CR2 defibrillator reduces unnecessary delays when an SCA event occurs.<sup>2</sup>





Fastest time  
to first shock.<sup>2</sup>

With the LIFEPAK CR2 defibrillator, even minimally trained users can quickly begin lifesaving care in just 2 steps:

1

Open lid and bare  
patient's chest.



2

Pull red handle and  
apply electrodes.



According to the European Resuscitation Council (ERC) guidelines, when bystanders provide CPR and use an AED to deliver a shock within 3–5 minutes of collapse or before emergency services arrive, survival rates can increase as high as 70%.<sup>3</sup>

# Integrated CPR technology.

For a minimally trained responder, intervening in an unfolding emergency can be intimidating. Responders need the easiest possible AED to instill confidence.

While other AEDs may be difficult to use, the LIFEPAK CR2 defibrillator uses simple graphics, audible instructions and automated features to help users remain focused. We've removed all the guesswork with proven better results.<sup>2</sup>

CPR coaching gives users the confidence to perform CPR correctly. The LIFEPAK CR2 prompts users to begin CPR when no CPR is detected, and uses a metronome to set an effective pace. Users are audibly guided through the resuscitation process for an adult or—with the push of a button—for a child. CPR coaching not only improves overall CPR performance, it also increases hands-on time and reduces the longest pauses in CPR, which has the biggest influence on lifesaving outcomes.<sup>3,4</sup>

The LIFEPAK CR2 defibrillator was rated easiest to use, easiest to hear, and highest in overall user confidence by AED users.<sup>2</sup>





Saving a life can be easier than you think.

- **1-2** Layered design with easy-to-follow, bold graphics  
Both trained and untrained AED users clearly know how to begin.
- **QUIK-STEP™ electrodes**  
Peel directly off the base for faster side-by-side placement.
- **Metronome and CPR coaching**  
Sets an effective pace and audibly guides users.
- **ClearVoice™ technology**  
Detects background noise and adjusts volume for clear instruction.
- **Highest available energy**  
Up to 360J for more effective shocks as needed.
- **Bilingual**  
Toggle between two pre-set languages when using the device (optional).
- **LIFEPAK TOUGH™**  
IP55 rating for challenging environments.
- **8-year warranty**  
Backed by an 8-year warranty.
- **Child mode**  
Child mode delivers lower energy levels appropriate for young children without having to change electrodes.

# Intuitive design provides fastest time to use.<sup>2</sup>

We tested the Physio-Control LIFEPAK CR2 defibrillator against leading competitive devices in this real-life scenario: Participants arrived in a room with a training manikin on the floor. They were advised to treat the “patient” as quickly and effectively as possible with the AED and CPR. They received no additional guidance.



Users of the LIFEPAK CR2 defibrillator had the fastest times<sup>2</sup> to:

Place both pads:  
**55**  
seconds

First shock:  
**78**  
seconds\*

Start CPR after first shock:  
**87**  
seconds\*

Not only that, the LIFEPAK CR2 defibrillator received the highest ratings in user confidence—rating first in each of the three usability questions:

- I felt confident using this AED.
- This AED was easy to use.
- The prompts are easy to hear.

\*Elapsed time includes placing pads and powering on the device.

# Specifications

## Defibrillator

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**Waveform:** Biphasic Truncated Exponential with voltage and duration compensation for patient impedance.

**Patient Impedance Range:** 10 – 300 ohms

**Energy Accuracy:**

10% of the energy setting into 50 ohms

15% of the rated energy output into 25 – 175 ohms

**Output Energy Sequence:** Multiple levels, configurable from 150 joules to 360 joules.

**Energy Default:** 200J, 300J, 360J (adult)  
50J, 75J, 90J (paediatric)

**Shock Advisory System™:** An ECG analysis system that advises whether a shock is appropriate; meets rhythm recognition criteria specified in IEC 60601-2-4.

**CPR Coaching:** Instructions for adult and paediatric CPR, including feedback when no CPR is detected, rate and depth guidance, a metronome and instructions on hand placement.

**Time to Shock at 360J after CPR:**

- **Semi-Automatic:** < 17 seconds

- **Fully Automatic:** < 23 seconds

**Charge Time:** 0 seconds for first 150J or 200J shock (as device is pre-charged).

## Controls

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**Lid Release/ON-OFF:** Controls device power.

**Shock button, Semi-automatic:** Delivers energy when button pressed by the user.

**Shock button, Fully Automatic:** Flashes prior to delivering shock without requiring user intervention.

**Child Mode Button:** Allows operator to switch to Child Mode for reduced energy and CPR guidance appropriate for children.

**Language Button:** Allows operator to switch between the Primary and Secondary languages for an optional multi-language configuration.

**Electrical Protection:** Input protected against high voltage defibrillator pulses per IEC 60601-1/EN 60601-1.

**Safety Classification:** Internally powered equipment. IEC 60601-1/EN 60601-1.

## User Interface

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**User Interface:** The user interface includes voice prompts and audible tones.

**ClearVoice™ Technology:** Volume adjusts automatically based on the noise level of the surrounding environment.

**Device Status Indicators:** Visual and audible indicators indicating system readiness (device, pads and battery).

## Environmental

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**Note:** All performance specifications defined assume the unit has been stored (two hours minimum) at operating temperature prior to operation.

**Operating Temperature:** 0° to +50°C (+32° to +122°F).

**Storage Temperature:** -30° to +60°C (-22° to +140°F) with battery and electrodes, maximum exposure time limited to one week.

**Long-Term Storage:** Always store the defibrillator within the recommended temperature range of 15° to 35°C (59° to 95°F).

**Altitude:** -382 to 4,572 m (-1,253 to 15,000 ft).

**Relative Humidity:** 5 to 95% (non-condensing).

**Water Resistance:** IEC 60529/EN 60529 IPX5 with electrodes connected and battery installed.

**Dust Resistance:** IEC 60529/EN 60529 IP5X with electrodes connected and battery installed.

**Shock:** MIL-STD-810F, Method 516.4, Procedure 1, (40g, 6-9 ms pulse, 1/2 sine each axis).

**Vibration:** MIL-STD-810F, Method 514.4, Helicopter – category 6 (3.75 Grms) and Ground Mobile – category 8 (2.85 Grms).

## Physical Characteristics

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**With handle, including electrodes and battery:**

**Height:** 9.7 cm (3.8 in)

**Width:** 22.6 cm (8.9 in)

**Depth:** 27.4 cm (10.8 in)

**Weight:** 2.0 kg (4.5 lb)

## Accessories

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### PRIMARY BATTERY

**Type:** Lithium Manganese Dioxide (Li/MnO<sub>2</sub>), 12.0V, 4.7 amp-hours.

**Capacity (at 20°C):** Will provide 166 200 joules shocks (with one minute of CPR between shocks) or 103 360 joules shocks (with one minute of CPR between shocks) or 800 minutes of operating time.

**Standby Life (assuming daily tests only):** A new battery provides device power for 4 years if installed in device that is not used.

**Replace Battery Indication:** At least 6 shocks and 30 minutes of operating time remain when first indicated.

**Weight:** 0.3 kg (0.7 lb).

### ELECTRODE PADS

**Pads:** Can be used on both adult and paediatric patients.

**Pads Packaging:** User intuitive, rapid access electrodes.

**Pads Replacement:** Replace every 4 years.

## Data Storage

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**Memory Type:** Internal digital memory (flash RAM).

**ECG Storage:** Minimum 60 minutes of ECG stored for two patient episodes.

## Communications

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**Communications:** USB

# LIFEPAK® CR2 Defibrillator

## Let's save more lives.

We are working on a future where better technology enables better outcomes—and more lives saved. When SCA strikes, you want the best for your employees, customers, students and the public. Designed by the trusted industry leader in emergency response technology, the LIFEPAK CR2 defibrillator gives users the tools they need to effectively respond to an SCA emergency.

### References

- <sup>1</sup> Graham R, McCoy M, Schultz A. Strategies to Improve Cardiac Arrest Survival, a Time to Act. Institute of Medicine Report, 2015.
- <sup>2</sup> Physio-Control Internal Semi-Automatic AED Comparison Usability Study, August 2016.
- <sup>3</sup> Perkins G, Handley A, Koster R, et al. European Resuscitation Council Guidelines for Resuscitation 2015, Sec 2, Adult Basic Life Support and Automated External Defibrillation. *Resuscitation*. 95 (2015)81-99.
- <sup>4</sup> Brouwer T, Walker R, Chapman F, Koster, R. Association Between Chest Compression Interruptions and Clinical Outcomes of Ventricular Fibrillation Out-of-Hospital Cardiac Arrest. *Circulation*. 2015;132:1030-1037.

Although not everyone can be saved, studies show that early defibrillation can dramatically improve survival rates.

Physio-Control is now part of Stryker.

For further information please contact your local Physio-Control representative or visit our website at [www.physio-control.com](http://www.physio-control.com)

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