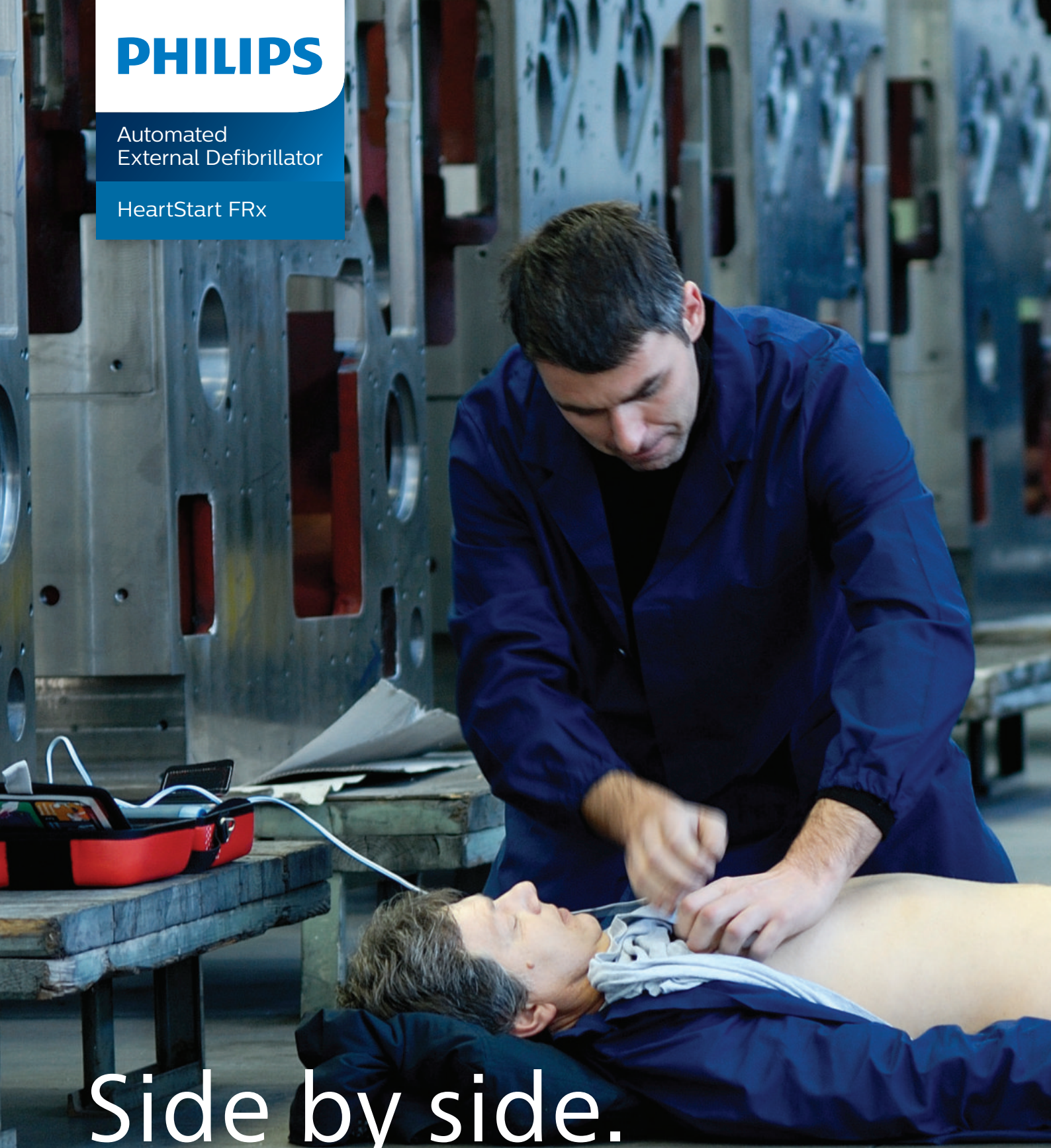
PHILIPS

Automated
External Defibrillator

HeartStart FRx



Side by side. Step by step.

Philips HeartStart FRx AED

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 environment 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 (SCA) **can survive when treated within 3-5 minutes** of collapse with CPR and shock from a defibrillator.[1]

The Philips HeartStart FRx AED

- Is lightweight, rugged and reliable
- Includes features to help guide the treatment of SCA 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 (55 lb) or 0-8 years old, and adults and children over 25 kg (55 lb) 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 eight seconds after CPR[2]
- Performs a series of automatic self-tests daily, weekly and monthly to check pad readiness and verify functionality and calibration of circuits and systems

Expert guidance. Intuitive support.

The FRx 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 SCA scenarios are designed to keep you and your team confident and prepared when the moment arises.

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.

Designed to work where you need it.
Lightweight, rugged and reliable, the FRx 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 lb) 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.

HeartStart FRx AED 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
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 provide 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 x 6 x 22 cm (7.1 x 2.4 x 8.8 in) H x D x W
Weight	Approximately 1.6 kg (3.5 lb) with battery and pads installed

Environmental/physical requirements

Sealing	Waterjet-proof IPX5 per IEC60529 Dust-protected IP5X per IEC60529
Temperature	**Operating/Standby:** 0° – 50° C (32° – 122° F) **Transient operating (for 20 minutes or less, after rapid transition from 20° C [68° F]):** -20 to 50° C (-4° to 122° F); under non-condensing humidity conditions
Altitude	0 to 4,572 m (0 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 lb)
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 numbers	**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 25° C (77° F)
Install-by date	Battery is labeled with an install-by date of at least five years from date of manufacture
Standby life	Typically, four 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^2 (12.4 in^2) each
Cable length	121.9 cm (48 in)
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 number:** 989803139311

Training Pads II

Item number	989803139271
Function	Special pads place the 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 Philips HeartStart FRx AED Owner’s Manual for detailed product instructions. All specifications based on 25° C (77° F) unless otherwise noted. The defibrillator and its accessories are made of latex-free materials.

References

1. Ibrahim WH. Recent advances and controversies in adult cardiopulmonary resuscitation. *Postgraduate Medical Journal*. 2007;83(984):649–654. https://doi.org/10.1136/pgmj.2007.057133.
2. Nichol G, Sayre MR, Guerra F, and Poole J. Defibrillation for Ventricular Fibrillation: A Shocking Update. *Journal American College of Cardiology*. 2017;70(12):1496–1509. DOI: 10.1016/j. jacc.2017.07.778.

Philips Medical Systems Nederland B.V.
Veenpluis 6
5684PC Best
The Netherlands

Philips Medical Systems
22100 Bothell Everett Highway
Bothell, WA 98021-8431, USA

www.philips.com

Printed in the Netherlands.
00000260-00-00 * JAN 2024
LC2272-003-040