



# For those who get there first

Philips HeartStart FRx Defibrillator  
Product information

*Updated for Guidelines 2005*

**PHILIPS**

# Sudden cardiac anyone, anytime,



- The current U.S. survival rate for SCA is less than 5%.
- The likelihood of successful resuscitation decreases by about 10% with every minute that passes.
- An additional 40,000 lives could be saved each year in the U.S. alone with widespread access to defibrillators.

# arrest can happen to anywhere.

## Power to save a life

Sudden cardiac arrest (SCA) is one of the leading causes of death in the United States, striking more than 340,000 victims each year, and hundreds of thousands more worldwide.<sup>1,2,3</sup> More people die from SCA than from breast cancer, prostate cancer, house fires, hand guns, 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 save a life.



### **Coming to the rescue**

*Often first on the scene of an emergency, police forces equipped with AEDs can cut defibrillator response time to SCA victims by three minutes.<sup>4</sup>*



### **Taking care of business**

*Thirteen percent of workplace fatalities reported in 1999 and 2000 were due to cardiac arrest.<sup>5</sup>*



### **Protecting kids, parents and teachers**

*An estimated 5,000-7,000 children in the U.S. succumb to sudden cardiac arrest annually,<sup>6</sup> many related to sporting events.*

# The Philips HeartStart FRx Defibrillator



For more than a century, Philips has pioneered technology that makes life better. Today, we're taking this commitment one step further, creating products that not only enhance life, but also preserve it. The Philips FRx Defibrillator is the newest member of the HeartStart family of defibrillators designed with new technological advancements to help in treating the most common cause of SCA.

The Philips HeartStart FRx Defibrillator is designed to be easy to use, 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 from ventricular fibrillation in environments and conditions too demanding for many other defibrillators.

The HeartStart FRx Defibrillator carries innovation in its genes. Building on the successes of the other members of the HeartStart family of defibrillators, the FRx brings innovations to the treatment of SCA.

# The HeartStart FRx Defibrillator brings innovations to the treatment of SCA

## Preconnected SMART Pads II

Pads for all patients. Save valuable time in an emergency with preconnected pads for use on adults and children. SMART Pads II eliminate the expense of having to purchase different pads sets for different patient types. What's more, SMART Pads II enable the FRx to keep pace with responders by adjusting to their actions.

## Wireless Data Transfer

The FRx provides a mobile, wireless solution for data management using the Palm® handheld platform. It features an infrared data port for easy transmission of information without cables or hardwire compatibility issues.

## 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 appropriate pads placement and the device reduces the shock energy to a level more appropriate for an infant or a child (less than 55 pounds or 8 years of age).

## CPR Coaching

The HeartStart FRx offers the industry's first and only CPR Coaching feature for use on adults and children. CPR Coaching reminds the responder of CPR basics through detailed voice instructions.



## Proven therapy

At the core of all HeartStart Defibrillators is SMART Biphasic technology. The HeartStart FRx Defibrillator's biphasic waveform delivers a highly effective defibrillation shock that is also gentle to the heart. No other external defibrillation therapy has been supported by more published clinical data.<sup>7</sup>

SMART Analysis, a proven Philips technology for heart rhythm assessment, ensures that the FRx Defibrillator only shocks when it should. SMART Analysis automatically assesses the victim's heart rhythm and is designed not to deliver a shock unless the rhythm is determined to be shockable – even if the Shock button is pressed.

And with patented Quick Shock, the FRx is fastest in class at delivering a shock after CPR. Studies show that minimizing time to shock after CPR may improve survival. As American Heart Association Guidelines 2005 notes, "Reduction in the interval from compression to shock delivery by even a few seconds can increase the probability of shock success."<sup>8</sup>

## 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.



**2** Place the pads on the patient as directed.



**3** When instructed by the device, press the orange Shock button.

### **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. Although small and lightweight – just 3.5 pounds – 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.

## Providing a complete, reliable solution

### **Reliability backed by Philips**

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 the pads 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 is ready for use.

### **Philips HeartStart Essentials — The key to a successful early defibrillation program**

Philips helps implement a comprehensive program with most everything you and your Medical Director will need to help save a life from sudden cardiac arrest. We'll get you started with pre-implementation consulting and site assessments. We can manage your everyday needs including medical direction from a licensed physician, web-based program management, data management software, and responder and instructor training. Philips offers ongoing support with a five-year warranty, optional extended warranty and continued customer support from supplies ordering to technical assistance.

# Product specifications

<b>Defibrillator</b>		<b>Battery</b>	
Model	HeartStart FRx Defibrillator	Item Number(s)	Standard: M5070A Aviation: 989803139301 (TSO C-142-U.S. only)
Model Number	861304	Type	9 Volt DC, 4.2Ah, lithium manganese dioxide, disposable long-life primary cell.
How Supplied	Defibrillator, battery (1), SMART Pads II (1 set), Owner's Manual, Quick Reference Guide	Capacity	Minimum 200 shocks or 4 hours of operating time (EN 60601-2-4:2003).
Waveform	Truncated Exponential Biphasic. Waveform parameters adjusted as a function of each patient's impedance.	Install-by Date	Battery is labeled with an install-by date of at least five years from date of manufacture.
Energy	Single energy output: Adult: nominal 150 Joules into a 50-ohm load Infant/Child: nominal 50 Joules into a 50-ohm load	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 one battery insertion test and no uses.)
Protocol	Device follows preconfigured settings. Defibrillation and CPR protocol can be customized using HeartStart Event Review or HeartStart Configure software.	<b>SMART Pads II</b>	
<b>User Interface</b>		Item Number	989803139261
Instructions	Detailed voice prompts and visual icons guide responder through use of the defibrillator.	How Supplied	Disposable pads case containing adhesive multifunction defibrillator pads. HeartStart plug style connector clicks into device for reconnected pads solution.
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.	Active Surface Area	12.4 in2 (80 cm2) each
Controls	Green On/Off button, blue i-button, orange Shock button, optional Infant/Child key	Cable Length	48 inches (121.9 cm)
Indicators	Ready light, blue i-button, caution light, illuminated pads, icons, Shock button lights up when shock is advised.	Use-by Date	Pads case is labeled with a use-by date of at least two years from date of manufacture.
<b>Physical</b>		Infant/Child Key Item Number	989803139311
Size	2.4 x 7.1 x 8.9 inches (6 x 18 x 22 cm) H x D x W	<b>Training Pads II</b>	
Weight	With battery and pads case: 3.5 lbs. (1.5 kg) Without battery or pads case: 2.6 lbs. (1.2 kg)	Item Number	989803139271
<b>Environmental</b>		Function	Special pads place HeartStart FRx into training mode and disable its energy delivery capability. Features 8 real-world training scenarios.
Sealing	Waterjet proof IPX5 per IEC60529 Dust protected IP5X per IEC60529	<b>Automated and User-activated Self-tests</b>	
Temperature	Operating/Standby: 32° - 122° F (0° - 50° C)	Daily Automatic Self-tests	Tests internal circuitry, waveform delivery system, pads and battery capacity.
Altitude	0 to 15,000 feet	Pads Integrity Test	Specifically tests readiness-for-use of pads (gel moisture).
Aircraft	Device: RTCA/DO-160D; 1997	Battery Insertion Test	Upon battery insertion, extensive automatic self-tests and user-interactive test check device readiness.
Crush	500 pounds	Status Indicator	Blinking green "Ready" light indicates ready for use.
Vibration	Operating: meets MILSTD 810F Fig. 514.5C-17, random; Standby: meets MILSTD 810F Fig. 514.5C-18, swept sine.	<b>Data Recording and Transmission</b>	
EMI (Radiated/Immunity)	CISPR II Group I Class B, IEC 61000-4-3, and IEC 61000-4-8	Infrared	Wireless transmission of event data to a PC or Palm® PDA, using the IrDA protocol.
<b>Patient Analysis System</b>		HeartStart Event Review Software	Data management software (optional) for download and review of data retrieved through defibrillator's infrared data port.
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.	Data Stored	Stores first 15 minutes of ECG and the entire incident's events and analysis decisions.
Sensitivity/Specificity	Meets AAMI DF80 guidelines and AHA recommendations for adult defibrillation (Circulation 1997;95:1677-1682).	* 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.	
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 eight seconds.		
Shock-to-Shock Cycle Time	Typically less than 20 seconds between shocks in a series.		
Artifact Detection	Advanced signal processing 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.		

**Philips Medical Systems is part of  
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Would you like to know more about our innovative products? Please do not hesitate to contact us. We would be glad to hear from you.

**On the web**

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**Philips—The trusted choice**

- A Fortune Global 500 company, Philips is one of the world's largest medical products companies with annual revenue of over \$7 billion.
- With over 350,000 automated external defibrillators installed, Philips is the leader in public access defibrillation.<sup>9</sup>
- Over 7 billion HeartStart Defibrillator service hours have been logged, with an additional 7 million added every day.
- Over 17% of Fortune 1000 companies, 8 out of 10 major airlines, and 43 professional sports teams rely on Philips HeartStart Defibrillators.

To learn more about the HeartStart FRx Defibrillator and Philips Medical Systems, visit [www.philips.com/heartstart](http://www.philips.com/heartstart) or call : 1-800-453-6860.

Palm is a registered trademark owned by Palm, Inc.

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