



For those who get there first

Philips HeartStart FRx Defibrillator

The Philips HeartStart FRx Defibrillator is 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 treats sudden cardiac arrest (SCA) in environments and conditions too demanding for other defibrillators.

The HeartStart FRx Defibrillator is designed to be:

- **Easy to set up.** The HeartStart FRx Ready-Pack configuration is delivered to you complete and virtually ready to rescue. It arrives with the FRx already inside its carry case, pads pre-connected, battery inserted, and a set of spare pads in place.
- **Easy to use.** Built on a platform of proven ease-of-use, the FRx features CPR coaching and intuitive icon-driven operation. Calm, clear voice instructions are tailored to the responder's actions, providing guidance during the resuscitation of an SCA victim.
- **Rugged.** Designed for real-world use, the FRx was built to surpass rigorous testing requirements: jetting water, loads up to 500 pounds, and a one-meter drop onto concrete.
- **Reliable.** The HeartStart FRx Defibrillator is powered by a long-life (four-year) battery. The device conducts automated daily, weekly, and monthly self-tests including pads readiness. Audible and visual cues for helping assure FRx readiness, including the blinking green "Ready" light.
- **Safe.** The HeartStart FRx is designed to deliver therapy only if the patient's heart rhythm is shockable. Additionally, the Philips SMART Biphasic waveform is highly effective, yet minimizes harmful side effects. Its effectiveness is backed by over 40 published, peer-reviewed studies.¹
- **Bringing innovation to the treatment of SCA**
- **Preconnected SMART Pads II.** Save valuable time in an emergency with preconnected pads that can be used on adults and children. SMART Pads II eliminate the expense of having to purchase different sets of pads for different patient types.
- **Infant/Child key.** Simply insert the Infant/Child key into the FRx to signal to the device that you're treating an infant or child. The defibrillator adjusts to provide special pediatric pads placement and CPR instructions, and reduces the shock energy to a more appropriate level.
- **Wireless data transfer.** The FRx provides a mobile, wireless solution for data management with a Smartphone or PC. It features an infrared data port for easy transmission of information without cables or hardware compatibility issues.

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HeartStart FRx Defibrillator specifications

Defibrillator	
Defibrillator family	FRx. Order 861304
Standard configuration	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
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 (Circulation 1997;95:1677-1682)
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	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

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	989803139311

Training Pads II

Item number	989803139271
Function	Training pads place HeartStart FRx into training mode and suspend its energy delivery capability. Features 8 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

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. Prescription required. All specifications based on 25° C unless otherwise noted. The defibrillator and its accessories are made of latex-free materials.

1. Philips Medical Systems. SMART Biphasic Studies, listed alphabetically by study author: http://www.healthcare.philips.com/au_en/products/resuscitation/biphasic_technology/references.wpd



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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

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



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