물 품 규 격 서

□ 입찰공고번호 : (학)일송학원 재단 관리국 제2025-138호

□ 입찰건명 : 순환기내과(심혈관조영실) Angiography Unit, Cardiac (Single Ceiling) 구매

□ 수요기관 : 한림대학교 춘천성심병원

□ 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	Angiography Unit, Cardiac (Single Ceiling) (심혈관조영촬영기)	하단 참조	1	1	검수(합격)일로부터 3년 종료월 말일까지	SET

□ 공통사항

1. 장비의 설치와 작동 및 교육은 무상으로 제공한다.
2. 수요기관 담당자 입회 하에 계약상대자는 제품의 설치 테스트 및 시험작동을 실시하여야한다.
3. **무상 하자담보 책임기간은 물품 검수(합격) 완료일로부터 *3년 종료월 말일까지*를 기본 원칙으로 하며 계약상대자의 추가 제안에 따라 3년 종료 월 말일까지의 기간을 초과하여 설정할 수 있다.**
4. 무상 하자담보 책임기간 중 수요기관의 사정으로 인하여 부서 및 장비의 위치가 불가피하게 이동을 필요로 할 경우 설명 및 설치 시 협의 하에 실비 기준으로 이루어진다.
5. 무상 하자담보 책임기간 중 공급된 장비의 부속품이 단종된 경우 수요기관이 인정하는 동등 이상의 장비로 무상교체가 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 사용 중인 의료장비 철거 및 회수 또는 보상판매 조건으로 제안할 수 있다.

<규격·사양 A>

A. Features

1. Fully integrated intervention lab environment - imaging, recording, networking and reporting.
2. Excellent image quality through advanced flat panel detector technology and image compensation software.
3. More diagnostic confidence through multi-modality viewing in the intervention lab.
4. Light weight and space saving digital flat monitor displays for crisp-clear image visualization.
5. Comprehensive radiation protection package.

B. Specification

1. C-arm Unit
   1) Motorized or manual control : Yes
   2) Head Position Cranial/Caudal : +100°/-100°
   3) Head Position LAO/RAO : +150°/-180°
   4) Side Position Cranial/Caudal : +150°/-180°
   5) Side Position LAO/RAO : +100°/-100°
   6) C-arm Stand Rotation : +135°/-135°
   7) C-arm position memory locations : Yes
   8) Variable focal spot-to-detector distance : 90 ~ 120 cm

2. Patient Table
   1) Floor mounted patient table with carbon fiber tabletop : Yes
   2) Table length(in. table top) : 281.5 cm
   3) Table height : 77.5 - 110 cm
   4) Tabletop width : 45 cm(Narrow)
   5) Sliding rails for table side control boxes : Yes
   6) Table rotation : ± 120° (5° adjust)
   7) Maximum table load : 390kg

3. X-Ray Tube Unit

1) High performance X-ray tube with liquid bearing technology : Yes
2) Max. exposure voltage : 125 kV
3) Focal spots : 0.4 / 0.7 mm
4) Focal Spot nominal power : 36 / 90 kW
5) Max. Fluoro power : 250mA
6) Anode heat capacity : 5,200 KHU
7) Tube-Detector Synchronized Rotation for upright imaging : Straight View

4. X-ray Generator

1) Microprocessor controlled high-frequency X-ray generator : Yes
2) Max. generator power : 1000 mA at 100 kV
3) Max. continuous power in fluoro mode (8hrs) : 3500 W

5. Digital Flat Panel Detector

1) Amorphous silicon flat detector : Yes
2) Detector size (Diagonal) : 10 inch
3) Input fields : 25 / 20 / 16 / 10 cm
4) Pixel size : 184um
5) Image matrix : 1024 x 1024
6) Detector Bit depth : 14 Bit
7) Detector spatial resolution : 2.7 LP/mm
8) Detective Quantum Efficiency : 74%
9) Cooling type : Liquid cooling

6. System controller in exam room

1) Attached to patient table
2) Touchscreen controller for system software
3) System controllers for c-arm, collimator
4) Table lock release button for floating movement
5) 4P Wireless foot switch for acquisition and table unlock
6) Additional Control panel for adjustment of C-arm and Detector
7) Synchronized mouse pointer function for communication between exam room

and control room

8) Multi-functional Joystick for additional functions

(1) Run and image selection, exam and run cycle, review speed

(2) Store reference image for review and additional function

(3) Subtraction and image mask selection on the pervious scene

7. Display in Exam Room

1) Full color Large display : 55" Large Display
2) Panel Technology : IPS
3) Resolution : 3840 x 2160
4) Brightness : 400 ~ 700 cd/m²
5) Contrast ratio : 1,000:1
6) Viewing Angle(Horizontal, Vertical) : 178°
7) Emergency backup display integrated : Yes
8) Re-size and single-click image capture : Yes
9) View and control all connected applications at table side to save time and unnecessary walking : Yes

8. Display ceiling suspension

1) Ceiling-mounted suspension system for main monitor : Yes
2) Manual height adjustment, longitudinal travel or swivel : Yes
3) Travel range of ceiling-mounted carriage : 315cm
4) Rotation range of displays : 330°
5) Separated display mount from that of the radiation protector and LED light : Yes

9. Main workstation in control room

1) Patient registration and system functions are integrated in one console : Artis Workplace
2) Image storage capacity: 100,000 images in 1024x1024x12-bits : Yes
3) DVD drive for digital image storage on a DVD-ROM for data exchange in DICOM format : Yes
4) Dual workstation for enhanced system stability : Yes

5) Display monitor for system setting and imaging : 19" x 3ea
6) Keyboard and Mouse : Yes
7) Handswitch for acquisition : Yes

10. Angiography imaging applications
1) Pulsed fluoroscopy : 0.5 ~ 30 p/s
2) Digital Subtracted Angiography : 0.5 - 7.5 f/s
3) Roadmap : Yes
(1) Individual windowing of vessel map and device image : Yes
(2) Show progress function for embolization procedures : Yes
(3) Reload a previous mask image : Yes
4) Storage and display of dynamic fluoro sequences : 68 s at 15 p/s
5) Image Opacification for full contrast injection : Yes
6) Image Opacification for full CO2 contrast injection : Yes
7) CO2 injection mode : Yes
8) Vascular analysis software : Yes
9) Overlapped bone image on DSA image : Yes
10) Roadmap Acquisition with previous DSA Acquisition : Yes
11) Live Pixel shift : Yes
12) Cardiac acquisition : 7.5, 10, 15 and 30 f/s
13) Stent visibility enhancement program : Clearstent
14) Real-time stent visibility enhancement program : Clearstent Live
15) Reload the previous image acquired position : Automap
(1) C-arm, FOV, Filter, Collimation, SID
(2) Re-perform Roadmap and overlay reference without additional contrast injection

11. Advanced Reconstruction Workstation
1) High performance workstation for 3D volume acquisition and reconstruction : syngo X-workplace
2) Keyboard & Mouse : Yes

12. Advanced imaging applications

1) Digital rotational angiography for acquisition of 3D high-contrast volume : syngo Dyna3D
    (1) Rotation speed : 45°/s
    (2) Acquisition rate : 60 f/s
2) 3D DSA acquisition with automatic subtraction reconstruction : Dyna3D DSA
3) Low-Contrast Computed Tomography imaging : syngo DynaCT
    (1) Volume matrix : 512x512
4) Superimposed visualization of 2 different 3D Volumes simultaneously (Low-Low and Low-High contrast) : syngo Dual Volume
5) Real-time adjustment of C-arm and table: 3D Roadmap
    (1) Automatic movement adjustment 3D roadmapping package and acquisition series on the display
    (2) Overlay the colored 3D volume with regular fluoro as well as with subtracted fluoro.(Roadmap)
    (3) Its information is available in parallel to the regular or subtracted fluoro or acquisition images on the live display of the acquisition system
    (4) Automatic updates to table, c-arm, zoom and SID changes, even patient movement can be manually updated
    (5) The degree of visibility can be modified by the user
    (6) Patient movements can be compensated by adjusting the 3D volume accordingly
6) Import CT / MR / PETCT volume and register patient geometry by low-dose rotational C-arm imaging : syngo 3D/3D Fusion
7) Import CT / MR / PETCT volume and register patient geometry by 2 fluoro shots via different angle : syngo 2D/3D Fusion
8) Independent workstation control between control room with exam room : Patient Parallel Processing
9) Image Zoom for 3D image review : Quick zoom
10) Supports 3D tools through complex vessel structures, enhancing clinical outcomes : syngo 3D tool box

11) Refine 3D Volume for 2nd 3D reconstruction on smaller VOI with better sharpness : Refine Volume
12) Two Cone Beam CT Run for Different Injection Phases : Syngo DynaCT Dualphase
13) 3D Image Shooting Function by Moving to a Location with Less Collision with the Patient Table when Shooting 3D Images : Syngo DynaCT Open Trajectory
14) Parallel Image Post-Processing for 2D Imaging : Scene Compare
15) Parallel Image Post-Processing for 3D Imaging : Compare View
16) Automatic Bone Removal for CT DICOM image : Auto Bone Removal

13. Radiation dose saving program : CARE Package
1) Variable slow fluoro pulse rates : CARE vision
2) Automatic Cu prefiltration for reduction of skin dose : CARE Filter
3) Radiation-free adjustment of collimators and semitransparent filter position setting : CARE profile
4) Low-dose acquisition : up to 67% reduction of acquisition imaging : Low-dose acquisition
5) Radiation-free object positioning via central beam and image edges in the LIH image : CARE Position
6) Monitoring accumulated peak skin entrance dose in real-time : CARE monitor

14. Image Optimization Program : CLEAR Package
1) Enhanced contrast and visibility of vessel edges without increasing the noise : CLEAR Vessel
2) Efficient compensation of motion artifacts : CLEAR Motion
3) Customized image quality to multiple individual preferences : CLEAR Choice

15. Contrast & Device Optimized Imaging technique : Artis CLEARmax
1) Advanced asymmetric edge enhancement imaging algorithm
2) Maximizing image quality in 2D without the need to apply more radiation
3) Better image contrast and sharpness in Acquisition, Fluoro and Roadmap
4) Enhancing contrast density with reducing noise increasement

16. Unique Feature :Provided

1) Overlay Reference

(1) Full-filled vessel image overlaid on live image for image guidance

(2) Change vessel map density for better image quality on live fluoro

(3) Seamless integration into workflow and in daily clinical practice

2) Roadmap Opacity

(1) Individual windowing of vessel map and device image

3) Detector integrated control panel

(1) Adjust C-arm movement, angulation, SID and rotation

4) Side Position CBCT

(1) 200 deg Rotational 3D acquisition at Left / Right Position

(2) Acquire equivalent CBCT image quality as when acquired from Head Position

17. Polygraph System : Provided

1) Hemodynamic recording system for invasive cardiovascular procedures.

2) Vital signs monitoring and recording.

3) Invasive blood pressure monitoring and recording.

18. Standard Accessories : Provided

1) Tabletop mattress : Yes

2) Lower body radiation protection : Yes

3) Upper body radiation protection : Yes

4) LED Lamp (70,000 Lux) : Yes

5) Arm Holder : Yes

6) Arm rest : Yes

7) Head rest : Yes

8) Infusion bottle holder : Yes

9) Intercom : Yes

10) Body Strap : Yes

18. Site Preparations & Local Accessories

Site Preparations :

1) Power Panel
2) Hole & Trench Construction
3) Ceiling Construction

Local Accessories :

1) External Device Display Connection
2) Auto Injector(Stand type)
3) Workstation Set
4) Monitor System for verify
5) Privacy Window
6) UV Sterilizer System

C. Consist of

1. C-arm Unit	1Set
2. Patient Table	1Set
3. X-Ray Tube Unit	1Set
4. X-ray Generator	1Set
5. Digital Flat Panel Detector	1Set
6. System controller in exam room	1Set
7. Display in Exam Room	1Set
8. Display ceiling suspension	1Set
9. Main workstation in control room	1Set
10. Angiography imaging applications	1Set
11. Advanced Reconstruction Workstation	1Set
12. Advanced imaging applications	1Set
13. Radiation dose saving program	1Set
14. Image Optimization Program	1Set
15. Contrast & Device Optimized Imaging Technique	1Set
16. Unique Feature	1Set
17. Polygraph System	1Set
18. Standard Accessories	
1) Tabletop mattress : Yes	1ea

2) Lower body radiation protection : Yes 1ea
3) Upper body radiation protection : Yes 1ea
4) LED Lamp (70,000 Lux) : Yes 1ea
5) Arm Holder : Yes 1ea
6) Arm rest : Yes 1ea
7) Head rest : Yes 1ea
8) Infusion bottle holder : Yes 1ea
9) Intercom : Yes 1ea
10) Body Strap : Yes 1ea

19. Site Preparations & Local Accessories

Site Preparations :

1) Power Panel 1ea
2) Hole & Trench Construction 1ea
3) Ceiling Construction 1ea

Local Accessories :

1) External Device Display Connection 1ea
2) Auto Injector(Stand type) 1ea
3) Workstation Set 1ea
4) Monitor System for verify 1ea
5) Privacy Window 1ea
6) UV Sterilizer System 1ea

D. Remarks

Warranty : 검수(합격)일로부터 3년 종료월 말일까지

<규격·사양 B>

A. Features

1. Excellent image quality at the lowest possible dose.
2. Its 16-bit dynamic flat detector offers 154 micron pixels for higher resolution and a DQE(0) of 77% that provides better image quality, especially for low dose fluoroscopy.
3. To make operation as convenient as possible, the Geometry Table Side Operation Module (TSO) can be positioned on all sides of the patient table. TSO Module can be positioned at all sides of the patient table, while retaining intuitive button operation.
4. This RIS/CIS DICOM interface option uses DICOM Worklist Management (DICOM WLM) and Modality Performed Procedure Step (DICOM MPPS) standards to enable two-way communication between main system and a local Information System.

B. Specifications

1. Ceiling suspended G-arm
   1) Depth of G-arm : 105 cm
   2) Projection angles
      (1) Angulation (Head end) : 45°/45° cranial / caudal
      (2) Rotation (Head end) : 120°/120° LAO/ RAO
      (3) Angulation (Patient left and right side) : 120°/120° cranial / caudal
      (4) Rotation (Patient side) : 45°/45° LAO / RAO
   3) Max. rotation speed : 25°/s
   4) SID : 89 to 123.5 cm
   5) Longitudinal motorized movement : 260 cm at 15 cm/sec.
      (1) Auto stops at the park position, cardio position, neuro position and lower peripheral position.
   6) Arm movement can be performed manually and motorized.
   7) System operation at 3 sides of the patient table

2. Patient Table
   1) Tabletop length : 319 cm

2) Tabletop width : 50 cm
3) Motorized tabletop height adjustment : 74 to 102 cm

3. Microprocessor controlled, 100kW high frequency converter generator
1) Voltage range : 40 to 125 kV
2) Maximum current : 1000mA at 100kV

4. Digital pulsed fluoro
1) Pulse rates : 0.5, 1.0, 2.5, 3.75, 7.5, 15 and 30 pulses per second
2) Grid-switched pulsed fluoroscopy

5. Digital Acquisition
1) Customized with a virtually unlimited number of acquisition programs
2) Realtime image processing algorithm Xres provides excellent image quality with reduce noise in clinical images.

6. High power Metal tube assembly, MRC-GS 200+ 0508
1) Type : Spiral groove (No bearing type)
2) 0.5/0.8 mm focal spot, 45/85 kW
3) Mechanical built in Grid Switching technical
4) Max. anode cooling rate : 1,750 kHU/min
5) Max. anode heat storage capacity : 6.4 MHU
6) Max. assembly heat storage: 9.4 MHU

7. Image Detection, Dynamic Flat Detector
1) Size of detector housing : 51 cm (20 inch) diagonal including BodyGuard
2) Max. FOV : 30cm diagonal
3) Detector zoom fields : 30 / 27 / 22 / 19 / 15 cm diagonal square formats
4) Image matrix : 1344 x 1344 pixels at 16 bits depth
5) Pixel size : 154 x 154 μm
6) Detector bit depth : 16 bits
7) Nyquist frequency : 3.25 lp/mm

8) DQE : 77% at 0 lp/mm
9) SID can be controlled motorized and manually

8. Monitor ceiling suspension for LCD monitors
1) A llows flexible, freely rotating positioning with an excellent viewing angle
2) Monitors rotate range : 350 degrees

9. 58" color LCD monitor in the exam room
1) Display information from up to 8 sources simultaneously
2) Resize and/or enlarge information at any stage during the case

10. On-Screen display
1) X-ray indicator
2) X-ray tube temperature condition
3) Radiographic parameters: kV, mA, ms
4) Rotation and angulation of the stand positions
5) Table height
6) Detector field size display
7) General system messages
8) Selected frame speed
9) Fluoroscopy mode
10) Integrated fluoroscopy time
11) Air Kerma dose (both rate and accumulated X-ray dose)
12) Dose Area Product (both rate and accumulated X-ray dose)

11. Geomerty Automatic Position Controller
1) Reproducing precise coordinates
2) Recall stand positions using reference image source.

12. Patient Table Automatic Position Controller
1) Reproducing precise coordinates (height, longitude and latitude)
2) Brings the table back to the original table position stored, without

applying additional X-ray dose.

13. Viewing station for patient management
    1) Power on/off of the system
    2) Exam and run cycle
    3) Adjustment of contrast, brightness, and edge enhancement
    4) Exam, run, and image stepping
    5) Run and exam overview
    6) Delete run
    7) Basic review functionality as image invert and digital zoom
    8) Go to basic settings
    9) Reset fluoroscopy timer and switch X-ray on/off.
    10) ViewPad controls

14. Instant Parallel Working
    1) Allows you to work independently and together in exam room and control room, without interrupting each other
    2) Prepare the next patient or report on previous patient

15. Table Side Operation Module
    1) Fluoroscopy Flavor selection as defined via clinical setting
    2) Shutters and wedge positioning
    3) Manual or automatic wedge including position on the last image without radiation
    4) Fluoro Storage to record the last 20seconds of fluoroscopy
    5) Selection of the detector field size
    6) Preferred beam width and Fluoro Grab to store the last fluoro image
    7) Reset of the fluoroscopy buzzer
    8) Real-time subtraction and Fluoro Trace subtract
    9) Tabletop float
    10) Table height position
    11) Source Image Distance (SID) selection
    12) Stand positioning

13) Longitudinal movement of the stand along the ceiling
14) Stand rotation in an axis perpendicular to the ceiling
15) Store and recall of two stored stand positions including SID
16) Emergency stop button
17) Accept button of the Automatic Positioning Control.

16. Touch screen module for system control
1) Acquisition setting
2) Image Processing
3) Automatic Position Control (APC), 'unlimited' number of stand positions can be stored and recalled from touch screen module.
4) Table Automatic Position control
5) Interventional tools table side control
6) Table and geometry lock functions
7) X-ray enable/disable
8) Fluoroscopy buzzer reset
9) Stopwatch
10) Fluoro store
11) Cleaning mode
12) Control of monitors

17. Dose management
1) The touch screen module has a touch screen, which can be operated when covered with sterile covers. The touch screen module allows control of depending on configuration
(1) Interventional Tools
(2) Monitor layout
(3) X-Ray settings (Collimation, Projections, Table, Series and Processing)

18. Safety system
1) Real time patient sensing auto stop without touch the patient

19. ProcedureCards
    1) With one click you can select exam presets to accelerate and standardize preparation
    2) Optimize and standardize system set-up from routine to mixed procedures
    3) Increase the consistency of exams by offering presets
    4) Hospital checklists and/or protocols can be uploaded

20. Zero Dose Positioning
    1) Allows you to change the table height, pan, or move the geometry on Last Image Hold (LIH) image without using fluoroscopy

21. Storage Capacity extension
    1) Storage capacity : 100,000 images at 10242
                          25,000 images at 20482

22. Real time digital link
    1) Real Time digital image link between the Interventional Hardware and main system
    2) This dedicated digital link sends raw or processed image data real time during monoplane exposures to the connected Interventional Hardware station to allow instant results of the applicable reconstruction after the exposure run

23. DICOM Interface
    1) DICOM Work List Management (WLM)
    2) Modality Performed Procedure Step (DICOM MPPS)
    3) DICOM SC/XA
    4) DICOM SR

24. FD Dual Fluoro mono
    1) An additional fluoro channel in parallel to the standard fluoro channel
    2) View the subtracted fluoroscopy next to the default non subtracted fluoroscopy
    3) View a digitally zoomed fluoroscopy image next to the default fluoroscopy image

25. SMART Mask
    1) Simplifies the roadmapping procedures by overlaying on the live monitor fluoroscopy with a selected reference image
    2) The reference image can be faded in/out with variable intensity controlled from the viewpad
    3) SmartMask uses the reference image displayed on the reference monitor

26. Digital Subtraction Angio
    1) Vascular DSA acquisition speeds at 1024 matrix : 0.5/1/2/3/6 fps
    2) Fluoro Trace
    3) Fluoro Subtract
    4) Exposure subtract
    5) Mask selection
    6) Real-time Pixel shift

27. Quantitative Coronary Analysis

28. Physio viewing
    1) Acquisition and storage of a maximum 4 channels of physio data together with the X-ray images
    2) Setting determined storage on/off of all inputs; recording only in parallel with X-ray acquisition
    3) Operator can select one recorded physio channel for display

29. Clarity IQ technology
    1) Clarity image processing technology
    2) Automatic Pixel Shift
    3) Motion Compensation
    4) Noise Reduction
    5) Image Enhancement

30. Extention to FlexVision Pro
    1) Enables full and flexible viewing and control at table side of all connected applications
    2) Live re-size and single-click image capture

31. Touch Screen Module Pro
    1) Enables table side control of applications via tablet-like interface with on screen image display

32. FlexSpot
    1) Integrated work spot in the Control room to view, control and manipulate all applications within a single view

33. StentBoost subtraction Software package
    1) Visualization of stent in relation to vessel wall with StentBoost Subtract

34. Dynamic Coronary Roadmap
    1) Real-time, automatic, motion compensated coronary imaging for guidance
    2) Navigate coronary arteries efficiently and with confidence

35. SmartCT Roadmap
    1) Real time fusion with 3D image and live fluoro image
    2) Real time 3D roadmapping

36. MR/CT Roadmap
    1) 2D fluoroscopy image is overlaid with the MR/CT volume presented in 2D or 3D and is automatically displayed on the roadmap monitor
    2) Roadmap on previously acquired MR and CT angiography datasets, reducing the need for additional X-ray dose and contrast medium
    3) Reduce treatment risks for patients with renal insufficiency or young patients who are considered X-ray dose sensitive

37. Hemodaynamic System(Polygraph)

1) Improving productivity and outcomes is vital for healthcare facilities to meet the growing demand for cath lab procedures. To further simplify cath lab workflow, Philips introduces the Interventional Hemodynamic system which brings advanced hemodynamic measurements to the cath lab. Integrated with the market leading patient monitor

38. Site preparations

1) Power panel
2) Hole & Trench construction
3) Ceiling construction

39. Accessories

1) Rail accessory clamps
2) Mattress
3) Arm supports
4) Dripstand
5) Pan handle
6) Ceiling mounted radiation shield
7) Table mounted radiation shield
8) Intercom
9) Examination light

40. Local Accessories

1) External Device Display connection
2) Privacy Window
3) Auto injector
4) Workstation set with Dual monitor
5) Monitor system for verify
6) UV 살균기

C. Consist of

1. Ceiling suspended G-arm	1Set
2. Patient table	1Set
3. Microprocessor controlled, 100kW high frequency converter generator	1Set
4. Digital pulsed fluoro	1Set
5. Digital Acquisition	1Set
6. High power Metal tube assembly, MRC-GS 200+ 0508	1Set
7. Image Detection, Dynamic Flat Detector	1Set
8. Monitor ceiling suspension for LCD monitors	1Set
9. 58" color LCD monitor in the exam room	1Pkg
10. On-Screen display	1Set
11. Geomerty Automatic Position Controller	1Set
12. Patient Table Automatic Position Controller	1Set
13. Viewing station for patient management	1Set
14. Instant Parallel Working	1Set
15. Table Side Operation Module	1Set
16. Touch screen module for system control	1Set
17. Dose management	1Set
18. Safety system	1Set
19. ProcedureCards	1Set
20. Zero Dose Positioning	1Set
21. Storage Capacity extension	1Set
22. Real time digital link	1Set
23. DICOM Interface	1Set
24. FD Dual Fluoro mono	1Set
25. SMART Mask	1Set
26. Digital Subtraction Angio	1Set
27. Quantitative Coronary Analysis	1Pkg
28. Physio viewing	1Pkg
29. Clarity IQ technology	1Pkg
30. Extention to FlexVision Pro	1Set
31. Touch Screen Module Pro	1Pkg

32. FlexSpot	1Pkg
33. StentBoost subtraction Software package	1Pkg
34. Dynamic Coronary Roadmap	1Pkg
35. SmartCT Roadmap	1Pkg
36. MR/CT Roadmap	1Pkg
37. Hemodaynamic System(Polygraph)	1Set
38. Accessories	
1) Rail accessory clamps	1ea
2) Mattress	1ea
3) Arm supports	1ea
4) Dripstand	1ea
5) Pan handle	1ea
6) Ceiling mounted radiation shield	1ea
7) Table mounted radiation shield	1ea
8) Intercom	1ea
9) Examination light	1ea
39. Local Accessories	
1) External Device Display connection	1ea
2) Privacy Window	1ea
3) Auto injector	1ea
4) Workstation set with Dual monitor	1ea
5) Monitor system for verify	1ea
6) UV 살균기	1ea

D. Remarks

Warranty : 검수(합격)일로부터 3년 종료월 말일까지