PHYSIO CONTROL

LIFEPAK AED Response System

Connected. Ready.



LIFEPAK® **CR2** Defibrillator

with **LIFELINKcentral**™ AED Program Manager

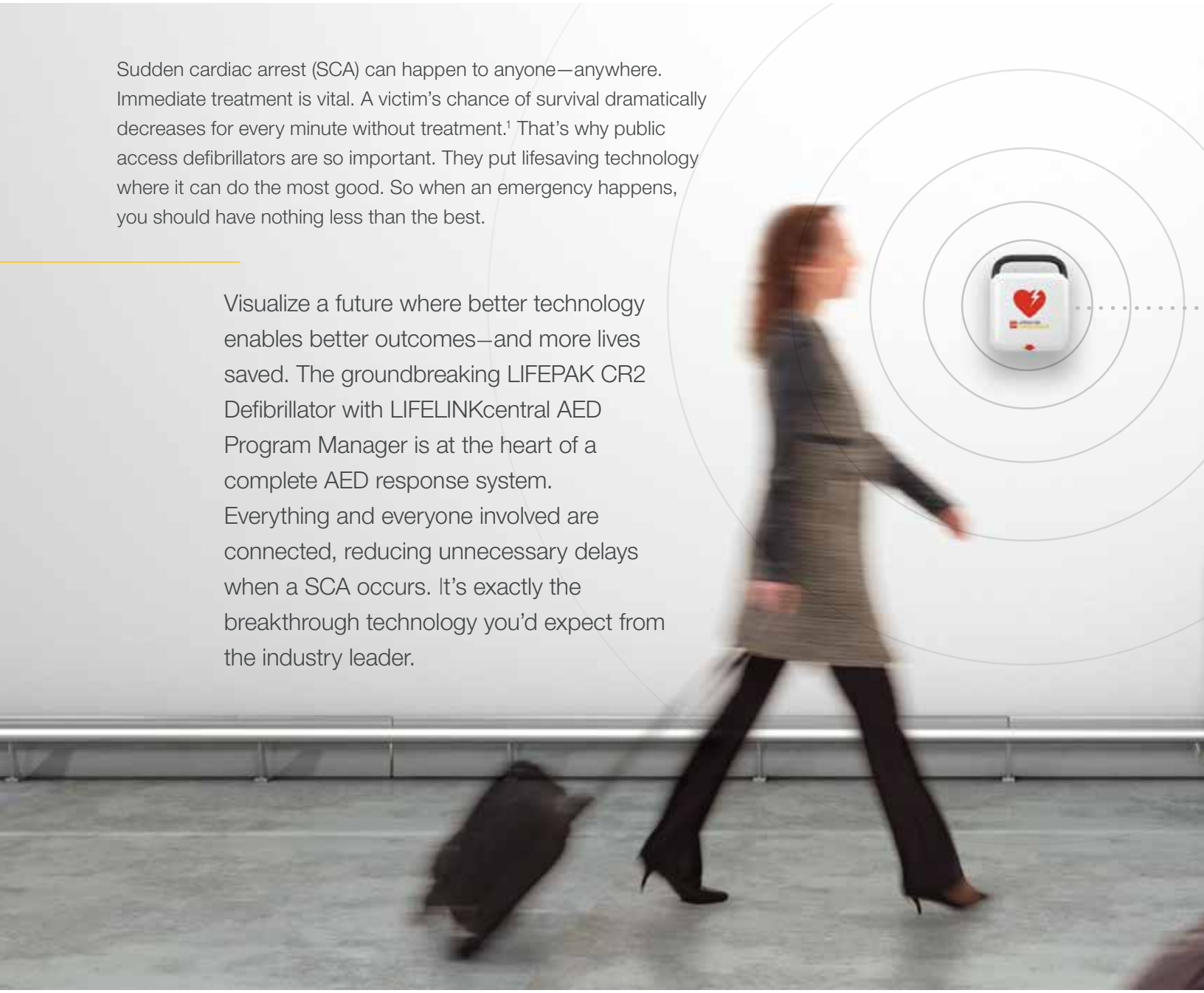
stryker

The LIFEPAK CR2 AED is not available for sale in the U.S.

A new 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.[1] 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. The groundbreaking LIFEPAK CR2 Defibrillator with LIFELINKcentral AED Program Manager is at the heart of a complete AED response system. Everything and everyone involved are connected, reducing unnecessary delays when a SCA occurs. It's exactly the breakthrough technology you'd expect from the industry leader.



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Self-monitoring means you're emergency ready

AEDs are effective only if they are close at hand and ready to work. Whether you have one AED, or 100 spread across the globe, now you can know the readiness status and location of each one. Ongoing system maintenance has been time-consuming and error-prone—until now.



The LIFELINKcentral AED Program Manager monitors each *CR2* connected to a cellular network or Wi-Fi® and alerts you to anything that may affect device readiness—all automatically.

Battery not charged? AED not where it's supposed to be? You'll receive an alert through the LIFELINKcentral program manager, helping to greatly reduce the effort and expense of managing your AED program, while increasing your program's readiness and effectiveness.





Connectivity is the foundation for better care.

Wi-Fi connectivity can give emergency responders a complete picture of each SCA event. So even before they arrive, they are better prepared for the patient, knowing details of shocks given, seeing the actual patient's ECG and more. This continuity of care follows patients to the hospital as well, and carries over for providers connected to the LIFENET® System. After an event, all information can be seamlessly sent via a cellular network or Wi-Fi and integrated into one patient care record report, without having to download event data directly from the AED.

Continuous CPR increases survival rates[2]

Every SCA response requires CPR. Every single one. Previously, CPR had to be interrupted for heart rhythm analysis, and older, competitive technologies require rescuers to pause for 10 seconds or more. Unfortunately, interrupting CPR adversely affects survival rates and the 2015 European Resuscitation Council (ERC) Guidelines recommend minimising pauses to increase the chance of a successful outcome.[3]



While other AEDs may offer CPR feedback through the use of an accelerometer or additional tool, the *CR2* provides the right amount of instruction and includes new cprINSIGHT™ analysis technology. Once CPR begins, cprINSIGHT technology automatically analyses and detects if a shock is needed. This significantly reduces pauses in chest compressions, even eliminating pauses if the rhythm is determined to be non-shockable. And more CPR means improved blood circulation and better odds of survival.[3,4]

The *CR2* is the only AED that allows chest compressions during ECG rhythm analysis thereby reducing pauses between CPR and defibrillation. In an AED comparison study, the *CR2* helped lay responders deliver the highest overall CPR quality.[5] If a shockable rhythm is detected, the *CR2* delivers shocks with powerful escalating energy, with no judgment call required on the part of the user. Proven superior by competitive testing, the *CR2* will keep the rescuer focused on what really matters—saving a life.[5]



Fastest time to first shock.[5]

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 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%.[3]

Designed for user confidence



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 or require users to stop CPR during analysis, 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.[5]

The *CR2* was rated easiest to use, easiest to hear and highest in overall user confidence by AED users.[5]



Saving a life can be easier than you think.

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.

cprINSIGHT™ analysis technology
Analyses for shockable rhythm during chest compressions with no need to pause.

Metronome and CPR coaching
Sets an effective pace and audibly guides users, detecting and correcting technique as needed.

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.

LIFEPAK TOUGH™
IP55 rating for challenging environments.

8-year warranty
Backed by an 8-year warranty.

Specifications

Defibrillator

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.

cprINSIGHT™ Analysis Technology: Enables the defibrillator to analyse the patient's heart rhythm while CPR is being performed.

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 (with cprINSIGHT enabled):
- **Semi-Automatic:** < 7 seconds
- **Fully Automatic:** < 13 seconds

Charge Time: 0 seconds for first 150J or 200J shock (as device is pre-charged). With cprINSIGHT enabled, subsequent shocks will be charged during CPR and ready to shock at the end of the CPR period.

Controls

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

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

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

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

PRIMARY BATTERY

Type: Lithium Manganese Dioxide (Li/MnO2), 12.0V, 4.7 amp-hours.

Capacity (at 20°C): Will provide 166 200 joule 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

Memory Type: Internal digital memory (flash RAM).

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

Communications

Communications: USB Wireless 802.11 b/g/n, or Cellular data transfer to LIFELINKcentral™ AED Program Manager or LIFENET® System.

LIFEPAK AED Response System

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 with LIFELINKcentral AED Program Manager gives users everything they need to effectively respond to an SCA emergency—all while maintaining its own readiness through self-monitoring, making AED program management nearly effortless.

References

1 Graham R, McCoy M, Schultz A. Strategies to Improve Cardiac Arrest Survival, A Time to Act. Institute of Medicine Report, 2015.

2 Christenson J, Andrusiek D, Everson-Stewart S, et al. Chest compression fraction determines survival in patients with out-of-hospital ventricular fibrillation. *Circulation.* 2009;120:1241-1247.

3 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.

4 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.

5 Physio-Control Internal Semi-Automatic AED Comparison Usability Study, August 2016.

If you purchased your LIFEPAK CR2 Defibrillator from an authorized Physio-Control distributor or reseller, this distributor or reseller will have access to your LIFELINKcentral AED Program Manager account and may receive notifications prompted by the LIFEPAK CR2 Defibrillator. Please note that this setting to notify your distributor or reseller can be disabled at ANY time: if you wish to disable this setting, please send a request to Physio-Control Customer Support to self-manage your site without notifications to your distributor or reseller.

To the extent that Physio-Control collects personally identifiable information through the LIFELINKcentral AED Program Manager, such information is collected pursuant to Physio-Control's privacy policy, a copy of which is located here: http://www.physio-control.com/privacy.aspx.

All claims valid as of July 2017.

AED users should be trained in CPR and in the use of the AED. 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 Physio-Control at 800.895.5896 or visit our website at www.physio-control.com

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