



For those who get there first

Philips HeartStart FRx Defibrillator

PHILIPS
sense and simplicity

Anyone, anywhere,



- The current survival rate for sudden cardiac arrest (SCA) is under 7%
- The likelihood of successful resuscitation decreases by about 10% with every minute that passes
- It is estimated an additional 40,000 lives could be saved each year in the U.S. alone with widespread access to AEDs¹

anytime

Power to save a life

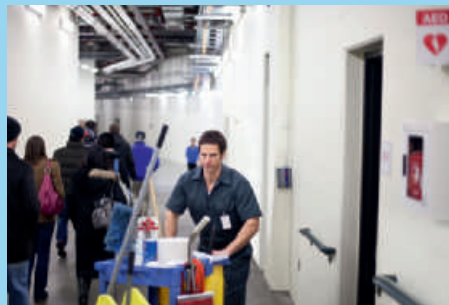
Each year sudden cardiac arrest (SCA) strikes nearly 300,000 people in the US, 700,000 people in Europe, and hundreds of thousands more worldwide. More people die from SCA than from breast cancer, prostate cancer, house fires, handguns, traffic accidents, and AIDS combined.

SCA can happen to anyone, anytime, anywhere and sometimes in extreme conditions. Rely on the Philips HeartStart FRx Defibrillator to be up to the task. In the hands of those who get there first, it provides the power to help save a life.



Coming to the rescue

In many emergency situations, police are often the first to arrive on the scene, and early defibrillation by these first responders has been shown to improve survival.^{2,3}



Taking care of business

Thirteen percent of workplace fatalities reported in 1999 and 2000 were due to cardiac arrest.⁴



Protecting kids, parents and teachers

An estimated 5,000-7,000 children in the U.S. succumb to sudden cardiac arrest annually,⁵ many related to sporting events.

Rugged and reliable



Prescription required.

The Philips FRx Defibrillator features technological advancements to help in treating the most common cause of SCA. It's designed to be easy to set up and use, as well as rugged and reliable for those who get there first. On the scene with law enforcement, on the field with student athletes or on the job with employees, the FRx Defibrillator is the solution for treating SCA in environments and conditions too demanding for other defibrillators.

Bringing innovation to the treatment of cardiac arrest

Preconnected SMART Pads II

SMART Pads II can be used for both adults and children. They eliminate the expense of having to purchase different sets of pads for different patient types. SMART Pads II enable the FRx to keep pace with responders by adjusting to their actions.

Infant/Child key

Simply insert the Infant/Child key into the FRx to signal to the device that you're treating an infant or a child. The defibrillator adjusts to provide special pads placement and CPR instructions. The pads icons also flash to show you the optimized pads placement, and the device reduces the shock energy to a level more appropriate for an infant or a child.

Intuitive

Clean design and clear voice instructions, including CPR coaching, are designed to help instill the confidence that's needed when treating a person in cardiac arrest.

Wireless Data Transfer

Infrared data port for easy transmission to a Smartphone or PC running Event Review software, without cables or hardware compatibility issues.



Proven therapy

At the core of all HeartStart Defibrillators is SMART Biphasic technology. The Philips SMART Biphasic waveform is highly effective, yet minimizes harmful side effects. Its effectiveness is backed by over 40 published, peer-reviewed studies.⁶

SMART Analysis automatically assesses the victim's heart rhythm and is designed not to deliver therapy unless the rhythm is determined to be shockable – even if the Shock button is pressed. And with patented Quick Shock, the FRx is among the fastest in class at delivering a shock after CPR. Studies show that minimizing time to

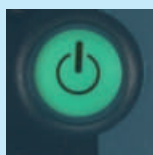
shock after CPR may improve survival.^{7,8,9,10,11}

As American Heart Association Guidelines 2005 note, "Reduction in the interval from compression to shock delivery by even a few seconds can increase the probability of shock success."¹²

Designed for real world use

The Philips HeartStart FRx Defibrillator is exceptionally rugged. Designed to surpass rigorous testing requirements, the FRx withstands jetting water, loads up to 500 pounds, and a one-meter drop onto concrete.

Easy as 1 – 2 – 3 in an emergency



1 Press the green On/Off button, which activates voice instruction and visual icons.



2 Place the pads on the patient as directed.



3 When advised by the device, press the orange Shock button.

Reliability backed by Philips

Every HeartStart FRx goes through a 120-point quality test before it leaves the factory. The HeartStart FRx Defibrillator is powered by an easy-to-install, long-life (four-year) battery, so you know the device is charged and ready. The device's automated daily, weekly, and monthly self-tests check pad readiness, and verify functionality and calibration of circuits and systems. With over 85 tests, the FRx is one of the most comprehensive self-testing devices on the market and is virtually maintenance-free. The blinking green "Ready" light on the defibrillator is your assurance that the device has passed its last self test and therefore is ready for use.

Built on a platform of proven ease-of-use

The HeartStart FRx Defibrillator was designed to be as easy to use as the HeartStart OnSite Defibrillator and shares many of its features, including CPR coaching and intuitive icon-driven operation. Small and lightweight – just 3.5 lbs/1.5 kg – the FRx is equipped to direct you through the resuscitation of a SCA victim.

The HeartStart FRx guides you through every step with clear, calm voice commands and descriptive visual icons. The FRx even reminds you to call emergency medical services (EMS). Pressing the blue i-button activates HeartStart CPR Coaching for assistance with CPR. The flashing icons and the quick reference guide can be used to lead you through the defibrillation steps – even in situations where hearing voice instructions is a challenge.

Once EMS arrives, hand-off is fast and easy because the FRx is compatible with advanced defibrillators like the HeartStart MRx. With HeartStart adapters, our pads can be plugged into devices from other manufacturers to ensure continuity of care.

Designed to be the easiest-to-own AED

Easy to set up

The HeartStart FRx Ready-Pack configuration arrives to you complete and virtually ready to rescue. Just pull the green tab to initiate the FRx self-test, confirming its readiness for use, and put the device right into service. The FRx Ready-Pack comes with the FRx already inside its carry case, pads pre-connected, battery inserted, and a set of spare pads in place. Set-up is easy, and you have the peace of mind of knowing the device is deployed correctly.

Establishing a successful program from the start

As the world leader in automated external defibrillators (AEDs), we're also a leader in providing products and services designed to help you establish and maintain a successful AED program, including SMART Track AED program management, medical direction, access to training providers, and post-event support options.

Our customers agree that with Philips, you're well prepared, even across multiple sites with hundreds or thousands of employees. Philips experts have helped define industry best practices in AED program management, and we support American Heart Association and European Resuscitation Council guidelines for early defibrillation programs.

HeartStart FRx Defibrillator specifications

Defibrillator	
Defibrillator family	Order 861304. Defibrillator, battery, SMART Pads II (1 set), Setup and Maintenance Guides, Owners Manual, Quick Reference Guide, Date sticker
HeartStart FRx Ready-Pack configuration	Order Option R01. Defibrillator, battery, carry case, SMART Pads II (1 pre-connected set, 1 spare set), Setup and Maintenance Guides, Owners Manual, Quick Reference Guide, Date Sticker
Waveform	Truncated Exponential Biphasic. Waveform parameters adjusted as a function of each patient's impedance
Therapy	Adult defibrillation: Peak current 32A (150 J nominal into a 50-ohm load). Pediatric defibrillation with optional FRx Infant/Child key installed: Peak current 19A (50 J nominal into 50-ohm load)
Protocol	Device follows preconfigured settings. Defibrillation and CPR protocol can be customized using HeartStart Event Review software

User interface	
Instructions	Detailed voice prompts and visual icons guide responder through use of the defibrillator
CPR coaching	Voice coaching for adult and infant/child CPR provides instructions and audio cues for the appropriate number, rate and depth of chest compressions, as well as for each breath
Controls	Green On/Off button, blue i-button, orange Shock button, optional Infant/Child key
Indicators	Ready light, blue i-button, caution light, illuminated pads, icons, Shock button lights up when shock is advised

Physical	
Size	2.4" x 7.1" x 8.9" (6 cm x 18 cm x 22 cm) D x H x W
Weight	With battery and pads case: 3.5 lbs. (1.5 kg)

Environmental/physical requirements	
Sealing	Waterjet proof IPX5 per IEC60529 Dust protected IP5X per IEC60529
Temperature	Operating/Standby: 32° - 122° F (0° - 50° C)
Altitude	0 to 15,000 feet
Aircraft	Device: RTCA/DO-160D;1997
Crush	500 pounds
Vibration	Operating: meets MILSTD 810F Fig.514.5C-17, random; Standby: meets MILSTD 810F Fig.514.5C-18, swept sine
EMI (radiated/immunity)	CISPR II Group I Class B, IEC 61000-4-3, and IEC 61000-4-8

Data recording and transmission	
Infrared	Wireless transmission of event data to a Smartphone or PC, using the IrDA protocol
HeartStart Event Review software	Data management software (optional) for download and review of data retrieved through defibrillator's infrared data port
Data stored	First 15 minutes of ECG and the entire incident's events and analysis decisions

* Refer to the HeartStart FRx Defibrillator Owner's Manual for detailed product instructions.
All specifications based on 25° C unless otherwise noted. The defibrillator and its accessories are made of latex-free materials.

Patient analysis system	
Patient analysis	Evaluates patient ECG to determine if a rhythm is shockable. Rhythms considered shockable are ventricular fibrillation (VF) and certain ventricular tachycardias (VT) associated with lack of circulation. For safety reasons, some VT rhythms associated with circulation will not be interpreted as shockable, and some very low-amplitude or low-frequency rhythms will not be interpreted as shockable VF
Sensitivity/specificity	Meets AAMI DF80 guidelines and AHA recommendations for adult defibrillation
Shock advised	Able to deliver a shock as soon as the device indicates a shock is advised
Quick Shock	Able to deliver a shock after the end of a CPR interval, typically in 8 seconds
Shock-to-Shock cycle time	Typically less than 20 seconds between shocks in a series
Artifact detection	Allows accurate ECG analysis even in the presence of most pacemaker artifact and electrical noise sources. Other artifacts are detected and corrective voice prompts issued

Battery (M5070A)	
Item number(s)	Standard: M5070A Aviation:989803139301 (TSO C-142-U.S. only)
Type	9 Volt DC, 4.2 Ah, lithium manganese dioxide, disposable long-life primary cell
Capacity	Minimum 200 shocks or 4 hours of operating time (EN 60601-2-4:2003)
Install-by date	Battery is labeled with an install-by date of at least 5 years from date of manufacture
Standby life	Four years typical when battery is installed by the install-by date. (Will power the AED in standby state within the specified standby temperature range, assuming 1 battery insertion test and no defibrillation uses)

SMART Pads II	
Item number	989803139261
Active surface area	12.4"² (80 cm²) each 13.2"² (85 cm²) each
Cable length	48" (121.9 cm)
Use-by date	Pads case is labeled with a use-by date of at least 2 years from date of manufacture
Infant/Child Key	Item # 989803139311

Training Pads II	
Item number	989803139271
Function	Special pads place HeartStart FRx into training mode and disable its energy delivery capability. Features eight real-world training scenarios

Automated and user-activated self-tests	
Daily automatic self-tests	Tests internal circuitry, waveform delivery system, pads, and battery capacity
Pads integrity test	Specifically tests readiness-for-use of pads (gel moisture)
Battery insertion test	Upon battery insertion, extensive automatic self-tests and user-interactive test check device readiness
Status indicators	Blinking green "Ready" light indicates ready for use. Audible "chirp" indicates need for maintenance

**Philips Healthcare is part of
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How to reach us

www.philips.com/healthcare
healthcare@philips.com

Asia
+49 7031 463 2254

Europe, Middle East, Africa
+49 7031 463 2254

Latin America
+55 11 2125 0744

North America
+1 425 487 7000
800 285 5585 (toll free, US only)

HeartStart Defibrillators
+1 978 659 3332
800 263 3342 (toll free, US only)

Philips is a Global 500 company and one of the world's largest medical products companies.

Philips has shipped nearly three-quarters of a million AED units.

Philips HeartStart defibrillators are deployed on airlines and in airports, workplaces, schools, healthcare facilities, and communities worldwide.

1. About Sudden Death and Cardiac Arrest. American Heart Association. Available at: <http://www.americanheart.org/presenter.jhtml?identifier=604>. Accessed July 28, 2010.
2. White RD, Asplin BR, Bugliosi TF, Hankins DG. High discharge survival rate after out-of-hospital ventricular fibrillation with rapid defibrillation by police and paramedics. *Ann Emerg Med.* 1996;28:480-5.
3. Mosesso VN Jr, Davis EA, Auble TE, Paris PM, Yealy DM. Use of automated external defibrillators by police officers for treatment of out-of-hospital cardiac arrest. *Ann Emerg Med.* 1998;32:200-7.
4. Occupational Safety & Health Administration (OSHA). www.osha.gov/dts/tib/tib_data/tib20011217.pdf.
5. Berger S, Dhaka A, Friedberg DZ. Sudden Cardiac Death in Infants, Children and Adolescents. *Pediatric Clinics of North America.* Apr. 1999; 46 (2):221.
6. Philips Medical Systems. SMART Biphasic Studies, listed alphabetically by study author: http://www.healthcare.philips.com/au_en/products/resuscitation/biphasic_technology/references.wpd
7. Yu et al. Adverse Outcomes of Interrupted Precordial Compression During Automated Defibrillation. *Circulation.* 2002;106:368-372.
8. Eftesol T, Sunde K, Steen PA. Effects of Interrupting Precordial Compressions in the Calculated Probability of Defibrillation Success During Out-of-Hospital Cardiac Arrest. *Circulation.* 2002;105:2270-2273.
9. Snyder et al. Biphasic Defibrillation Waveform Combined with AED-Imposed "Hands-Off" Intervals Significantly Affect Outcome Following Prolonged Cardiac Arrest. Abstract from 7th Scientific Congress of the European Council. 2004.
10. Snyder & Morgan. CPR Interruption Interval Varies Widely Among Commercially Available AEDs. Abstract from 7th Scientific Congress of the European Council, 2004.
11. Snyder, D.E. and Morgan, C. Wide Variations in Cardiopulmonary Resuscitation Intervals Among Commercially Available Automated External Defibrillators May Affect Survival Despite High Defibrillation Efficacy. *Critical Care Medicine.* 2004;32(9) Supplement:S421-S424.
12. American Heart Association. 2005 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. *Circulation.* 2005. 112:IV-36.

Please visit www.philips.com/FRx for more information



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