



**LEISTUNG**

**LUFT3**

Lung Ventilator for ICU  
Neonatal, Pediatric & Adult



# Our commitment to life

Leistung is more than a manufacturer of lung ventilators for ICU and Emergency. Leistung's lung ventilators, besides being products of technological excellence and performance, they also carry the values of all the professionals involved in the process, from its conception to its commercialization, who are aware about the importance of a life-supporting device.

Therefore, we are proud to say that, while we are an industry, our essence lies in the trust that professionals and patients place in us. It is our commitment to life that makes us go further!



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# LUFT3

TECNOLOGY allied  
to QUALITY OF LIFE.





# LUFT3

## Lung Ventilator for ICU

Adult | Pediatric | Neonatal

The lung ventilator for Intense Care Units (ICU) LUFT3, counts with integrated 17" touch screen technology and offers a complete range of ventilation modes which allows the monitoring of the patient's condition.

### VENTILATION MODES

#### ADULT/PEDIATRIC

- VCV assisted/controlled
- PCV assisted/controlled
- PSV/CPAP
- PRVC assisted/controlled
- SIMV (VCV) + PSV
- SIMV (PCV) + PSV
- MMV + PSV
- PSV + assured VT
- Biphasic pressure (APRV + PSV)
- NIV
- HFNC

#### NEONATAL

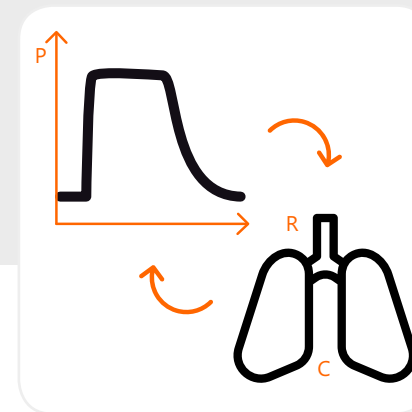
- VCV assisted/controlled
- PCV assisted/controlled
- PSV/CPAP
- SIMV (PCV) + PSV
- Continuous flow assisted/controlled
- Nasal CPAP
- HFNC

## FUNCTIONALITY AND PERFORMANCE



### STRESS INDEX

The stress index is performed with minimal interference in the ventilatory cycle and results in a numerical value of easy interpretation, promoting a practical, safe and effective analysis of the patient ventilation. It is a measure of respiratory the stress caused in the alveoli either by collapse or hyperdistension.



### PRVC

It combines the best of conventional controlled ventilation modes of volume and pressure, providing the volume adjusted by the operator with as little pressure as possible.

The function uses free flow waveform formation, control with feedback of the compliance and resistance of the patient.





## **LUFT3** Lung Ventilator for ICU

### **SPECIAL FEATURES**

- 100 % oxygen up to 20 min. with automatic alarm silence;
- Adaptation of the patient's interface or change of the circuit with recalibration without having to turn off the equipment and keeping track of the patient's log;
- Automatic theoretical weight calculation and interface selection according to the patient;
- Altitude compensation;
- Configuration of the monitored variables;
- Flow curve 50 % descending;
- Intuitive Interface;
- Gas measurement with BTPS correction;
- Smart ventilator, records the user preference after 10 uses.
- LCD Screen tilt angle adjustment
- Log for 1000 alarms and events with date and time



Adjustment of the  
**ALARM  
VOLUME**



**6 HOURS**  
battery life



Intuitive Interface  
with Adjustment  
of the **MONITORED  
VARIABLES**



Timed **NEBULIZER**  
with Inspiration  
flow and  $\text{FiO}_2$   
compensation

## GRAPHICAL INTERFACE



### INITIAL SCREEN SETUP

- Patient selection
- Gender
- Height
- Weight
- Automatic theoretical weight calculation
- Ventilation level per mL/kg
- Type of artificial airway
- Type of humidification
- Line test
- Circuit compliance measurement
- Last patient function

## LUFT3

Lung Ventilator for ICU

### OPERATIONAL VISUALIZATION

- Graphical pressure bar
- Indicator of spontaneous/controlled cycles
- Battery charge level
- Programation of the ventilatory variables

#### ADULT AND PEDIATRIC

Customizable selection  
of up to

# 5

SIMULTANEOUS  
GRAPHICS

- Pressure/Time
- Flow/Time
- Volume/Time
- Volume/Pressure
- Flow/Volume
- Pressure/Flow

#### NEONATAL

Customizable selection  
of up to

# 3

SIMULTANEOUS  
GRAPHICS

- Pressure/Time
- Flow/Time
- Volume/Time

**LUFT3**

Lung Ventilator for ICU

## LUNG MECHANICS

- AutoPEEP
- Slow vital capacity
- Dynamic compliance
- Static compliance
- PV curve with low flow
- Elastance
- Stress Index
- Tobin Index
- P0.1 - Airway obstruction pressure
- Expiratory resistance
- Inspiratory resistance
- Work of breathing





## PARAMETERS

### CONTROLS

FiO <sub>2</sub>	21 to 100 %
Inspiratory time	0.1 to 30 s
I:E Ratio	5:1 - 1:99
Ventilator Frequency	1 - 180 r.p.m.
Tidal Volume	2.0 to 2500 mL
Minute Volume	0.01 to 25.0 L
Sensibility	By Flow: 0.2 to 15 L/min.   By Pressure: -0.2 to -15.0 cmH <sub>2</sub> O (PEEP compensated)
Controlled Pressure (PCV)	1 to 80 cmH <sub>2</sub> O (over PEEP)
Support Pressure (PSV)	0 to 80 cmH <sub>2</sub> O (over PEEP)
Inspiratory Pressure	-10 to 120 cmH <sub>2</sub> O
Rise Time	6 levels
Expiratory Sensibility	5 to 80 %
Apnea Time	5 to 60 s
PEEP/CPAP	0 to 50 cmH <sub>2</sub> O
Nebulization	1 to 20 min. synchronized with automatic compensation of the inspired volume and FiO <sub>2</sub>
Inspiratory Flow	0 to 200 L/min.
Base Flow	Off up to 50 L/min.
Expiratory Flow	Up to 200 L/min.
Automatic Inspiratory Pause (VCV mode):	0.1 - 2.0 s with plateau pressure value
Manual Inspiratory and Expiratory Pause	Up to 30 s
O <sub>2</sub> 100%	1 to 20 min.
Flow Waveform	Square/Descending 100 %/Descending 50 %/Sinusoidal/Ascending
Inspiratory Pressure Inner Safety Valve	Adjusted in 120 cmH <sub>2</sub> O
Pressure Regulating Valve for Air and O <sub>2</sub> Input	Built into the equipment
RS232 Signal Connector	For external communication with the software and signals input
USB Signal Connector	For equipment's service and software update
TGI	Synchronized with the exhalation phase
Sigh (VCV mode)	Cycles per hour, quantity, maximum tidal volume
Automatics Scales	Automatic for amplitude and adjustable per time
Graphics Freeze	With grid for easy interpretation of the values
Standby	Keep the ventilator in standby mode without changing the setup
Backup Ventilation	Available in all ventilatory modes
Altitude Compensation	0 to 6000 masl
Alarm Sound Level	20 to 100 %

## PARAMETERS

### MONITORIZATION

Airway Pressure: Peak	0 to 120 cmH <sub>2</sub> O
Airway Pressure: Plateau	0 to 120 cmH <sub>2</sub> O
Airway Pressure: Mean	0 to 120 cmH <sub>2</sub> O
Airway Pressure: Base (PEEP)	0 to 50 cmH <sub>2</sub> O
Inspiratory Time	0 to 30 s
Expiratory Time	0 to 30 s
I:E Ratio	49:1 to 1:99
Inspiratory Pause	0 to 30 s
Inspired/Expired Tidal Volume (Distal and Proximal)	0 to 2.5 L
Peak Inspiratory Flow (Distal and Proximal)	999 L/min.
Peak Expiratory Flow (Distal and Proximal)	999 L/min.
Dynamic Compliance	999 mL/cmH <sub>2</sub> O
Total and Spontaneous Frequency	250 r.p.m.
Graphical Indicator of Spontaneuos and Mechanical Cycles	Symbols and graphs
Minute Volume (Distal and Proximal) total and spontaneous	0 to 25 L/min.
FiO <sub>2</sub> Concentration	21 to 100%
Constant of inspiratory and expiratory time	9.99 s
Compressible Volume	399 mL
Ti/Ttot Ratio	0.98
Total Leakage	50 L/min.
Ventilation Level (mL/kg)	99.0 mL/kg
Battery Charge Level	0 to 100%
Patient Circuit's Compliance	4.0 mL/cmH <sub>2</sub> O

## GENERAL

### SPECIAL CHARACTERISTICS

Current time and date  
Time and date when the equipment was turned on  
Touch screen function lock  
Graphical indicator of external power supply and battery  
Proportional indicator of battery charge level  
Indicator bar of the parameters adjustment range  
Graphical bar of the ventilatory pressure with indicator of the alarms level  
FiO<sub>2</sub> reading through Galvanic Cell or Pneumotachograph  
Standby symbol  
Alarms log symbol  
Automatic compensation of the breathing circuit's compliance  
Internal, permanent and non-consumable sensor

### PROGRAMMABLE ALARMS

Maximum pressure  
Minimum pressure  
Maximum tidal volume  
Minimum tidal volume  
Maximum minute volume  
Minimum minute volume  
Maximum frequency  
Minimum frequency  
FiO<sub>2</sub>  
PEEP  
Apnea

### COMPLEMENTARY MESSAGES

Without exhalation sensor  
Without proximal sensor  
Active oxygen cell  
Estimated patient weight

### AUTOMATIC ALARMS

Power failure  
Interrupted cycle  
Air/O<sub>2</sub> input pressure (low and high)  
Low Battery (inoperative battery)  
Microprocessor (inoperative ventilator)  
Inverted I:E Ratio  
Patient disconnection  
Proximal sensor disconnection

**LUFT3**

Lung Ventilator for ICU

**PARAMETERS****GRAPHICAL TENDENCIES**

Tidal Volume

Minute Volume

Frequency

Dynamic Compliance

Peak and Base Pressure

Flow

Graphical tendencies up to 72 hours with the aid of grids for analysis

**NUMERICAL TENDENCIES**

AutoPEEP

Dynamic compliance

Static compliance

Inspiratory resistance

Expiratory resistance

Stress Index

**INTERNAL POWER SUPPLY**

Nominal voltage

10.8 V ~ 11.1 V

Nominal capacity

13.2 Ah

Type

Lithium Battery (Li+)

Battery

360 min. autonomy

**PNEUMATIC INPUT**

Oxygen

DISS 9/16" – 18 Input

Air

DISS 3/4" – 16 Input

Pressure

250 – 700 kPa (2.5 - 7 bar)

Maximum Flow Consumption

Up to 180 L/min.

**PHYSICAL CHARACTERISTICS**

Height

1473 mm

Width

550 mm

Depth

530 mm

Equipment's Weight

28.0 kg

Case's Weight

10.0 kg

Monitor's Weight

5.4 kg

Trolley's Weight

12.6 kg

Touch Screen

17 inches

LCD LED Monitor

With angulation adjustment

Trolley

Anticorrosive plastic material

Castors

4, being 2 with brakes

**POWER SUPPLY**

Voltage - Current

100 V – 240 V ~ 0.6 A – 0.29 A

Frequency

47 to 63 Hz

Commutation to Battery

Voltages Lower than 90 Vac.

**GENERALITIES**

Medical Product Classification

Class III

Operation Mode

Continuous Operation

Classification Against Electric Shock (Isolation)

Class I - Internally Energized Equipment

Classification of Protection Against Electric Shock

Type B

Protection Level Against Nocive Penetration of Water

IP22






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