

No.	Item Specifications	Compatible	Not Compatible	Remarks (Fill you specification)
<b>1</b>	<b>1 Description of Function</b>			
1.1	A mobile C-Arm X-ray for continuous fluoroscopy, image storage and retrieval (LI or Flat Panel Detector) with <u>Compatible Table for Brachytherapy Treatment uses.</u>			
2	Operational Requirements For continuous fluoroscopy, image storage and retrieval The system offered shall be a general fluoroscopy/radiology system, it should be DICOM 3.0 compatible type.			
2.1	It shall operate on single phase AC power supply.			
2.2	Image manipulation - inverse rotation +/- , flip flop			
<b>3</b>	<b>3 System Configuration</b>			
3.1	X-ray C-Arm Mobile with complete accessories			
3.2	CD/DVD/RW drive, 1 unit.			
3.3	B/W thermal video printer, 1 unit.			
<b>4</b>	<b>4 Technical Specifications</b>			
<b>4.1</b>	<b>4.1 X-Ray Generator</b>			
	Microprocessor based, high frequency inverter generator			
	Generator Output: not less than 2kW at 100kV			
	Fluoroscopic/ Radiographic KV range:			
	Lower limit shall not exceed 40 KV			
	Higher limit shall not be less than 110 KV			
	Fluoroscopic mA range:			
	Lower limit shall be ~0.1 mA			
	Upper limit shall be more than 12 mA			
	Radiography ~ 80mA			
<b>4.2</b>	<b>4.2 X-Ray Tube</b>			
	Rotating anode type			
	Single focal spot, shall not be more than 0.6 mm			
	Nominal voltage: 110 kV			
	Tube heat capacity not less than 200 KHU			
	Anode Thermal Capacity not less than 75 KHU			
	Anode Thermal Dissipation not less than 37 KHU/min			
	Heat Storage Capacity of the Housing not less than 953 KHU			
	Housing Dissipation not less than 16 KHU/min			
	Inherent filtration should be at least 3 mm Al eq			
<b>4.3</b>	<b>4.3 Collimator</b>			
	Operator controlled automatic collimation			
<b>4.4</b>	<b>4.4 C-Arm</b>			
	- Focus - I.I. Distance shall be at least 100 cm			
	- Depth shall be ~ 79cm			
	- Horizontal travel at least 200mm			
	- Vertical travel at least 450 mm			
	- Orbital movement shall be ~125°			
	- Swivel range shall be ~12°			
	- wig - wag Rotation about -10°			
	- Rotation about horizontal axis shall be more than +/-180°			
<b>4.5</b>	<b>4.5 Image Intensifier</b>			
	- At least 30 cm input screen with direct coupling with camera			
	- Shall be at least 52 lp/ cm			
	- Flat panel Detector size not less than 35x42.5 Cm or I.I minimum 12 inch			
	- Noise reduction, scattered light trap for high contrast dynamics			
	- CCD camera technology with ABC and AGC control			
<b>4.6</b>	<b>4.6 TV Monitor</b>			
	- 2 units LCD monitor side by side for live and reference image			
	- Shall be at least 47 cm with automatic brightness control			
<b>4.7</b>	<b>4.7 Image rotation</b>			
	- Shall be at least 625 scanning lines at 50 Hz			
	- Trolley for 2 display screens and with the alphanumeric keyboard included			
	- High resolution and anti glare			

<b>4.8 Imaging Modes</b>			
	- Fluoroscopy mode shall have the following facilities:		
	- Continuous fluoroscopy with last image hold		
	- Last image hold with at least two frames image memory		
	- Continuous fluoroscopy with image acquisition rate: about 20 frame/second.		
	- Hard disk with image storage capacity of at least 30000 images		
	- RAM Memory of 256 images		
	- Mosaic display of 16 images		
	- Zoom (x 2)		
	- Measures: at least distances, angles		
	- Come with CD/DVD/RW drive		
4.9	Video printer for B/W thermal printing on paper, size 20 x 25 cm, resolutions about 300 dpi; The video printer can be placed on the monitor trolley		
4.1	Indicate here other features and software functions included in this offer		
5	System Configuration Accessories, spares and consumables		
5.1	Video printer for B/W thermal printing 01 no.		
5.2	Sterilizable textile cover and clips, for the X-ray tube and the Cassette holder for 24 x 30 cm		
5.3	All standard accessories/consumables/parts required for the proper operation of the above item shall be included in the offer.		
<b>6 Operating Environment</b>			
6.1	The product offered shall be designed to be stored and to operate normally under Power Supply, Climate, Temperature, Humidity, etc. for Sudan.		
6.2	Should work on 220-240V/ 50 Hz AC Single phase fitted with appropriate plugs and sockets.		
<b>7 Standards and Safety Requirements</b>			
	The unit offered shall be certified to meeting the relevant requirements of TUV, CE mark (MDD), FDA and/ or any equivalent quality and safety standards.		
	Certificates showing the compliance of this unit offered with any relevant quality and safety standards MUST be submitted with this TSE.		
<b>8 User Training</b>			
8.1	On site operational training till the familiarity of the system and satisfaction of end user shall be provided.		
<b>9 Warranty</b>			
9.1	Comprehensive warranty for 2 years.		
9.2	The supplier should perform field change order free of charge if it is of safety concern and provide the FCO kits at cost FCO for improving functionality and performance.		
<b>10 Maintenance Service During Warranty Period</b>			
10.1	Preventive & Corrective Maintenance:		
	During the warranty period supplier must ensure planned preventive maintenance (PPM) at least 3 nos. in a year along with corrective/breakdown maintenance whenever required.		
<b>11 Installation, Inspections and Commissioning</b>			
11.1	Supplier must accomplish proper installation and commissioning of the equipment on site.		
11.2	Inspections to verify the compliance of the offered equipment as per the specifications		
<b>12 Documentation</b>			
12.1	Performance Specifications		
12.2	Installation Document including data to calculate shielding		
12.3	physics acceptance test		
12.4	User (Operating) manual in English		
12.5	Service (Technical / Maintenance) manual in English		
12.6	List of important spare parts and accessories with their part numbers and costing.		
12.7	Certificate of calibration and inspection from factory.		
12.8	Log book with instruction for daily, weekly, monthly and quarterly maintenance checklist.		
<b>13 QC and software Kits.</b>			
<b>14 Manufacturing Date must be less than 6 months before delivery</b>			
<b>15 Table:</b>			
<b>15.1 Separate Table Compatible with Brachytherapy Treatment.</b>			