

## Technical Specification

<b>Manufacture:</b>	<b>Siemens Healthineers</b>
<b>System Name:</b>	<b>Artis Q Ceiling</b>
<b>System Description:</b>	<b>Digital Flat Panel Detector Typed X-ray System</b>

### A APPLICATIONS

1. Single Plane Digital Angiography System

### B 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.

### C CONFIGURATIONS

1. C-arm Unit	1 Set
2. Patient Table	1 Set
3. X-ray Tube unit	1 Set
4. X-ray Generator	1 Set
5. Digital Flat Panel Detector	1 Set
6. System controller in exam room	1 Set
7. Display in exam room	1 Set
8. Display ceiling suspension	1 Set
9. Main workstation in control room	1 Set
10. Angiography imaging applications	1 Set
11. Radiation dose saving program	1 Set
12. Image Optimization Program	1 Set
13. Unique Features	1 Set
14. Standard Accessories	1 Lot
15. Local Accessories	1 Lot

### D SPECIFICATIONS

<b>1. C-arm Unit</b>	1 Set
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 position Rotation	: +135° / -135°
7) C-arm position memory locations	: Yes
8) Variable focal spot-to-detector distance	: 90 - 120 cm
<b>2. Patient Table</b>	1 Set
1) Floor mounted patient table with carbon fiber tabletop	: Yes
2) Table length(incl. table top)	: 281.5 cm
3) Table height	: 77.5 - 110 cm
4) Tabletop width	: 45 cm
5) Sliding rails for table side control boxes	: Yes
6) Table rotation	: ± 120° (5° adjust)
7) Maximum table load	: 390 kg
<b>3. X-ray Tube unit</b>	1 Set
1) High performance X-ray tube with liquid bearing technology	: Yes
2) Max. exposure voltage	: 125 kV
3) Focal spots	: 0.4 / 0.6 mm
4) Focal Spot nominal power	: 36 / 90 kW
5) Max. Fluoro power	: 250 mA

6) Anode heat capacity	: 5,200 kHU		
<b>4. X-ray Generator</b>	Provided	1	Set
1) Microprocessor controlled high-frequency X-ray generator	: Yes		
2) Max. generator power	: 1,000 mA at 100 kV		
3) Max. continuous power in fluoro mode (8hrs)	: 3,500 W		
<b>5. Digital Flat Panel Detector</b>		1	Set
1) Amorphous silicon flat detector	: Yes		
2) Detector size (Diagonal) : 10 inch	: 10 inch		
3) Input fields	: 25 / 20 / 16 / 10 cm		
4) Pixel size	: 184 $\mu$ m		
5) Image matrix	: 1,024 x 1,024		
6) Detector Bit depth	: 14 Bit		
7) Detector spatial resolution	: 2.7 LP/mm		
8) Detective Quantum Efficiency	: 75%		
9) Cooling type	: Liquid cooling		
<b>6. System controller in exam room</b>		1	Set
1) Attached to patient table rail	: Yes		
2) Touchscreen controller for system software	: Yes		
3) Joystick controllers for C-arm, Detector, Collimator	: Yes		
4) Run and Image Selection, Exam and Run for Storage, Storing Reference Image to Reference Monitors, Subtraction and Image Mask Selection	: Multi-functional Joy Stick		
5) Table lock release button for floating movement	: Yes		
6) Wireless foot switch for acquisition and table unlock	: Yes		
7) Handswitch for acquisition	: Yes		
8) Synchronized mouse pointer function for communication between exam room and control room	: Yes		
<b>7. Display in exam room</b>		1	Set
1) Display Size	: 55"		
2) Monitor Panel	: IPS		
3) Resolution	: 3,840 X 2,160		
4) Resize and single click capture function	: Yes		
5) Brightness	: 400 - 700 cd/m <sup>2</sup>		
6) Contrast ratio	: 1,450 : 1		
7) Emergency backup display integrated	: Yes		
<b>8. Display ceiling suspension</b>		1	Set
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	: 315 cm		
4) Rotation range of displays	: 330°		
5) Separated display mount from that of the radiation protector and LED light	: Yes		
<b>9. Main workstation in control room</b>		1	Set
1) Patient registration and system functions are integrated in one console	: Yes		
2) Image storage capacity	: 100,000 images in 1,024x1,024x12-bits		
3) DVD drive for digital image storage on DVD-ROM for data exchange in DICOM format	: Yes		
4) Dual workstation for enhanced system stability	: Yes		
5) Med-Grade display monitor for system setting and imaging	: 19"		
6) Keyboard and Mouse	: Yes		
7) Handswitch for acquisition	: Yes		
<b>10. Angiography imaging applications</b>		1	Set
1) Pulsed fluoroscopy	: 0.5 - 30 p/s		
2) Digital Subtracted Angiography	: 0.5 - 7.5 f/s		
3) Roadmap	: Yes		
4) DSA Roadmap	: Yes		
5) Overlapped bone image on DSA image for review	: Yes		
6) Storage and display of dynamic fluoro sequences	: 68s at 15 p/s		
7) Image Opacification adjustment for DSA	: Yes		
8) Vascular analysis software Package	: Yes		
9) Live Pixel Shift	: Yes		
10) Synchronous rotation of Tube, Detector, Table for heads-up image	: Straight View		

11) Cardiac acquisition	: 7.5, 10, 15 and 30 f/s	
12) ECG signal on fluoro	: Yes	
13) Stent visibility enhancement program	: ClearStent	
14) Real-time stent visibility enhancement program	: ClearStent Live	
<b>11. Radiation dose saving program</b>	: CARE Package	1 Set
1) Variable slow fluoro pulse rates	: CAREvision	
2) Automatic Cu prefiltration for reduction of skin dose	: CAREfilter	
3) Radiation-free adjustment of collimators and semitransparent filter position setting	: CAREprofile	
4) 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	: CAREposition	
6) Monitoring accumulated peak skin entrance dose in real-time	: CAREmonitor	
<b>12. Image Optimization Program</b>	: CLEAR Package	1 Set
1) Enhanced contrast and visibility of vessel edges without increasing the noise	: CLEARvessel	
2) Efficient compensation of motion artifacts	: CLEARmotion	
3) Customized image quality to multiple individual preferences	: CLEARchoice	
4) Advanced asymmetric edge enhancement imaging algorithm without extra dose	: CLEARmax	
<b>13. Unique Features</b>		1 Set
1) Full-filled vessel image overlaid on live image for image guidance	: Overlay Reference	
Change vessel map density for better image quality on live fluoro		
Seamless integration into workflow and in daily clinical practice		
2) Individual windowing of vessel map and device image	: Roadmap Opacity	
3) Tube-Detector Synchronized Rotation for upright imaging for radial approach	: Straight View	
4) Automatic Cu prefiltration for reduction of skin dose	: CAREfilter	
<b>14. Standard Accessories</b>		1 Lot
1) Tabletop mattress		1 Set
2) Lower body radiation protection		1 Set
3) Upper body radiation protection		1 Set
4) LED Lamp (70,000 Lux)		1 Set
5) Arm Holder		1 Set
6) Arm rest		1 Set
7) Head rest		1 Set
8) Infusion bottle holder		1 Set
9) Intercom		1 Set
<b>15. Local Accessories</b>		1 Lot
1) Ultrasound(Venue)		1 Set
2) Hemo System		1 Set
3) Temperature Management System		1 Set
4) Furniture		1 Set
5) Apron & Goggle		2 Set
6) Auto Injector(Mobile)		1 Set
7) QCA software		1 Set
8) Interior		1 Set

## F. REMARKS

- Warranty Conditions**  
Contractor or Supplier should be responsible free of charge after service (A/S) during three years after the equipment is accepted. (Including X-ray Tube and Detector).
- System Installation and Operation Test**  
Installation of this equipment at customer's promise shall be done on the contract's responsibility.  
This equipment shall be accepted by customer only after the equipment operates for four weeks properly.

순환기내과 교수 : 고정석 (인) 