ICU-Ventilators & Assisted Ventilation Devices

Currently, there is a tremendous shortage of ICU ventilators in most hospitals around the world. Many COVID patients do not have access to Ventilator-treatment whilst others are occupying scarce ventilators Whereas they could potentially be treated with different assisted ventilation devices such as the HFCN device which was specifically developed to treat COVID patients. It was widely deployed in Wuhan's emergency COVID hospitals in January and February this year.
We have also sourced an Australian built device, the Positive Airway Pressure Device which is portable.

CHENSHA INTERNATIONAL

ICU Ventilators – S1100

S1100 ICU Ventilator

Application

The ventilator makes a good performance in operation room,ICU department and emergency treatment.It used to assist or replace the spontaneous breathing for adult pediatric and neonatal more than 2kg. 25 years experience in Market-oriented ventilator make us professional and reliable, satisfying all your needs in ventilation. Due to the flexible configuration, good quality and competitive price, S1100 has soon become the superstar of market

Feature

- 12.1" TFT screen displays the ventilation parameters, alarm information, and oscillograms, make every operation more easily.
- Multiple ventilation mode can meet different clinical requirements.(IPPV, A/C, PCV, SIMV,PSV, SPONT/CPAP,SIGH,MANUAL)
- 3 oscillograms for your choice, 2 of them can be displayed on the screen at the same time.
- Humidifier can heat and wet breathing gas, makes it comfortable for patient to breathe.
- Rapid oxygen supply,automatically offer high flow rate oxygen within two minutes
- High temperature resistance breathing circuit is reusable and anti-pollution.

Safety

- 14 types of sound and visual alarm information, easier for users to do some error checking and troubleshooting.
- Built-in oxygen concentration sensor, ensure stable precision of oxygen concentration.
- Easy to move with four casters, easy to stop with two brakes.
- Separate design of electronic circuit and gas flow rate keep safe running of ventilator.
- Compact long life internal battery can provide emergency power,avoid risk of patient.
- Self-check before operation,eliminate system mistake.

ICU Ventilators – S1100

Technical specification

Ventilation mode

IPPV, A/C, PCV, SIMV, SPONT/CPAP, PSV, SIGH, MANU

Ventilator parameter

Tidal volume (Vt)	0 ~ 2000 mL
Frequency (Freq)	1 min ~ 100 min
Oxygen concentration	21 % ~ 100 %
I:E	4 : 1 ~ 1 : 8
PEEP	0 cmH$_2$O ~ 40 cmH$_2$O
Pressure limit	20 cmH$_2$O ~ 100 cmH$_2$O
Pressure triggering sensitivity (Ptr)	-20 cmH$_2$O ~ 0 cmH$_2$O(BiasedonPEEP)
Flow triggering sensitivity (Ftr)	0.5 cmH$_2$O ~ 30 cmH$_2$O
SIGH	0 (off) 1/100 ~ 5/100
Apnea ventilation	OFF, 5 s ~ 60 s

Monitoring parameter

Frequency (Freq)	0/min ~ 100/min
Tidal volume (Vt)	0 mL ~ 2500 mL
MV	0 L/min ~ 99 L/min
Airway pressure	0 cmH$_2$O ~ 100 cmH$_2$O
Dynamic lung compliance monitoring	1 mL/cmH$_2$O ~ 1000 mL/cmH$_2$O
Oxygen concentration	15 % ~ 100 %

Packing size

Main components: L 560 * W 560 * H 605 mm
G.W. : 40 KG, N.W. : 17 KG
Air compressor: L 670 * W 700 * H 1160 mm
G.W. : 84 KG, N.W. : 46.2 KG

Alarm and protection

The AC power failure alarm	Power failure or no connection
Internal backup battery low voltage alarm	≤ 11.3 ± 0.3 V
No tidal volume	No tidal volume within 6 s
High minute volume alarm	5 L/min ~ 99 L/min
Low minute volume alarm	1 L/min ~ 30 L/min
High airway pressure alarm	20 cmH$_2$O ~ 100 cmH$_2$O
Low airway pressure alarm	0 cmH$_2$O ~ 30 cmH$_2$O
High oxygen concentration alarm	19 % ~ 100 %
Low oxygen concentration alarm	18 % ~ 99 %
Continuous pressure alarm	(PEEP + 15 cmH$_2$O) over 15s
Suffocation warning	5 ~ 60 s
Fan error	Show on screen
Oxygen deficit	Show on screen
The maximum limited pressure	< 12.5 kPa

Working condition

Gas source	O_2, Air
Pressure	280 kPa - 600 kPa
Voltage	220 V ± 22 V
Power frequency	50 Hz ± 1 Hz
Input power	900 VA(With air compressor)
	250 VA(Without air compressor)

Osdillogram

P-T(Pressure-Time)
F-T(Flow-Time)
P-V Loop(Pressure-Volume Loop)

Other models for your reference:


S1100B


S1100A


S1800

The picture is for reference only. For more information, please contact Superstar Medical sales representatives.

CHENSHA INTERNATIONAL

ICU Ventilators – S1100 certificates

DAkkS

Certificate

No. Q5 082515 0006 Rev. 00

Holder of Certificate: Nanjing Superstar Medical Equipment Co., Ltd.
The 2nd and 3rd Floors. No.6 Building
No.9 Bofu Road
Yanjiang industrial Development Zone, Liuhe District
211505 Nanjing
PEOPLE'S REPUBLIC OF CHINA

Facility(ies): Nanjing Superstar Medical Equipment Co., Ltd
The 2nd and 3rd Floors. No.6 Building, No.9 Bofu Road, Yanjiang Industrial Development Zone, Liuhe District, 211505 Nanjing.
PEOPLE'S REPUBLIC OF CHINA

Certification Mark:

Scope of Certificate: Design and Development, Production and Distribution of Anaesthesia Systems, Ventilators, CPAP Systems, N2O Sedation Systems, Air Compressors and Oxygen Concentrators, Sleep Therapy Systems

Applied Standard(s): EN ISO 13485:2016
Medical devices - Quality management systems - Requirements for regulatory purposes
(ISO 13485:2016)
DIN EN ISO 13485:2016

The Certification Body of TÜV SÜD Product Service GmbH certifies that the company mentioned above has established and is maintaining a quality management system, which meets the requirements of the listed standard(s). See also notes overleaf.

Report No.: SH1873607
Valid from: 2019-03-01
Valid until: 2022-02-28

Date, 2019-02-27 Stefan Preiß

Page 1 of 1
TÜV SÜD Product Service GmbH • Certification Body • Ridlerstraße 65 • 80339 Munich • Germany

REGISTRATION NO. 04716Q10006279

CERTIFICATE OF QUALITY MANAGEMENT SYSTEM FOR MEDICAL DEVICES

This is to certify that the quality management system of
Nanjing Superstar Medical Equipment Co., Ltd.
Registered Address: The 2nd and 3rd Floors, No.6 Building, No.9 Bofu Road, Yanjiang Industrial Development Zone, Liuhe District, Nanjing, P.R. China Postcode: 211505
Manufacturing Address: Room 305, the 2nd and 3rd Floors, No.6 Building, No.9 Bofu Road, Yanjiang Industrial Development Zone, Liuhe District, Nanjing, P.R. China
Has been assessed and conformed to the following standard(s)
YY/T 0287-2017 idt ISO 13485:2016
The certificate is valid for the following scope:
The Design, Development, Production and Service of CPAP Systems, Air Compressors, Oxygen Concentrators, Sleep Therapy Systems, Ventilators, N_2O Sedation Systems, Anesthesia Systems.
Date of issue: August 12,2016
Date of expiry: August 11,2019
Date of change: September 03,2018

General Manager:

BEIJING HUA GUANG CERTIFICATION OF MEDICAL DEVICES CO., LTD.

CHENSHA INTERNATIONAL

ICU Ventilators – VG70

Technical Specification

Ventilation Modes				
	VCV(A/C)	PCV(A/C)	PRVC	SIMV(VCV)+PSV
	SIMV(PCV)+PSV	SIMV(PRVC)+PSV	SPONT/CPAP+PSV	
	BIVENT+PSV	NIV/CPAP	NIV-T	NIV-S/T
Parameters				
• Tidal Volume:	20–2000 ml			
• Respiration Rate:	1–80 bpm			
• Tinsp:	0.2–9 s			
• Tslope:	0–2 s			
• Tpause:	0–4 s			
• I:E Ratio:	1:10–4:1			
• FiO_2:	21%–100%			
• Trigger Sensitivity:	Pressure (-20–0 cmH2O, above PEEP)			
	Flow (0.5–20 LPM)			
• PEEP:	0–35 cmH2O			
• Psupport:	0–70 cmH2O			
• Pinsp:	5–70 cmH2O			
Special Procedures				
	Apnea Ventilation	Smart Suction	Manual Breath	
	Insp/ Exp Hold	ETCO2 Measurement		
	Nebulization	Waveform Freeze		
Monitoring				
• Pressure Value:	Ppeak, Pplat, Pmean, Pmin, PEEP			
• Volume / Flow Value:	Vti, Vte, MV, MVspont			
• Time Value:	ftotal,fspont, I:E			
• Real Time Curves:	Pressure-Time, Flow-Time, Volume-Time waveforms			
	Pressure-Volume, Volume-Flow, Flow-Pressure loops			
• Gas Monitoring:	FiO_2, $ETCO_2$			
• Calculated Values:	Compliance(C)			
	Resistance(R)			
	MVleak			
	RSBI			
	WOB			
	PEEPi			
Alarm				
	Paw high / low	MVe high / low	Circuit disconnnect	
	FiO2 high / low	Inspiration / Expiratory tidal volume low		
	High Respiration Rate	Apnea AC Failure	Nebulizer On	
	Low Battery	Air /O_2 supply down	High / Low PEEP	
	Leakage out of range	Occlusion		
Technical Data				
• Screen:	12" TFT color touch screen (detachable)			
• Supply Gas:	Co. 0.28–0.6 MPa			
• Power Supply:	AC100–240 V, 50 Hz/60 Hz			
• Communication Interface:	RS-232 Port, Nurse call Port, Ethernet Port			
• Dimension (WxDxH):	322 mm x 375 mm x 388 mm (Main Unit)			
	547 mm x 875 mm x 950 mm (Cart)			
• Weight:	12.5 kg (Main Unit)			
	25 kg (Cart)			

Remark: Above configurations include standard and optional. Please check price with your dommed sales representative.

Superior Mobile ICU ventilator

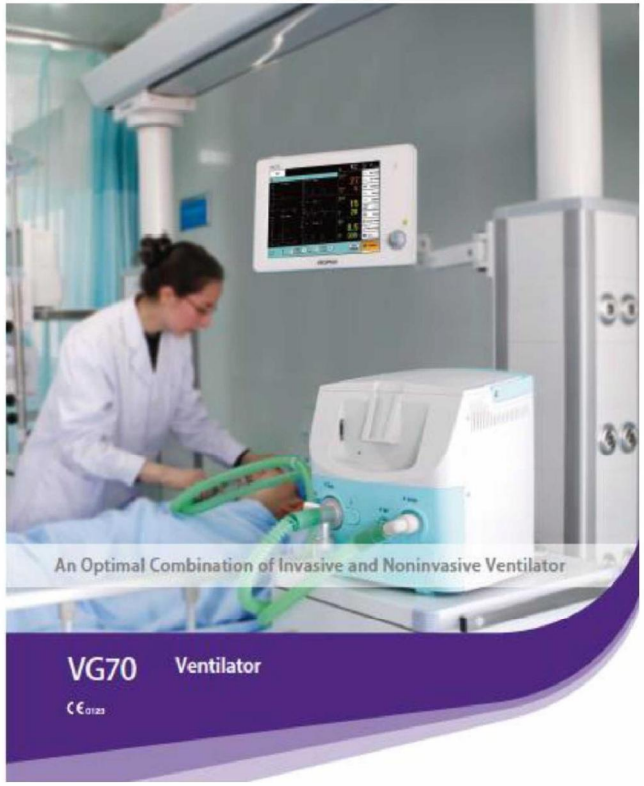
- Comprehensive ICU ventilator including BIVENT and PRVC
- Compact, big capacity battery, no air compressor, intra-hospital mobility
- Flexible device configuration: equipped on a trolley, bed or ceiling pendant

Cost Effective Solution

- Unique metal-based, autoclavable, heated exhalation valve
- Built-in flow sensor, non-consumable design
- Upgradeable ventilation system software, with an available USB port

CHENSHA INTERNATIONAL

ICU Ventilators – VG70



Superior Mobile ICU ventilator

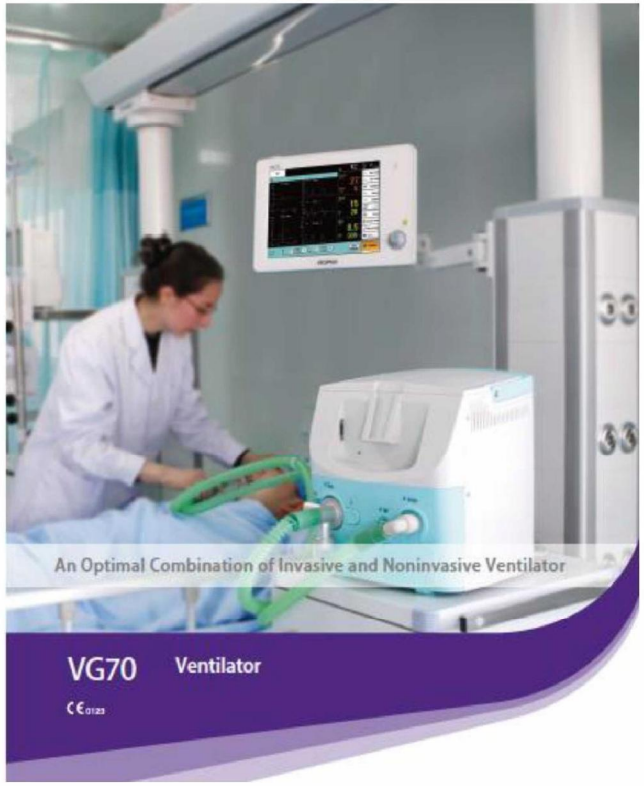
- Comprehensive ICU ventilator including BiVENT and PRVC
- Compact, big capacity battery, no air compressor, intra-hospital mobility
- Flexible device configuration: equipped on a trolley, bed or ceiling pendant

Cost Effective Solution

- Unique metal-based, autoclavable, heated exhalation valve
- Built-in flow sensor, non-consumable design
- Upgradeable ventilation system software, with an available USB port

CHENSHA INTERNATIONAL

ICU Ventilators – VG70



VENTILATOR VG70
with heated, metal-based, autoclavable and unique exhalation valve composed of an integrated flow sensor of design (without consumable). It is an electronically driven and controlled turbine.

- Ventilation modes include: A / C; SIMV; PSV / CPAP; PRVC; SPONT / CPAP / + PSV; BIVENT + PSV; VIN / CPAP; VIN-T; VIN-S / T
- Detachable 12 "TFT LCD touch screen.
- Suitable for infants, pediatrics and adults
- Invasive and non-invasive ventilation
- Functions include apnea ventilation, intelligent suction, manual breathing, Insp / Exp Hold function, ETCO2 measurement, nebulization, waveform freezing. It also has optimal patient-ventilator synchronization which increases patient comfort.
- Complete monitoring of lung mechanics
- The minimum tidal volume of 20 ml in VCV mode
- It has a 72 hour trend with 30 seconds of resolution
- Tube compensation and leak compensation and automatic circuit compliance compensation
- Compact design, an integrated battery capable of operating a fan for 2 hours.
- Improved ventilation system software, with an available USB port.

CHENSHA INTERNATIONAL

Nasal Cannula Oxygen Therapy Device (HFNC)

Sepray® OH Series

Heated Humidified High Flow Nasal Cannula Oxygen Therapy Device (HFNC) Product line introduction

Micomme Medical
International Marketing Department
intl@micomme.com

CHENSHA INTERNATIONAL

Nasal Cannula Oxygen Therapy Device (HFNC)

micomme

Definition of HFNC

High flow nasal cannula oxygen therapy (HFNC)

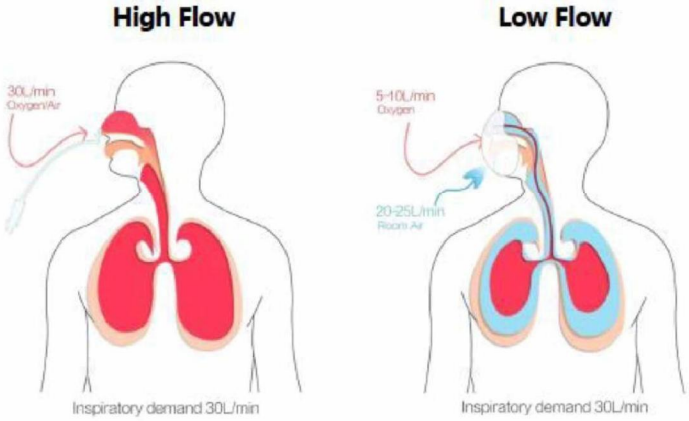
It's a new method of respiratory therapy and it is designed to administer a heated and humidified mixture of air and oxygen through nasal prong.

CHENSHA INTERNATIONAL

Nasal Cannula Oxygen Therapy Device (HFNC)

Rapidly and effectively improve the blood oxygen

micomme



CHENSHA INTERNATIONAL

Nasal Cannula Oxygen Therapy Device (HFNC)

Comfortable user experience

micomme

- Use a nasal cannula, no mask compression, no claustrophobia.
- The input air is fully humidified and heated for good comfort.
- The airflow creates less pressure, with higher tolerance.
- During treatment, you can talk, eat, and drink.
- Quickly improve oxygenation.

CHENSHA INTERNATIONAL

Nasal Cannula Oxygen Therapy Device (HFNC)

Automatic control of precise oxygen concentration

- Automatic control of oxygen concentration, no manual adjustment, more precise oxygen concentration control. When the flow rate changes, the oxygen concentration is automatically adjusted to ensure the accuracy.
- 21%-100% oxygen concentration adjustment range.
- 1% oxygen concentration adjustment accuracy.
- Directly connected to high-pressure oxygen, built-in air-oxygen blender, no external air-oxygen mixing valve.
- Built-in accurate oxygen concentration monitoring module, real-time display of current oxygen concentration values, without the need to load oxygen batteries and other consumables.

Intelligent temperature and humidity control system

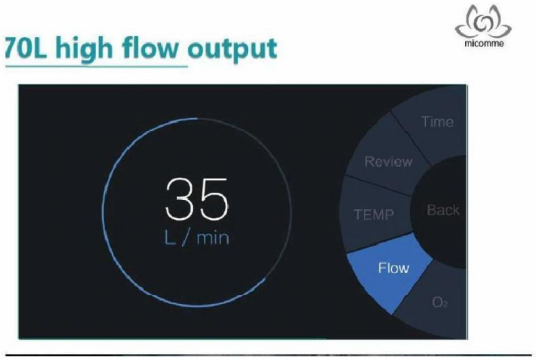
- The temperature control is available in seven levels to meet the needs of different patients.
- Heating water tank and pipe dual temperature control system. Full-loop automatic temperature control, automatic frequency conversion to adjust the temperature rise and fall, ensure that the set of temperature and humidity are maintained at different ambient temperatures.
- The water is automatically added to the water tank to ensure the water level.
- In low flow mode, the temperature is automatically locked for safety.

CHENSHA INTERNATIONAL

Nasal Cannula Oxygen Therapy Device (HFNC)

2-70L high flow output

- 70L/min high flow rate to meet more clinical needs. At the same time, 100% relative humidification can be achieved even at a high flow rate of 70L.
- Effectively wash the anatomical dead space.
- Child nasal interface: flow adjustment range: 2 ~ 25L/min adjustment accuracy 1L/min.
- Other patient interface: flow adjustment range: 10~70L/min.



Nasal Cannula Oxygen Therapy Device (HFNC)

Model	OH-70C	OH-70B	OH-60A
Mode	High flow, Low flow		
Oxygen control	Automatic control		Manually control
Oxygen concentration	21%-100% (1% precision)		——
Flow setting	2-70L/min		2-60L/min
Temperature	31℃-37℃ (1℃ precision)	31℃, 34℃, 37℃	31℃, 34℃, 37℃
Time setting	Yes	Yes	——
Trend review	8 hours, 12 hours, 24 hours		
Real time monitoring parameters	Flow, Temperature, O_2 concentration, Treatment time		
Cannula option	Nasal cannula, Tracheotomy cannula		
Dimension	340*228*162mm		
Weight	3.3kg		

CHENSHA INTERNATIONAL

Application of HFNC in COVID-19

Office of National Health Commission
Office of State Administration of Traditional Chinese Medicine

National Health Office Medical Letter [2020] No. 184

Notice on Issuance of COVID-19 and Treatment Program (Trial Seventh Edition)

(3)Treatment of severe and severe cases

1、Principles of treatment: On the basis of symptomatic treatment, we should actively prevent complications, treat basic diseases, prevent secondary infections, and provide timely organ function support.

2、Respiratory support:

(1) Oxygen therapy: Severe patients should receive nasal cannula or mask oxygen inhalation and promptly assess whether respiratory distress and (or) hypoxemia are alleviated.

(2) High-flow nasal cannula oxygen therapy or noninvasive mechanical ventilation: When respiratory distress and (or) hypoxemia cannot be relieved after standard oxygen therapy, high-flow nasal cannula oxygen therapy or noninvasive ventilation may be considered. If the condition does not improve or even worsen within a short time (1-2 hours), endotracheal intubation and invasive machanical ventilation should be performed in time.

China' s diagnosis and treatment plan clearly points out that: For severe and critical cases, HFNC can be used when respiratory distress and/or hypoxemia cannot be relieved after receiving standard oxygen therapy.

CHENSHA INTERNATIONAL

Problems in treatment of COVID-19

1、Standard oxygen therapy improves the limited use of oxygen cooperation

2、The secretion in the lung is sticky, which affects the ventilation effect

CHENSHA INTERNATIONAL

HFNC improves oxygenation better than standard oxygen therapy

Product characteristics

- Accurate setting and automatic control of 21-100% oxygen concentration
- 2~70 L/min flow

Treatment benefit

- It can provide stable and higher oxygen concentration than standard oxygen therapy. The oxygen concentration does not change with the change of the patient' s breathing state, which can meet the needs of the patient' s autonomous breathing
- High flow airflow can reach or exceed the maximum inspiratory flow rate of patients' active inspiration, reduce inspiratory resistance and respiratory work, and reduce oxygen consumption

CHENSHA INTERNATIONAL

HFNC dilutes lung secretions for drainage

Product characteristics

- Constant temperature and humidity: Close to 100% relative humidity, temperature 31-37℃

Treatment benefit

- It can warm and humidity the gas to 37℃ and 44 mg/L, reduce the heat and water consumption of patients, keep the airway mucociliary function in the best state, and is conductive to the drainage of secretions and reduce the incidence of pulmonary infection

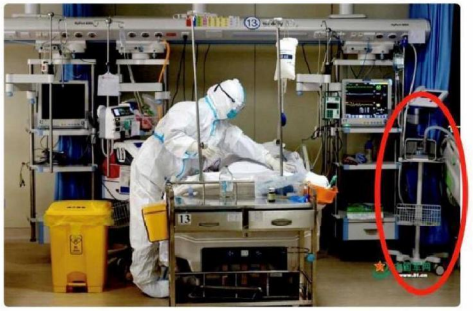
CHENSHA INTERNATIONAL

Sepray□ in Wuhan Jinyintan Hospital

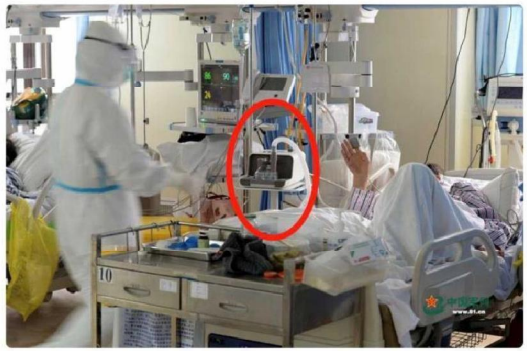
Wuhan ICU under camera

World Wide Web(source:China militery net) 01-28 07:09

COVID-19 infected patients were treated by medical personnel of the Naval Medical University medical team in the intensive care unit of Hankou Hospital in Wuhan on the forenoon of January 27th. This is for medical staff to check whether the patient's infusion catheter is unobstructed. Photographed by Fan Xianhai, journalist of China Military Network



COVID-19 infected patients were treated by medical personnel of the Naval Medical University medical team in the intensive care unit of Hankou Hospital in Wuhan on the forenoon of January 27th. This is the emergency situation that medical staff deal with quickly. Photographed by Fan Xianhai, journalist of China Military Network



CHENSHA INTERNATIONAL

Sepray is on the front line

CCTV1 News Broadcast

CCTV1 Focus Interview

CHENSHA INTERNATIONAL

Positive Airway Pressure Device (PAP)

Positive airway pressure (**PAP**) is a mode of respiratory ventilation used in the treatment of sleep apnea. PAP ventilation is also commonly used for those who are critically ill in hospital with respiratory failure, in newborn infants (neonates), and for the prevention and treatment of atelectasis in patients with difficulty taking deep breaths. In these patients, PAP ventilation can prevent the need for tracheal intubation, or allow earlier extubation.

Chronic obstructive pulmonary disease (**COPD**) is a type of obstructive lung disease characterized by long-term breathing problems and poor airflow.[1][8] The main symptoms include shortness of breath and cough with sputum production

CHENSHA INTERNATIONAL

204027

Positive Airway Pressure Device (VPAP)

CHENSHA INTERNATIONAL

Positive Airway Pressure Device (VPAP)