Making lifesaving faster, easier, better

Philips HeartStart FR3 Defibrillator for professional responders

PHILIPS

sense and simplicity

Making lifesaving faster,

A sudden cardiac arrest (SCA) response is a stress-test for a professional medical response team because time matters. You need your equipment to be rugged, ready to use, and to support you every step of the way.

As a global leader in defibrillation technology, Philips helped chart the course for widespread use of automated external defibrillators (AEDs) among professional responders starting with the innovative ForeRunner and HeartStart FR2 AEDs. Today, Philips continues to provide AED solutions specifically designed for the full spectrum of responders from lay people to clinicians.

Our best professional-grade AED yet, the HeartStart FR3 is designed to make lifesaving faster, easier, and better.

- **Faster** – helping you do your job faster as it significantly reduces deployment. It eliminates steps to help you start the right therapy – CPR or defibrillation
- **Easier** – helping make your job easier with the smallest and lightest professional-grade AED among leading global manufacturers.* It is designed to be rugged, reliable, and ready to use
- **Better** – helping you improve your response by supporting a culture of continuous improvement, including optimizing training and fine-tuning SCA response

The HeartStart FR3 is the smallest and lightest professional-grade AED among the leading global manufacturers.

easier, better

Faster: Helping you provide therapy faster

When responding to a sudden cardiac arrest, you make every effort to reach the victim quickly. But the clock keeps ticking until your patient actually receives therapy. The HeartStart FR3 solution significantly reduces deployment time by eliminating steps to help you start delivery of the right therapy – CPR or defibrillation – on your patient faster.

- **Automatically powers on**** by opening the FR3 carry case so you can focus on pad placement from the start
- **Peel & place SMART Pads III**. There's no foil pouch to open when the pads are pre-connected
- **Receive patient-specific guidance** with Philips SMART CPR for the most appropriate initial therapy – CPR or defibrillation – even for shockable rhythms
- **Minimize CPR interruptions** and speed shock delivery with Philips Quick Shock

The HeartStart FR3 solution helps you respond to a pediatric cardiac arrest faster

- No need to change pads. Just use the same SMART Pads III for adults and children
- Insert the Infant/Child Key to automatically decrease the defibrillation therapy and implement the configured infant/child CPR protocols

Philips Quick Shock technology reduces the time between hands-off and shock delivery to minimize CPR interruptions.

Minimize CPR interruptions with Quick Shock

The 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science and the European Resuscitation Council Guidelines for Resuscitation 2010 recommend that delays and interruptions to chest compressions be minimized throughout the entire resuscitation.[1,2] **Philips Quick Shock** technology reduces the time between hands-off and shock delivery to minimize CPR interruptions.

Easier: Helping make your job easier

Shown actual size

Easier to carry with your other equipment

- Smallest and lightest (3.5lbs, 1.6kg) professional-grade AED among leading global manufacturers
- A variety of carry case options to fit your needs

Confidence that your AED will stand up to your demanding work environment

- Holds IP55 rating for protection against dust and jetting water
- Tested to US Military standards

Confidence that your AED will be ready when needed

- Battery typically delivers 300 shocks or, if configured, 12 hours of monitoring
- Performs daily, weekly, and monthly automated self-tests, including pads integrity, with visual and attention-getting audible alerts
- Green ready light flashes to confirm the FR3 is ready for use
- Philips AEDs have accumulated over 30 billion service hours*

Confidence that you are delivering high-quality therapy to your patient

- Philips SMART biphasic waveform is evidence-based therapy that achieves consistently high efficacy for terminating ventricular fibrillation[3-16]
- CPR Metronome keeps the beat for consistent chest compressions
- Quick Shock reduces the time between hands-off and shock delivery to minimize CPR interruptions
- SMART CPR provides patient-specific treatment advice for the right initial therapy – CPR or defibrillation – even for shockable rhythms

Easier for responders in bilingual work environments to use the AED

- Bilingual configurable so that voice and text prompts can be clearly understood

Easier to use in a noisy environment

- Bright, high-resolution color LCD that can show text or text with ECG***

Easier to simulate real-world conditions when training

- Deliver more realistic training with the actual FR3 device, using a rechargeable training battery and training pads
- The AED Trainer 3 provides a cost-effective training option without taking FR3 AEDs out of service

Easier to standardize on one pad set for your program

- SMART Pads III are compatible for use with the HeartStart FR2-Series
- SMART Pads III work with Philips monitor/defibrillators, including the HeartStart MRx, for easy hand-off

Easier to configure and upgrade your AED to meet your needs

- Protocols can be configured with Bluetooth® or FR3 data card based on medical direction and defibrillation program requirements
- Extensively upgradeable to take advantage of Philips advancements now and in the future

Better: Helping you improve emergency response

The HeartStart FR3 and Philips Data Management Solutions are designed to help support **a culture of continuous improvement and excellence** among emergency response organizations.

Philips tools help make it simple for emergency responders in the field to download and forward data to where it needs to be so they can focus on providing care. They can even forward a PDF of the presenting ECG to the patient's cardiologist to help support post-event care.*** Responders can keep devices in service by downloading events via Bluetooth® or an FR3 data card.

Having data readily available can help facilitate retrospective review by medical directors and program managers so timely and consistent feedback can be provided to responders while the event is still fresh. Medical directors can also use the data to refine their cardiac arrest response protocols.

Philips Data Management Solutions

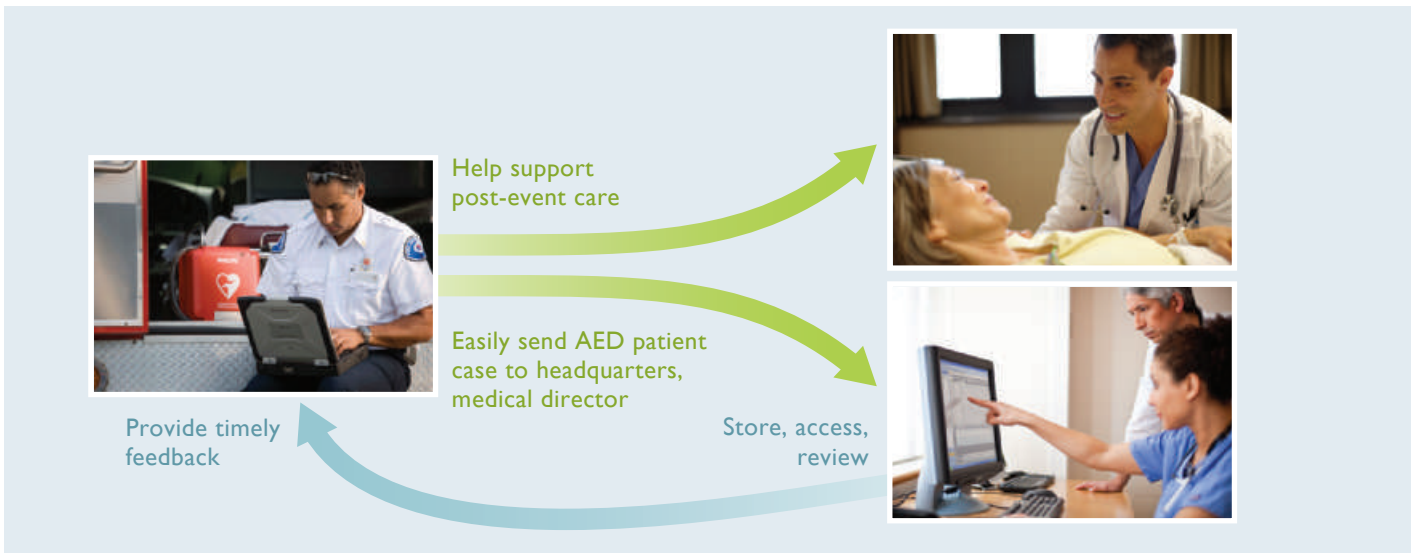
HeartStart Event Review (basic)
Review, annotate, print, and store AED cases in a database for responder debriefing.

HeartStart Event Review Pro (full featured)
Provide more in-depth assessment of responder intervention and patient response to evaluate individual and system-wide response performance.

HeartStart Data Messenger
Automatically route events from your responders' computers based on your desired workflow. Responders don't have to manipulate software to move data. So event data may arrive at its destination more promptly and consistently.

Philips Data Software Development Kit
Append a defibrillator patient event to any electronic patient care reporting (ePCR) enabled with the Philips Data Software Development Kit.

Patient data flows according to your desired workflow using your existing infrastructure



HeartStart FR3 Defibrillator specifications

Defibrillator	
Models	861388 text display 861389 ECG and text display Supplied with AED, primary battery (1), SMART Pads III (1 set), printed instructions (Setup Guide) and CD-Rom (Administrative Reference)
Waveform	SMART Biphasic Truncated Exponential waveform parameters adjust as a function of patient impedance. Adult nominal peak current 32A (150J into a 50 ohm load): pediatric nominal peak current 19A (50J into a 50 ohm load) using optional Infant/ Child Key
Shock delivery	Via defibrillator pads placed in the anterior-anterior (Lead II) position for adults; anterior-posterior position for infants and children under 55 lbs (25 kg) or 8 years old
Controls	On/Off button, shock button, option buttons. Auto-On feature, when used with the optional FR3 carry case, enables FR3 to power up when case lid is opened
Indicators	High-resolution color LCD, beeper, voice prompts, tones and chirps, audio speaker, connector socket, ready light, shock button
Advanced mode	Configurable using optional HeartStart Configure software
ECG display	
Screen	LCD color display, 320 x 240 pixels. 2.8″ x 2.1″ (7.2 cm x 5.4 cm)
Bandwidth	1 Hz to 30 Hz (-3dB), nominal (non-diagnostic)
Monitored lead	Lead II using anterior-anterior adult pads placement
Physical	
Size	2.7″ high x 5.3″ wide x 8.7″ deep (6.9 cm x 13.5 cm x 22.1 cm)
Weight	3 lbs 8 oz (1.6 kg) with FR3 primary battery installed
Environmental/physical requirements	
Sealing	Meets IEC529 class IP55 with battery installed
Temperature	Operating/standby: 32°–122°F (0°–50°C)
Altitude	Meets IEC 60601-1:5.3 (1013 to 572 mbar (hPa), equivalent to air pressure from 0 to 15,000 feet; 0 to 4,572 meters)
Shock/drop Abuse tolerance	Meets MIL-STD-810F 516.5, Procedure IV (after a one-meter drop to any edge, corner, or surface in standby mode)
Vibration	Meets MIL-STD-810F 514.5 C-17
Bluetooth 2.0 Class II Wireless Transceiver Module	
Function	Transmit retrospective event data or configuration setting wirelessly

Patient analysis system	
ECG analysis	Evaluates impedance of defibrillator pads for proper contact with patient skin, evaluates the ECG rhythm and signal quality to determine if a shock is appropriate; also detects artifact and pacemaker
SMART CPR	Evaluates key characteristics of the presenting VF and determines the initial therapy: shock first, or CPR first quickly followed by a shock
Sensitivity/ specificity	Meets AAMI DF80 requirements and AHA recommendations for adult defibrillation
Quick Shock	Typically arms in <8 seconds from the end of the "Stop CPR" prompt
FR3 primary battery	
Type	12 VDC, 4.7 Ah, lithium manganese dioxide Long-life primary cells
Capacity	Typically 300 shocks or 12 hours of operating time at 77° F (25° C) when configured for monitoring after No Shock Advised (NSA) 7.5 hours of operating time at 77° F (25° C) when configured for CPR after NSA
Standby life	3 years minimum when stored under standby environmental conditions (battery installed)
Shelf life	5 years
SMART Pads III	
Application	Disposable, multifunction defibrillation pads for adult or infant/child patients. Time-saving peel and place pads can be removed from packaging and stored in the FR3 carry case. Pads can be preconnected to FR3, which enables testing during FR3's routine self-test.
Infant/Child Key (optional)	
Function	Selects therapy for infants or children under 55 lbs (25 kg) or 8 years old
FR3 data card	
Function	Stores a minimum of 8 hours of ECG, event, and, if configured, voice recording. Can also be used for configuring FR3
Automated and user-activated self-tests	
Automatic self-tests	Tests internal circuitry, waveform delivery system, ECG acquisition, temperature, status (or readiness) of attached accessories (SMART Pads III and FR3 data card) and battery
Automated self-test frequency	Daily, weekly, monthly, power on, and runtime during all modes of operation
User initiated tests	Automatic self-tests plus tone, display, and button performance
FR3 training battery and training pads (optional)	
Function	Places FR3 into a scenario-based training mode and simulates shock therapy
Type	10.8 Volt, 4.5 Ah Li-ion battery

Philips Healthcare is part of Royal Philips Electronics

How to reach us

www.philips.com/healthcare

healthcare@philips.com

Asia

+49 7031 463 2254

Europe, Middle East, Africa

+49 7031 463 2254

Latin America

+55 11 2125 0744

North America

+1 425 487 7000

800 285 5585 (toll free, US only)

References

1. Field JM, Hazinski MF, Sayre MR, et al. 2010 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care Science. *Circulation*. 2010;122:S640-S656.
2. Nolan JP, Soar J, Zideman DA, et al. European Resuscitation Council Guidelines for Resuscitation 2010. *Resuscitation*. 2010; 81:1219–1276.
3. Page RL, Joglar JA, Kowal RC, et al. Use of automated external defibrillators by a U.S. airline. *New England Journal of Medicine*. 2000;343:1210-1216.
4. Capucci A, Aschieri D, Piepoli MF, et al. Tripling survival from sudden cardiac arrest via early defibrillation without traditional education in cardiopulmonary resuscitation. *Circulation*. 2002;106:1065-1070.
5. White RD, Atkinson EJ. Patient outcomes following defibrillation with a low energy biphasic truncated exponential waveform in out-of-hospital cardiac arrest. *Resuscitation*. 2001;49:9-14.
6. Gliner BE, Jorgenson DB, Poole JE, et al. Treatment of out-of-hospital cardiac arrest with a low-energy impedance-compensating biphasic waveform automatic external defibrillator. *Biomedical Instrumentation & Technology*. 1998;32:631-644.
7. White RD, Russell JK. Refibrillation, resuscitation and survival in out-of-hospital sudden cardiac arrest victims treated with biphasic automated external defibrillators. *Resuscitation*. 2002; 55(1):17-23.
8. Gliner BE, White RD. Electrocardiographic evaluation of defibrillation shocks delivered to out-of-hospital sudden cardiac arrest patients. *Resuscitation*. 1999;41(2):133-144.
9. Poole JE, White RD, Kanz KG. et al. Low-energy impedance- compensating biphasic waveforms terminate ventricular fibrillation at high rates in victims of out-of-hospital cardiac arrest. *Journal of Cardiovascular Electrophysiology*. 1997;8:1373-1385.
10. Caffrey SL, Willoughby PJ, Pepe PF, et al. Public use of automated external defibrillators. *New England Journal of Medicine*. 2002;347:1242-1247.
11. Gurnett CA, Atkins DL. Successful use of a biphasic waveform automated external defibrillator in a high-risk child. American Journal of Cardiology. 2000;86:1051-1053.
12. Martens PR, Russell JK, Wolcke B, et al. Optimal response to cardiac arrest study: defibrillation waveform effects. *Resuscitation*. 2001;49:233-243.
13. White RD, Blackwell TH, Russell JK, et al. Body weight does not affect defibrillation, resuscitation or survival in patients with out-of-hospital cardiac arrest treated with a nonescalating biphasic waveform defibrillator. *Critical Care Medicine*. 2004;32(9) Supplement: S387-S392.
14. White RD, Blackwell TH, Russell JK, et al. Transthoracic impedance does not affect defibrillation, resuscitation or survival in patients with out-of-hospital cardiac arrest treated with a non-escalating biphasic waveform defibrillator. *Resuscitation*. 2005;64(1):63-69.
15. Schneider T, Martens PR, Paschen H, et al. Multicenter, randomized, controlled trial of 150-J biphasic shocks compared with 200- to 360-J monophasic shocks in the resuscitation of out-of-hospital cardiac arrest victims. *Circulation*. 2000;102:1780-7.
16. Hess EP, Russell JK, Liu PY, et al. A high peak current 150-J fixed-energy defibrillation protocol treats recurrent ventricular fibrillation (VF) as effectively as initial VF. *Resuscitation*. 2008;79(1):28- 33.

* Data on file with Philips Healthcare.

** If you do not use the Philips HeartStart FR3 carry case with the auto-on feature, press the green On/Off button to turn on the FR3.

*** ECG is intended only for basic rhythm identifications. It is not intended for diagnostic and ST segment interpretation.

Not all items are available worldwide. Check with Philips for availability of optional software and accessories.

The FR3 requires a prescription for use in the United States, and must be used under medical direction.

Please visit www.philips.com/fr3

Printed in The Netherlands.
4522 962 80091 * NOV 2011