물 품 규 격 서

☐ 입찰공고번호 : (학)일송학원 관리국 제2025-134호
☐ 입찰건명 : 이비인후과(외래) Ultrasound Scanner 구매
☐ 수요기관 : 한림대학교성심병원
☐ 납품장소 : 수요기관 희망장소 입고도
☐ 물품내역 등

연번	품명(영문, 국문)	규격 및 사양	총 구매 예정수량 (Q'TY)	1회 최대 발주수량	Warranty 기간	단위 (Unit)
1	Ultrasound Scanner (초음파 영상진단기)	하단 참조	1	1	검수(합격)일로부터 3년 종료월 말일까지	SET

☐ 공통사항

1. 장비의 설치와 작동 및 교육은 무상으로 제공한다.
2. 수요기관 담당자 입회하에 계약상대자는 제품의 설치 테스트 및 시험작동을 실시하여야 한다.
3. **무상 하자담보 책임기간은 물품 검수(합격)일로부터 *3년 종료월 말일 까지*를 기본 원칙으로 하며 계약상대자의 추가 제안에 따라 3년을 초과하여 설정할 수 있다.**
4. 무상 하자담보 책임기간 중 수요기관의 사정으로 인하여 부서 및 장비의 위치가 불가피하게 이동을 필요로 할 경우 설명 및 설치가 무상으로 이루어진다.
5. 무상 하자담보 책임기간 중 중 공급된 장비의 부속품이 단종된 경우 수요기관이 인정하는 동등 이상의 장비로 무상 교체가 이루어져야 한다.
6. 계약상대자는 어떠한 상황에서나 애프터서비스를 위하여 전문서비스 인력을 제공하여야 하며 애프터서비스를 위하여 교체 부품을 보관하여야 한다.
7. 계약상대자는 장비 납품 시 납품일을 기준하여 제품 제조년월이 6개월 이내인 장비를 납품하고 납품장비에 해당 제조년월이 명시되어야 한다.
8. 기존 노후 의료장비 철거 및 회수(또는 보상판매) 조건으로 제안할 수 있다.

<규격 · 사양-A>

A. Features

1. The system provides multipurpose applications including abdominal, vascular, small parts, obstetrics, gynecology, urology, pediatrics etc.
2. The system provides high quality of image resolution and sensitivity in all scanning modes including B/C/D/M/CM mode.
3. The system supports DICOM 3.0 and can be easily connected to PACS networking.

B. Specifications

1. MAIN SYSTEM
   1) OS Window10
   2) 23.8 inch LED Monitor
   4) 14" High resolution LCD Touch screen
   4) 3 Active Probe Ports
   5) Height/Rotate adjustable control panel
   6) Height/Tilt/Rotate adjustable monitor
   7) Dynamic Range(256dB)
   8) Power Doppler Imaging
   9) Directional Power Doppler Imaging(DPDI)
   10) S-Flow™ Mode
   11) Harmonic Mode
   12) Free Angle Plane
   13) Single/Dual/Quad mode
   14) Trapezoidal Imaging
   15) Quick Scan™(Automatic Optimization)
   16) Cine For 23,190(Max condition) frames and Loop Review for 8,192 Lines
   17) Pre Processing
   18) Post measurement
   19) Support for external USB 2.0 Port
   20) Auto Calc(Real-Time Automation Doppler Calculation)
   21) Doppler Auto Trace
   22) Customizable Measurement Menu, Body Maker, Key

C. Consist of(per 1 Set)

1. Main (Imaging Unit Included) System
   [CONSOLE DESIGN]
   - Operating System : Windows 10
   - Imaging Processing & Presentation
     CrystalLive Engine
     CrystalLive™ Architecture
   - 23.8 inch LED Monitor
   - 14" LCD Touch screen

- H × W × D (1,370 × 598 × 860mm), 80kg
- 3 Active Probe Ports
- Height/Rotate adjustable control panel (Motorized, User memory, Auto parking)
- 4 Swivel/Lock wheels
- Front wheel central lock
- Prevention of noise of the system
- Ergonomic hard key operations, Trackball
- Adjustable movement : Up/Down, Front/Back, Tilting, Rotating
- Digital TGC controls on touch screen
- Integrated alphanumeric QWERTY backlit Keyboard
- 2D-Mode
- M-Mode
- Color/Power Doppler Imaging
- Pulsed Wave(PW) Spectral Doppler
- Continuous Wave(CW) Spectral Doppler
- Tissue Doppler Imaging (TDI)
- Tissue Doppler Wave (TDW)
- S-Flow™
- Color M-Mode
- Anatomical Mode (Arbitrary M mode)
- Sing/Dual/Quad Mode
- Simultaneous Mode
- Duplex mode(Dual, Quad)
- Pulse invasion Harmonic Imaging
- Power Modulated Imaging
- Power Modulated Pulse Inversion imaging
- Trapezoidal Imaging
- Contrast Agent
- Post-image optimization, Post-Measurement
- Patient Information Database
- Cine For 23,190(Max condition) frames and Loop Review for 8,192 Lines
- Auto Calc (Real-Time Automatic Doppler Calculation)
- Doppler Auto Trace
- User Configurable Measurement Menu
- Customizable Measurement Menu
- Customizable Body Maker, User keys
- Advanced QuickScan™ (Automatic Optimization)
- SonoView II™ (Imaging Filling Package)

2. Networking
- DICOM 3.0 & Worklist

3. MultiVision

4. ClearVision

5. EZ exam™

6. HQ Vision

7. ShadowHDR
8. Needle Mate+
9. MV-Flow
10. S-Detect for Thyroid
11. External Physical Keyboard
12. Gel Warmer
13. Probes
 1) LA2-14A : Linear Array Type probe for Small parts, Vascular, MSK
 2) LA3-22AI : Hockey Stick Type probe for Small parts, Vascular, MSK
14. Operation Manual & Service Manual
15. Accessories

D. Remarks

-. Warranty : 검수(합격)일로부터 3년 종료월 말일

<규격 · 사양-B>

A. Features

- Next generation ultra-low noise, wide dynamic range digital broadband acoustic beamforming with proprietary architecture.
- Offers up to 4,718,592 total digital channels
- Optimized for high definition 21.5 inch LCD display

B. Specifications

1. Applications

- Vascular
- Small parts and superficial
- OB/GYN
- Thyroid
- MSK

2. Imaging Modes

- 2D grayscale imaging with advanced pulse coding, pulse shaping, and frequency compounding technologies
- M-mode
- Tissue Harmonic Imaging (THI) with pulse inversion technology
- Coded beamforming
- SonoCT beam-steered real-time compound imaging
- Harmonic SonoCT imaging
- Up to five levels of XRES adaptive image processing technology
- iSCAN intelligent scanning for one-button TGC and gain optimization
- AutoSCAN with adaptive gain compensation for real-time frame-by-frame TGC optimization
- Color Doppler
- Color Power Angio imaging (CPA) and directional CPA
- High-PRF pulsed wave (PW) Doppler
- Color Compare mode
- High definition zoom (write zoom)
- Reconstructed zoom with pan (read zoom)
- Trapezoidal imaging

3. Imaging Formats

- 2D linear : WideSCAN with SonoCT
- 2D curved : WideSCAN with SonoCT
- 2D sector
- 2D trapezoid
- Dual 2D

4. System Architecture

- Next generation ultra-low noise, wide dynamic range digital broadband acoustic beamforming with proprietary architecture
- Powerful distributed multi-core processing architecture capable of achieving 225 x 109 40-bit Multiply Accumulates/second. Includes 512GB hard drives or more
- Support for transducer frequencies up to 20 MHz or more
- Optimized for high definition 21.5 inch LCD display or more
- Next generation SonoCT real-time compound imaging
- Performs 350 million calculations per frame of image data over 1,400 frames per second or more
- Fast system boot up: from OFF, approximately 110 seconds
- Transport mode: from sleep mode to on, approximately 20 seconds
- Transport mode lasts 40 minutes before recharge is needed

5. Tissue Harmonic Imaging(THI)

- Provides second harmonic processing to reduce artifacts and provides high quality images
- Available in all clinical applications
- Extends high performance imaging capabilities to all patient body types
- Support of SonoCT (Harmonic SonoCT) and XRES modes
- Multivariate pulsing including patented pulse inversion phase cancellation technology for increased detail resolution during harmonic imaging

6. Color Power Angio Imaging(CPA)

- Highly sensitive mode for small vessel visualization
- Available on all imaging transducers for general imaging and women's healthcare
- Cineloop review with full playback control
- User-selectable blending on/of
- 256 color bins
- Adjustable CPA region of interest, size and position
- Trackball-controlled color region of interest: size and position
- Velocity and variance displays

7. iSCAN intelligent optimization

- One-touch image optimization 2D and Doppler
- Available on all imaging transducers
- Operation in conjunction with SonoCT and XRES imaging
- Adaptive Gain Compensation (AGC)

8. AutoSCAN Intelligent Optimization

- Continuous, real-time adjustment of system gain and TGC to achieve balanced brightness of tissues
- Available from 2D touch screen controls

9. iOPTIMIZE Intelligent Optimization
- Multiple technologies for one-button approach to automatically and instantly adapt system performance for different patient size, flow states and clinical requirements
- Tissue Specific Imaging
- Patient Optimization
- Flow optimization
- Dynamic Resolution System (DRS)

10. Next generation SonoCT real-time compound imaging
- Available on all transducers except sector
- Virtually all clutter and artifacts eliminated
- Automatic selection of the number of steering angles based on the user-selected resolution/frame rate (Res/Speed) condition
- Up to nine lines of sight automatically adjusted via DRS control
- Available in contrast modes
- Available with WideSCAN format during 2D imaging for extended field-of-view operation

11. XRES adaptive image processing
- Provides high speed processing that allows over 2800 frames-per-second displays
- Available on all transducers
- Operation in conjunction with SonoCT imaging
- Eliminates virtually all speckle noise and enhances border definition
- Available in all imaging modes including color flow and doppler

12. Tissue aberration correction(TAC)
- Automatically enabled when ABD maximum penetration TSP is selected on C5-1 transducer
- Corrects for speed of sound disturbances due to excessive adipose layer on obese patients
- User selections with the L18-5, L12-5 50 for breast and MSK TSPs
- Corrects for speed of sound disturbances in fatty tissue

13. Cineloop review
- Acquisition, storage in local memory, and display in real-time and duplex modes of up to 2,200 frames of 2D and color images or up to 64 seconds of Doppler data and M-mode for retrospective review and image selection

14. Exam management features
- Internal storage
- Data export
- Temporary ID feature

15. Measurement tools and general description
- 2D distance
- 2D circumference/area by ellipse, continuous trace, trace by points
- Manual Doppler distance & trace

- High Q automatic Doppler analysis
- User-defined protocols, measurements and equations

16. High Q automatic Doppler analysis

- Automatic real-time and retrospective tracing of:
  Instantaneous peak velocity
  Instantaneous intensity weighted mean velocity
- Automatic real-time display of (user selectable up to six):
  Volume flow
  Time-averaged peak velocity
  Time-averaged mean velocity
  Resistive index
  Pulsatility index
  Systolic/diastolic ratio
  Acceleration/deceleration times
  Illustrated High Q

17. Touch screen

- 12inch widescreen touch screen for dynamic presentation of controls
- Tabbled layout and swipe capability for quick access to hidden controls

18. Clinical option analysis packages

- General imaging S/W

19. Connectivity

- Digital image acquisition and on-board patient exam storage
  Direct digital storage of B/W and color loops to internal hard disk drives
  Combined 512 GB storage capacity
  Storage capacity of approximately 350 patient exams
  (assuming 40 images, 6 seconds of clips and reports per exam)
- Printing
- Media storage and retrieval
  Export DICOM Image and structured report export to removable media
  Export PC Format image export to removable media

20. NetLink connectivity option (DICOM)

- Supported DICOM services
  Image storage
  Modality Worklist with automatic patient demographic entry
- Image and structured report export to network storage servers
  Send images after each Print/Acquire or End of Exam
- DICOM compression options
  Uncompressed (Explicit VR Little Endian, Implicit VR Little Endian)
- Other DICOM export options

Monochrome or true color

21. Battery Power Pack

- Battery back-up system

22. Elastography pkg

C. Consist of(per 1 Set)

1.	Basic architecture	1 set
2.	Imaging Modes	1 set
3.	Touch screen	1 set
4.	M-mode	1 set
5.	Spectral Doppler	1 set
6.	2D imaging	1 set
7.	Tissue Harmonic Imaging(THI)	1 set
8.	Color Doppler	1 set
9.	Color Power Angio imaging(CPA)	1 set
10.	Next generation SonoCT real-time compound imaging	1 set
11.	XRES adaptive image processing	1 set
12.	iSCAN intelligent optimization	1 set
13.	AutoSCAN intelligent optimization	1 set
14.	iOPTIMIZE intelligent optimization	1 set
15.	Tissue aberration correction (TAC)	1 set
16.	Cineloop review	1 set
17.	Exam management features	1 set
18.	Measurement tools and general description	1 set
19.	High Q automatic Doppler analysis	1 set
20.	Clinical option analysis packages	1 set
21.	NetLink connectivity option(DICOM)	1 set
22.	Battery power pack	1 set
23.	Elastography pkg	1 set
24.	eL18-4 broadband linear array with PureWave crystal technology	1 set
25.	ML26-8 broadband micro linear array with PureWave crystal technology	1 set
26.	Operation & Service Manual	1 set

D. Remarks

-. Warranty : 검수(합격)일로부터 3년 종료월 말일