Lifeline ARM

When Seconds Count
Technology Matters™

Defibtech's Latest Advancement – The Lifeline ARM Automated Chest Compression (ACC) Device for Professionals

Precise operation of the Lifeline ARM helps to ensure high-quality and continuous cardiopulmonary resuscitation (CPR) associated with better survival for victims of sudden cardiac arrest (SCA)[1]

defibtech
Life-Saving Technology Within Reach

Revolutionizing the Way You Deliver CPR

With an innovative and elegant design, the Lifeline ARM is an automated solution for providing victims of sudden cardiac arrest high-quality and continuous CPR that is associated with better survival outcomes.[2] Easy to deploy and use, the device delivers compressions, with complete chest recoil, at the depth and rate recommended by the AHA/ERC cardiopulmonary resuscitation (CPR) guidelines. Using a proprietary algorithm that compensates for variability in patient chest resistances, the Lifeline ARM delivers precise compressions, an important factor for effective CPR.[3]

The Lifeline ARM is engineered for the ruggedness and durability demands of professional first responders and healthcare providers responding to SCA emergencies

Removable Compression Module

The removable compression module is unique to the Lifeline ARM. Its modularity facilitates easy deployment and makes it much more convenient to use and service. The module houses a software controlled motor and the compression piston. In conjunction with the frame and backboard, the compression module delivers chest compressions at a consistent depth and rate without undue frame deflection or distortion, both of which impact CPR efficacy.[1]

- The module provides high quality CPR (recommended depth and rate) with full chest wall recoil without interruptions according to AHA/ERC Guidelines
- A proprietary algorithm ensures consistent depth and rate of the compressions across a wide range of patient chest resistances
- A custom designed brushless DC motor drives the compression piston delivering smooth and consistent operation

[1] Wik L, et al: Quality of Cardiopulmonary Resuscitation during Out-of-Hospital Cardiac Arrest. JAMA. 2005;293(3):299-304. doi:10.1001/jama.293.3.299.

[2] Kleinman ME, et al: 2015 American Heart Association guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care. Part 5: Adult Basic Life Support & CPR Quality. Circulation (2015); 132:S414-S435.

[3] Nagao K et al: Duration of Prehospital Resuscitation Efforts After Out-of-Hospital Cardiac Arrest Circulation. 2014; 130: A120

Increased Structural Integrity

For superior performance during compressions, a rigid frame and backboard enable operation without unwanted flex.

- Single-piece design of the frame enhances usability during deployment and use
- Stiff structure provides consistent compression depth, an important element for patient survival [1]
- Accommodates a broad range of adult patient sizes (weight is not a factor)
- Provides high quality CPR delivery during transport
- Well-balanced and lightweight

Maximum Patient Accessibility

Self-centering and self-locking latches on the frame make it easy to match up with, and securely snap into, the backboard.

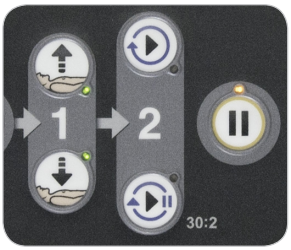
- Two sets of wide release levers, located on each side of the frame, provide multiple frame release options

- Purposeful redundancy of release levers enables easy detachment of both sides of the frame, or one side at a time
- Integrated patient lift handles
- Simultaneous defibrillation is possible

Be it on the ground, in an ambulance cot, a moving vehicle, or intra-hospital transport, the Lifeline ARM is your solution to uninterrupted CPR

Intuitive User Interface with Real-Time CPR Protocol Selection

The Lifeline ARM's extremely simplified control panel requires just two steps to initiate mechanical CPR: (1) Adjust the compression piston's height relative to the patient's chest using the Up / Down buttons, (2) Select from two rescue protocols by pressing the corresponding softkey: Chest compressions only (no breaths), or chest compressions with rescue breaths.



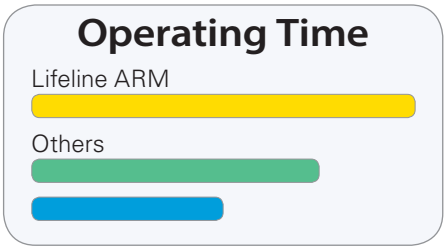
- With real-time CPR protocol selection, you can toggle between the two protocols during the rescue
- The compressions with breaths protocol has timed pauses programmed into the compression cycle to allow for rescue breaths
- At any time, compressions may be stopped (paused), or resumed

Unmatched Operating Times

Prolonged CPR efforts may benefit some patients.[3] With the Lifeline ARM's longer battery life, it is especially suited for extended periods of uninterrupted CPR accommodating long transports to, or lengthy treatments in, a hospital.

By design, the Lifeline ARM, with its advanced battery technology and flexible power options, may be operated using the rechargeable battery pack or the external AC power adapter, which even during use is capable of recharging the battery pack.

- Fastest in-unit recharge time
- Higher number of charge/discharge cycles
- Rapid battery pack swapping
- Battery pack can be inserted in multiple orientations



Highly Visible & Portable

Time is of the essence in a rescue, and equipment needs to be easy to carry, deploy, and pack up. The lightweight Lifeline ARM comes with a red canvas carrying case designed for backpack portability. Inside the structured case is a custom foam insert that perfectly contours the Lifeline ARM components for easy access and repacking.

Built to Withstand Demanding Environments

The structural design of the frame and backboard, and the housing of the compression module, combine to contribute to its extreme durability, strength, and impact resistance, making it one tough unit. Designed to be reliable and rugged, the Lifeline ARM is protected against ingress and fluid spray, and it meets military standards for vibration.

The Lifeline ARM is intended for use by qualified medical personnel, certified to administer CPR, as an adjunct to manual CPR when effective manual CPR is not possible (e.g., during patient transport, or extended CPR when fatigue may prohibit the delivery of effective/consistent compressions to the victim, or when insufficient personnel are available to provide effective CPR).

Easy to Maintain & Field Serviceable

The removable compression module makes it much more convenient to use, maintain, perform field updates, and ship-in for service.

- A USB port on the module supports data recovery of event data for post event review
- Software updates may be performed in the field making the Lifeline ARM adaptable to future resuscitation requirements
- Scheduled preventive maintenance is only needed every 18 months

Superior Value-Oriented Solution

Acquiring and maintaining the Lifeline ARM results in a better price/performance ratio because of exclusive design features such as the removable compression module, long life batteries, and affordable accessories. These, along with much longer intervals between scheduled periodic maintenance, result in easy serviceability and lower per patient costs.

Corporate Focus and Commitment

The Defibtech tradition of excellence continues to provide superior value, award winning design, and technical innovation in products with powerful features, functions, and ease of use. The results are truly useful products for helping to save lives.

Lifeline ARM Automated Chest Compression Device

RMU-1000 TECHNICAL SPECIFICATIONS†

COMPRESSIONS

COMPRESSION MODES
Continuous Compressions; Compressions with Breathing (30:2, 30 compressions with 3-second pause for ventilation) factory default; future protocols via field updates

COMPRESSION DEPTH
2.1 inches ±0.1 inches
(5.3 cm ±0.3 cm)
from start position
(nominal patient)

COMPRESSION FREQUENCY
101 ±1 compressions per minute

COMPRESSION DUTY CYCLE
50% ±5%

PHYSICAL

SIZE (assembled)
23.5 x 20.75 x 9 inches
(59.7 x 52.7 x 22.9 cm)

SIZE (in carrying case)
24 x 18 x 10 inches
(61.0 x 45.7 x 25.4 cm)

WEIGHT (with battery pack)
15.9 lbs (7.1 kg)

ADULT PATIENT RANGES
Adult patients that fit into the ACC:

Chest width –
18 inches (45.7 cm) max

Chest height –
6.5 to 11.8 inches
(16.5 to 30 cm)

Use of the RMU-1000 is not restricted by patient weight

AC POWER ADAPTER

MODEL NUMBER
RPM-1000

RATED OUTPUT
24.0VDC (±5%)

INPUT VOLTAGE
100 - 240VAC,
50/60Hz nominal

INPUT CURRENT
≤2.3A

! USA Rx ONLY

CE 0197

TÜV SÜD NRTL C US

†Specifications subject to change without notice

ENVIRONMENTAL

OPERATING / MAINTENANCE TEMPERATURE
0 to 40°C (32 to 104°F)

STANDBY / STORAGE / TRANSPORT TEMPERATURE
–20 to 70°C (–4 to 158°F)

HUMIDITY
5% to 95% (non-condensing)

VIBRATION
MIL-STD-810G 514.6
Category 20 (Ground)

SEALING / WATER RESISTANCE
IEC 60529 class IP43
(battery pack installed)

DEVICE CLASSIFICATION
Internally powered Class II
(with external power source)

ELECTROMAGNETIC COMPATIBILITY (EMISSIONS & IMMUNITY)

- IEC/EN 60601-1-2:2014
- RTCA/DO-160G Environmental Conditions and Test Procedures for Airborne Equipment, Sections 20 and 21
  - » Radiated susceptibility (category S, T)
  - » Radiated emissions (category M, L)
  - » Conducted emissions (category L, M, and H)

DESIGN STANDARDS
Meets applicable requirements of:

- IEC 60601-1
- UL 60601-1
- CAN/CSA C22.2 60601-1
- IEC 60601-1-2

BATTERY PACK

MODEL NUMBER
RBP-1000

BATTERY TYPE
18.5V, 5300 mAh, Lithium-ion. Rechargeable, recyclable.

OPERATION TIME
1 hour (nominal patient)*

BATTERY PACK CHARGE TIME
Less than 3 hours in ACC*
Less than 2 hours if charging one battery pack in optional external battery pack charging station (less than 3 hours if charging two battery packs)*

BATTERY PACK USEFUL LIFE
Recommended to replace battery pack every 3 years or if battery pack indicator displays a replace battery pack condition (~300 charge/discharge cycles**)

BATTERY PACK OPERATING TEMPERATURE
0 to 40°C (32 to 104°F)
ambient

CHARGING TEMPERATURE
0 to 40°C (32 to 104°F)
ambient

STORAGE TEMPERATURE
0 to 40°C (32 to 104°F);
–20 to 60°C (–4 to 140°F)
short-term <1 month

SEALING / WATER RESISTANCE
IEC 60529 class IP44

*typical, with new battery at 25°C

**one charge/discharge cycle is defined as charging and discharging the full capacity of the battery pack

defibtech Life-Saving Technology Within Reach

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