



Anesthesia



Everything for surgery, induction, recovery room, and MRI

Leon / Leon plus

Safety. Today. And tomorrow.

Advances in anesthesia placed more stringent demands on modern anesthesia workstations. Löwenstein Medical developed the Leon and Leon plus anesthesia machines to meet these new demands and to deliver optimal support for the surgical routine through their outstanding technical performance.

Leon and **Leon plus** combine a proven hygiene concept and ergonomic design with cutting-edge technology and sophisticated expansion options.

Their true platform design with modular components allows these modern anesthesia machines to be fully integrated into your specific working environment and fit perfectly into your personal workflows. The individual configuration options guarantee maximum convenience and optimal support during induction, in the OR, during therapy, and in any hospital system.

Key features at a glance

- Ventilation performance in the rebreathing system at the level of an intensive care ventilator.
- Absorber can be replaced during operation.
- Different platform variants are available for ceiling light and wall mounting.
- Forms of ventilation
 - Volume-controlled intermittent mandatory ventilation (IMV),
 - Pressure-controlled ventilation (PCV),
 - Synchronized intermittent mandatory ventilation (S-IMV),
 - Synchronized pressure-controlled ventilation (S-PCV),
 - Pressure-supported ventilation (PSV),
 - Ventilation mode when using a heart-lung machine (HLM),
 - Manual ventilation (MAN), spontaneous breathing (SPONT)
 - Patient monitoring during regional anesthesia (MON)





- 12" color TFT screen with touchscreen (Leon)
- 15" color TFT screen with touchscreen (Leon plus)
- Classic gas mixture via flow tubes (Leon)
- Pneumatic ventilator drive
- Patient system designed for efficient processing and easy assembly
- Ventilation technology to care for patients of all ages
- Anesthetic gas monitoring with gas identification in various configurations, display integrated in the system screen.
- Paramagnetic O₂ measurement
- Integrated vacuum source for bronchial suction with vacuum display
- Battery life up to 100 minutes
- The network capability of Leon and Leon plus means they provide the option of direct connection to standard PDMS systems.

In addition, Leon plus provides

- Precise electronic gas mixing in a flow range from 200 ml/min to 18 l/min
- Selection to display four real-time curves simultaneously
- Three loops can be displayed simultaneously to monitor lung function: Flow versus volume, volume versus pressure, flow versus pressure.
- Complete data management with trend display
- Fresh gas economizer
- Upgrade option: Neonatal mode VTG/tidal volume guarantee
- Upgrade option: HL-7 interface



Anesthetic vaporizer



Compact circulation system

Leon Wall and Leon plus Wall

The two anesthesia machines, Leon and Leon plus, are available in configurations for both wall and ceiling light mounting. Different platform variants are available for ceiling light and wall mounting. Wall devices and mobile variants are based on the same software and the same user interface. Combining the devices, for example during induction and surgery, thus delivers maximum ease of use and operating safety.



Leon plus ceiling light configuration



Leon Wall



Leon plus Wall

Leon mri

Specially for use in the heart catheter laboratory or MRI.

The **Leon mri** was specifically developed for use in MRI environments with magnetic field strengths of up to 40 millitesla. It is guaranteed to function with 1.5 tesla and 3.0 tesla MRI systems. An LED light that is visible from all sides, including outside of the MR area, clearly displays alarms and notifications in various colors depending on priority.

- The Leon mri model is equipped with a central brake to keep it in position. All four wheels can be locked simultaneously with a single foot lever.
- Upgrade option: Neonatal mode VTG - 3 ml VTG
- Upgrade option: RS232 data interface via fiberoptic cable

Key features at a glance

- The only device in its class that can be equipped with an integrated CO₂ and anesthesia gas gauge.
- As an option, the Leon mri can be connected by a fiberoptic cable to a second screen outside the MRI area.
- MRI-compatible touchscreen technology
- Both the performance range and the operation of the Leon mri device match those of the proven Leon model precisely - no limitations.
- The mutual compatibility of the compact circulation systems in the Leon plus, Leon and Leon mri models are another major logistical advantage.
- An integrated magnetic field strength sensor verifies position in relation to the MRI.



Leon mri



Sinus / Sinus TR

Functional design for clinics and practices.



The anesthesia system for adults and children facilitates both manual ventilation and spontaneous breathing.

Sinus can be used with the ISO circulation system or with a semi-open anesthetic system. The gas supply with O₂, AIR and N₂O as an option comes from wall tapping points, a central gas supply system or from 10-liter bottles that can be placed on the optional mobile stand.

Key features at a glance

- Integrated wall mount
- Retractable handle
- Extendable circulation system holder
- Cover to close the device
- Three measuring tubes, with a special arrangement to facilitate fine dosing in low-flow operation.
- A minimum oxygen dosage ORS (Oxygen Ratio System) ensures maximum patient safety.
- The suitably designed mobile stand provides options when using Sinus with a shelf for patient monitoring and bottle holders.
- The Sinus anesthesia system can be easily hung on a standard rail using a holder integrated on the rear, Sinus TR on a mobile stand.



Sinus



Sinus TR



Sinus TR mobile stand, cover



Sinus TR mobile stand, extendable handle and circulation system holder



Sinus / Sinus TR, optional monitor bracket



Sinus / Sinus TR mobile stand, bottle holder



Sinus / Sinus TR mobile stand, drawer

charisma

The high-flow CPAP solution.



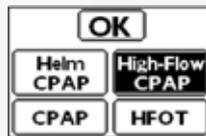
Functions:



Helmet CPAP



CPAP



High-flow CPAP



HFOT

charisma is a new generation of clinical respiratory therapy devices developed specifically for modern challenges; it facilitates all kinds of CPAP and high-flow therapy. Its ease of operation, versatile respiratory therapy modes, integrated consumption-free oxygen gauge, and adjustable alarm limits allow the device to be used in acute care units such as recovery rooms, monitoring wards, physiotherapy, and general wards.

charisma is also suitable for use with helmet ventilation, nasal CPAP, and high-flow CPAP.

charisma's benefits for CPAP and high-flow therapy:

- Integrated drug nebulizer
- Modes for helmet CPAP, mask use, and nasal application
- Consumption-free oxygen sensor for FiO₂ monitoring
- Leakage compensation up to 200 l/min.
- High level of pressure stability
- Intelligent alarm system

Product options

O₂

1. Paramagnetic oxygen sensor



2. Expanded safety package

3. Cart



4. Circuit set 1



5. Drug nebulizer



6. High-flow nasal cannula



7. AIRcon respiratory gas humidifier

Accessories

LMFlo₂

For successful high-flow therapy.

The LMFlo₂ high-flow nasal cannula was developed by Löwenstein in close collaboration with medical professionals. It delivers a high level of safety and comfort. LMFlo₂ is available in 3 sizes. It is suitable for adult and pediatric patients and can also be used in the MRI area.

Key features at a glance

- The flexible, supple smooth-fit prongs are kink-proof. Their soft fit prevents skin irritation of any kind and thus makes an important contribution to the management of pressure sores.
- The adjustable headband clip and the quick clip provide additional support.
- The anatomically curved nose piece and the light, elastic headband ensure a high level of comfort while wearing.



Accessories

Leonsorb Plus + Leonsorb Premium Disposable absorber with high CO₂ absorption

Leonsorb plus has a highly efficient absorption capacity in low-flow and minimal-flow anesthesia. Test results have confirmed that with a volume of 1.15 kg, the product absorbs over 150 liters of CO₂ before a 0.5% CO₂ breakthrough occurs. This property ultimately results in beneficial cost savings associated with higher absorption.

The chemical composition of the soda lime used in Leonsorb plus guarantees a high level of CO₂ absorption. A moisture content of approx. 15.5% prevents the soda lime from drying out during operation.

Leonsorb Plus

- Unique geometry: Effective shape for a high level of CO₂ absorption
- Reduced response time leads to high absorption values
- Optimum utilization of soda lime
- Minimal dust
- Cost savings due to high absorption capacity and large absorber volume



Leonsorb Premium

- Compatible with low-flow and minimal-flow anesthesia
- Does not generate Compound A
- Unique geometry: Effective shape for a high level of CO₂ absorption
- Optimum utilization of soda lime
- Minimal dust
- Cost savings due to high absorption capacity and large absorber volume
- Longer lasting color change than with conventional soda lime





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