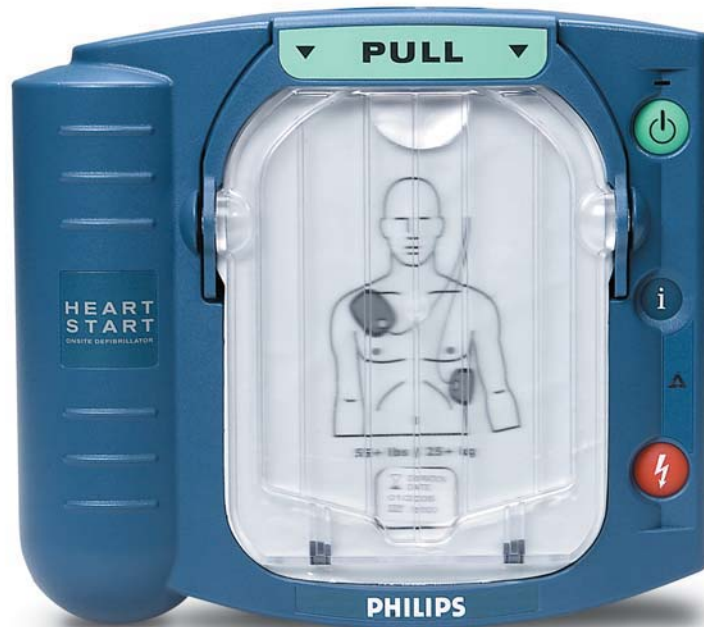


# HEARTSTART ON-SITE DEFIBRILLATOR



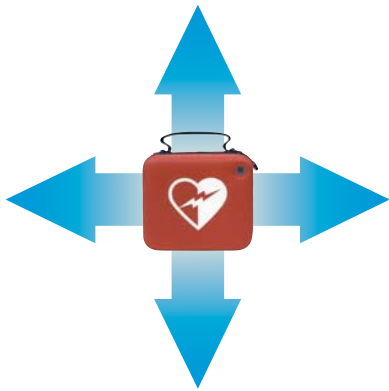
**For the Ordinary Person in the Extraordinary Moment.**



Each year sudden cardiac arrest (SCA) strikes approximately a quarter-million people in the U.S. alone. The majority of these people have no warning, since they show no prior symptoms. And, sadly, fewer than 5% survive, often because emergency medical services cannot reach them in time.

When sudden cardiac arrest strikes, the electrical system of the heart short-circuits, most often causing an abnormal rhythm known as ventricular fibrillation. Lacking proper blood flow, the person loses consciousness, stops breathing, and will die unless promptly treated. CPR (cardiopulmonary resuscitation) can help a person in cardiac arrest, but it alone cannot save lives. A "shock" from a defibrillator – defibrillation therapy – is needed to restore the heart's normal pumping rhythm. A victim's best chance of surviving SCA is to receive that shock within 5 minutes of collapse.





**The American Heart Association estimates that an additional 40,000 lives could be saved each year with widespread access to defibrillators.**

### **The Movement to Save More Lives**

Over the last 20 years, there has been a widespread effort to move defibrillators into communities where they can be accessed and used by trained citizens, who might be present at the onset of SCA or first on the scene. To that end, Philips produces easy-to-use automated external defibrillators. Our HeartStart defibrillators enable almost anybody to treat SCA quickly and effectively, wherever it happens — at work, at play, in the air — providing the power to save a life.

### **The HeartStart OnSite Defibrillator**

Philips, the leader in defibrillation technology,\* designed the HeartStart OnSite Defibrillator for the ordinary person in the extraordinary moment. Our innovative technology, based on extensive research and user feedback, has produced a defibrillator so easy to use that, with minimal training, you can potentially save the life of a co-worker, friend, or anyone else stricken with sudden cardiac arrest.

Weighing just 3.3 lbs., this small and lightweight defibrillator can be easily carried to the patient's side. Using clear, natural voice instructions, the OnSite Defibrillator guides you, the first caregiver on the scene, through each step of defibrillation and CPR. Integrated SMART Pads placed on the patient's bare skin transmit information to the defibrillator, which senses and adapts to your actions every step of the way.

HeartStart OnSite includes proven Philips technologies for heart rhythm assessment (SMART Analysis) and defibrillation energy delivery (SMART Biphasic). And like all HeartStart defibrillators, it can be used to treat infants, children and adults.

### **Ready When Needed**

HeartStart Onsite is powered by a simple, safe, long-life (four-year) battery, the same technology used in cameras. Just click the battery in place, and the defibrillator is standing by, ready for use.

Between uses, the defibrillator performs daily, weekly, and monthly self-tests of its electrical components, subsystems, and battery to help ensure continued reliability and readiness. A pads integrity test, which checks daily that the cartridge is properly installed and that the defibrillator pads are in working order, provides an additional level of assurance.

As long as the green "Ready" light on the defibrillator is blinking, you can be certain the HeartStart OnSite is ready for use. If any part of the defibrillator needs attention, the "Ready" light turns off and the defibrillator "chirps" to alert you. Pressing the flashing blue "Information" button provides verbal guidance to help you identify and correct the situation.

\*Frost & Sullivan

HeartStart OnSite Defibrillator is designed to enable you to help save a life in extraordinary circumstances.



- ▶ **Lightweight:** Fully equipped at just 3.3 pounds.
- ▶ **Intuitive:** Clean design and clear voice instructions instill the confidence that's needed when administering therapy to a person in cardiac arrest.
- ▶ **Ever-Ready:** Powered by a long-life (4-year) disposable battery. Automated tests help ensure readiness.
- ▶ **Versatile:** Available for use on anyone of any age, including children and infants.
- ▶ **Effective:** Patented SMART Analysis heart rhythm assessment and SMART Biphasic defibrillation therapy, clinically proven in nearly 10 years of use. No other biphasic waveform is as well documented.

## Easy To Use

Using the HeartStart OnSite Defibrillator is simple. Pulling the green handle powers-up the defibrillator and activates voice instructions. These instructions are paced to your actions, to help guide you through the entire process, from placing pads on the patient to delivering a defibrillation shock.

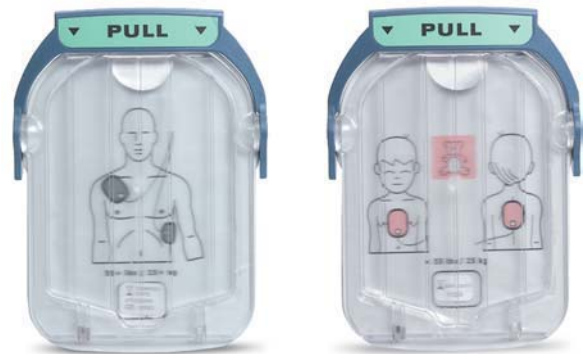
HeartStart OnSite determines if a shock is needed, based on its automated assessment of the victim's heart rhythm:

- ▶ If a shock is needed, the defibrillator directs you to press the flashing orange "Shock" button. Then, HeartStart OnSite delivers a dose of low-energy biphasic therapy, a highly effective defibrillation waveform that is also gentle to the heart.
- ▶ If a shock is not needed, the OnSite Defibrillator instructs you to assess the patient and to perform CPR when necessary. While performing CPR, the defibrillator's voice instructions can be activated to coach you on the frequency and depth of compressions.

HeartStart OnSite also reminds you to call emergency medical services (EMS). And, should EMS need a summary of care, it can be retrieved from the defibrillator's internal memory. An EMS provider simply presses the "i-button" and HeartStart Onsite verbally recounts events from its last clinical use.

## Replaceable SMART Pads Cartridges

The cartridge contains two adhesive pads that are peeled and placed on the patient's bare skin as indicated by the pictures on the pads. The pads are "smart" because they can sense that they have been removed from the cartridge and applied to the patient.



HeartStart OnSite can be used on patients of any age. Special Infant/Child SMART Pads reduce the defibrillator's shock energy, so that you can treat an infant or child suffering sudden cardiac arrest. The Infant/Child Pads cartridge is marked with an indication of the appropriate weight and with a teddy bear icon for ready identification.

To practice your skills, a special training pads cartridge (adult or infant/child) can be installed in the defibrillator. It suspends the defibrillator's ability to shock, while walking you through patient care scenarios.

## DEFIBRILLATOR

<b>Defibrillator Model</b>	HeartStart M5066A
<b>Defibrillator Family</b>	HS1
<b>How Supplied</b>	Defibrillator, Instructions for Use, battery, adult SMART Pads cartridge (2), Quick Reference
<b>Waveform</b>	Truncated Exponential Biphasic. Waveform parameters adjusted as a function of each patient's impedance.
<b>Energy</b>	Single energy output. Adult: nominal 150 Joules into a 50 ohm load. Infant/Child: nominal 50 Joules into a 50 ohm load. Automatically set based on type of SMART Pads cartridge installed.
<b>Shock-to-Shock Cycle Time</b>	Typically less than 20 seconds.
<b>Protocol</b>	Voice prompts and indicators guide user through protocol. Follows preconfigured settings. Can be modified with HeartStart Event Review software.
<b>Voice Instructions</b>	Detailed voice messages guide responder through use of the defibrillator.
<b>CPR Voice Coaching</b>	Voice instructions in adult and infant/child CPR available at user's option.
<b>Shock Delivery</b>	Via adhesive pads placed on patient's bare skin as illustrated on pads.
<b>Controls</b>	Green SMART Pads cartridge handle, Green On/Off button, Blue i-button, Orange shock button.
<b>Indicators</b>	Ready light; Blue i-button; Caution light.

## PHYSICAL

<b>Size</b>	
<b>Height</b>	2.8" (7 cm)
<b>Width</b>	8.3" (21 cm)
<b>Depth</b>	7.4" (19 cm)
<b>Weight</b>	
<b>With battery and pads cartridge</b>	3.3 lbs. (1.5 kg)
<b>Without battery or pads cartridge</b>	2.4 lbs. (1 kg)

## ENVIRONMENTAL/PHYSICAL REQUIREMENTS

<b>Sealing</b>	Drip proof per EN60529 class IPX1. Solid Objects per EN60529 class IP2X.
<b>Temperature</b>	Operating: 32° - 122° F (0° - 50° C) Standby: 50° - 109° F (10° - 43° C)
<b>Humidity</b>	Operating: 0% to 95% relative, non-condensing Standby: 0% to 75% relative, non-condensing
<b>Altitude</b>	Operating: 0 to 15,000 feet Standby: 0 to 8,500 feet >48 hours and 8,500 to 15,000 feet <48 hours
<b>Shock/Drop Abuse</b>	Withstands 1 meter drop to any edge, corner or surface.
<b>Vibration</b>	Meets EN1789 random and swept sine, road ambulance specification in operating and standby states.
<b>EMI (Radiated/Immunity)</b>	Meets EN55011 Group 1 Level B Class B and EN61000-4-3.

## PATIENT ANALYSIS SYSTEM

<b>Patient Analysis</b>	Evaluates patient ECG and signal quality to determine if a shock is appropriate, and evaluates connection impedance for proper defibrillation pad contact.
<b>Sensitivity/Specificity</b>	Meets AAMI DF39 guidelines and AHA recommendations for adult defibrillation ( <i>Circulation</i> 1997;95:1677-1682).
<b>Artifact Detection</b>	The effects of pacemaker artifact and electrical noise are minimized with artifact detection.

## BATTERY (M5070A)

<b>Type</b>	9 Volt DC, 4.2 Ah, lithium manganese dioxide, disposable long-life primary cell.
<b>Capacity</b>	Minimum 90 shocks or 3 hours of operating time.
<b>Install-By Date</b>	Battery is labeled with an install-by date of at least five years from date of manufacture.
<b>Standby Life</b>	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 defibrillation uses.)

## SMART PADS

<b>Adult SMART Pads Cartridge</b>	M5071A defibrillation pads for patients 8 years of age and older or 55 lbs. (25 kg) and over.
<b>Infant/Child SMART Pads Cartridge</b>	M5072A defibrillation pads for patients under 8 years of age or 55 lbs. (25 kg).
<b>Energy Delivered</b>	Adult: nominal 150 Joules into a 50 ohm load. Infant/Child: nominal 50 Joules into a 50 ohm load.
<b>How Supplied</b>	Disposable cartridge, containing adhesive defibrillation pads, clicks into defibrillator for an integrated pads solution.
<b>Active Surface Area</b>	13.2 in <sup>2</sup> (85 cm <sup>2</sup> ) each
<b>Cable Length</b>	Adult pads: 54 inch (137.1 cm) Infant/Child pads: 40 inch (101.6 cm)
<b>Use-By Date</b>	Cartridge is labeled with a use-by date of at least two years from date of manufacture.

## TRAINING PADS

<b>Adult Training Pads Cartridge</b>	M5073A
<b>Infant/Child Training Pads Cartridge</b>	M5074A
<b>Function</b>	Special pads place HeartStart OnSite into training mode and disable its energy delivery capability. Feature 8 real-world training scripts.

## AUTOMATED AND USER-ACTIVATED SELF-TESTS

<b>Daily Automatic Self-tests</b>	Tests internal circuitry, waveform delivery system, pads cartridge and battery capacity.
<b>Pads Integrity Test</b>	Specifically tests readiness-for-use of pads (gel moisture).
<b>Battery Insertion Test</b>	Upon battery insertion, extensive automatic self-tests and user-interactive test check device readiness.
<b>Status Indicator</b>	Blinking green Ready light indicates ready for use.

## DATA RECORDING AND TRANSMISSION

<b>Infrared</b>	Wireless transmission of event data to personal computer using the IrDA protocol.
<b>HeartStart Event Review Software</b>	Data management software (optional) for download and review of data retrieved through defibrillator's infrared data port.
<b>Data Stored</b>	First 15 minutes of ECG and the entire incident's events and analysis decisions.

\* Refer to HeartStart OnSite Defibrillator Instructions for Use for detailed product instructions. All specifications based on 25° C unless otherwise noted. The defibrillator and its accessories are made of latex-free materials.