

# LEON PLUS

## Technical Specifications



BASIC DATA, WEIGHT, DIMENSIONS	
Chassis	Cart with 4 antistatic rollers
	All rollers can be locked
	Central brake for all 4 rollers (optional)
	Basic weight approx. 145 kg (with anaesthetic vaporiser)
	Dimensions (H x W x D) 140 x 92 x 67 cm
	Minimum clearance width= 70 cm
	Pull-out writing shelf (W x D) = 45 x 31 cm
	3 drawers (H x W x D) 14 x 27 x 30 cm
Wall mounting	Optional
Ceiling mount	Optional
AMBIENT CONDITIONS DURING OPERATION)	
Ambient temperature	+15 °C to +35 °C
Relative humidity	20 - 80 %, non-condensing
Air pressure	700 - 1060 hPa
ELECTROMAGNETIC COMPATIBILITY	
Complies with standard	EN 60601-1-2
MAINS VOLTAGE/POWER SUPPLY	
Mains voltage	100 - 240V (AC), 50/60 Hz
Auxiliary sockets	4 units, each with 2 x T 2 A fuses
Battery life	> 100 minutes (with fully charged batteries)
GAS CONNECTIONS	
Number; type	Connections for O <sub>2</sub> , N <sub>2</sub> O and AIR; optional without N <sub>2</sub> O
	Reserve gas bottles for O <sub>2</sub> and N <sub>2</sub> O
	Display of reserve gas bottles pressure
	Integrated vacuum source for bronchial aspiration with vacuum display
	Monitoring of the supply pressures with display on the screen (10 l-bottles)
Supply pressure	2,8 - 6,0 kPa x 100 (bar)
Connection type	NIST
GAS CONTROL, -MIXER, ETC.	
Fresh gas producer	Electronic fresh gas blender for 3 gases O <sub>2</sub> Setting range 21 – 100 vol. % with N <sub>2</sub> O as carrier gas 20 – 100 vol. % (ratio) 100 % O <sub>2</sub> with fresh gas flow = 200 ml/min Selection of gas blend and flow settings via screen display Suitable for low and minimal flow

<b>CIRCUIT SYSTEM, BREATHING SYSTEM</b>	
Circuit system	Fresh gas decoupled, heated
	Complete, with absorber (can be changed during operation)
	Inspiratory and expiratory flow measurement, decoupled APL
Breathing system	All components completely latex-free
Patient connections	22 mm external / 15 mm internal ISO cones
<b>CO<sub>2</sub>-ABSORBER</b>	
Absorber	Optional with reusable absorber or disposable absorber equipped
	Disposable absorber Leonsorb plus and Leonsorb premium (more than 150 liter CO <sub>2</sub> absorbable)
<b>APL VALVE</b>	
Range	Spontaneous breathing and adjustable ventilation pressure up to at least 80 Pa x 100 with perceptible screening
<b>ANAESTHETIC VAPORIZER MOUNTING</b>	
Connection type	Selectatec® or Dräger-compatible anaesthetic vaporiser mounting for 2 interlock-compatible anaesthetic vaporiser
<b>SUCTION AND GAS OUTLET</b>	
Suction	Available with either air suction (injection principle) or vacuum suction
Gas outlet	Available with either external fresh gas outlet or O <sub>2</sub> outlet
<b>ANAESTHETIC VENTILATOR</b>	
Ventilator	Pneumatically driven and electronically controlled, hanging bellows, pressure-limited, compliance-compensated
Screen	15" TFT Display, colored, Touchscreen
Graphics	Selection of display of 4 real-time charts at the same time, complete data management with trend display
Real-time graphs	pressure • flow • volume
	O <sub>2</sub> , CO <sub>2</sub> , N <sub>2</sub> O
	Anaesthetic gases with or without ID
Ventilator settings	2 volume-controlled ventilation modes (IMV, SIMV)
	2 pressure-controlled ventilation modes (PCV, S-PCV)
	1 pressure/flow-controlled ventilation mode (PSV)
	Optional: HLM-mode
	1 manual ventilation/spontaneous breathing (MAN/SPONT)
Inspiratory flow	1 monitoring (MON)
	Max. 180 l/min

<b>VOLUME-CONTROLLED VENTILATION IMV</b>	
V <sub>Ti</sub> tidal volume	20 – 1600 ml (optional 3 - 1600 ml)
Ventilation frequency	4 – 80 1/min (optional 4 - 100 1/min)
I:E ratio	1:4 - 4:1 (incremental 0,1)
PEEP	OFF, 1 – 20 mbar
Plateau	OFF, 10 – 50 % (incremental 10 %)
Pressure limitation P <sub>MAX</sub>	10 – 80 mbar
<b>VOLUME-CONTROLLED SYNCHRONISED VENTILATION S-IMV</b>	
V <sub>Ti</sub> tidal volume	20 - 1600 ml
Inspiration time T <sub>INSP</sub>	0,2 - 10 s
Ventilation frequency	4 - 60 1/min
PEEP	OFF, 1 - 20 mbar
Plateau	OFF, 10 - 50 % (incremental 10 %)
Pressure limitation P <sub>MAX</sub>	10 - 80 mbar
Trigger threshold	0,1 - 10 l/min
<b>PRESSURE-CONTROLLED VENTILATION PCV</b>	
Ventilation frequency	4 - 80 1/min (optional 4 - 100 1/min)
I:E ratio	1:4 - 4:1 (incremental 0,1)
Plateau	10 - 90 % (incremental 5 %)
Ventilation pressure P <sub>INSP</sub>	5 - 60 mbar
PEEP	OFF, 1 - 20 mbar
<b>PRESSURE-CONTROLLED SYNCHRONISED VENTILATION S-PCV</b>	
Ventilation frequency	4 – 60 1/min
Inspiration time T <sub>INSP</sub>	0,3 – 10 s (adults) 0,2 – 2,9 s (children)
Plateau	10 – 90 % (incremental 5 %)
Ventilation pressure P <sub>INSP</sub>	5 – 60 mbar
PEEP	OFF, 1 – 20 mbar
Trigger threshold	0,1 – 10 l/min
<b>PRESSURE-SUPPORTED SPONTANEOUS BREATHING PSV (ASSIST)</b>	
Supporting pressure P <sub>INSP</sub>	5 – 60 mbar
PEEP	OFF, 1 – 20 mbar
Trigger threshold	0,1 – 10 l/min
Backup	4, 6, 8, 10, 15, 30, 45 seconds

MANUAL VENTILATION	
Breathing bag	Manual ventilation is generated with breathing bag used as reservoir
SAFETY EQUIPMENT	
Minimum O <sub>2</sub> concentration	Electronic control of the fresh gas setting so that in an O <sub>2</sub> /N <sub>2</sub> O gas blend, an O <sub>2</sub> concentration of 25 % cannot be exceeded O <sub>2</sub> fresh gas (100 %) of at least 200 ml/min is guaranteed (except for HLM)
Safety valves	Valves with adjustable pressure relief
	Automatic safety valve that prevents high-pressure hazards
	Automatic safety valve that prevents low-pressure hazards
VENTILATION MONITORING	
pressure	-10 to 100 mbar (Peak, medium, Peep, Plateau, CPAP)
Tidal volume - V <sub>Ti</sub>	0 - 5000 ml
Minute volume	0 - 50 l
Frequency	0 - 150 l/min
Flow	-200 to 200 l/min
Lung function	C20/C Static/dynamic compliance Resistance Loops
O <sub>2</sub> monitoring	Measurement paramagnetic or fuel cell
	Inspiratory/expiratory
CO <sub>2</sub> monitoring	Measurement infrared spectrometry inspiratory/end-tidal
N <sub>2</sub> O monitoring	Measurement infrared spectrometry inspiratory/end-tidal
Anaesthetic gas monitor	Measurement inspiratory/end-tidal - Halotane, Enflurane, Isoflurane, Sevoflurane and Desflurane
Auto ID	Optional with or without ID
MAC	Establishment of the minimum alveolar concentration
Interfaces	Serial: COM1, COM12 Optional: Philips VueLink, HL-7
UPGRADE OPTION	
Neo-mode	Volume guarantee PCV/S-PCV Tidal volume: 3 - 600 ml Frequency: 14 - 100 l/min

