vivo 45 LS
by Breas

Innovation for better breathing and quality of life.

WE CARE FOR PEOPLE – whether patients, healthcare professionals or employees.

This philosophy has been the driving force behind Breas Ventilators, BiLevel and CPAP/APAP devices for **30 years in more than 40 countries around the globe**.

Engineered in our founding Swedish offices and now in the USA, Breas delivers leading edge innovations that can provide patient comfort and mobility needed to improve their quality of life. Learn what our exclusive eSync™ technology, ultra quiet operation, long battery life and integrated ventilation monitoring can mean to patients and caregivers alike.

30
YEARS
BRAND OF CHOICE

40+
COUNTRIES
AROUND THE WORLD

The ultra-portable Vivo 45 LS life support ventilator is designed to maximize independence and mobility to the patient thanks to its ultra-small footprint, comfortable eSync trigger technology and quiet operation. Intended for both adult and pediatric patients,* the Vivo 45 LS together with connectivity to EveryWare, Breas' securely-hosted cloud-based application, can help deliver a more insightful approach to the care of respiratory patients in the home.

* The Vivo 45 LS is FDA 510(k) cleared for adults and pediatric patients who weigh 11 lbs / 5 kg or more, however, the mouthpiece ventilation modes are for adult patients only.
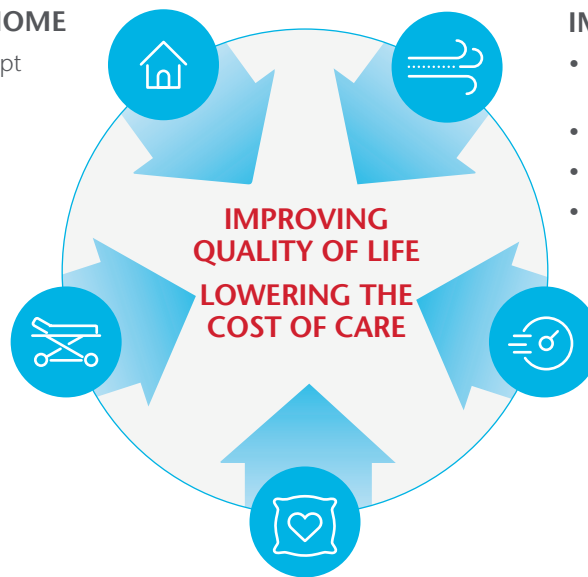
INNOVATION BY BREAS

GETTING PATIENTS HOME

- 3 easy-to-use profiles adapt to the patient's activities

HELP REDUCE READMISSIONS

- Remote connectivity to EveryWare by Breas using iLink cellular modem
- Early interventions based on advanced monitoring of SpO_2, FiO_2, $etCO_2$ and $PtcCO_2$
- eSync patient comfort promotes patient compliance

IMPROVING QUALITY OF LIFE

LOWERING THE COST OF CARE

IMPROVED CLINICAL WORKFLOW

- Integrated patient monitoring: SpO_2, FiO_2 and $etCO_2$ monitoring
- Easy to navigate menus for patient setup
- iButton for instant help information
- Support of leak, MPV and active exhalation valve circuits.

MOBILITY

- Ultra-small (8.50" x 6.26" x 5.98")
- Lightweight (5.3 lbs / 2.4 kg)
- 7.5 hours of battery life (2 hours internal, 5.5 hours click-in / hot swap)

PATIENT COMFORT

- Ultra-quiet operation (< 30 dB(A))
- eSync Technology's sensitive trigger adjusts on a breath-by-breath basis independent of leak
- Adjustable through a patient's disease state with invasive, non-invasive and mouthpiece ventilation

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Full range of modes, including SIMV and MPV

User-friendly color interface

Comprehensive alarms

Multiple circuits: single limb with exhalation valve, leakage port or MPV

Highly accurate volume delivery and responsive trigger

Pediatric use, weighing 11 lbs / 5 kg or more

Up to 60 bpm (controlled)

Exhalation valve

Intuitive menu structure

iButton explains functions and alarms

Integrated monitoring for $etCO_2$ with $PtcCO_2$ device integration

Integrated monitoring capabilities for SpO_2

Remote Start/Stop, Audio Pause

Connection for remote alarm and nurse call

USB connection

7.5 hour autonomy with the 2 hour internal battery and 5.5 hour click-in battery

Vivo 45 LS Technical Specifications

Settings / Performance	
Ventilation Modes	PSV, PSV(TgV), PCV, PCV(TgV), PCV(A), PCV(A+TgV), PCV-SIMV, PCV-MPV, VCV, VCV(A), VCV-SIMV, VCV-MPV, CPAP
Patient Modes	Adult, Pediatric
Device Modes	Home, Clinical
Profiles	3 settable profiles
Inspiratory Pressure	4 to 50 cmH_2O, max PS of 30 cmH_2O above PEEP (Pediatric)
PEEP	2 cmH_2O to 20 cmH_2O, IPAP -2 cmH_2O or Min IPAP -2 cmH_2O
Breath Rate/Backup Rate	4 - 40 bpm (Adult), 6 - 60 bpm (Pediatric)
Inspiratory Time/Backup Insp. Time	0.3 to 5 s (Adult), 0.3 to 2 s (Pediatric)
Rise Time	1 to 9 (PSV & PCV), 50 to 90%, Off (VCV)
Inspiratory Trigger	1 to 9 (PSV & PCV, VCV), Off (PCV, VCV)
Expiratory Trigger	1 to 9
Minimum Inspiratory Time	Off, 0.3 to 3 s (Adult), Off, 0.3 to 2 s (Pediatric)
Maximum Inspiratory Time	0.3 to 5 s, Off (Adult), 0.3 to 2 s, Off (Pediatric)
Tidal/Target Volume	Off, 300 - 2000 ml (Adult), Off, 50 - 400 ml (Pediatric)

Monitoring	
Displayed data	Ppeak, PEEP, Pmean, Leakage, MV, Vt, FiO_2, % in TgV, Total Rate, Spont Rate, % Spont, SpO_2, Pulse Rate, I:E, Inspiratory Time, Rise Time, $etCO_2$, $InspCO_2$, $PtcCO_2$
Waveforms	Pressure, flow, volume, $etCO_2$, leakage
Trends over 1, 6, 24, 48 h and 10 days on device screen	SpO_2, Ppeak, PEEP, Total Rate, Spontaneous Rate, Leakage, Vte, $etCO_2$

Power Supplies	
Mains supply	100 to 240 V AC
External DC	19 V ± 6 V
Click-in battery	5.5 hours
Internal battery	2 hours

Main alarms	
Alarms	High Pressure, Low Pressure, High PEEP; Low PEEP, High Vti, Low Vti , High MVi, Low MVi, High Vte, Low Vte, High MVe, Low MVe, High Breath Rate, Low Breath Rate, Apnea, Disconnection, Rebreathing, Obstruction, High FiO_2, Low FiO_2, High SpO_2, Low SpO_2, High $etCO_2$, Low $etCO_2$, High $InspCO_2$, High Pulse Rate, Low Pulse Rate, $PtcCO_2$, Power Fail, High Patient Air Temp, Low Patient Air Temp, Low Last Power Source, Crit. Low Last Power Source, Lost Mains Power, Exhalation Valve Control Error, SpO_2 Disconnection, SpO_2 Signal Lost, Poor SpO_2 Signal, CO_2 Disconnection,CO_2 Accuracy, Check CO_2 Adapter, CO_2 Sensor, FiO_2 Disconnection.

Dimensions	
W x H x D	8.50" x 6.26" x 5.98" (216 x 159 x 152 mm)
Weight	5.3 lb (2.4 kg)
Noise level (at 10 cmH2O constant pressure)	Less than 30 dB(A)

Connectivity and Software	
Built-in connectivity	Ethernet, USB
Compatible Software	EveryWare by Breas
Plug-and-Play accessories	SpO_2, $PtcCO_2$, $etCO_2$, FiO_2, Nurse Call, Remote Alarm, Remote Start/Stop

Other	
Circuits	Leakage Circuit, MPV Circuit, Circuit with Active Exhalation Valve

Intended use: The Vivo 45 LS ventilator (with or without the SpO_2 and CO_2 sensors) is intended to provide continuous or intermittent ventilatory support for the care of individuals who require mechanical ventilation. Specifically, the ventilator is applicable for pediatric through adult patients weighing more than 5 kg (11 lbs.), however, the mouthpiece ventilation modes are for adult patients only. The Vivo 45 LS with the SpO_2 sensor is intended to measure functional oxygen saturation of arterial hemoglobin (%SpO_2) and pulse rate. The Vivo 45 LS with the CO_2 sensor is intended to measure CO_2 in the inspiratory and expiratory gas. The device is intended to be used in home, institution, hospitals and portable applications such as wheelchairs and gurneys. It may be used for both invasive and non-invasive ventilation. The Vivo 45 LS is not intended to be used as an emergency transport or critical care ventilator.

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