

물 품 규 격 서

- ☐ 입찰공고번호 : (학)일송학원 관리국 제2025-164호
- ☐ 입찰건명 : 내과중환자실 외 Respiration Unit 구매
- ☐ 수요기관 : 한림대학교 강남성심병원
- ☐ 납품장소 : 수요기관 희망장소 입고도
- ☐ 물품내역 등

연번	품명(영문, 국문)	규격 및 사양	총 구매예정수량 (Q'TY)	1회 최대 발주수량	WARRANTY 기간	단위 (UNIT)
1	Respiration Unit (인공호흡기)	하단 참조	15	15	검수(합격)일로부터 3년 종료월 말일 까지	SET

☐ 공통사항

- 장비의 설치와 작동 및 교육은 무상으로 제공한다.
- 수요기관 담당자 입회 하에 계약상대자는 제품의 설치 테스트 및 시험작동을 실시하여야 한다.
- 무상 하자담보 책임기간은 품목에 따라 상기 기재된 것과 같이 물품 검수(합격)완료일로부터 3년 종료월 말일 까지 또는 2년 종료월 말일 까지 를 기본으로 하며 계약 상대방의 추가 제안에 따라 공고된 기본 무상 하자담보 책임기간을 초과하여 설정할 수 있다.
- 무상 하자담보 책임기간 중 수요기관의 사정으로 인하여 부서 및 장비의 위치가 불가피하게 이동을 필요로 할 경우 설치 시 협의 하에 무상 또는 부득이한 경우 실비 기준으로 이루어진다.
- 무상 하자담보 책임기간 중 중 공급된 장비의 부속품이 단종된 경우 수요기관이 인정하는 동등이상의 장비로 무상교체가 이루어져야한다.
- 계약상대자는 어떠한 상황에서도 애프터서비스를 위하여 전문서비스 인력을 제공하여야 하며 애프터서비스를 위하여 교체 부품을 보관하여야 한다.
- 계약상대자는 장비 납품 시 납품일을 기준하여 제품 제조년월이 6개월 이내인 장비를 납품 하고 납품장비에 해당 제조년월이 명시되어야 한다.

<규격 · 사양 A>

A. Features

1. It lets you view up to 50 monitoring parameters
2. Ventilation Cockpit to improve safety through intuitive operation and monitoring, visualizes the patient's respiratory mechanics and ventilation support
3. 17" Touch-Screen user interface can make easy access
4. Visual Lung Mechanics visualizes in real-time of
 - (1) Tidal volume
 - (2) Lung compliance
 - (3) Resistance
 - (4) Patient activity
5. Bar-graphic parameter show to user when consider taking the patient off the ventilator
6. It can display Four real-time waveforms loop, Freeze, based on user-selected
7. Measurement are taken between the patient and Y-piece not inside the machine
8. It make it easy to adjust alarm limits appropriately, even while the ventilator is alarming or you can choose automatic alarm setting
9. Inspiratory and expiratory measurement of resistance, compliance and Time-constant.
10. Adaptive Support Ventilation (Automatic Ventilation)
11. 90min Battery Operation
12. 1, 6, 12, 24 or 72 Hours Trends For 50 Parameter
13. Print screen key save screen shot for easy transfer and viewing on a PC

B. Specifications

1. CONTROL

- 1) Mode :
 - Volume type: (S)CMV, SIMV
 - Pressure type: P-CMV, P-SIMV, SPONT, APVcmv, APVsimv,
 - Special: ASV, DUOPAP, APRV, NIV, NIV-ST
- 2) Special Function : Manual breath, Insp/Exp hold, nebulizer, 100% O₂, Standby, Screen lock, On-screen help, Apnea backup, TRC, Intellicuff, Intellisync+(Inspiratory and Expiratory trigger synchronization)
- 3) Patient Range : Pediatric to Adult
- 4) Rate : 1 to 80 b/m
- 5) Tidal Volume(ml) : 20 to 2000 ml
- 6) Peak Flow(L/m) : 1 to 195 l/m
- 7) Pressure Control : 5 to 100 cmH₂O
- 8) Pressure Support : 0 to 100 cmH₂O
- 9) Insp Time : 0.1 to 12 sec

- 10) Pause Time : 0 to 30 sec
- 11) I:E Ratio : 1:9 to 4:1
- 12) Flow Pattern : Sine, Square, 100% decelerating, 50% decelerating
- 13) Oxygen : 21 to 100 %
- 14) PEEP/CPAP : 0 to 50 cmH₂O
- 15) Pressure Trigger : -0.1 to -15 cmH₂O
- 16) Flow Trigger : 0.5 to 20 l/min
- 17) Pressure Ramp : 0 to 2000 ms
- 18) Automatic Expiratory Base Flow : Fixed at 6 l/min
- 19) T low(APRV) : 0.2 to 40 s
- 20) T high(DUOPAP and APRV) : 0.1 to 40 s
- 21) Expiratory trigger sensitivity(ETS) : 5 to 80 %
- 22) %minute volume(ASV) : 25 ~ 350 %
- 23) Cuff Pressure : 0 to 50 cmH₂O
- 24) TRC compensation : 0 to 100 %

2. MONITOR :

- 1) Real-time wave forms/Loop : Volume, Flow, Pressure, Auxiliary Pressure
- 2) Pressure : Peak, Mean, Min, Plateau, PEEP/CPAP
- 3) Flow : Insp/Exp Peak
- 4) Volume : Expiratory – Tidal, Minute, Leakage
- 5) Time : Inspiratory, Expiratory, I:E, Total frequency, Spontaneous frequency
- 6) Oxygen : Airway Oxygen Concentration
- 7) Lung mechanics Parameter :
 - Inspiratory flow Resistance, Static Compliance, Expiratory Time constant, Pressure time product, P0.1, Rapid Shallow Breathing, AutoPEEP
- 8) Trending : 50 parameters for 1, 6, 12, 24 or 72 Hours
- 9) Others : Waveform Freeze and Cursor Function

3. ALARM :

- 1) Low/High Minute Volume
- 2) Low/High Pressure
- 3) Low/High Tidal Volume
- 4) Low/High Rate
- 5) Apnea Time : 15 to 60 sec
- 6) Special alarm : Oxygen high/low, Disconnection, Oxygen supply failed,
Loss of peep, Pressure limitation, Flow sensor alarm,
Loss of external power, Cuff leak, exhalation obstruction
- 7) Event Log : Storage and Display 1000 events with date and time stamp

C. Consist of

1. C6 ventilator device and panel	15
2. Trolley	15
3. Conversion kit to trolley	15
4. Standard rail	15
5. Language kit	15
6. Intellisync+ Option	15
7. Intellicuff Option	15
8. P/V Tool Option	15
9. Adaptive support ventilation	15
10. Expiratory valve set	30
11. DISS O2 connector	15
12. Humidifier Holder	15
13. MR850 Humidifier	15
14. Temperature Probe	15
15. Dual Heaterwire Adapter	15
16. Flow sensor(Disposable)	75
17. Support arm	15
18. Oxygen sensor	15
19. Test bag	15
20. Li-ion Battery	15
21. O2 tubing with CPS adapter	15
22. Power cord	15
23. Operation/Service manual	15

D. Remarks

-. Warranty : 검수 완료일(합격)로부터 3년 종료 월 말일까지

<규격 · 사양 B>

A. Features

1. This ventilator is designed for intensive care ventilation, Capable of treating patients from neonates to adults.
2. 15 inch TFT color, touch screen.
3. Accurate and fastest flow sensing.
4. Ultrasonic flow transducer provide precise and fast response flow sensing, and easy to clean.
5. Max. 5 waveform display at the same time in one feature(window).

B. Specifications

1. Application : Adults, infants
2. Screen
 - 1) TFT LCD color
 - 2) Size : 15 inch XGA, 1024x768 pixels with 24 bit color palette
 - 3) Operating method : touch
 - 4) Display : 3~5 waveforms and 2 loops display at the same time
3. Gas and power supply
 - 1) Inlet gas pressure : 2~6.5 bar (air/O₂)
 - 2) Gas delivery system : Microprocessor controlled valves
 - 3) Power supply : 110~ 220VAC $\pm 10\%$, 60Hz.
 - 4) Battery back-up time : 60 min
4. Modes
 - 1) Controlled ventilation
 - Volume controlled ventilation (VC)
 - Pressure controlled ventilation (PC)
 - Pressure regulated volume controlled ventilation (PRVC)
 - 2) Supported ventilation
 - Pressure supported ventilation (PSV)
 - SIMV(VC)+PSV
 - SIMV(PC)+PSV
 - SIMV(PRVC)+PSV
 - Continuous positive airway pressure ventilation (CPAP)
 - 3) Back-up ventilation
 - 4) Available Previous mode : save pre-mode and return to pre-mode
5. Choice of System configuration
 - 1) Volume : select Tidal volume or Minute volume
 - 2) Inspiration time : select I:E ratio or Ti(inspiratory time) setting
 - 3) Inspiratory rise time : select % of peak flow or second setting
 - 4) Tidal/Minute volume setting based on body weight : User selection

- 5) Display : Waveform or Waveform/loop – Scale setting : Auto or Manual
- 6) Start up configuration : Possibility to set default set value
6. Communication for patient data
 - 1) USB
 - 2) 2xRS-232 port
 - 3) VGA port
7. Control setting
 - 1) CMV frequency : 4 – 100 breaths/min
 - 2) SIMV frequency : 1 – 60 breaths/min
 - 3) Apnea time : 15-45 sec
 - 4) PEEP : 1-50 cmH₂O
 - 5) Inspiratory tidal volume : 100-2000 ml
 - 6) Pressure control : 0-120 cmH₂O
 - 7) Pressure support : 0-120 cmH₂O
 - 8) Inspiratory pause time : 0-30% of the respiratory cycle
 - 9) Insp. rise time : 0-20 % of breath cycle
 - 10) Flow trigger sensitivity : 0-100% fraction of bias flow
 - 11) Pressure trigger sensitivity : -20~0 cmH₂O
 - 12) Bias flow : 2 lpm
 - 13) Inspiratory cycle off : 1-70% of peak flow
 - 14) I:E ratio : 1:10 to 4:1
 - 15) Breath cycle time : 0.1-15 s
 - 16) Oxygen concentration : 21 to 100%
 - 17) Pause hold :– Insp. Max 30s– Exp. Max 30s
 - 18) O₂ breath : 1min
 - 19) Manual breath : available in all mode
 - 20) Alarm setting : auto or manual
 - 21) Ideal body weight : ON or OFF
 - 22) Circuit compliance compensation
8. Alarms
 - 1) Airway pressure : 16-120 cmH₂O
 - 2) Expired minute volume : Low and High
 - 3) O₂ concentration : Yes
 - 4) Apnea : 15-45 sec
 - 5) Gas supply failure
 - 6) Respiratory frequency : 1-160 bpm
 - 7) Alarm silence : 2min
 - 8) Alarm reset
 - 9) End expiratory pressure : 0-47 cmH₂O
 - 10) Alarm auto setting

9. Monitoring

- 1) Frequency : CMV and spontaneous
- 2) Inspiratory/Expiratory tidal volume
- 3) Inspiratory/Expiratory minute volume
- 4) Airway pressure : Measured peak, mean and pause
- 5) T_i/T_{tot}
- 6) I:E ratio
- 7) End expiratory pressure
- 8) End expiratory flow
- 9) Shallow breathing index
- 10) O₂ concentration
- 11) Total PEEP
- 12) Work of Breathing patient
- 13) Work of Breathing ventilator
- 14) Dynamic Characteristics
- 15) Static Compliance
- 16) Insp./Exp. Resistance
- 17) Time Constant
- 18) Elastance
- 19) P0.1 measurement
- 20) Supply pressure(O₂ and Air)
- 21) Battery remaining time
- 22) Displayed waveform and loop
- 23) Scale setting : Auto or manual
- 24) Trend
- 25) Record waveform for 20 sec.

10. Nebulizer

- 1) Vibrating mesh nebulizer
11. Manual breath function
12. Auto-PEEP measurement
13. Self calibration : Pre-use check
14. Time constant valve controller
15. Extra flow function : Floating trigger
16. O₂ boost function

C. Consist of

1. Base unit	15
2. Base software, Adult	15
3. English country kit	15
4. Mobile cart	15
5. Handle	15
6. Drawer for low Mobile carts	15
7. Cable holder	15
8. Expiratory cassette	30
9. Battery module	30
10. Support arm	15
11. Humidifier holder	15
12. Humidifier	15
13. Temperature & flow probe	15
14. Connection cable for dual heated circuit	15
15. Vibrating mesh nebulizer unit	15
16. Nebulizer t-piece	15
17. O2 cell	15
18. Air connector & O2 connector	15
19. Test lung	15
20. Test tube for pre use check	15
21. S/W NIV	15
22. S/W Compass	15
23. S/W Operating & service manual(CD)	15
24. S/W Open Lung Tool, Auto SRM	7
25. S/W Automode	8

D. Remarks

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