

LTV2™ ventilator series

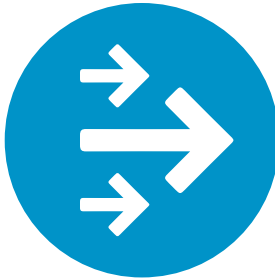
LTV2 2200
LTV2 2150

Versatility, reliability and
performance for any situation



Innovation

Bringing more freedom to patients since 1999



LTV 900 and 950

Released 1999

First-to-market true portable ventilator

Our original LTV 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 on the market were



LTV 1000

Released 1999

High pressure oxygen source added military airworthiness



LTV 1200

Released 2006

Integrated PEEP valve in ventilator

larger, microprocessor controlled, electrically powered machines that weighed at least 28 lbs.

Our revolutionary LTV turbine technology redefined portability by enabling us to make our portable ventilator significantly smaller and half the weight of others on the market.



LTV 1150

Released 2007

Integrated PEEP valve in ventilator



LTV 1200 MR

Released 2009

Affordable MR conditional option

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 and home care providers alike.



LTV 1100

Released 2010

Volume ventilator with integrated PEEP compensation

LTV2 2200 and LTV2 2150

Released 2017



Leading edge enhancements

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 virtually 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) connectivity

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
- 83% 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
- Expanded inspiratory time range at 50 mL

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



Life made easier from hospital to home

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



Hospital

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 and reliable



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.

Home care

Physicians can have confidence in prescribing LTV2 ventilators for ventilator-dependent patients because of their portable power, dependability and ease of use.

The LTV2 ventilator features a hot swappable battery, which provides virtually unlimited battery power so patients experience more freedom.

The upgraded design of the LTV2 ventilator features a durable power connection and broader voltage range for compatibility with a wider variety of wheelchairs and other transport power sources.



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	
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	
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
22690-002	LTV2 2200 ventilator with white oxygen port, gas hose adapter, operators manual, power supply and choice of power cord
LTV2 2150 models	
Part no.	Description
22685-002	LTV2 2150 ventilator with white oxygen port, operators manual, power supply and choice of power cord type

For more information, please contact Customer Service at **+1 763.398.8300**.



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, DISS/DISSF, GREEN
25540-001	Oxygen hose, 3 m, SISF/SISF, WHITE
25534-001	Oxygen hose, 3 m, NIST/NIST, WHITE

From hospital to home—choose an LTV2 ventilator model for any environment

Model	LTV2 2200	LTV2 2150
Ideal for hospitals	●	
Ideal for skilled nursing facilities	●	●
Ideal for home care		●
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 Customer Service at **+1 763.398.8300**.

References

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

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