

Emka Life Medical

# Lifecan One

Pandemic Response Ventilators





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### Pandemic Response Ventilators

The Coronavirus pandemic has exposed an acute global shortage of ventilators, highlighting the need for large-scale accessibility and deployment of ventilation devices in times of crisis. Hospital ventilator machines are expensive and must be reserved for the most critically ill patients. In emergency situations or mass casualty events with a vast number of people in need, medical/paramedical teams may not have the resources to provide crucial initial-stage respiration care.

#### **Automated BVM-based ventilation machine**

The Life-Can ventilator was developed to provide cost-effective, mechanical ventilation for a wide range of clinical settings, for immediate and widescale deployment. Suitable for initial respiration care for sub-acute patients, the lightweight and compact device incorporates patented technology that enables a standard manual Bag Valve Mask (BVM) to operate as an automatic-mechanical ventilation machine. The system is based on two BVM models: Ambu® Oval Silicone Resuscitator and Ambu® Oval Plus Silicone Resuscitator.

Highly portable, Life-Can provides a readily available ventilation solution capable of extended operation at a stable and accurate frequency and volume, according to pre-defined parameters. The device features preset rate/tidal volume, built-in air pressure sensors, failure indicator, and a backup battery.



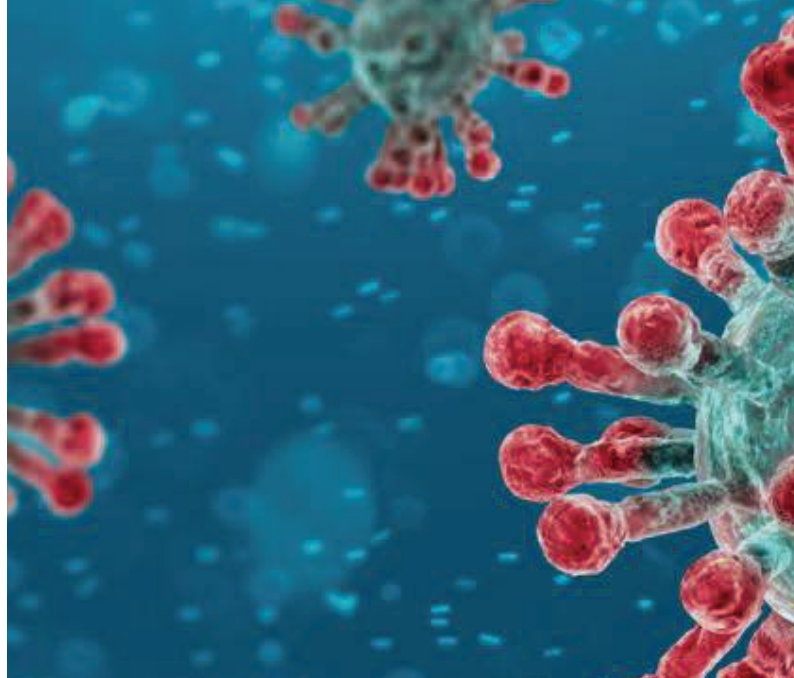
## Ventilation modes and features

Life-Can was developed in cooperation with doctors, engineers, quality and regulation personnel, to meet the standards of performance and safety required for emergency ventilators. The device is designed for quick and easy operation, intuitive for use by medical personnel, and with minimum training required for non-professional healthcare providers. The product meets the British MHRA (Medicine & Healthcare Products Regulatory Agency), RMVS standard and is approved for use by the Israeli Ministry of Health.

- **Respiration modes** – Four pre-determined respiration modes, according to Covid-19 requirements Maximum pressure 50cm H<sub>2</sub>O, with mechanical failsafe valve.

Volume	Frequency	I/E Ratio
14	600	1:2.5
18	450	1:2
20	400	1:1.5
26	350	1:1

- **Alerts:** A manometer provides audio and visual alerts in case of technical failure, high/low pressure, zero pressure, and low battery.
- **Compatibility:** The device is compatible for use, connection and integration into standard hospital ventilation tubing and oxygen humidifiers. An optional extension tube includes a one-way valve to prevent dead space.
- **Safety:** Life-Can connects to the required safety mechanisms during ventilation including HME filter, PEEP valve, and bacterial/viral filter. The ventilator complies with safety and performance standards for medical electrical equipment IEC 60601-1 and IEC 60601-2:2014. Performance testing conducted with lung simulators.



## Operational Modes

The standalone device is designed for electric and battery powered operation. A backup battery in case of electricity failure is operational for 2-3 hours. Life-Can features a standard battery pack Li-Ion 14.40V / 6.90Ah / 99.40Wh that fulfils JEITA standards, advanced temperature-dependent charging profile, fast charging and with maximized life cycle. The battery is registered with recycling systems worldwide.

## Highly Portable

Small and compact, the robust Life-Can ventilator is suitable for use in and out of hospitals, for emergency and rescue services, transport, field hospitals, and for independent operation at patient bedside. The device is also suitable for use in field hospitals, emergency transport and for inter-unit patient transfers.

## Low cost

Life-Can is capable of being deployed in large quantities for use in pandemics to treat sub-acute patients, saving the high-acuity hospital ventilators for critically ill patients. The device is designed for easy stockpiling and storage, suitable for emergency preparedness programs for large-scale public health events (epidemics, natural disasters).

## Key Features

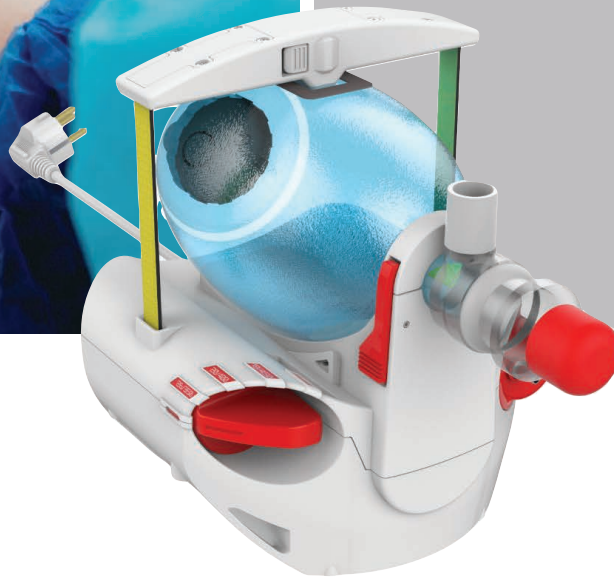
- Patent protected technology
- Standard BVM bag
- Electric and battery-powered operational modes
- Compatible with hospital ventilator tubes
- Built-in sensors and alert indicators

## Key Benefits

- Four pre-determined respiration modes
- Portable and lightweight
- Suitable for use by non-medical personnel
- High availability for crisis situations
- Rapid deployment for widescale use

## Performance Data

Ventilation Modes	A/C-VC, CPAP
Age	Adult
Tidal Volume	350-600cc
Breath Rate	14-26 BPM
Peak Inspiratory Pressure	50cmH2O
PEEP	0-20 (PEEP valve)
O <sub>2</sub>	21%-100%



## Future Options

### Wireless Monitoring and Device Management

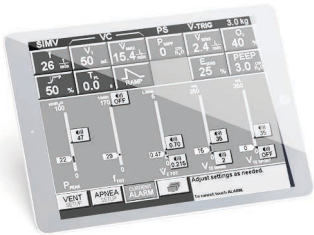
Life-Can supports next generation wireless device connectivity enabling user configuration management and monitoring of all key device parameters including battery level, alerts and tidal volume.

Multiple Life-Can ventilators can be monitored from a single work station.

### Enhanced Mobility

The Life-Can ventilator can be housed in a watertight, crushproof, and dustproof Pelican 1557 Air Case. The following components are included as part of the Life-Can ventilator:

- Ambu Bag
- PEEP Filter
- Straight connector 22M - 6mm OD stem and cap - 22F
- Straight connector 22F - 22F
- Hygrobac S 22M/15F-22F/15M with extendable catheter mount 7/16 cm with cap
- DAR™ Electrostatic Filter (Small)
- Scavenging connector, 22M - 30F
- Pocket extubation tube



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### Standard Battery Pack Li-Ion 14.40V / 6.90Ah / 99.40Wh



### Power Adaptor



#### Features

- Highest available energy density
- SMBus v1.1 compliant
- Fulfils JEITA standards
  - Advanced temperature-dependent charging profile
  - Fastest charging
  - Maximized cycle life
- Impedance tracking and cell balancing
  - No manual recalibration necessary
  - Longest lifetime
  - Comprehensive charging/discharging and passive safety systems
- Worldwide approvals
- Registered with recycling systems worldwide

#### Features

- 2 pole AC inlet IEC320-C8, Class II Power Unit
- 2xMOPP (between primary to secondary) Medical safety approved according to ANSI/AAMI ES606601-1 and IEC/EN60601-1
- Extremely low leakage current
- No load power consumption <0.15W
- Energy efficiency Level VI and meet CoC Version 5
- -30°C - +70°C working temperature range
- Short circuit, overload, over voltage, over temperature protections



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