



### AIRCON

The Aircon respiratory gas humidifier combines modern technology and innovative design in a high performance unit. Thus, it fulfils the medical requirements and the economic expectations of the market.

The result is optimal physiologically conditioned respiratory gas, which protects the mucous membranes of the ventilated patient from drying out and prevents interference with the mucocilliary

- Logical menu navigation
- Self-explanatory through symbols and pictograms
- Standby function for necessary therapeutic applications
- 3 function modes (IV, NIV, FREE)
- "Overboost" function for the expiratory side
- Suitable for single and double breathing tube systems for nearly all ventilators
- With temperature sensor and heating-wire distributor cable
- Intelligent alarm management
- Automatic water level monitoring
- Incident and alarm protocol

### MR 850

### Heated Humidifier

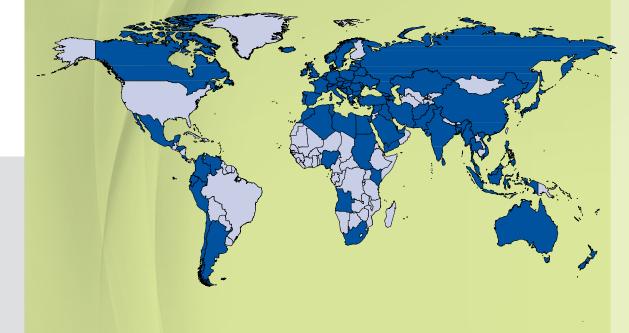
The MR 850 is a respiratory humidifier designed for use in hospital intensive care units. It is used to provide optimum humidity to respiratory gases delivered to patients via endotracheal tubes or face

- One System for All Patients
- One button selects optimal temperature and humidity levels for adult, pediatric and neonatal patients
- Easy set up with simple controls and an easy to read display
- Clinically based alarm system
- Advanced algorithms and the ability to sense flow optimises humidification delivery and minimises nuisance alarms
- Automatic standby during periods of gas flow interruption or water out

Your distribution partner:







Phone: +49 26 03/96 00-0 Fax: +49 26 03/96 00-50 Internet: hul.de





LEONI PLUS

Intensive care ventilator for premature infants and children

## Innovative ventilation technology for the special requests of our smallest patients.













### LEONI PLUS

Leoni plus is suitable for long-term ventilation of very small premature infants, neonates and children weighing up to 30 kg. In addition to the basic ventilation modes CPAP, IPPV/IMV, SIPPV and SIMV, the device also features two PSV ventilation modes. Furthermore, the volume limit function can be used to restrict tidal volume delivered. In assisted ventilation modes there is a volume-controlled tidal volume guarantee available.

The precision hot-wire flow sensor at the patient end allows automatic readjustment of trigger sensitivity relative to the patient's tidal volume (VT trigger adaptation).

The extremely powerful, integrated high-frequency module Leoni HFO\* is of the diaphragm type. The frequency range is between 5 Hz and 20 Hz and suitable for patients weighing up to 12 kg. Amplitude control is regulated and compensates for any leaks or compliance changes.

Control of the device, which is extremely easy and intuitive, can be either from a 12" colour display or using a control knob. To ensure optimum ergonomic adaptation to space available in the ward, the display can be removed and attached directly to the thermotherapy device.

All essential settings, readings, alarm limits and graphic information, such as waves and loops, are available at a glance. The display can be configured by the user according to personal requirements. For example, the number of waves and loops and the readings shown are freely selectable

#### BENEFITS OF LEONI PLUS

- HFO\* according to the membrane principle
- Volume-controlled ventilation and
- Separate nHFO, nCPAP and nIPPV modes for non-invasive breathing support with premature and full-term infants
- VT trigger adaptation (10 sensitivity levels)
- 12" colour display with all essential settings and values visible at a glance
- Simultaneous display of up to three curves and two loops; graphic display of triggered spontaneous breaths; graphic trending; event log
- Oxygen / compressed air mixer (21–100 %)
- Integrated oxygen monitor

### LEONI PLUS CLAC

As an option is a new feature available - CLAC (Closed-Loop Automatic Oxygen Control) for automatic oxygen control in relation to the measured SpO<sub>2</sub> provided to premature infants, integrated Masimo technology.

The manual regulation of inspiratory oxygen (FiO<sub>2</sub>) used to supply oxygen to premature infants, is often complicated and time-consuming. In collaboration between Tübingen University Hospital and the Medical & Technical University of Vienna, a special algorithm was developed to automate the oxygen control provided to premature infants (CLAC: Closed-Loop Automatic Oxygen Control). Heinen + Löwenstein were able to validate these experiment results in a multicenter study using the Leoni plus in daily hospital operations.<sup>1</sup>

In order to make the CLAC controller operation as easy and intuitive as possible for the user, the algorithm control and pulse oximetry measurement were integrated into the Leoni plus. The entire operation, including the measured data visualization and the alarm settings, is made over the respirator user interface. At a glance, the user can determine the current graphically displayed status of the patient.

CLAC takes the routine adjustment of the inspiratory oxygen (FiO<sub>2</sub>) in inspiratory gas off the clinician's shoulders by constantly monitoring the demand and condition of the patient in adapting the equipment settings accordingly. Thus, the user is relieved of the routine tasks. The user has the possibility to switch off the automatic control at any time in order to regulate the oxygen content manually. "CLAC may improve oxygen administration to preterm infants receiving mechanical ventilation or nasal continuous positive airway pressure while reducing workload related to RMC. (Pediatrics 2014;133:e379–e385)".

# LEONI PLUS

### TRANSPORT

Patient transport with HFO – no problem with the new Leoni plus Transport.

Leoni plus Transport expands your possibilities especially for transport of patients. The device has an integrated high-performance battery that enables stand-alone use for up to 200 minutes in conventional ventilation modes and up to 60 minutes in HFO.

The display adapts to the requirements of the user by means of the free selection of the number of curves and loops and displayed measurement values. Leoni plus Transport has comprehensive ventilation modes: HFO, CPAP, IPPV/IMV, S-IPPV/SIMV and two PSV modes. Leoni plus Transport offers also NIV Modes like nCPAP, nIPPV, nHFO and features certification for ground transport.

- Simple and intuitive operation
- Uncompromising ventilation performance
- Certified for ground transport
- 12" TFT colour screen, detachable

## NEOJET SYSTEM

The nCPAP system for premature infants and babies.

In conjunction with the Heinen + Löwenstein Neo-Jet™ System, Leoni plus can also be used to apply nCPAP or even non-invasive IPPV.

The NeoJet™ System expands the range of applications of Leoni plus to include non-invasive CPAP. When nasal prongs or nasal masks are used, NeoJet is virtually non-invasive, without reducing the size of the airway openings. Different prong sizes and mask sizes in conjunction with bonnets allow customization to suit the small patient

On Leoni plus the required CPAP can be directly adjusted, monitored and even kept constant if leakages or compliance levels fluctuate.