

vyaire™
MEDICAL



LTV2™ ventilator series

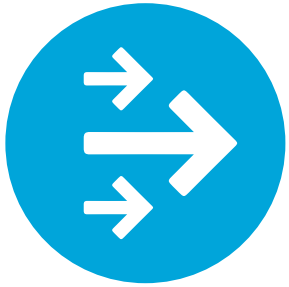
Versatility, reliability, and performance maximized
for your ventilation needs.



ERTUNÇ ÖZCAN

Innovation

Bringing more freedom to patients since 1999



LTV 900 and 950

Released 1999

First-to-market true portable ventilator



LTV 1000

Released 1999

High pressure oxygen source added military airworthiness



LTV 1200

Released 2006

Integrated PEEP valve in ventilator



LTV 1150

Released 2007

Integrated PEEP valve in ventilator

Our LTV ventilator was the first-to-market, turbine-driven portable mechanical ventilator. It launched an era of freedom for mechanically-ventilated patients that continues today.

With the advancement of ventilator innovation the patient experience has evolved to improve comfort and make daily living easier.

Before the LTV ventilator, portable ventilators were larger, microprocessor controlled, and electrically powered machines that weighed at least 28 lbs.

Our revolutionary LTV turbine technology redefined portability by enabling us to produce a ventilator in a light compact design.

The LTV2 ventilator series is now part of Vyair Medical

As we continue to innovate and refine our legacy, the LTV2 ventilator series is now part Vyair Medical. Vyair is a dedicated respiratory care company focused on improving patient outcomes and increasing value for customers.



LTV 1200 MR

Released 2009

Affordable MR
conditional option



LTV 1100

Released 2010

Volume ventilator
with integrated
PEEP compensation

History of the Future

Over the years, we have enhanced our LTV ventilators with a series of line extensions and improvements. Decades later, the LTV has established a reputation of reliability, versatility and durability.

With our new LTV2 2200 and LTV2 2150 models, we continue to innovate by providing more capabilities, higher performance and greater portability. Plus, our LTV2 ventilators have an as easy-to-use interface, making it simple to use for clinicians.

LTV2 2200 and LTV2 2150

Released 2017 for
certain markets



Highlights

Improved portability and enhanced power capabilities make the LTV2 ventilator series the right choice for any situation

With enhanced features, the new LTV2 ventilator series provides the power and portability needed for your early mobility and patient transport needs. The new LTV2 ventilators also provide improved patient synchrony in a compact, lightweight size with unlimited hot swappable battery power.



Hot swappable battery

- Uninterrupted freedom with 4-hour hot swappable battery
- 3.5-hour internal battery
- Two hot swappable batteries can simultaneously recharge in 2 hours
- Easy to read and accessible battery level check

Lower cost of ownership

- 2-year warranty
- Field service option for hospitals
- Longer preventative maintenance intervals

1 Data output capabilities

- Remote monitoring
- Nurse call
- Electronic medical record (EMR) systems

2 Updated alarms

- Separate alarm silence and reset buttons
- Alarm tones based on alarm priority
- Meets ISO 60601-2 3rd edition standards

3 NPPV enhancements

- Up to 70% flow cycle
- Higher leak compensation
- Settable breath rate for mandatory pressure control breaths

4 Sigh breath for more natural breathing

- 1 sigh every 100 breaths or every 7 minutes, whichever comes first

5 Extended features

- Adjustable bias flow
- Lower inspiratory flow range

6 Improved power capabilities

- Completely removable and durable power cord
- 11–29 volts DC allows for connection to a variety of transport power sources including wheelchairs and automobiles



Versatile solutions for hospital respiratory needs

Portable ventilators are tools to increase productivity and efficiency in a variety of clinical settings.¹ The LTV2 ventilator models, with virtually unlimited battery power, deliver consistent and accurate tidal volume, ventilation rate, oxygen concentration and continuous monitoring in any situation.²



Acute care

The LTV2 ventilators are ideal for acute care hospitals in a variety of situations, including:

- Admitting mechanically ventilated patients into the emergency room
- Executing early mobility exercises as part of the weaning program
- Transporting patients from surgery or diagnostics

Intra-hospital transport

Portable LTV2 ventilators are perfect for transporting patients. Its rugged design withstands bumps and accidental drops,² while the hot swappable battery extends ventilator power for 7.5 hours or more.

Data Management

LTV2 ventilator models provide clinical decision support with EMR connectivity. VOXP is located on the ventilator for easy set up.



Mobility

Early mobility combined with awakening/breathing coordination can help:³⁻⁵

- Reduce the number of days a patient is on a mechanical ventilator
- Improve outcomes
- Decrease the length of hospital stay

LTV2 ventilators are lightweight and offer 7.5 hours or more of battery life. Combined with the automated spontaneous breathing trial functionality, LTV2 ventilators simplify the weaning effort during early mobility therapy.

Service

For enhanced convenience and peace of mind, we provide field service to hospitals so there is little to no ventilator downtime.





Versatile solutions for hospital respiratory needs



Continuing care

Long-term acute care hospital

When stable, mechanically ventilated patients are discharged from the ICU to long-term acute care hospitals, the LTV2 ventilator can help increase efficiencies with weaning via the automated spontaneous breathing trial feature and simplification of patient mobility.

Skilled nursing facility

The LTV2 ventilator is a versatile blend of performance and portability, which makes it an ideal choice for patients in skilled nursing facilities. LTV2 ventilators meet higher acuity patients' demand at an affordable price, offering more versatility.



Specifications with boots (approx.)

| | |
|--------|------------------------------------|
| Weight | 11.5 lbs (5.2kg) (without battery) |
| Height | 3.5" (8.9 cm) |
| Width | 10.75" (27.3 cm) |
| Depth | 14" (35.6 cm) |

Variable alarms

| | |
|---------------------|--|
| Apnea interval | 10–60 seconds |
| High pressure limit | 5–99 cmH ₂ O (4.9 to 97.1 hPa) |
| Low peak pressure | Off, 1–60 cmH ₂ O (1–59 hPa) |
| Low minute volume | Off, 0.1–99 liters |
| High PEEP | Off, 3–20 cmH ₂ O (3–20 hPa) above set PEEP |
| Low PEEP | Off, -3--20 cmH ₂ O (-3--20 hPa) below set PEEP |
| High breath rate | Off, 5–80 bpm |
| Alarm volume | 63–80 dBA at 1 meter |

Controls

| | |
|---------------------------|---|
| Power | On/standby |
| Modes | Control, Assist/Control, SIMV, CPAP, NPPV, apnea backup |
| Breath types | Volume, pressure, pressure support, sigh, spontaneous |
| Breath rate | 1–80 bpm |
| Tidal volume | 50–2000 mL |
| Inspiratory time | 0.3–9.9 seconds |
| Pressure support | 1–60 cmH ₂ O (1–59 hPa) |
| Pressure control | 4–98 cmH ₂ O (4–96 hPa) Off, 4–60 cmH ₂ O (NPPV) (4–59 hPa) |
| Sensitivity | Off, 1–9 lpm |
| PEEP/CPAP | 0–20 cmH ₂ O (0–20 hPa) |
| Insp/Exp hold | 6 second maximum |
| Manual breath | 1 x current settings |
| Control lock | Easy or hard unlock options |
| Bias flow | 0, 5–15 lpm |
| Variable flow termination | 10–70% |
| Leak compensation | Up to 11 lpm |

Monitors and indicators

| | |
|---------------------------|---|
| Peak inspiratory pressure | 0–99 cmH ₂ O (0–97 hPa) |
| Mean airway pressure | 0–99 cmH ₂ O (0–97 hPa) |
| PEEP | 0–99 cmH ₂ O (0–97 hPa) |
| Breath rate | 0–98 bpm |
| Airway pressure display | -10–100 cmH ₂ O (-10–98 hPa) |
| Exhaled tidal volume | 50–4000 mL |
| Exhaled minute volume | 0–99.9 liters |
| I:E Ratio | 99:1 and 1:99 |
| Calculated peak flow | 5–100 lpm |
| AutoPEEP | 0–99 cmH ₂ O (0–97 hPa) |
| Static compliance | 1–999 mL/cmH ₂ O |
| Patient effort | Green LED |
| Data | VOXP and serial data |

Environmental specifications

| | |
|-----------------------|-----------------------|
| Operating temperature | 5–40 °C (40–104 °F) |
| Storage temperature | -20–60 °C (-4–140 °F) |
| Operating humidity | 15–95% relative |
| Storage humidity | Up to 93% relative |

Pneumatic specifications

| | |
|---------------------|-----------------------------|
| Low pressure source | <80 lpm, <10 PSIG (170 KPa) |
| Pressure oxygen | 40–80 PSIG (276–552 KPa) |

Power indicators

| | |
|--------------------------|--------------------|
| External power | Green LED |
| Battery charge status | Digital display |
| Internal battery in use | Green LED |
| Removable battery in use | Green LED |
| Internal/Removable | Blinking green LED |

Communication

| | |
|-------------------------------------|--------|
| Communications | RJ11-6 |
| Nurse Call/Remote Alarm | RJ9-4 |
| Ventilator open XML protocol (VOXP) | RJ45-8 |

Fixed alarms

| |
|---------------------------------|
| Circuit disconnect/sense line |
| External power low and lost |
| Internal battery low and empty |
| Removable battery low and empty |
| Ventilator inoperative |

Extended features

| |
|--|
| Spontaneous breathing trial (SBT) |
| Ventilator presets (Infant, pediatric and adult) |
| Variable rise time |
| Variable flow termination |
| Variable time termination |
| Battery ops |
| Pressure control flow termination |
| Leak compensation |
| Queries |

O₂ conserve (2200 model only)

Power specifications

| |
|---|
| Ventilator input TI–29 VDC |
| AC Adaptor input: 100–240 VAC, 50–60 Hz |
| AC Adaptor output: 15 Vdc |

Standards and regulatory compliance

| |
|--|
| IEC 60601-1 |
| 3rd edition alarms |
| Ingress protection IP22 |
| Vibration compliance IEC 60068-2-6 / IEC 60068-2-64 |
| Shock compliance IEC 60068-2-27 |
| RTCA/DO160G: 2010 EMC tests |

Warranty

2-year manufacturer warranty

LTV2 ventilator part numbers

LTV2 2200 models

| Part no. | Description |
|-----------|---|
| 22690-001 | LTV2 2200 ventilator with oxygen hose and adapter, operators manual, power supply and power cord. |

LTV2 2150 models

| | |
|-----------|---|
| 22685-001 | LTV2 2150 ventilator with oxygen port, operators manual, power supply and power cord. |
|-----------|---|

LTV2 ventilators shown with optional items. Please ask your Vyair representative for a complete line of LTV2 ventilator accessories and attachments.



Common accessories

| Part no. | Description |
|-----------|--|
| 26618-001 | Hot swappable battery |
| 22770-001 | Desktop charger, English overlay |
| 34093-001 | LTV2, external power cable |
| 22758-001 | Cable, external battery, LTV2 |
| 28905-001 | Power wheelchair adapter |
| 22759-001 | Automobile power adapter |
| 29673-001 | Transport bag |
| 30509-001 | Table stand |
| 30512-001 | Bed-rail mount |
| 25343-002 | Power cord 100/120V, 10A, 3 m, Class I |
| 25531-001 | Oxygen hose, 3 m, DISSF/DISSF, GREEN |

For more information, please contact your local representative.



LTV2 ventilators with customized key applications

| Model | LTV2 2200 | LTV2 2150 |
|--------------------------------------|-----------|-----------|
| Ideal for hospitals | ● | |
| Ideal for skilled nursing facilities | ● | ● |
| High pressure O ₂ inlet | ● | |
| Low pressure O ₂ inlet | ● | ● |
| O ₂ flush | ● | |
| O ₂ cylinder duration | ● | |
| O ₂ conserve | ● | |
| Integrated O ₂ blender | ● | |



LTV2 2200 ventilator



LTV2 2150 ventilator

For more information, please contact your local Vyair representative.

REFERENCES

1. Blakeman T. Respir Care 2013;58(2):264 –272.
2. LTV2 operators manual
3. Hashem MD, Nelliott A, Needham D. Early mobilization and rehabilitation in the ICU: moving back to the future. Respiratory Care 2016. DOI: 10.4187/respcare.04741
4. Bailey P, Thomsen GE, Spuhler VJ, Blair R, Jewkes J, Bezdjian L, et al. Early activity is feasible and safe in respiratory failure patients. Crit Care Med 2007;35(1):139-145.
5. Morandi A, Brummel NE, Ely EW. Sedation, delirium and mechanical ventilation: the“ABCDE” approach. Curr Opin Crit Care 2011; 17(1):43-49.

⚠ CAUTION—U.S. Federal Law restricts this device to sale by or on the order of a physician.

GLOBAL HEADQUARTERS

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Rx ONLY For U.S. distribution under the EUA.

The LTV2 EUA has not been FDA approved or cleared. It has been authorized by the FDA under an emergency use authorization to provide continuous or intermittent ventilatory support for the care of individuals who require mechanical ventilation. The LTV2 is for institutional use only and shall only be utilized for the duration of the public health emergency.

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