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All in one
Intensive Care
Ventilator solution

MV2000

Easy, Safe and Comfort Intensive Care Ventilator

Quick Start

Large Screen

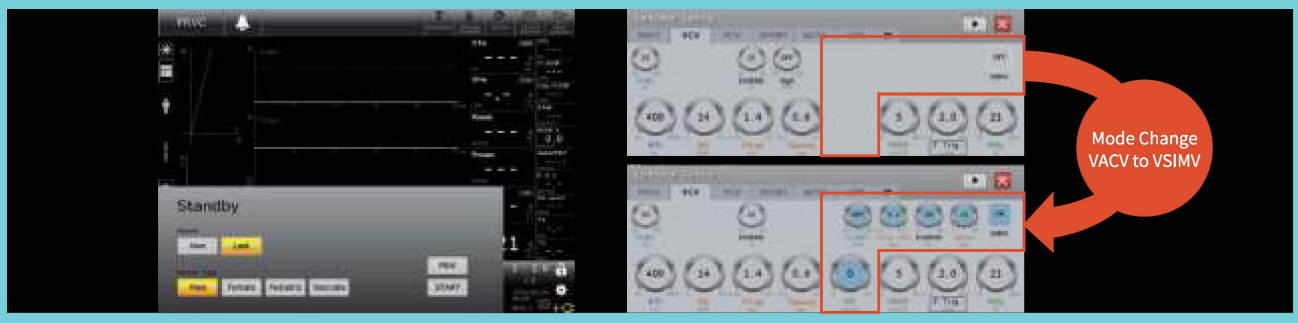
Neonate to Adult

Easy Operation

Optimal Synchronization

Comfort Use Ventilator

15 inch TFT LCD screen with Easy & Simple UI



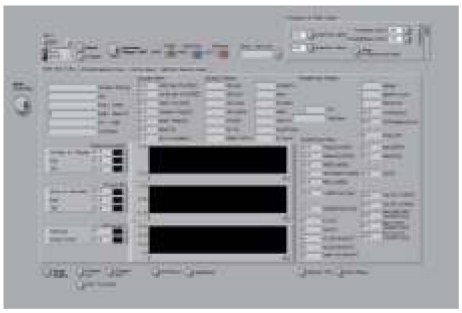
Various ventilation modes

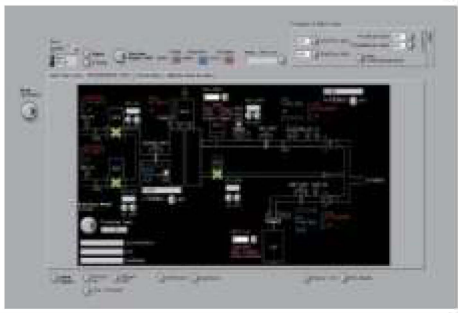
Specification Ventilation Mode	Specification Optional Ventilation Mode
PACV, PSIMV, VACV, VSIMV, Apnea Back-up ventilation, Spont, O_2 Stream®, PRVC, Bi-Level, AwPRV, AutoVent®, TCPL-AC, TCPL-SIMV, PRVC-SIMV, CPR	SHFV®, DHFV®

Easy to manage Ventilator

Parts remaining time indication

- Improved intuitiveness of maintenance
- Efficient management of expected replacement time
- Reminder display with automatic alarm system when replacement cycle is imminent





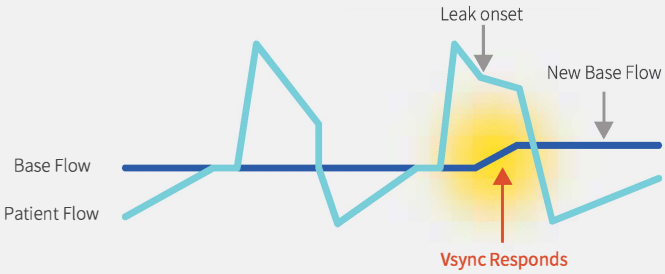
Smart PC viewer system (PC program)

- Easy to understand with block diagram
- Easy to check internal system status
- Easy to adjust & calibrate without disassembly (Programmable pneumatic system)
- e-Manual & e-Instruction

Ventilator with patient's safety

Leak compensation and triggering sensitivity

MV2000 Leak Compensation is up to 25 l/min, it helps to prevent auto-triggering and asynchrony caused by leaks.



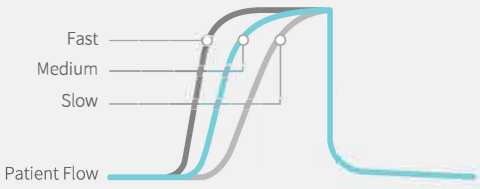
Reset baseline leak flow rate

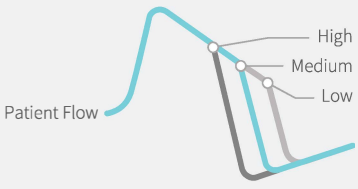
Patient-ventilator asynchrony is typically uncomfortable for the patient. In addition, it may have an impact on patient outcomes. ***Epstein** put together a list of adverse effects associated with poor patient-ventilator interaction.

- A higher or wasted work of breathing
- Patient discomfort
- An increased need for sedation
- Confusion during the weaning process
- Prolonged mechanical ventilation
- A longer stay
- The possibility of higher mortality

During mechanical ventilation, system leak is a major cause of patient-ventilator asynchrony. Leaks may be caused by the endotracheal tube cuff, ventilator circuit, or chest drain during invasive ventilation. The incidence of endotracheal tube cuff leaks has been reported at ranges from 11% to 24%.

Rise time & patient cycling in mandatory breath (PRVC, PCV, TCPL)





*** Epstein** ([FOOTNOTE=Sassoon C. Triggering of the ventilator in patient-ventilator interactions. Respiratory Care. 2011;56(1):39-51.]

Reduce Ventilator Induced Lung Injury

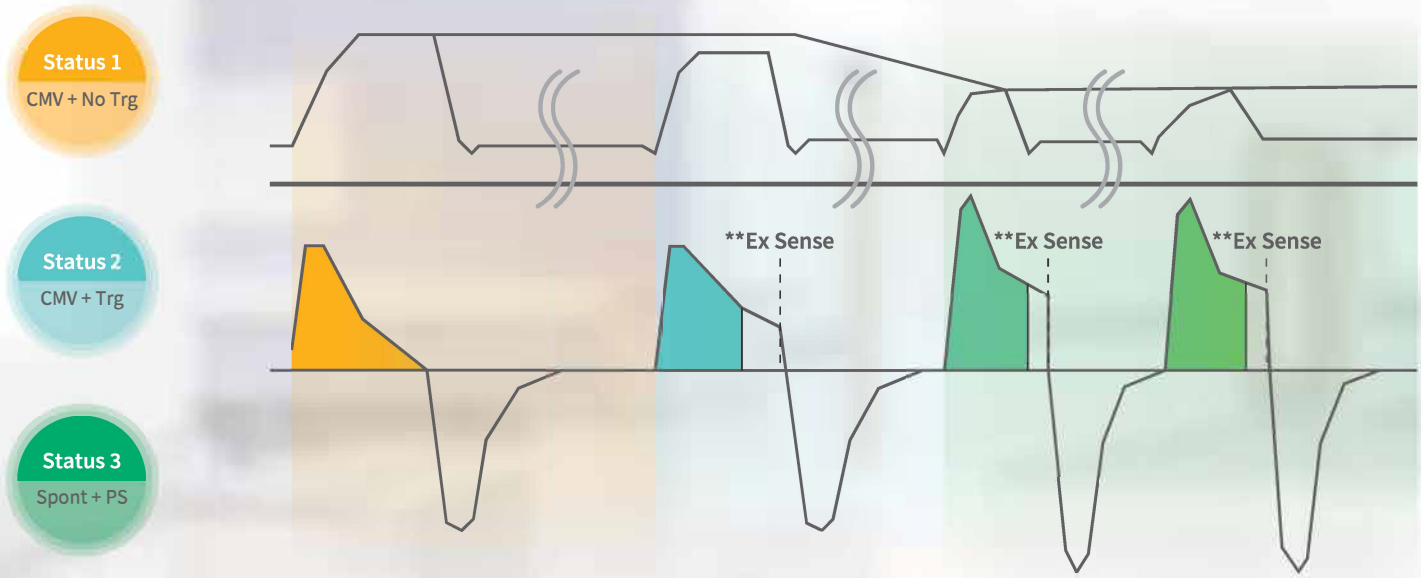
Lung protection tool

The MV2000 lung protective tool is one of solution to perform lung recruitment maneuvers.
The lower inflection point indicates the point at which collapsed airways reopen. This can be affected by both airway closure and alveolar collapse (causing the point to be farther to the right – more pressure required to open the airways).
The upper inflection point represents the point at which further applied pressure will result in over-distention. The ventilator will automatically recalculate the Vdelta once the new inflection point is identified.

High frequency ventilation for rescue use

MV2000 provides a high level of clinical performance for all the clinical demands from conventional to high frequency ventilation. MEKICS unique pneumatic technology extends the applicability of MV2000 EVO 5 to HFV without any additional hardware apparatus such as specific breathing circuit and respiratory tubes. It has also possibility to extend the use from neonatal to adult patient

AutoVent



Esophageal pressure

The problem of determining patient's PEEP is a very important issue in determining alveolar adsorption and basal lung pressure. If the patient's PEEP is set low, gas exchange is difficult to be sufficient, and if it is excessively large, the patient's lung will be stressed. By measuring esophageal pressure, trans-pulmonary pressure can be inferred. It helps to set the PEEP proportional to the trans-pulmonary pressure.

Tracheal pressure

Patient's circuit and intubation, ET tube, leakage, etc. may cause patient to have pressure in the lung and measurement error of the equipment. This function allows the ventilator to be controlled by measuring the direct pressure by insert a catheter into the intubation tube. The airway pressure displayed on the ventilator is higher than the set value.

In single mode, ACV, SIMV and spontaneousness operates actively according to patient's condition and guarantees minute volume simultaneously.

There is no respiratory function for abnormal situration, especially at the recovery room. However, in case of self - sustained respiration after the end of anesthesia, it is necessary to maintain the patient's respiration by mechanical ventilation (spontaneous breathing) or with other effective ventilation mode.

Predicted Body Weight

When if PBW function being used, the single ventilation amount of mechanical ventilation is determined to Predicted Body Weight formula based on selected patient's category and gender. The default setting value is 8 ml/kg. This value can be changed in the BWF (Body weight factor) field in the SYSTEM column of the active window. When operated with PBW turned on, the setting value of the once ventilation amount is limited according to the set patient's height and gender's BWF setting.

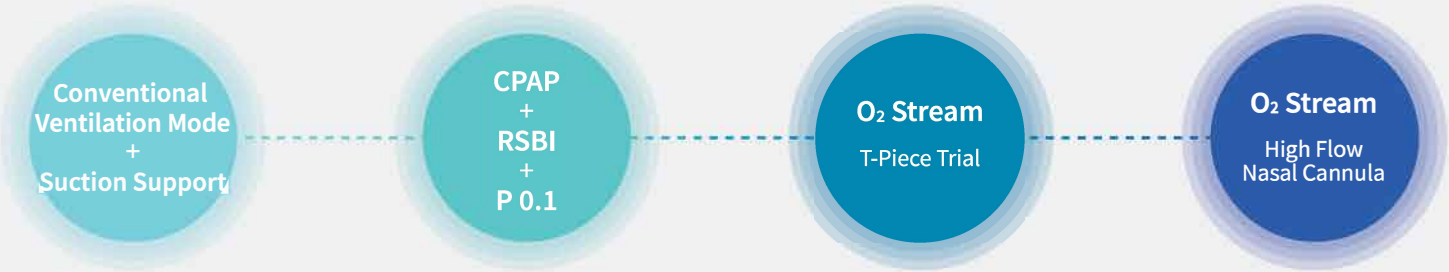
CPR ventilation (Cardiopulmonary Resuscitation)

CPR mode helps to patient ventilation in the CPR situation of patient.

Non-disconnection solution to avoid Ventilator-Associated Pneumonia

Weaning the ventilation is possible without disconnected mechanical controlled ventilation Till to T-piece trial ventilation.

Successful Weaning with variety Modes



Closed Suction Support

Auto-triggering can be occured caused by the negative pressure that occurs during suction, which can be increased the asynchrony.

Operating Scenario

1. When "Closed Suction support" is activated, the existing ventilation mode is suspended and operates in the CPAP mode with the existing PEEP + 3cmH_2O
2. At the same time, O_2 Boost is activated and operates (similar to 100% O_2 function of other equipment, but it requires additional setting of oxygen concentration onto the preset oxygen concentration)
3. Press the "Closed Suction support" button again to deactivate and return to the previous ventilation mode.

SpO_2, $EtCO_2$ Measurements Hemodynamics

This option can provide information of metabolic CO_2 and SpO_2 as the result of respiration. This information can be useful to a clinician for patient care without independent gas monitoring system and for reducing complete dependency on Arterial Blood Gas Analysis (ABGA).

Two type of nebulization system

MV2000 EVO 5 offers Micro-pump Nebulizer & Pneumatic Nebulizer.

Standard : Pneumatic nebulizer (Power source)

Option : Micro-pump nebulizer (Aerogen)

Monitoring parameter for ventilator weaning

RSBI	Rapid Shallow Breathing Index
P 0.1	Respiratory Drive (P 0.1), is the negative pressure that occurs 100 ms after an inspiratory effort has been detected
RR spont.	Spontaneous breath rate
VEmin S.	Spontaneous minute volume

O_2 Stream High Flow Nasal Cannula Therapy

It is non-invasive respiratory therapy to improve of lung oxygenation that as supplying the heated and humidified oxygen requirements that exceed the patient's inspiratory peak flow rate through nose, reduce the intake of work of breathing, increase the functional residual capacity by rising of PEEP, optimize the nasal and the status of the mucosa of the upper respiratory track, and reduce the residual exhalation gas of dead space anatomically.

Feature of Nasal High Flow Oxygen Therapy

- Efficient Oxygenation
- Washout of nasopharyngeal dead space (CO_2 Ventilation)
- Increase Functional Residual Capacity
- Reduce Work Of Breathing
- Reduce Energy Cost of Gas Conditioning

All in One Central Monitoring System

Dual LCD screen : 32 bedsides patient monitoring system
Single LCD screen: 32 bedsides monitoring display
10 days graphic trend for each patient monitor
Displays 12 waveforms of patient monitoring for each patient monitor
Displays 3 waveforms of a ventilator display
Available wireless LAN or Cable wired network

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