

VENTILATION



NEW



# LUISA

Life support ventilation

LÖWENSTEIN  
medical

# LUISA Air for an active life.

- Battery run time up to 18 hours
- Display 10-inch touchscreen
- Positioning vertical or horizontal
- Connectivity Bluetooth, prisma CLOUD, App, monitor connection
- Monitoring  $\text{FiO}_2$  and  $\text{SpO}_2$  measurement
- Functionality ventilation up to 30 ml VT; High-Flow Mode\*, CPAP and MPV in all circuit systems
- Safety alarm displayed in two languages
- Uncomplicated no adapter, intuitive operation



Inhale, exhale – something most people do without giving it much thought. With LUISA, the new, highly efficient ventilator from Löwenstein Medical, ventilated patients can do the same. LUISA is especially mobile, compact and lightweight. It can be operated in a vertical or horizontal position and flexibly attached to a wheelchair or bed. The ventilator's battery has a

run time of up to 18 hours, giving the user a larger radius of action and a good feeling of extra security.

It's easy to operate LUISA via the 10-inch touchscreen and intuitive menu navigation. Other features simplify everyday use. LUISA provides the air needed for an active, mobile life and opens up brand new opportunities for users.

\* HFT not available in Germany



## Technical Data

Product class to 93/42/EEC	II b	Mean sound pressure level/operation to ISO 80601-2-72	
Product standards	EN ISO 80601-2-72: Ventilators for medical use – Part 2-72: Particular requirements for basic safety and essential performance of home healthcare environment ventilators for ventilator-dependent patients	<ul style="list-style-type: none"> <li>• at ≥ 500 ml</li> <li>• at ≥ 150 ml</li> <li>• at ≥ 30 ml</li> </ul>	38,5 dB(A) ± 3 dB(A), sound power level 46.5 dB(A) ± 3 dB(A) 37 dB(A) ± 3 dB(A), sound power level 45 dB(A) ± 3 dB(A) 41 dB(A) ± 3 dB(A), sound power level 49 dB(A) ± 3 dB(A)
Dimensions W x H x D in cm	30 x 13 x 21	IPAP pressure range	
Weight	3.8 kg	<ul style="list-style-type: none"> <li>• Leakage circuit</li> <li>• Valve circuit</li> <li>• Pressure range leakage system EPAP</li> <li>• Pressure range PEEP valve system</li> <li>• Pressure range CPAP</li> </ul>	4 cmH <sub>2</sub> O – 50 cmH <sub>2</sub> O 6 cmH <sub>2</sub> O – 60 cmH <sub>2</sub> O 4 cmH <sub>2</sub> O – 25 cmH <sub>2</sub> O 0 cmH <sub>2</sub> O – 25 cmH <sub>2</sub> O 4 cmH <sub>2</sub> O – 20 cmH <sub>2</sub> O
Temperature range		Respiratory frequency, adult	2 – 60 bpm
<ul style="list-style-type: none"> <li>• Operation:</li> <li>• Transport and storage:</li> </ul>	+5 °C to +40 °C -25 °C to +70 °C	Respiratory frequency, pediatric	5 – 80 bpm
Permitted humidity for operation, transport and storage	Relative humidity 10% to 90%, no condensation 35 °C to 70 °C at a water vapor pressure up to 50 hPa	Ti min, Ti max, Ti timed	0.2 s – 4 s (pediatric) 0.5 s – 4 s (adult) auto (Ti timed only)
Modes		Tidal volume	30 ml – 400 ml (pediatric) 100 ml – 3000 ml (adult)
<ul style="list-style-type: none"> <li>• Leakage system</li> <li>• Single-circuit with valve system</li> <li>• Double-circuit system</li> </ul>	CPAP, HFT (not in Germany), S, ST, autoST, T, PSV, aPCV, PCV, P-SIMV, V-SIMV, MPVp, MPVv CPAP, HFT (not in Germany), PSV, aPCV, PCV, aVCV, VCV, P-SIMV, V-SIMV, MPVp, MPVv CPAP, HFT (not in Germany), PSV, aPCV, PCV, aVCV, VCV, P-SIMV, V-SIMV, MPVp, MPVv	Trigger type	Flow trigger
Air pressure range	700 hPa to 1100 hPa, corresponds to an altitude of 3,000 m above mean sea level	Trigger level	
Maximum air flow at 20 hPa	> 220 l/min	<ul style="list-style-type: none"> <li>• Inspiration</li> <li>• Expiration</li> </ul>	1 (high sensitivity) to 10 (low sensitivity) 95% to 5% of maximum flow in 5% steps
Display size	10-inch touchscreen	Speed of pressure increase adult	Level 1: 100 cmH <sub>2</sub> O/s Level 2: 80 cmH <sub>2</sub> O/s Level 3: 50 cmH <sub>2</sub> O/s Level 4: 20 cmH <sub>2</sub> O/s
System interface	3 VDC/0.2 A When connecting the prismaHub device: 24 VDC/0.2 A	Speed of pressure increase pediatric	Level 1: 135 cmH <sub>2</sub> O/s Level 2: 100 cmH <sub>2</sub> O/s Level 3: 80 cmH <sub>2</sub> O/s Level 4: 50 cmH <sub>2</sub> O/s
Power consumption on standby without battery charging	230 V AC / 0.07 A	Speed of pressure increase MPV mode	Level 1: 60 cmH <sub>2</sub> O/s Level 2: 45 cmH <sub>2</sub> O/s Level 3: 30 cmH <sub>2</sub> O/s Level 4: 15 cmH <sub>2</sub> O/s
48 V DC / 0.30 A		Speed of pressure reduction (in leakage ventilation only) adult	Level 1: 100 cmH <sub>2</sub> O/s Level 2: 80 cmH <sub>2</sub> O/s Level 3: 50 cmH <sub>2</sub> O/s Level 4: 20 cmH <sub>2</sub> O/s
24 V DC / 0.61 A		Speed of pressure reduction (in leakage ventilation only) pediatric	Level 1: 135 cmH <sub>2</sub> O/s Level 2: 100 cmH <sub>2</sub> O/s Level 3: 80 cmH <sub>2</sub> O/s Level 4: 50 cmH <sub>2</sub> O/s
12 V DC / 1.21 A		Tidal volume	30 ml – 3000 ml
Power consumption during ventilation without battery charging		Minute volume (as measured over the previous five breaths)	30 ml – 3000 ml
Screen brightness 90%		Maximum permitted flow for oxygen supply	30 l/min
Ventilation settings:		Permitted pressure for oxygen supply	< 1000 hPa (< 1 bar)
Mode: T		FiO <sub>2</sub> measurement range	21% – 100%
Configuration: Adult	230 V AC / 0.18 A	HFT flow range adult:	5 – 60 l/min
Leakage circuit, 15 mm	48 V DC / 0.81 A	HFT flow range pediatric:	5 – 25 l/min
Additional accessories: Breathing system filter, WILAsilent exhalation system	24 V DC / 1.61 A	Fine filter	
IPAP: 40	12 V DC / 2.86 A	<ul style="list-style-type: none"> <li>• up to 1 µm</li> <li>• up to 0.3 µm</li> </ul>	≥ 99.5% ≥ 85%
EPAP: 4		Service life of fine filter	about 250 h
F: 26.5		USB flash drive	USB-C 3.1
Ti: 1.1		Settable alarms	<ul style="list-style-type: none"> <li>• High leakage</li> <li>• Low pressure</li> <li>• High pressure</li> <li>• Apnea</li> <li>• Low volume</li> <li>• High volume</li> <li>• Low frequency</li> <li>• High frequency</li> <li>• Low minute volume</li> <li>• High minute volume</li> <li>• Low FiO<sub>2</sub></li> <li>• High FiO<sub>2</sub></li> <li>• Low SpO<sub>2</sub></li> <li>• High SpO<sub>2</sub></li> <li>• Low pulse</li> <li>• High pulse</li> </ul>
Pressure increase: 1			
Pressure reduction: 1			
Test lung bag			
Electrical connection, device maximum	48 V DC / 2.7 A 24 V DC / 5.4 A 12 V DC / 7.0 A		
Power supply unit			
<ul style="list-style-type: none"> <li>• Input voltage/maximum current</li> <li>• Input frequency</li> <li>• Output voltage/maximum current</li> </ul>	100 – 240 V AC, 2-I A 50 – 60 Hz 48 V DC / 2,7 A		
Internal/external battery			
<ul style="list-style-type: none"> <li>• Type</li> <li>• Nominal capacity</li> <li>• Nominal voltage</li> <li>• Energy</li> <li>• Typical discharge cycles</li> </ul>	Li-Ion 3200 mAh 29.36 V 93.7 Wh 500 charging cycles		
Operating hours of internal battery assuming following settings:			
Double circuit, PCV mode, f=20/min, Ti=1 s, PEEP=off, Vt=800 ml	≥ 6 hours		
Passive lung: Resistance R = 5 hPa/(l/s); Compliance C = 50 ml/hPa			
Duration of complete battery charge	< 6 hours		
Duration of 80% battery charge	< 5 hours		
Classification to IEC 60601-1-11:			
<ul style="list-style-type: none"> <li>• Class of protection against electric shock</li> <li>• Degree of protection against electric shock</li> <li>• Protection against harmful ingress of solids and water</li> </ul>	Protection class II Type BF IP22		

## Accessories

Description	Order Nr.	Description	Order Nr.
Bacteria and virus filter Teleflex Iso-Gard (breathing system filter)	WM 27591	Power supply holder for trolley 2.0	LMT 31351
FiO <sub>2</sub> measuring cell	LMT 31502	Water bag pole for trolley 2.0	LMT 31353
Silentflow 3 exhalation valve	WM 25500	Fixing set for oxygen bottles for trolley 2.0	LMT 31352
WILAsilent exhalation valve	WM 27589	Circuit holder for trolley 2.0	LMT 31354
Leakage circuit, 15 mm Ø	WM 29988	Set, LUISA device plate for trolley 2.0	LMT 31359
Leakage circuit, 22 mm Ø	WM 23962	Set, LUISA plate for trolley 2.0	LMT 31371
Leakage circuit, autoclavable, 22 mm Ø	WM 24667	Mounting bracket for ISO rail	LMT 31368
Leakage circuit, mouthpiece ventilation 15 mm Ø	WM 27651	Exhalation module (disposable)	LMT 31404
Single circuit with valve, 15 mm Ø	LMT 31383	Exhalation module (autoclavable)	LMT 31413
Single circuit with valve, 22 mm Ø	LMT 31382	External battery	LMT 31540
Double circuit, 15 mm Ø	LMT 31577	Charger for external battery	LMT 31594
Double circuit, 22 mm Ø	LMT 31581	VENTIremote alarm LUISA, 10 m	LMT 31560
Mobility bag	LMT 31554	VENTIremote alarm LUISA, 30 m	LMT 31570
LUISA hospital trolley, consisting of: <ul style="list-style-type: none"> <li>• Trolley 2.0 (LMT 31355)</li> <li>• Set, LUISA plate for trolley 2.0 (LMT 31371)</li> <li>• Power supply holder (LMT 31351)</li> <li>• Water bag holder (LMT 31353)</li> <li>• Fixing set for oxygen bottles (LMT 31352)</li> <li>• Circuit holder (LMT 31354)</li> </ul>	LMT 31370	Cable, 10 m, nurse call for LUISA	LMT 31510
		Cable, 30 m, nurse call for LUISA	LMT 31520
		CD-ROM with prismaTS software	WM 93331
		USB flash drive	LMT 31604
		COM cable for Philips Intellivue Monitors	LMT 31414
		Set, 90° circuit adapter	LMT 15984
LUISA homecare trolley, consisting of: <ul style="list-style-type: none"> <li>• Trolley 2.0 (LMT 31355)</li> <li>• Set, LUISA plate for trolley (LMT 31371)</li> <li>• Power supply holder (LMT 31351)</li> </ul>	LMT 31360	SpO <sub>2</sub> sensor	
		• Size S	LMT 31580
		• Size M	LMT 31396
		• Size L	LMT 31388
Trolley 2.0	LMT 31355	Connecting cable Xpod SpO <sub>2</sub> sensor	LMT 31593

## Scope of delivery

Description	Order Nr.	LUISA with HFT mode 31390-1110
LUISA basic device, LM150TD without HFT	LMT 31430	–
LUISA basic device, LM150TD with HFT	LMT 31410	x
Protective bag	LMT 31417	x
Single circuit with valve, 22 mm Ø	LMT 31382	x
Oxygen connection nozzle	WM 30669	x
USB flash drive	LMT 31414	x
Power supply unit	LMT 31569	x
Power cord (power cable)	WM 24177	x
Set, 12 fine filters	WM 29652	x
Set, 2 coarse dust filters	WM 29928	x
Instructions for use	LMT 68650	x
Accessories bag	LMT 31440	x

Please refer to the current price list.



Löwenstein Medical Technology  
 KronsaaSweg 40, 22525 Hamburg  
 Germany  
 T: +49 40 54702-0  
 F: +49 40 54702-461  
 info@loewensteinmedical.de  
 www.loewensteinmedical.de

Löwenstein Medical  
 Arzbacher Straße 80, 56130 Bad Ems  
 Germany  
 T: +49 2603 9600-0  
 F: +40 2603 9600-50  
 info@hul.de  
 www.hul.de

