

**PHILIPS**

Automated  
External Defibrillator

HeartStart FRx



Side by side. Step by step.  
**Philips HeartStart FRx**



# To help save a life

For basic life support (BLS) trained responders, there's nothing more important than saving lives. When the need arises, it is important to quickly and confidently assess many unknowns:

What is the patient's condition?

What is the terrain like?

What is the treatment protocol?

It is crucial that AEDs be close at hand, ready to go, designed to be easy to use, lightweight and rugged.





More than half the victims of the most common cause of sudden cardiac arrest **can survive when treated within 3-5 minutes** of collapse with CPR and shock from a defibrillator.<sup>1</sup>

### The HeartStart FRx defibrillator

- Is lightweight, rugged and reliable
- Includes features to help guide the treatment of sudden cardiac arrest with easy setup, real-time metronome and clear, step-by-step voice commands paced to your actions
- Provides CPR instructions for infants and children under 25 kg or 55 lbs or 8 years old, and adults and children over 25 kg or 55 lbs or greater than 8 years old
- Has an optional Infant/Child Key; simply insert it and the defibrillator adjusts instruction and therapy eliminating the need for additional infant/child pads
- Includes pre-connected SMART Pads II that can be used for both adults and children; SMART Analysis automatically assesses heart rhythm and only delivers a shock if the victim's rhythm is determined to be treatable by the Philips advanced algorithm, even if the Shock button is pressed
- Has Patented Quick Shock feature that allows the FRx to typically deliver a shock within 8 seconds after CPR<sup>2</sup>
- Performs a series of automatic self-tests, daily, weekly, and monthly to check pad readiness and verify functionality and calibration of circuits and systems

1. Koster RW, Baubin MA, Bossaert LL, et al. European Resuscitation Council Guidelines for Resuscitation 2010: Section 2. Adult basic life support and use of automated external defibrillators. *Resuscitation*. 2010;81(10):1277-1292.

2. Nichol, G., Sayre, M. R., Guerra, F., & Poole, J. (2017). Defibrillation for Ventricular Fibrillation: A Shocking Update. *Journal American College of Cardiology*, 70(12), 1496-1509. doi:10.1016/j.jacc.2017.07.778

# Expert guidance. Intuitive support.



**The FRx defibrillator makes training easy.** Simply insert the Training Pads II (available separately) to temporarily disable the FRx's energy delivery capability and switch into training mode. Eight realistic sudden cardiac arrest scenarios are designed to keep you and your team confident and prepared when the moment arises.





### **Designed to work where you need it**

Lightweight, rugged and reliable, the Philips HeartStart FRx defibrillator can withstand rough handling, extreme temperatures, and dusty or wet surfaces. Designed for use in harsh settings, it can withstand up to 500 kg (1,100 lbs) and drops from 1.2 m (4 ft).

### **Patented technology. Proven therapy.**

Real-time, step-by-step voice commands paced to your actions, and an audible metronome and CPR guidance assist the responder. When treating an infant or child, simply insert the optional infant/child key and the FRx adjusts instructions and therapy.



### **Ease of use**

Pre-connected SMART Pads II can be used for both adults and children. Once installed and activated, the FRx is easy to maintain. It performs a series of automatic self-tests, daily, weekly, and monthly to check pad readiness and verify functionality and calibration of circuits and systems. It can last up to four years between battery replacements.



# Easy as 1-2-3



**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.



# HeartStart FRx defibrillator specifications

## Defibrillator

Defibrillator family	Model Number 861304. Includes defibrillator, battery, SMART Pads II (1 set), Setup and Maintenance Guides, Owner's Manual, Quick Reference Guide, date sticker
HeartStart FRx Ready-Pack configuration	Order Option R01. Includes defibrillator, battery, carry case, SMART Pads II (1 pre-connected set, 1 spare set), Setup and Maintenance Guides, Owner's Manual, Quick Reference Guide, date sticker
Waveform	Biphasic truncated exponential. Waveform parameters are automatically adjusted as a function of patient defibrillation impedance
Therapy	Adult defibrillation: nominal peak current 32 A (150 J nominal into a 50-ohm load) Pediatric defibrillation with optional FRx Infant/Child Key installed: nominal peak current 19 A (50 J nominal into 50-ohm load)
Protocol	Device follows preconfigured settings; defibrillation and CPR protocol can be customized using HeartStart Event Review Pro software

## User interface

Instructions	Detailed voice prompts and visual icons guide responder through use of the defibrillator
CPR guidance	Verbal instructions 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-lit i-button, orange Shock button, optional Infant/Child Key
Indicators	Ready light, blue-lit i-button, caution light, illuminated pads, icons; Shock button lights up when shock is advised

## Physical

Size	18 cm x 6 cm x 22 cm (7.1" x 2.4" x 8.8") H x D x W
Weight	Approximately 3.5 lbs (1.6 kg) with battery and pads installed

## Environmental/physical requirements

Sealing	Waterjet-proof IPX5 per IEC60529 Dust-protected IP5X per IEC60529
Temperature	Operating/Standby: 32° – 122° F (0° – 50° C) Transient operating (for 20 minutes or less, after rapid transition from 68° F [20° C]): -4° to 122° F (-20 to 50° C); under non-condensing humidity conditions.
Altitude	-400 to 4572 m (-1312 to 15,000 ft)
Aircraft	Meets RTCA/DO-160 Section 21 (Category M - Radiated Emissions) and Section 20 (Category M - Conducted Immunity, and Category D - Radiated Immunity).
Crush	500 kg (1100 lbs)
Drop	Withstands 1.22 m (4 ft) drop on any edge, corner, or face of the device onto masonry surface.
Vibration	Operating: meets MILSTD 810G Fig. 5146E-1, random. Standby: meets MILSTD 810G Fig. 5146E-2, swept sine (helicopter).
EMI (radiated/immunity)	Meets CISPR 11 Group 1 Class B and IEC 61000-4-3

## Data recording and transmission

Infrared	Wireless transmission of event data to a PC using the IrDA protocol
HeartStart Event Review Pro 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

## 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 last chest compression 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 ECG analysis even in the presence of most pacemaker artifact and electrical noise sources; other artifacts are detected and corrective voice prompts issued

## Battery

Item number(s)	Standard: M5070A Aviation: 989803139301 (TSO-C142, U.S. only)
Type	9 Volt DC, 4.2 Ah, lithium manganese dioxide, disposable long-life primary cell
Capacity	When new, a minimum of 200 shocks or 4 hours of operating time at 77° F (25° C)
Install-by date	Battery is labeled with an install-by date of at least five years from date of manufacture
Standby life	Typically, 4 years when stored and maintained according to directions provided in the Instructions for Use

## SMART Pads II

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

## Training SMART 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

\* 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.



