Respiratory Support Devices

HOSMED
Enhancing Life

Spiro Ventilator

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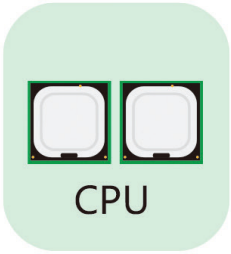
Spiro
Ventilator

Designed for newborns, Spiro Ventilator offers a professional non- invasive nasal ventilation mode with advanced apnea wake- up function, automatic leak compensation function and so on.

IFlow closed- loop pressure control system delivers high-precision, safe fresh gas to protect fragile new life. Humanized operating system closely integrated with clinical practice streamline workflow for medical staff. Integrated solution with SNIPPV/NIPPV, NCPAP and HFNCventilation modes.

The pressure gauge is designed with 60°tilt angle for easy viewing.



- Double CPUs: double protection

- Provide intelligent safety warnings when setting key parameters such as pressure and oxygen concentration

- Built- in lithium battery provides up to four hours of working time, ensuring no interruption during power failure and transportation

- Proportional valve: Norgren valve, with stable performance

- High precision electronic flow sensor: adopt Honeywell flow sensor with stable flow and high precision

- Oxygen sensor: long service life, high precision and fast response

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Human-centered design

15°tilt screen, comfortable viewing angle, ergonomic and practical

Specially designed handle, round and non- angular, adopting skin- friendly material for comfortable grip.

360° alarm light design, eye-catching and good- looking, allowing the medical staff to notice alarm situation in time.

Oxygen concentration automatic calibration

Further reduce human error, offering high precision oxygen concentration monitoring.

Power-on self-test function

Reduce the wait time of medical staff, using it with peace of mind.

LCD touch screen

Clear, bright 8- inch LCD screen; Touch operation; Clearly visible from any angle and distance; Monitoring data display is conspicuous; Visualized setting reduces human error, allowing doctors to focus on newborns.

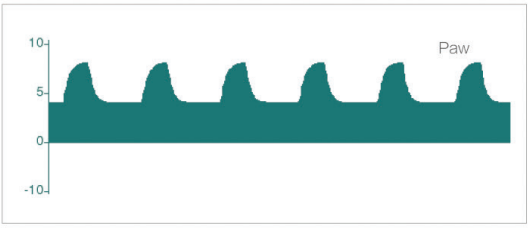
Safe and reliable

The stand is made of all-aluminum alloy, portable and reliable.

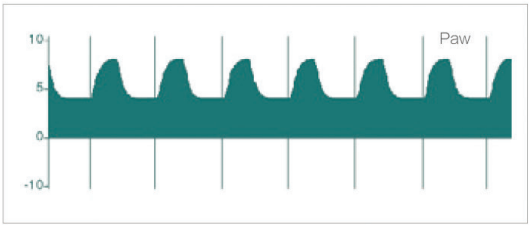
The pedestal stand is specially designed for Hopsmed air compressors, with less resonance and noise.

The world’s leading ventilation modes

NCPAP (Nasal continuous positive airway pressure) + apnea wakeup function



NIPPV waveforms



SNIPPV+ Synchronously triggered waveforms

HFNC Pressure monitoring waveform

Exceptional apnea wakeup function

- The incidence of apnea in premature infants can be as high as 50% to 60%, and the smaller gestational age, the higher incidence. Spiro Ventilator provides reliable apnea monitoring through the abodominal sensor with apnea wake- up function, effectively reducing the incidence of apnea.

- Abdominal sensor: The breathing mode of newborns is abdominal breathing. When breathing, their abdominal undulation is obvious. The sensor is attached to the newborn's abdomen, and the respiratory motion squeezes the sensor to convert the respiratorymotion signal into an electrical signal for system identification and recognition.

NIPPV (Nasal intermittent positive pressure ventilation)

- Increasing the pressure of the upper respiratory tract by intermittently increasing pharyngeal pressure, and encouraging respiratory movements by intermittent laryngeal expansion, NIPPV can produce higher average airway pressure than CPAP and can increase alveolar filling. This would effectively improve oxygenation and ventilation, reduce patient's work of breathing (WOB), and increase functional residual capacity (FRC)

- Provides up to 15 seconds of inhalation time, ensuring smooth and spontaneous breathing under bilevel pressure

SNIPPV (synchronized nasal intermittent positive pressure ventilation) + backup ventilation)

- Synchronization with breathing: when patients inhale, their abdomen goes up and triggers the sensor to send out inspiratory pressure synchronically, reducing man- machine confrontation and WOB, smoothing the breath

- Abdomen attached respiration sensor: accurately identify respiratory waveform, realize synchronous trigger and precisely monitor respiratory rate (RR)

- Backup ventilation: when patient stops breathing for longer than the preset apnea interval, Spiro Ventilator will automatically switch to backup ventilation and ventilate patient as per preset RR to prevent sleep apnea

HFNC (High flow nasal cannula) + pressure monitoring function

- Compared with traditional oxygen therapy instrument, Spiro Ventilator makes real- time pressure monitoring and waveform display possible, ensuring ventilation safety under HFNC mode and preventing unintended consequences due to overpressure

- Comes standard with Fisher&Paykel humidifier, providing warm and humidified fresh gas for newborns

Direct pressure setting

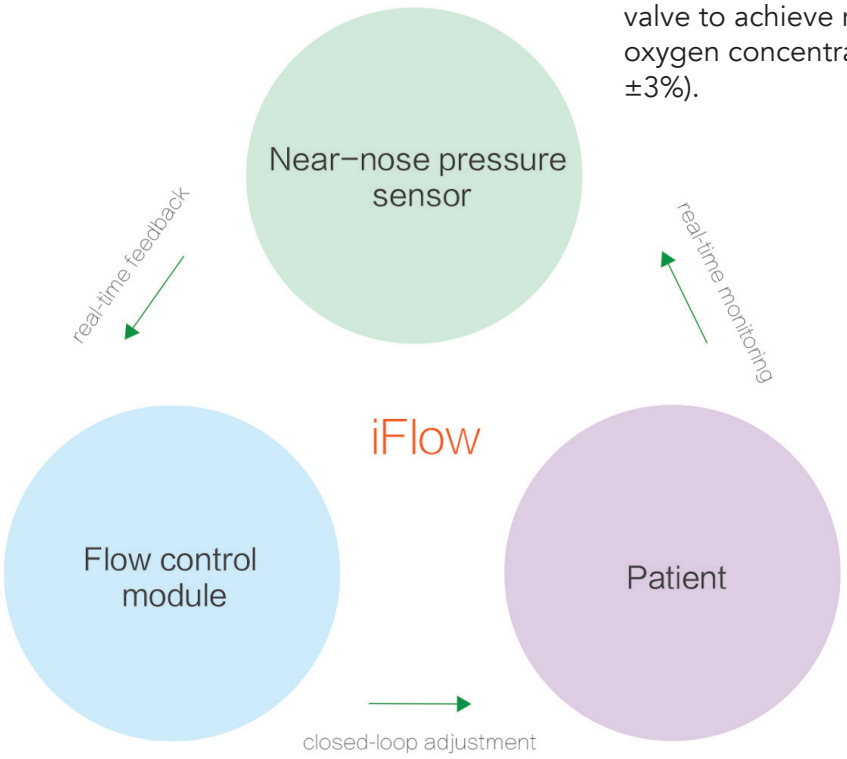
Traditional CPAP devices have low degree of automation. Indirect pressure control is realized by manually adjusting flow, which requires repetitive manual observation and adjustment. And remote monitoring of pressure fails to truly reflect the airway pressure at the patient end.

Spiro Ventilator pressure control mode: automatic pressure control is realized by directly setting the pressure value.

Direct setting of oxygen concentration

Traditional CPAP devices adopt mechanical air- oxygen blender, or oxygen and air flow meters combination, which is cumbersome to operate and the accuracy is easily affected due to mechanical wear.

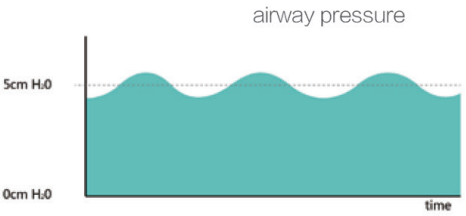
The Spiro Ventilator uses electronic air- oxygen blender: directly sets the oxygen concentration value, automatically matches the ratio of oxygen and air flow, and cooperates with high-precision flow sensor and flow proportional valve to achieve real- time feedback and oxygen concentration control (precision within ±3%).



iFlow intelligent closed-loop control system: Automatically realize closed-loop adjustment of fresh gas flow and airway pressure, near-nose pressure monitoring, real-time leakage compensation, and output stable pressure.

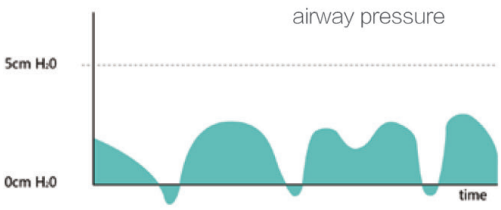
Automatic leakage compensation: When there is a leak, the iFlow closed-loop control system compensates it with ventilation in real time, which is not possible with traditional CPAP devices.

Spiro Ventilator System



The most stable respiratory waveform

regular CPAP device



- Incorporates with Medin company's Medijet pressure generator; patented technology employing Coanda effect; produce positive airway pressure
- Near- nose gas exhalation, which is more conducive to reducing CO2 retention and could reduce up to 75% WOB compared to traditional CPAP devices.
- Multi- size soft silicone nasal plugs, nasal masks and cotton bonnets for premature infants weighing as low as 500 grams, easy to wear.

- Near-nose pressure monitoring: the airway pressure is measured at the near-nose end, which is not affected by the mechanical dead space volume in the loop and compliance, and more accurately reflects the airway pressure of the child. It is a monitoring method that is highly praised by the industry.

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