COMMODITY DESCRIPTION

H.S. NO	ITEM NO.	DESCRIPTION	QUANTITY	UNIT
		Mobile ultrasound imaging system	1	System

A . FEATURES :

1. This device is an imaging diagnostic system that enables the diagnosis of abnormalities by sending ultrasound waves beyond the harmless audible range into the human body, converting the returning signals into electrical signals, and displaying them on a monitor.

2. Designed specifically for cardiac diagnosis, it allows for the diagnosis of dynamic cardiac morphology and functional abnormalities. It is used for the diagnosis of heart diseases and for academic research in university and general hospitals.

3. Furthermore, its compact size and the ability to perform examinations using power from a built-in battery without an external power source allow for flexible testing in various environments, including operating rooms, outpatient clinics, inpatient wards, emergency rooms, and intensive care units.

4. Applications include: Pediatric Cardia, Fetus/Obstetrics, Abdomen (including Kidney, Gynecology/ Pelvis), Pediatrics, Small Organs (including Breast, Testis, Thyroid), Vascular, Thoracic/Cardiac and Abdominal Cavity), Transcutaneous/ Prostate, Transrectal, Transcutaneous and Operating Room (including Vascular, Thoracic/Cardiac and Abdominal Cavity)

B. CONSIST OF :

1. Ultrasound imaging system — 1 set
2. Transduceer — 1 set
3. Accessories
    1) Cart — 1 ea
    2) DICOM 3.0 connectivity — 1 ea
    3) Multiprobe port box — 1 ea
    4) Charge box with three battery — 1 ea
    5) Rolling bag — 1 ea
    6) ECG cable kit — 1 ea
    7) B/W printer — 1 ea
    8) Wi-Fi kit — 1 set
    9) Viewpoint Server storage 100 TB — 1 set
    10) Operation Manual — 1 copy
    11) Service Manual (Included circuitary information for trouble-shooting) — 1 copy

C. SPECIFICATIONS :

1. Ultrasound imaging system
    1) System architecture

사용부서 : 순환기내과 의공기술검토자 : 성기웅

- Display [inch] : 15~19 inch, touch screen
- Number of probe port : 3 or more
- Data storage [GB] : 180 GB or more
- DVD/CD-RW/muiltiple USB
- Battery operating time : 1 hour or more
- Weight : 14.5 kg(incl. battery) or less
- OS (MS Windows11Pro recommended)

2) Imaging mode & processing

- B, M, PW Doppler, CW Doppler, THI, Anatomical-M
- Realtime compoud imaging
- Speckle reduction
- Auto Optimization
- Free (curved) drawing of M-mode generated from the cursor independent from the axial plane
- Wide FOV with phased array probe
- Myocardial Doppler imaging with color overlay on tissue image
- Real-time display of the time integral of TVI for quantitative display of myocardial systolic displacement
- Traces for velocity or derived parameters inside defined regions of interest as function of time
- Factory and user programmable sub-preset feature that keeps 2D and geometry settings
- Echocardiography normalization assessment tool
- Automatic cardiac doppler AI analysis function
- Precisely measure the length and path of nonlinear structures such as blood vessels, cardiac structures, and lesions
- Complement the limitations of single-angle ultrasound images (noise, artifacts, boundary blur, etc.)
- Provides the ability to construct and view a static 2D image with wider FOV
- Wider FOV and aims to enhance image quality on linear probes in particular
- Combines color Doppler with grayscale speckle imaging
- Automatic measurements of carotid artery Intima-Media Thickness (IMT) on any acquired frame
- Visualization of relative tissue stiffness
- Real-time guidance on correct probe positioning and angle, and anatomical references
- Customizable automations that assist the user through each step of the scan
- Privacy Security and data protection
- TEE interface
- AI automatic measurement 2D function performed on sternal LAX 2D image
- The AI based automatically Doppler measurement
- Analysis/quantification of left ventricular systolic function, 2D Auto EF integration, AFI stress test support, AFIRV and AFILA analysis

- Automatic recognition/tracking of the endocardial border of the left ventricle based on AI, calculation of EF through biplane analysis in apical two-chamber and four-chamber images, enabling accurate EF measurement without ECG
- AI-based automated left ventricular ejection fraction measurement
- AI-based automatic measurement of left ventricular myocardial strain
- Quantitative analysis of the heart muscle's fine contraction and relaxation ability through speckle tracking
- AI-based automatic measurement of right ventricle myocardial strain
- High-performance 4D cardiac imaging technology
- Network based streaming of the screen of the console to a web-browser on a remote device
- Display pre-procedure/surgery (Pre) and post-procedure (Post) images simultaneously on a single screen for side-by-side comparison and analysis

2. Transducer

1) Linear probe		: 12L-RS or Tyoe9070 or equivalent
- Application		: Pediatric, MSK, Small part, Vascular, etc.
- Frequency		: around 4~13 MHz
2) Phased array		: M5Sc-RS or Type9077 or equivalent
- Application		: Cardiac, Pediatrics, Abdominal, Fetal Heart, etc.
- Frequency		: around 1.5~4.6 MHz

D. REMARKS :

1. Installation
   - Supplier or contractor should be responsible for installation of this equipment.
2. Warranty
   - Supplier or contractor should be responsible for free of charge after - service whatever there is any defect or any trouble for three years after being accepted by customer.
   - If contractor and supplier do not supply appropriate service manual, the period of time for warranty is six years.
   - If a warranty of less than three years is provided for all or part of the equipment, it is separately described in section B. Consist of.
3. Etc.
   - If there is a request from the user department, the supplier provides hospital computer data linkage (1-year warranty) such as EMR, PACS, and LIS free of charge, and the procedures of data link should be proceeded with the department of medical information in KYUNGPOOK NATIONAL UNIVERSITY HOSPITAL.
   - The operating system required for operating the equipment should be based on Win11Pro. In case of lower versions, the supplier must report to the KNUH Information Security Team and should perform free upgrades of the operating system and operating software according to future equipment updates.

사용부서 : 순환기내과 의공기술검토자 : 성기웅