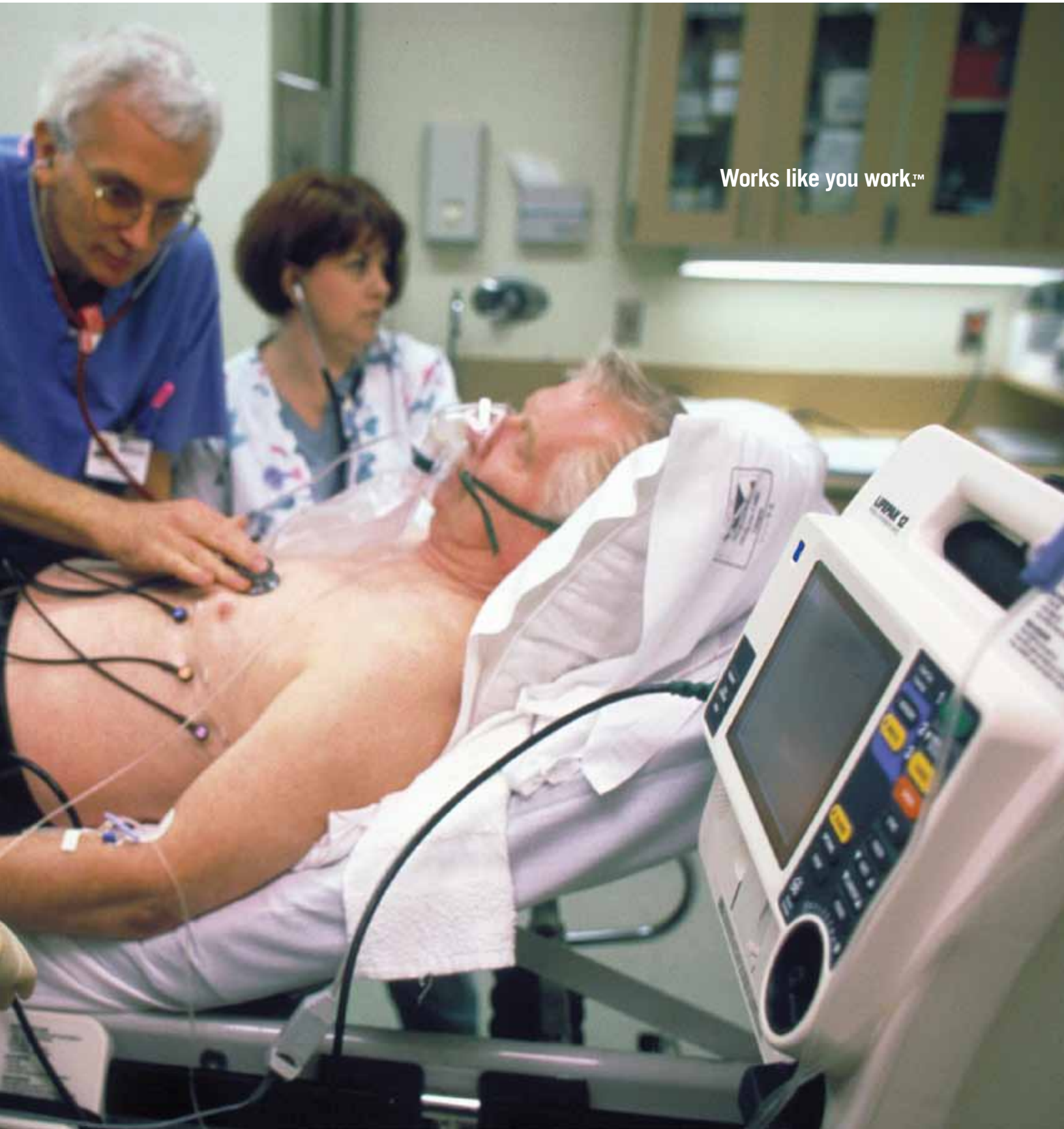
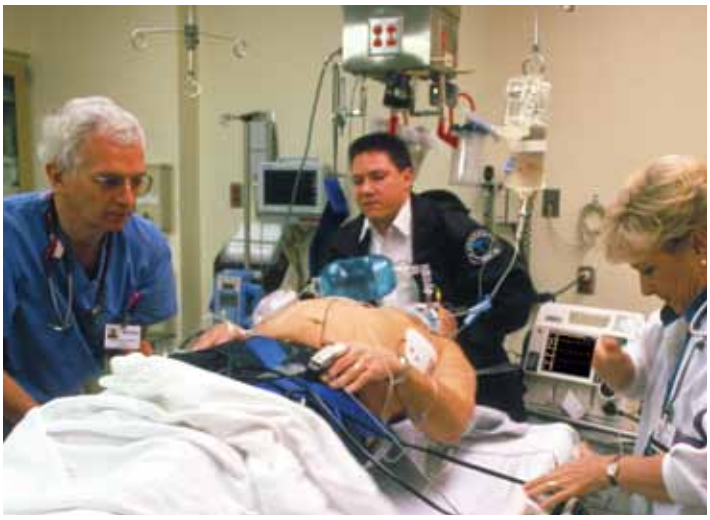
PHYSIO CONTROL

LIFEPAK® 12 DEFIBRILLATOR/MONITOR




Your job demands more.



You need equipment that can help you tackle today's patient care needs and adapt to tomorrow's challenges.

The gold standard for more than 30 years, LIFEPAK products are continually evolving to keep pace with the changing nature of patient care. The LIFEPAK 12 defibrillator/monitor packs multi-parameter therapeutic and diagnostic functions into a single, portable device.

Nearly 100,000 LIFEPAK 12 defibrillator/monitors are in use today—in hospitals and on rescue rigs worldwide. Feedback from this global community keeps us innovating—adding features to help you in your lifesaving work.

Powerful
Trusted
Evolving

EVOLUTION

Keeping pace as patient care evolves.

The LIFEPAK 12 defibrillator/monitor revolutionized acute cardiac care in 1998, with expanded diagnostic and monitoring capabilities.

As your job grows, so does the *12*.

Advances since initial release:

1998
- The LIFEPAK 12 defibrillator/monitor revolutionizes acute cardiac care, with expanded diagnostic and monitoring capabilities.

1999
- LIFEPAK 12 defibrillator/monitor is enhanced with ADAPTIV™ biphasic technology up to 360J, NIBP and CO_2 monitoring capabilities.

2001
- Among many features added to the *12* are ST Monitoring up to 8 hours and invasive pressure monitoring.

2003
- MASIMO® SpO_2 technology added to the *12*.

2006
- MASIMO SET® LNCS sensors offer accurate and stable oxygen saturation monitoring.

2007
- cprMAX™ technology provides increased flexibility for protocols to maximize CPR.
- STEMI Management technology enables secure and flexible flow of ECG data, linking hospitals and EMS for improved STEMI treatment.

Complemented by a rich range of services and options.

Training

Whether you are taking delivery of your first LIFEPAK 12 defibrillator/monitor or adding new options, Physio-Control provides a broad set of product and clinical training materials designed to help you keep your staff's skills up-to-date. The *12* also has on-site inservice and off-site Biomed training solutions available for purchase.

Accessories

We offer a full catalog of accessories and disposable products to suit your needs. Standard adult paddles, pediatric paddles attachments, sterilizable adult paddles and internal paddles provide flexible therapy options for all hospital departments.

Customization

Configure the *12* to your exact specifications. When it comes to knowing system requirements, you're the expert. Select AED, manual defibrillation or both, depending on users' skills and comfort levels. Add-on options like noninvasive pacing, SpO_2, 12-lead analysis, $EtCO_2$ and NIBP are available. Choose among 50 mm or 100 mm printers, accessories and power options.

Easy Upgrades

We understand how rapidly your job is evolving. So we've designed the LIFEPAK 12 series platform with upgrades in mind. You can add new features and enhancements as systems change. You can also extend your effectiveness as *12* modifications and new functionality become available in the future.

Heart Safe Hospital Assessment

Our free Heart Safe Hospital Assessment program analyzes your existing equipment and resuscitation practices in light of current guidance from healthcare-related organizations such as AHA and JCAHO. We identify gaps and recommend steps to align your facility with the latest guidelines and clinical evidence related to treatment of cardiac arrest.

A dependable, portable device you can trust - *every single time*

The *12* works like you work—in the most demanding situations.

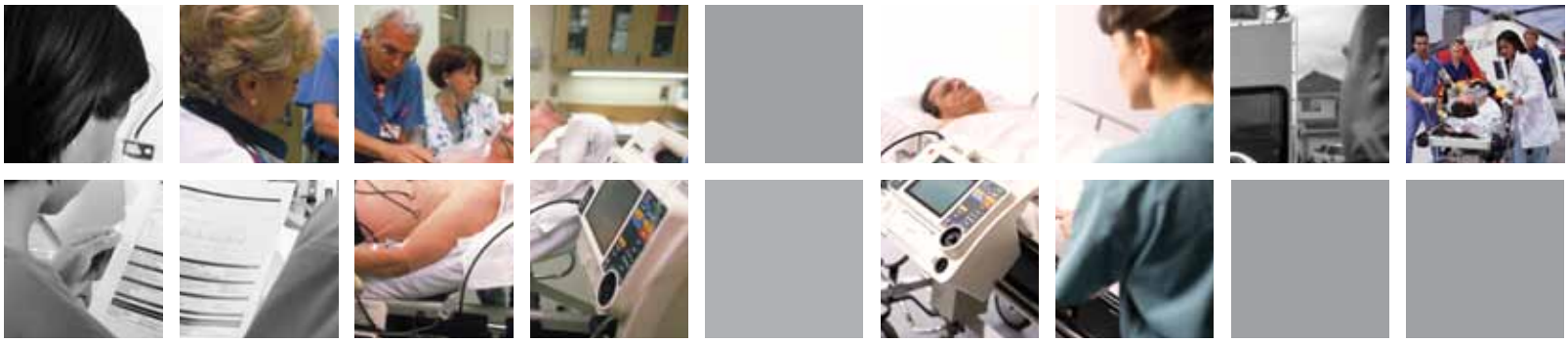
- Large screen and durable design are ideal for transport.
- Compact size requires little space in the Emergency Department or Operating Room, and eliminates the need for single-purpose monitoring equipment.
- Configurable options including AED and manual defibrillation modes allow for ease of patient transfer.
- User interface and accessories are similar across all LIFEPAK products, allowing for standardization and continuity of care throughout the hospital.

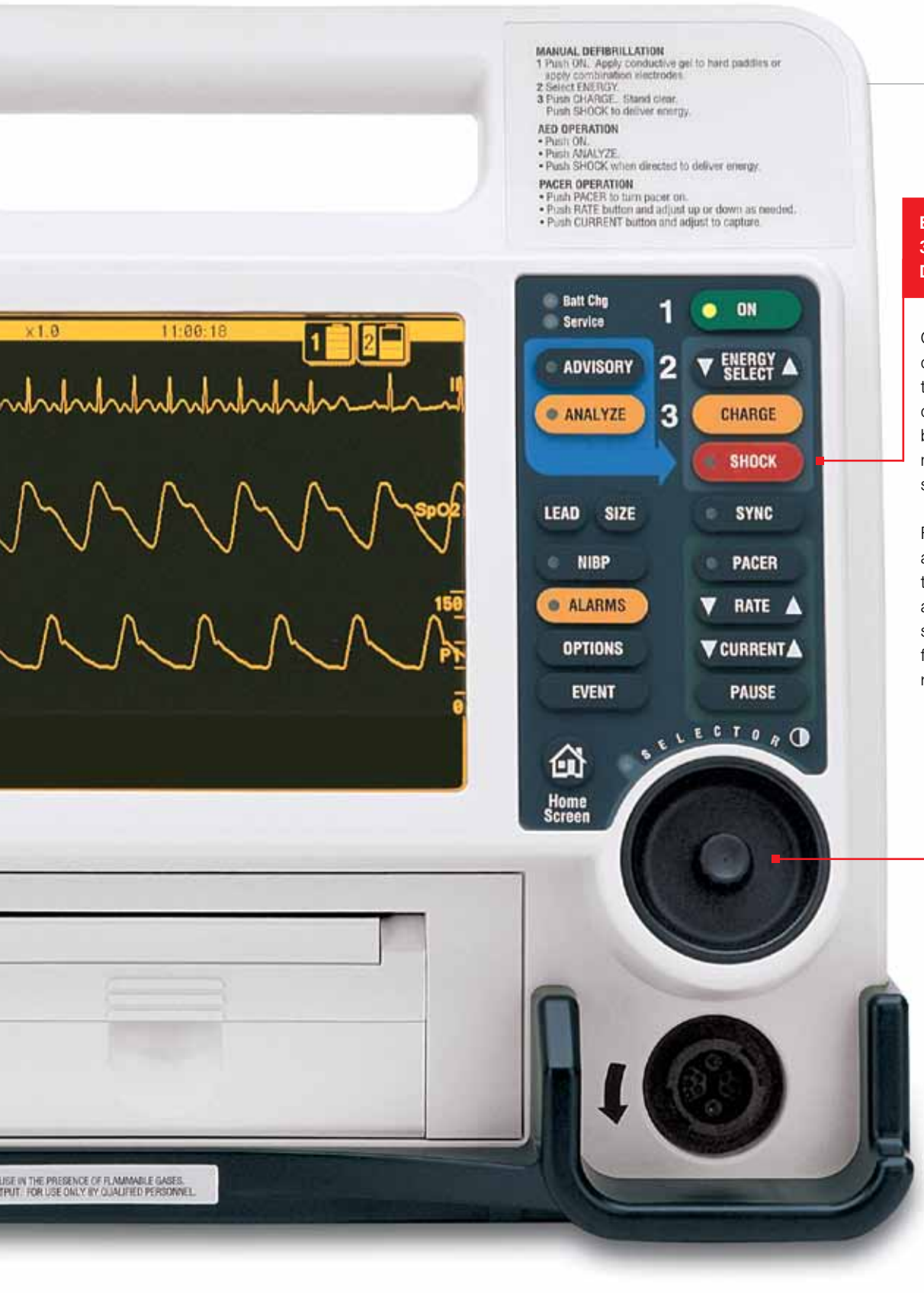
SETTING THE STANDARD ON MONITORING TO GUIDE TREATMENT DECISIONS

The LIFEPAK 12 defibrillator/monitor comes equipped with industry-standard monitoring tools for adult and pediatric patients. At every level, you'll find the *12* to be the right tool, with the right capabilities—for faster response times and better-informed treatment decisions.

- The *12* is the only defibrillator/monitor on the market today* with an ST Monitoring feature. Because ECGs (and the diagnosis) can change significantly and quickly, the device takes a series of ECGs at frequent intervals and alerts you to changes in a patient's ST measurement.
- The *12* helps track patient status breath by breath with patented Microstream® capnography technology and FilterLine® accessories that operate smoothly even in high humidity. $EtCO_2$ monitoring is effective for both intubated and nonintubated patients.
- Graphic display of vital signs allows for evaluation of changes in patient condition and patient response to therapy over time.
- MASIMO SET pulse oximetry offers accurate and stable oxygen saturation monitoring.
- Oscillometric noninvasive blood pressure (NIBP) monitoring, provides artifact rejection and automatic measurement modes.

*September 2008





ESCALATING DOSE TO 360J TO MAXIMIZE DEFIBRILLATION SUCCESS

Get the broadest therapeutic dose—up to 360J—for difficult-to-defibrillate patients. LIFEPAK defibrillators with ADAPTIV biphasic technology offer the maximum range of energy settings, up to 360 joules.

For patients who need additional shocks, increasing the dose of subsequent shocks above the first shock has shown to be a better strategy for terminating VF than simply repeating a failed dose.[1, 2,3]

SELECTOR KNOB MAKES IT SIMPLE TO SCROLL THROUGH AND QUICKLY SELECT FUNCTIONS

Specifications

GENERAL

The LIFEPAK 12 defibrillator/monitor series has five main operating modes:

Advisory Mode (SAS): Provides all features available except manual defibrillation, synchronized cardioversion and pacing

Manual Mode: Provides normal operating capability for ALS users

Setup Mode: Allows operator to customize the device

Service Mode: Allows operator to execute device diagnostic tests and calibrations

Inservice Mode: Provides simulated waveforms for demonstration purposes

POWER

Battery Only Configuration: Choice of NiCd (FASTPAK® battery, FASTPAK 2 battery, LIFEPAK NiCd battery) or SLA (LIFEPAK SLA battery)

Dual battery capability

Optional external AC Power Adapter

Batteries charge while device operates from Power Adapter

Operating Time: Two new fully charged batteries will provide the following prior to shutdown:

	TOTAL				AFTER LOW BATTERY			
	Typical		Min.		Typical		Min.	
	LCD	EL	LCD	EL	LCD	EL	LCD	EL
Monitoring (minutes)								
NiCd*	110	81	60	43	10	6	2	1
NiCd**	155	114	85	62	14	8	2	1
NiCd***	220	162	120	86	20	12	4	2
SLA	180	132	100	73	16	10	2	1
Defibrillation (360 joule discharges)								
NiCd*	80	72	45	40	7	7	3	3
NiCd**	110	99	60	54	10	10	3	3
NiCd***	160	144	90	80	14	14	6	6
SLA	145	131	85	76	12	12	3	3
Monitoring plus Pacing (minutes at 100mA, 60ppm)								
NiCd*	105	75	60	42	9	6	2	1
NiCd**	145	104	85	60	12	8	2	1
NiCd***	210	150	120	84	18	12	4	2
SLA	170	122	100	71	14	10	2	1

*FASTPAK, FASTPAK 2 (11141-000044, 11141-000025)
**LIFEPAK NiCd (11141-000027)
***LIFEPAK NiCd (11141-000026)

Low Battery Indication and Message: Low battery icon at top of display and low battery message in status area for each battery. When low battery is indicated, device autoswitches to second battery. When both batteries reach a low battery condition, there is a voice prompt to replace battery.

Warmstart: With inadvertent loss of power (<30 seconds) device retains settings

Service Indicator: When an error is detected

PHYSICAL CHARACTERISTICS

Weight: Basic defibrillator/monitor with QUIK-COMBO® cable: 6.7kg (14.8 lbs) (unit and QUIK-COMBO cable only, no batteries).

FASTPAK and FASTPAK 2 Battery: .6kg (1.3 lbs)
LIFEPAK NiCd Battery: 0.8kg (1.7 lbs)
LIFEPAK SLA Battery: 1.3kg (2.8 lbs)
Standard Paddles (hard): 0.9kg (1.9 lbs)

Height: 31.7cm (12.5 in)

Width: 39.6cm (15.6 in)

Depth: 23.1cm (9.1 in)

DISPLAY

Size (active viewing area):
LCD: 140.8mm (5.5 in) wide x 105.6mm (4.2 in) high
EL: 165.1mm (6.5 in) wide x 123.8mm (4.9 in) high

Resolution:
640 x 480 black and white LCD
640 x 480 amber and black EL display

User selectable LCD contrast

Displays a minimum of 4 seconds of ECG and alphanumerics for values, device instructions or prompts

Option to display one or two additional waveforms

Waveform Display Sweep Speed: 25mm/sec for ECG and 12.5mm/sec of CO_2

DATA MANAGEMENT

The device captures and stores patient data, events (including waveforms and annotations), user test results and continuous ECG waveform records in internal memory.

The user can select and print reports and transfer the stored information via an internal modem through landline or mobile phones.

Report Types: Three format types of CODE SUMMARY™ critical event record (short, medium and long)

- Initial ECG (except short format)
- Automatic capture of vital signs measurements every 5 minutes
- 3-channel or 4-channel 12-lead ECG report
- Continuous waveform records (transfer only)
- Trend Summary – includes patient information, vital signs log and vital signs graphs
- Vital Signs – includes patient information, event and vital signs log
- Snapshot – includes patient information and 8 seconds of ECG captured at the time of transmission

Memory Capacity: Two full-capacity patient records that include:

CODE SUMMARY critical event record – up to 100 single waveform events

Continuous Waveform – 45-minute continuous ECG record

COMMUNICATIONS

The device is capable of transferring data records by internal modem, external EIA/TIA modem, cellular modem or serial connection

Bluetooth wireless data transfer to cell phone to LIFENET RS receiving station

Supports EIA/TIA-602 compatible modems using Xon/Xoff or RTS/CTS flow control at 9600 to 38400 bps

EIA/TIA-RS232E compatible at 9600, 19200, 38400 and 57600 bps

Group III, Class 2 or 2.0 fax

MONITOR

Voice Prompts: Used for selected warnings and alarms (configurable on/off)

ECG

ECG is monitored via several cable arrangements:

A 3-wire cable is used for 3-lead ECG monitoring

A 5-wire cable is used for 7-lead monitoring

A 10-wire cable is used for 12-lead acquisition. When the chest electrodes are removed, the 10-wire cable functions as a 4-wire cable.

Standard paddles or QUIK-COMBO pacing/defibrillation/ECG electrodes or FAST-PATCH® disposable defibrillation/ECG electrodes are used for paddles lead monitoring

Lead Selection: Leads I, II, III, (3-wire ECG cable)

Leads I, II, III, AVR, AVL and AVF acquired simultaneously (4-wire ECG cable)

Leads I, II, III, AVR, AVL, AVF, V1 (Labeled "C" on 5-wire ECG cable)

Leads I, II, III, AVR, AVL, AVF, V1, V2, V3, V4, V5 and V6 acquired simultaneously, (10-wire ECG cable)

ECG Size: 4, 3, 2.5, 2, 1.5, 1, 0.5, 0.25 cm/mV (fixed at 1 cm/mV for 12-lead)

Heart Rate Display: 20 to 300 bpm digital display

Out of Range Indication: Display symbol "—-"

Heart symbol flashes for each QRS detection

Continuous Patient Surveillance System (CPSS): In advisory mode while Shock Advisory System™ is not active, CPSS monitors the patient, via pads or Lead II ECG, for potentially shockable rhythms

Analog ECG Output: 1V/mV x 1.0 gain

Common Mode Rejection: 90 dB at 50/60Hz

SpO_2

MASIMO SET Sensors
Saturation Range: 1 to 100%

Saturation Accuracy: (70–100%) (0–69% unspecified)
Adults/Pediatrics:
+/- 2 digits (during no motion conditions)
+/- 3 digits (during motion conditions)

Neonates:
+/- 3 digits (during no motion conditions)
+/- 3 digits (during motion conditions)

Dynamic signal strength bar graph

Pulse tone at the onset of the pleth waveform

SpO_2 Update Averaging Rate: User selectable 4, 8, 12 or 16 seconds

SpO_2 Measurement: Functional SpO_2 values are displayed and stored

Pulse Rate Range: 25 to 240 pulses per minute

Pulse Rate Accuracy: (Adults/Pediatrics/Neonates)
+/- 3 digits (during no motion conditions)
+/- 5 digits (during motion conditions)

SpO_2 waveform with autogain control

NIBP

Oscillometric measurement

Systolic Pressure Range: 30 to 245mmHg

Diastolic Pressure Range: 12 to 210mmHg

Units: mmHg, kPa

Mean Arterial Pressure Range: 20 to 225mmHg

Blood Pressure Accuracy: maximum mean error of ± 5mmHg with a standard deviation no greater than ± 8mmHg

Pulse Rate Range: 30 to 200 pulses per minute

Pulse Rate Accuracy: ± 2 pulses per minute or ± 2% whichever is greater

Typical Measurement Time: 40 secs

$EtCO_2$

Microstream technology

Measurement range: 0 to 99mmHg

Display: CO_2 waveform and $EtCO_2$ numerics

Units: mmHg, kPa, %; user selectable

Automatic ambient pressure compensation

CO_2 Accuracy (>20 minutes): 0 to 38mmHg: ± 2mmHg, 39 to 99mmHg ± 5% of reading + 0.08% for every mmHg

Warm Up Time: 30 seconds (typical), 180 seconds max

Response Time: 2.9 seconds (includes delay time and rise time)

Respiration Rate Range: 0 to 60 breaths per minute

Respiration Rate Accuracy: 0 to 40 bpm: ± 1 bpm, 41 to 60 bpm: ± 2 bpm

Invasive Pressure (2 channels)

Measurement Range: -30 to +300mmHg in six user selectable ranges

Display: IP waveform and numerics

Units: mmHg, kPa

User-selectable Labels: ART, PA, CVP, ICP, LAP, P1, P2

Transducer Type: Strain-gauge resistive bridge

Transducer Sensitivity: 5µV/V/mmHg

Bandwidth: 0 - 30 Hz (<-3dB)

Numeric Accuracy: ± 1mmHg or 2% of reading, whichever is greater, plus transducer error

Leakage Current: Meets ANSI/AAMI/IEC requirements

Trend

Display: Choice of HR, SpO_2(%), $EtCO_2$, RR, NIBP, P1, P2, ST

Time Scale: Auto, 30 minutes, 1, 2, 4 or 8 hours

Duration: Up to 8 hours with -06 Memory PCB or later. Reduced storage capacity with earlier versions.

ST Segment: After initial 12-lead ECG analysis, automatically selects and trends lead with the greatest ST displacement

ALARMS

Quick Set: Activates alarms for all parameters

VF/VT Alarm: Activates continuous CPSS monitoring in Manual Mode

Apnea Alarm: Occurs when 30 seconds have elapsed since last detected respiration

INTERPRETIVE ALGORITHMS

12-Lead Interpretive Algorithm: GE Medical 12SL, Includes AMI statement

PRINTER

Prints continuous strip of the displayed patient information

Paper Size: 50mm (2.0 in) or optional 100mm (3.9 in)

Print Speed: 25mm/Sec +/- 5% (measured in accordance with AAMI EC-11, 4.2.5.2)

Delay: 8 seconds

Autoprint: Waveform events print automatically (user configurable)

Optional 50mm/sec timebase for 12-lead ECG reports

FREQUENCY RESPONSE

Diagnostic: 0.05 to 150Hz or 0.05 to 40Hz (user configurable)

Monitor: 0.67 to 40Hz or 1 to 30Hz (user configurable)

Paddles: 2.5 to 30Hz

Analog ECG Output: 0.67 to 32Hz (except 2.5 to 25Hz for Paddles ECG and 1.3 to 23Hz for 1 to 30Hz monitor frequency response)

DEFIBRILLATOR

Waveform: Biphasic truncated exponential with voltage and duration compensation for patient impedance

Energy Accuracy: ±1 joule or 10% of setting, whichever is greater, into 50 ohms

±1 joule or ±5%, whichever is greater, of 50 ohm value into 25 to 200 ohms*

* Note: ±5% accuracy applies when disposable therapy electrodes are attached. Energy output is limited to the available energy which results in delivery of 360 joules into 50 ohms.

Paddle Options: QUIK-COMBO pacing/defibrillation/ ECG electrodes (standard)

FAST-PATCH disposable defibrillation/ECG electrodes (optional)

Standard Paddles (optional)

Internal Handles with discharge control (optional)

External Sterilizable Paddles (optional)

Cable Length: 2.4m (8 ft) long QUIK-COMBO cable (not including electrode assembly)

Manual

Energy Select (Biphasic): 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 30, 50, 70, 100, 125, 150, 175, 200, 225, 250, 275, 300, 325, and 360 joules or user configurable sequence 100 to 360 joules

Energy Select (Internal): 2, 3, 4, 5, 6, 7, 8, 9, 10, 15, 20, 30 and 50 joules

Charge Time: Charge time to 360J in less than 10 seconds, typical

Synchronized Cardioversion: Energy transfer begins within 60ms of the QRS peak

AED

Shock Advisory System (SAS): an ECG analysis system that advises the operator if the algorithm detects a shockable or non-shockable ECG rhythm. SAS acquires ECG via therapy electrodes only.

Shock Ready Time: Using a fully charged battery at normal room temperature, the device is ready to shock within 20 seconds if the initial rhythm finding is "Shock Advised"

Output Energy (Biphasic): User configurable, sequence of three sequential shock levels ranging from 150-360 joules (200-360 joules, Japan)

cprMAX technology setup options (items marked with * are default settings):

- Stacked shocks: off*, on
- Initial CPR: off*, analyze first, CPR first
- Preshock CPR: off*, 15, 30 seconds
- Pulse check: never*, after second no shock advised, after every no shock advised, always
- CPR time 1 & 2: 15, 30, 45, 60, 90, 120*, 180 seconds, 30 minutes

PACER

Pacing Mode: Demand or non-demand rate and current defaults (user configurable)

Pacing Rate: 40 to 170ppm

Rate Accuracy: +/- 1.5% over entire range

Output Waveform: Monophasic, truncated exponential current pulse (20 ± 1.5ms)

Output Current: 0 to 200mA

Pause: Pacing pulse frequency reduced by a factor of 4 when activated

Refractory Period: 200 to 300ms +/-3% (function of rate)

ENVIRONMENTAL

Temperature, Operating: 0˚ to 50˚C (32˚ to 122˚F)
SpO_2: 5˚ to 45˚C (41˚ to 113˚F)

Temperature, Non-operating: -20˚ to +60˚C (-4˚ to 140˚F) except therapy electrodes and batteries

Relative Humidity, Operating: 5 to 95%, non-condensing

Atmospheric Pressure, Operating: Ambient to 429mmHg (0 to 4572m) (0 to 15,000 ft)

Water Resistance, Operating: IPX4 (splash proof) per IEC 60529 (with batteries and cables installed)

EMC: IEC 60601-1-2: 2001/EN 60601-1-2:2001, Medical Equipment-General Requirements for Safety-Collateral Standard: Electromagnetic Compatibility-Requirements
and Tests

IEC 60601-2-4:2002; Clause 36/EN 60601-2-4:2003; Clause 36, Particular Requirements for the Safety of Cardiac Defibrillators and Cardiac Defibrillator monitors

Shock (drop): Five drops on each side from 18 in. onto a steel surface

Vibration: MIL-STD-810E Method 514.4, Propeller Aircraft – category 4, (figure 514.4-7 spectrum a), Helicopter – category 6 (3.75 Grms), and Ground Mobile – category 8 (3.14 Grms)

AC POWER ADAPTER

Function

Dimensions: 27.7 x 5.1 x 16.8cm (10.9 x 2.0 x 6.6 in)

Weight: < 2.3kg (<5 lbs) (including cables)

Charge Time (with fully depleted battery):

FASTPAK and FASTPAK 2: 1.5 hours
LIFEPAK NiCd: 2.1 hours
LIFEPAK NiCd: 3.0 hours
LIFEPAK SLA: 6 hours typical, 12 hours maximum

Power requirements: 90-132/198-264VAC, 47-63Hz (Domestic/International),
108 - 118VAC, 380 - 420Hz (Military)

Environmental

Water Resistance: IPX1 (vertical drops) per IEC 60529

Altitude, Operating: To 4572m (15,000 ft)

Altitude, Non-operating: To 5500m (18,045 ft)

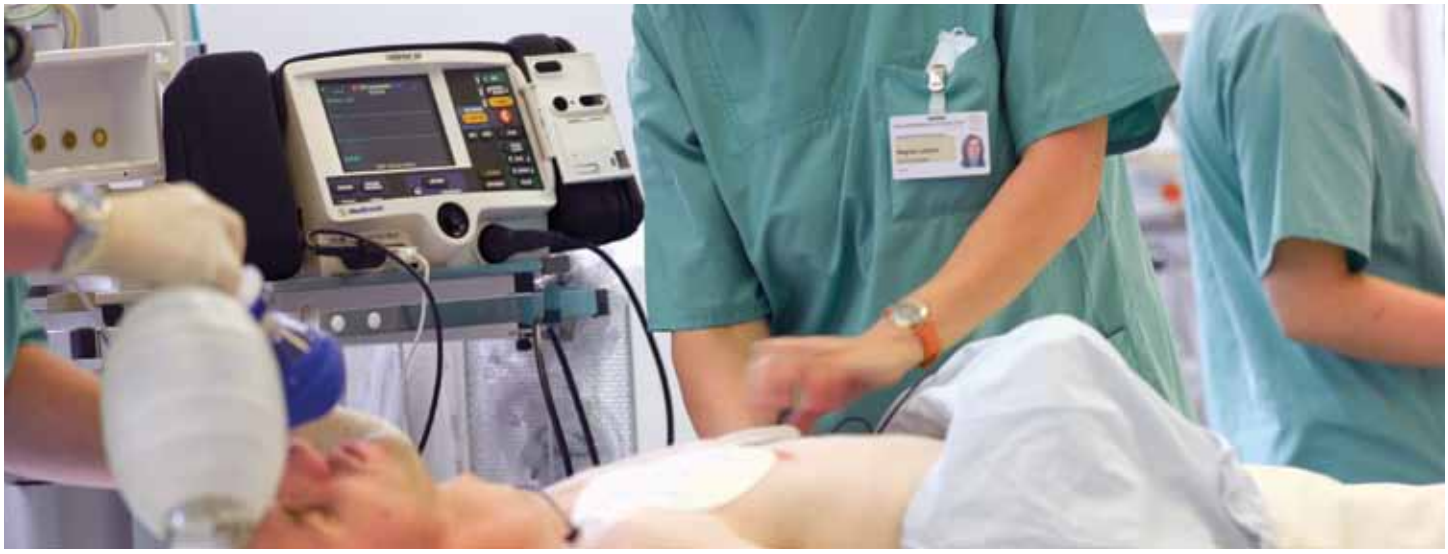
Humidity: 5 to 95% non-condensing

Temperature, Operating: 0˚ to 50˚C (32˚to 122˚F)

Temperature, Storage: -40 to 71°C (-40 to 158°F) (followed by one hour temperature stabilization in operating temperature range before operating)

Vibration, Operating and Non-operating:
MIL-STD-810E, Method 514.4 Categories 4, 6, 8

All specifications are at 20˚C unless otherwise stated.



Experience the legendary quality that has made LIFEPAK products and services the clear favorite around the world.

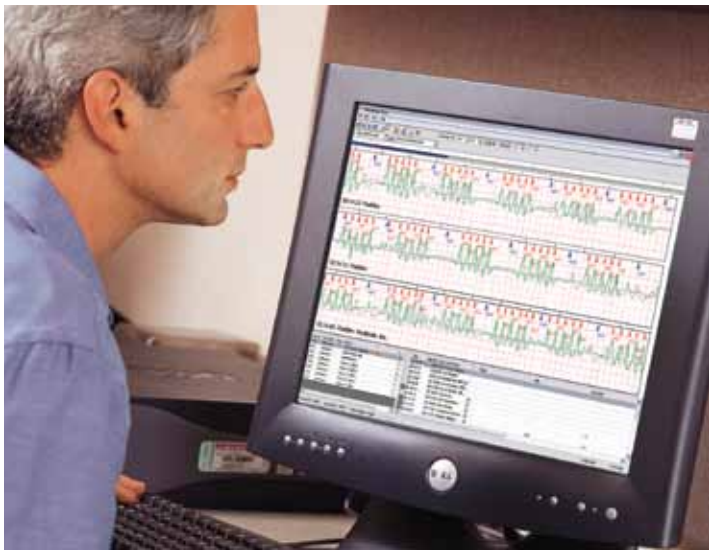
Physio-Control provides complete patient care monitoring and defibrillation solutions to reduce total cost of ownership and ensure compatibility with earlier systems whenever possible. Integrated solutions provide the right service options, disposables, cables, accessories and data offerings.

Defibrillators/Monitors

LIFEPAK 20e Defibrillator/Monitor
Building on the design of its predecessor, the LIFEPAK 20e defibrillator/monitor is compact, lightweight and easy to rush to the scene or use during transport. The *20e* is highly intuitive to use, putting early, effective defibrillation into the hands of first responders. The *20e* skillfully combines AED function with manual capability so that ACLS-trained clinicians can quickly and easily deliver advanced diagnostic and therapeutic care. Clinically advanced and packed with power, the *20e* uses lithium-ion battery technology that provides extended monitoring time for transporting patients from one area of the hospital to another and includes ADAPTIV™ biphasic technology up to 360J.

LIFEPAK 1000 Defibrillator
Providing a powerful yet compact way to treat cardiac arrest patients, its intuitive, simple operation is ideal for first responders, and includes built-in flexibility for more advanced patient care. The *1000* is designed for external areas of the hospital where a simple-to-use AED with the option of manual defibrillation is required.

LIFEPAK CR® Plus Automated External Defibrillator
Designed for use by the first person at the scene of a sudden cardiac arrest. Ideal for the minimally trained rescuer, the *CR Plus* guides the rescuer step-by-step with calm, clear voice prompts. The simplicity of the *CR Plus* means it's ideal for non-acute hospital areas.



CPR Assistance

LUCAS™ Chest Compression System
Designed to provide effective, consistent and uninterrupted compressions according to AHA/ERC Guidelines, the device is used on patients in hospital and out-of-hospital settings. LUCAS is translucent, except for the hood and piston, making it the ideal chest compression device for use in the cath lab. Maintaining high-quality, hands-free compressions frees responders to focus on other lifesaving therapies.

Data Management and Connectivity Tools

LIFENET® STEMI Management Solution
Enabling a seamless, secure and flexible flow of ECG data among prehospital to hospital helps you quickly identify STEMI patients, improve door-to-balloon times and reduce false-positive cath lab activations. A complete Web-based STEMI management solution, our system requires no dedicated equipment, servers or maintenance from your IT department.

CODE-STAT™ Data Review Software with Advanced CPR Analytics
This post-event review tool annotates chest compressions onto the patient's continuous ECG report and calculates CPR statistics to help you meet current AHA/ERC Guidelines. The software simplifies data collection and reporting by consolidating all dispatch, treatment and outcome data into a single e-file. Download, review, manage, and analyze emergency medical data from multiple LIFEPAK defibrillators. The application also facilitates quality analysis and business decisions, allowing creation of benchmarking and trending reports to review your system's performance.

DT EXPRESS™ Data Transfer Software
Consolidate data from your sudden cardiac arrests and emergency transports into your hospital information systems. The simple Windows®-based software application manages data from LIFEPAK defibrillator/monitors. The software makes it easy to download critical event and waveform data to your PC, add supplemental patient data, print a hardcopy report, and store records on a disk. For storage and on-screen viewing of reports, export files to CODE-STAT data review software.

For more than 50 years, Physio-Control, maker of the renowned LIFEPAK defibrillators, has been developing technologies and designing systems that are legendary among first response professionals, clinical care providers and the community.

REFERENCES

1 Stiell IG, Walker RG, Nesbitt LP, et al. Biphasic Trial: A randomized comparison of fixed lower versus escalating higher energy levels for defibrillation in out-of-hospital cardiac arrest. *Circulation.* 2007;115:1511-1517.

2 Koster RW, Walker RG, Chapman FW. Recurrent ventricular fibrillation during advanced life support care of patients with prehospital cardiac arrest. *Resuscitation.* 2008;78:252-257.

3 Walsh SJ, McClelland AJJ, Owen CG, et al. Efficacy of distinct energy delivery protocols comparing two biphasic defibrillators for cardiac arrest. *AM J Cardiol.* 2004;94:378-380.

For further information please contact your local Physio-Control representative or visit www.physio-control.com

PHYSIO CONTROL

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