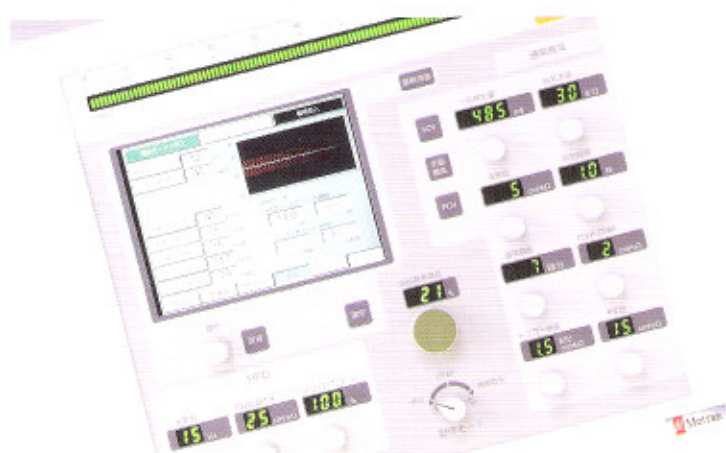


R100

Rotary HFO/IMV Ventilator for Infant and Adult

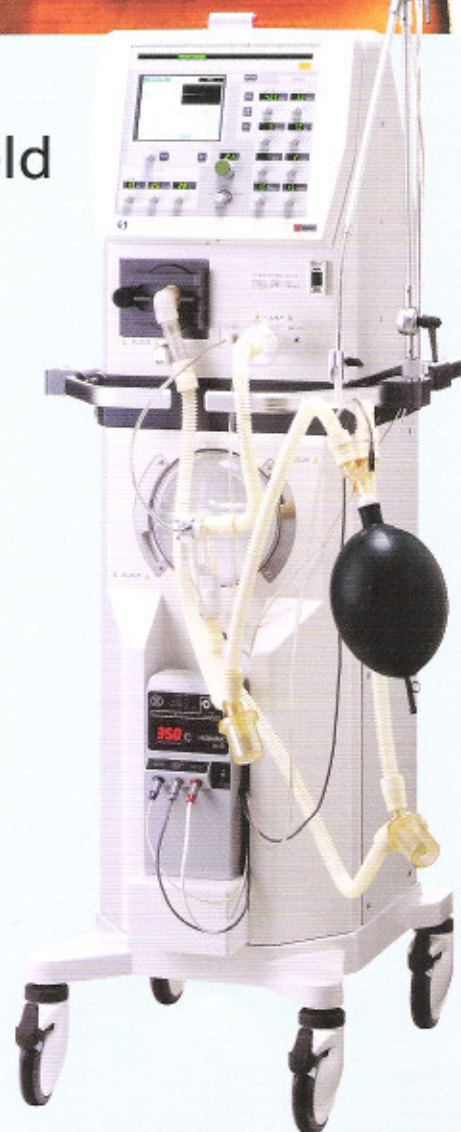
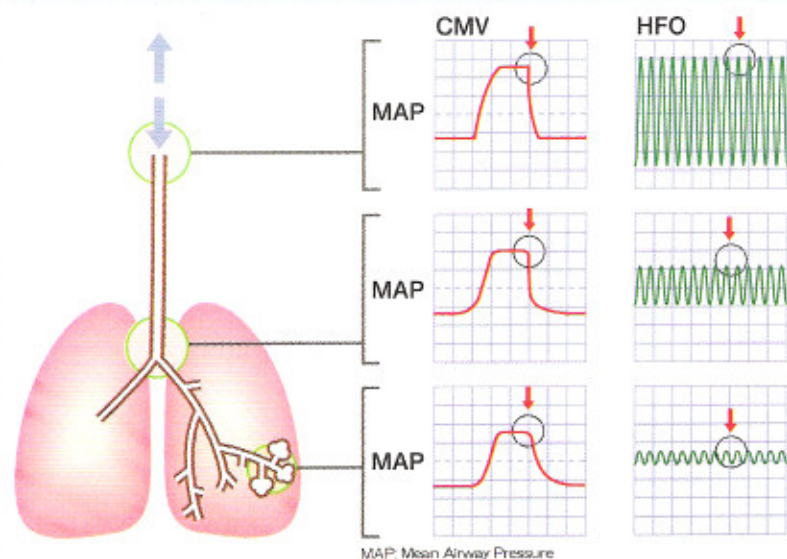




HFOv is expanded into adult field

Comparison of CMV and HFO pressure wave form

This figure compares CMV and HFO pressure wave forms at the same mean airway pressure (MAP). The HFO pressure waves are sinusoidal and symmetrical with respect to the MAP axis. Upon entering the trachea after passing through the endotracheal tube, the amplitude of sinusoidal wave is attenuated drastically at the periphery of the airways near the pulmonary alveoli. Thus, at a given MAP, HFO can be expected to cause much less physical damage to pulmonary alveoli than would be the case with CMV.



※Humidifier in the picture is Hummax which is still not available of Japan.

Features

High Frequency Oscillation(HFO) Ventilation permits sufficient and sustained exchange of gas via ventilation of which stroke volume (tidal volume) is smaller than volume of anatomical dead space.

HFOV technology has long been established in neonatal field and the following merits are well admitted.

- Smaller pressure fluctuation within thoracic cavity reduces danger of tracheobronchial injury.
- Smaller pressure fluctuation in alveoli gives less variation of blood pressure and intracranial pressure.

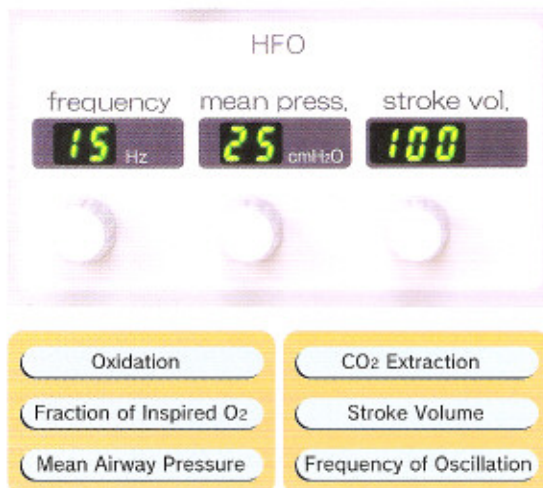
Rotary HFO

Newly developed rotary valve alternates air way to the membrane chamber between delivery side (push-in) and suction side (pull-out) of the blower in intervals corresponding to Hz setting and thus generates powerful oscillation of circuit pressure.



Easy HFO setting

Actual pressure amplitude is shown in an indicator window that enables easy setting of stroke volume. Stroke volume values are index of Vt. Since Vt varies with oscillation cycle (Hz), stroke volume indicator changes automatically when Hz setting is changed. MAP is controlled independent of Hz and stroke volume.

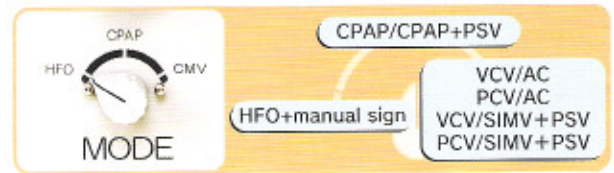


Not only HFOV but also many IMV modes, full support to weaning, are available

By selecting not only HFOV but also various IMV modes (PCV, VCV, PSV, CPAP), R100 can smoothly cope with change of conditions of patient. Flow trigger and pressure trigger are selectable. By setting proper trigger levels, R100 can quickly respond to and support various levels of breathing effort of patient.

Three mode, One touch selection

Ventilatory modes can be changed merely by turning the selector switch.



- Manual sigh can be applied by pushing "Manual Sigh" button. Manual sigh gives one breath in IMV. In HFOV, sustained inflation is performed during the time "Manual Sign" button is being pushed.

High performance ventilation is realized by newly developed high performance valves

Newly developed valves realized quick and accurate flow control required for high performance IMV. Due to such high performance valves together with excellent electrical hardware and software, R100 can quickly detect and respond to respiratory request of patients.

R100 Design for Safety and Security.

- Diaphragm Chamber

The chamber generates pressure oscillation in patient circuit by oscillation of pressure on the other side (machine side) of the membrane. The chamber insulates inside and outside of the machine. The chamber is easily removed from the machine after one-patient use.



- Exhalation filter

To prevent air pollution by exhaust gas from the ventilator, exhalation gas is passed through a bacteria filter installed on the wall of the ventilator.

- Automatic setting of airway pressure alarms

Alarms related to airway pressure are automatically preset around operation pressure settings. Low and high amplitude alarms are also automatically set. Margins of alarm settings against pressure settings or against actual amplitude data can be preset in LCD screen.

- Monitoring

Graphic monitor is available in LCD. The monitor shows pressure, flow and volume pattern in IMV operation.

- High impedance valve

High impedance valve restricts back flow to upstream and thus reduces waste of oscillation even when water chamber type humidifier is used.

Ventilator R100

Rotary HFO/IMV Ventilator for Infant and Adult

Specifications

■ HFO Settings

MAP	5~60cmH ₂ O
Stroke Volume	2~350mL (At 5Hz; 14~350mL, At 10Hz; 6~160mL, At 15Hz; 2~100mL)
Frequency	5~15Hz
Flow	10~40Lpm
Manual Sigh	5~80cmH ₂ O

■ IMV Settings

Ventilation Mode	A/C, SIMV, CPAP, Manual Sigh
Breath Pattern	VCV, PCV
Flow Waveform	Square, Descending ramp
Manual Sigh	One breath under the same conditions
Tidal Volume	50~2500mL (VCV)
Inspiration Flow	3~140Lpm
Inspiration Time	0.1~9.9sec (PCV)
Peak Inspiration Pressure	5~100cmH ₂ O
Breath Rate	1~80Bpm
PSV Pressure	0~99cmH ₂ O
Exhalation Trigger	10~45% of inspiration peak flow
Rise Time	0.1~0.9sec
PEEP/CPAP	0~35cmH ₂ O
Inhalation Trigger	
Flow Sensitivity	0.5~20Lpm
Pressure sensitivity	-0.1~-20cmH ₂ O
Plateau (EIP)	0~2.0sec (VCV)
Apnea Backup Rate	1~80Bpm
%O ₂	21~100%

■ Patient Monitor

Peak Inspiration Pressure(PIP)	-20~+130cmH ₂ O
Mean Airway Pressure (MAP)	-20~+120cmH ₂ O
End Inspiration Pressure (Piend)	-20~+130cmH ₂ O
End Exhalation Pressure (Peend)	-20~99cmH ₂ O
Exhaled Tidal Volume	0~9999mL
Exhaled Minute Volume	0~99.9Lpm
Spontaneous Minute Volume	0~99.9Lpm
Total Respiratory Rate	0~150Bpm
Spontaneous Respiratory Rate	0~150Bpm
Rapid Shallow Breathing Index	0~500Bpm/L
IE Ratio	1:99~9.9:1
Airway Pressure Manometer	-20~+130cmH ₂ O LED Bar Graph
Breath Type Indicator	Mandatory, Assist, Plateau, PSV, Spontaneous, Exhalation
Wave Form Graphics	Real Time Curve

■ Alarms

High Inspiration Pressure	3~105cmH ₂ O
Low Inspiration Pressure	10~105cmH ₂ O
Low Vt Mandatory	0~2500mL
Low Vt Spontaneous	0~2500mL
Low Minute Volume	0~60Lpm
High Minute Volume	0~60Lpm (PCV only)
High Respiratory Rate	0~150Bpm
Low PEEP	0~35cmH ₂ O
Apnea	10~60seconds
High MAP-1	MAP setting~75cmH ₂ O
High MAP-2	MAP setting~85cmH ₂ O
Low MAP	0~MAP setting (Max 55cmH ₂ O)
High Amplitude	0~250cmH ₂ O
Low Amplitude	0~250cmH ₂ O
Alarm Message	Abnormal MAP, Circuit Disconnection (IMV), Circuit Disconnection (HFO), Occlusion, Valve Trouble, Low Supply Gas Pressure, Apnea, etc.
Alarm Silence	2minutes (Reset is possible)

■ Dimensions and Weights

Main Body Dimensions	1600(H) * 550(W) * 770(L)mm
Body Weight	100kg
Supply Gas	Air, Oxygen 0.3~0.5Mpa
Power Rate	AC 100V, 220V, 50/60Hz, 900VA
Operation Environment	Temperature 10~40°C, Humidity 10~95%
Storage Environment	Atmospheric Pressure 700~1060 hpa Temperature -20~60°C, Humidity 10~95% Atmospheric Pressure 500~1060hpa

※ Specifications are subject to change without notice.

Manufacture: _____



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