vyaire™ MEDICAL

LTV2™ ventilator series

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

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 is a 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.

Earlier, 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 Vyaire Medical

As we continue to innovate and refine our legacy, the LTV2 ventilator series is now part Vyaire Medical. Vyaire Medical 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

LTV2 2200 and LTV2 2150

Released 2017

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 as the LTV, making it simple to use for clinicians.

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 increased 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

- 1-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 increased 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]

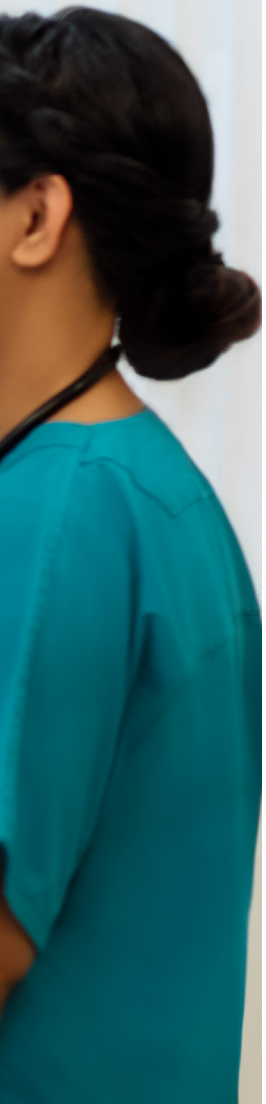
- Reduce the number of days a patient is on a mechanical ventilator
- Improve outcomes
- Decrease the length of hospital stay

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_2O *(4.9 to 97.1 hPa)*
Low peak pressure	Off, 1–60 cmH_2O *(1–59 hPa)*
Low minute volume	Off, 0.1–99 liters
High PEEP	Off, 3–20 cmH_2O *(3–20 hPa)* above set PEEP
Low PEEP	Off, -3–-20 cmH_2O *(-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_2O *(1–59 hPa)*
Pressure control	4–98 cmH_2O *(4–96 hPa)* Off, 4–60 cmH_2O *(NPPV) (4–59 hPa)*
Sensitivity	Off, 1–9 lpm
PEEP/CPAP	0–20 cmH_2O *(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_2O *(0–97 hPa)*
Mean airway pressure	0–99 cmH_2O *(0–97 hPa)*
PEEP	0–99 cmH_2O *(0–97 hPa)*
Breath rate	0–98 bpm
Airway pressure display	-10–100 cmH_2O *(-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_2O *(0–97 hPa)*
Static compliance	1–999 mL/cmH_2O
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 *(pediatric and adult)*
- Variable rise time
- Variable flow termination
- Variable time termination
- Battery ops
- Pressure control flow termination
- Leak compensation
- Queries
- O_2 conserve *(2200 model only)*

Power specifications

- Ventilator input 11–29 VDC
- AC Adaptor input: 100–240 VAC, 50–60 Hz
  AC Adaptor output: 15 Vdc

Standards and regulatory compliance

- IEC 60601-1
- IEC 60601-1- 8: 2006 (Second Edition) + Am.1: 2012
- Ingress protection IP22
- IEC 60068-2-27:2008, Environmental testing - Part 2-27 - Test Ea and guidance: Shock
- IEC 60068-2-31: 2008, Environmental testing - Part 2-31: Tests - Test Ec: Rough handling shocks, primarily for equipment-type specimens
- IEC 60068-2-64:2008, Environmental testing - Part 2-64: Tests- Test Fh: Vibration, broadband random and guidance

Warranty

- 1-year manufacturer warranty

LTV2 ventilator part numbers

LTV2 2200 models

Part no.	Description
22690-002	LTV2 2200 ventilator with white oxygen hose and adapter, operators manual, power supply and choice of power cord

LTV2 2150 models

22685-002	LTV2 2150 ventilator with oxygen port, operators manual, power supply and choice of power cord type

For more information, please contact your local representative.

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

Common accessories

Part no.	Description
26618-001	Hot swappable battery
22770-201	Desktop charger, international
22770-001	Desktop charger, English overlay
28905-001	Power wheelchair adapter
22759-001	Automobile power adapter
29673-001	Transport bag
001853	Inspiratory filter, HEPA, *(50/pkg.)*
30512-001	Bed-rail mount
25343-001	Power cord 100/120V, 10A, 2.5 m, Class II
25343-002	Power cord 100/120V, 10A, 3 m, Class I
25570-001	Power cord 230V,10A, 2.5 m
25572-001	Power cord 230V,10A, 2.5 m
25571-001	Power cord 230V, 10A, 2.5 m
25563-001	Power cord 230V, 10A, 2.5 m
31617-001	Adapter *(DISS to SIS)*
31604-001	Adapter *(DISS to NIST)*
25531-001	Oxygen hose, 3 m, DISSF/DISSF, GREEN
25540-001	Oxygen hose, 3 m, SISF/SISF, WHITE
25534-001	Oxygen hose, 3 m, NIST/NIST, WHITE

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 contact your local Vyaire representative.

REFERENCES

1. Blakeman T. Respir Care 2013;58(2):264 –272.
2. LTV2 operators manual
3. Hashem MD, Nelliot 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.

GLOBAL HEADQUARTERS

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℞ONLY **For Japan distribution.**

Not all models of LTV may be available in every market, please reach out to a Vyaire representative for information on availability.

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