

**Supply, Delivery, Installation, and Training of X-Ray Machine 500 MA with CR System for Al-Nashmah Hospital Taiz Governorate.**

	#	Item Description	X-Ray Machine 500 mA (HF)	Specification Provided	Unit	Model	Brand	Country of Origin	Remarks
Qty			I						
No.	Sub No	Technical Specifications	Min MOH Requirement						
1		Manufacturer :	Please Specify Manufacturer Name.						
2		Model Number:	Please Specify Model Number of The Offered Equipment.						
3		Country Of Origin:	Please Specify Country of Origin of The Offered Equipment.						
4		Safety Standard:							
	1	FDA or CE	Required						
	2	Where Marked :	Worldwide						
5		Designed:	Heavy duty designed, new Model.						
	1		The Machine Should be of Latest Model and Must Have Latest Technology						
	2	Quality:	High quality, Safety, Ease of Use						
	3	Supplier:	the Supplier is Required to be a Certified Distributor or Agent of The Company.						
6		General Specification:	An x-Ray Machine Sends Individual X-ray Waves Through The Body. The Images Are Recorded on a Computer or Film. Structures That are Dense (Such as Bone) Will Block Most Of The X-Ray Waves, and Will Appear White. Metal and Contrast Media (Special Dye Used to Highlight Areas Of The Body) Will Also Appear White						
7		General Description:							
	1	X-Ray Generator:							
	2		Generator Should be of Latest High-Frequency Inverter Technology for Constant Output and Lowest Radiation Doses.						
	3		Solid state high frequency (80 kHz or More) Generator with minimum ripples having at least 3.5 kW Output with (PSU) Capacitor bank Or Battery Bank. Latest Compact Size Generator Assembly Preferably Integrated Into Table Or Equivalent						
	4	Kv Range:	40 -150 kV with 1 kV steps.						
	5	Exposure Time Range:	1 millisecond (or less) to 5 seconds (or more).						
	6		Digital Display of mA, kV, mAs on console panel						
	7		Should have 500 mA.						
	8		More than 250 anatomical programmable radiography (APR) presets loaded for ease of use. Bidder to specify number of programs. Or Better						
	9		The device works with energy saving technology in one of two ways, either the capacitor bank or the battery bank						
	10		Resettable overcurrent protection shall be fitted with electromagnetic circuit breaker.						
8		X-Ray Tube and Collimator:							
	1		Should be a high speed rotating anode dual focus tube of 6000 rpm or more compatible with the generator.						
	2		Should have dual focal spots with the following focal spot size range: small focal spot size: 0.6 or better, large focal spot size: 1.2mm or better. Smaller focal size would be preferred.						
	3	mA Range:	10-500 milliamperes or more.						
	4	mAs Range:	0.5-500 (or more)						
	5	Tube Anode Heating Capacity:	At least 300KHU or Better						
	6		Should have a Collimator with auto-off Function.						
	7		Incoming voltage indicator should be present.						
	8		Manual shutter control collimator.						
	9		Should have a multi leaf collimator having halogen/bright light source Or Led with auto shut provision for the light.						
	10		Should have over load protection .						
9		X-Ray Table / Horizontal Bucky:							
	1		Table top should be a carbon fiber top at least 220 cm (length) and 80 cm (width) Or Better						
	2		Table top height (from ground) to be at least 65cm.						
	3		Table top material to have low radiation absorption.						
	4		The unit should be coupled to a horizontal table having floating table top with both longitudinal.						
	5		It should have front pedals with electromagnetic locks for locking and releasing the table movements.						
	6		The table should have a mobile bucky with a grid ratio of 12:1 (or better) at a focal distance of 115 cm. The bucky should be compatible with standard size cassette 35*43cm (14"x17").						

Supply, Delivery, Installation, and Training of X-Ray Machine 500 MA with CR System for Al-Nashmah Hospital Taiz Governorate.

	#	Item Description	X-Ray Machine 500 mA (HF)	Specification Provided	Unit	Model	Brand	Country of Origin	Remarks
	7		Auto-centering of X-Ray tube over the bucky (in the transverse direction) after every exposure.						
	8		It should have a weight bearing capacity of 200kg or more.						
	9		Power input to be 220-240VAC, 50/60Hz						
	10		Patient hand grips						
10		Vertical Tube Stand:							
	1		Tube stand to be integrated with table, requires no wall/ceiling support.						
	2		It should have manual locking for various movements.						
	3		It should have movements in all directions.						
	4		All movements should have electromagnetic brakes with fully counter balanced mechanism.						
	5		It should have facility to display FFD/SID (Source to Image Distance) in vertical positions 150 cm or more, in horizontal position 180 cm or more.						
	6		It should have provision of auto centering with the detector.						
	7		Horizontal axis, + /- 120 degrees or more						
	8		Vertical axis of column, + /- 180 degree						
			Cranio-caudal tube tilt (tilt along long axis of the table) to be -200 to +200 or better.						
11		Vertical Bucky Stand:							
	1		The Bucky Should have Multi Movments, vertical and oblique positions with suitable movements allows for a complete range of exams from skull, skeletal body including spine, chest, bearing knee and ankle exams.						
	2		Should have a vertical bucky with oscillating/moving grid for chest radiography (grid ratio - 10:1 or better).						
	3		It should have provision to do chest radiography without grid.						
	4		Could have automatic exposure control with at least 3 fields.						
	5		The detector should be capable of rotating on its axis across +90 to -15 degrees.						
	6		The vertical movement range should be 125cm or more with the lowest point (from cassette centre to ground) being not more than 55cm and the highest point being not less than 175 cm.						
	7		The bucky should have electromagnetic lock that allow for easy positioning						
12		Control Panel:							
			Digital display of SID and tube angle						
			Release switch on control panel						
			Release switch and collimator lamp switch on rear side						
			User-programmable unlock switches						



Supply, Delivery, Installation, and Training of X-Ray Machine 500 MA with CR System for Al-Nashmah Hospital Taiz Governorate.

	#	Item Description	X-Ray Machine 500 mA (HF)	Specification Provided	Unit	Model	Brand	Country of Origin	Remarks
13		System Configuration Accessories Spares and Consumables:							
	1		1 X Apron						
	2	Other accessories	Specify						
14		Essential Requirement:							
	1		That the bidder has the capability for corrective and preventive maintenance of the unit.						
	2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bided.						
	3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.						
	4		Guaranteeing the availability of all spare parts for the next ten (10) years or more.						
	5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.						
	6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.						
	7		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.						
	8		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.						
	9		The Supplier Company's Commitment to Calibration and Maintenance Required for the Device During the Maintenance Guarantee Period from The Beginning of Operating the device to the Delivery of the Device after the end of the free Warranty According to National and International Standards and Manufacturer Requirements.						
15		Maintenance:							
	1		Preferred Less Maintenance Needed. 3 Years Free Maintenance, Including PM Kit.						
	2		Service Manual Operation Manual {Hardcopy & Softcopy}						
	3		Application Software and Interface Connection Included.						
	4		Spare Parts List With code No.						
	5		Including Maintenance and calibration Tools.						
16		Life Span for Machine:	At Least 10 Years.						
17		Training:	Training (3) Doctors to Operate and use the Device, and Training (2) Medical Device Engineers to Maintain and Calibrate the Device (Full Training Program)						
18		Self Diagnostic Error / Calibration Massage:	Included						
19		Power Supply:	100-240 V, 50/60 Hz Electric Safety Class I.						
20		Other Specification:	Please Specify Other Specification						

**Supply, Delivery, Installation, and Training of X-Ray Machine 500 MA with CR System for Al-Nashmah Hospital Taiz Governorate.**

	#	Item Description	X-Ray Machine 500 mA (HF)	Specification Provided	Unit	Model	Brand	Country of Origin	Remarks
PHA-2		Item Description	CR System With Complete Accessories						
Qty			1						
No.	Sub No	Technical Specifications	Min MOH Requirement						
1		Manufacturer :	Please Specify Manufacturer Name.						
2		Model Number:	Please Specify Model Number of The Offered Equipment.						
3		Country Of Origin:	Please Specify Country of Origin of The Offered Equipment.						
4		Safety Standard:							
	1	FDA or CE	Required						
	2	Where Marked :	Worldwide						
5		Designed:	Heavy duty designed, new Model.						
	1		The Machine Should be of Latest Model and Must Have Latest Technology						
	2	Quality:	High quality, Safety, Ease of Use						
	3	Supplier:	the Supplier is Required to be a Certified Distributor or Agent of The Company.						
6		General Specification:	Computed Radiography (CR) is a Modern Type of X-Ray that Utilizes Imaging Plates (IP) Instead of Photographic Film, As with a Traditional X-ray. The Image Captured is Read by a CR Reader and Converted to Digital Data Immediately and is Available for Review Within Seconds. The CR System Can Be Integrated with PACS/RIS/HIS and Supports DICOM Standards.*						
7		1. CR Reader Unit:							
	1		One CR Reader compatible with standard Imaging Plates (IPs)						
	2		Should support IP sizes: 35 cm x 43 cm, 24 x 30 cm, 18 x 24 cm or larger						
	3		Pixel matrix / resolution: ≤ 100-150 µm pitch						
	4		Minimum image depth: 12-16 bit or better						
	5		Housing material: built-in material resistant to blows and falls						
	6		Interface: Ethernet, with necessary input/output devices (USB) to connect to workstation						
	7		Software compatibility: Windows 10 or higher, licensed OS & Application						
	8		Material: high-resolution phosphor or other superior material						
	9		With all accessories (IP cassettes, Cleaning Kit, Power Adapter, Interface Cables)						
8		2. CR Workstation (Image Acquisition & Processing)							
	1		Latest high-speed processor, 64-bit, Intel Core i9 or better, 32 GB RAM, 3-4 TB SSD						
	2		Capability to acquire images from CR Reader system						
	3		Communication between CR Reader and workstation via latest wired/wireless technology						
	4		Preview time: 5 seconds or better						
	5		DICOM interface ready, networking capability with RIS/HIS/PACS						
	6		HL-7 compatible interface						
	7		Advanced post-processing: sorting images by name, date, exam, predefined or user-defined parameters						
	8		Correction of typographical errors in patient demographics if manual entry was done						
	9		Capability of changing R/L markers, flipping, rotating, zooming, collimating, annotating						
	10		Workstation: one (1) latest generation system, Intel Core i9 or better, Windows 10 or higher, 32 GB RAM, 3-4 TB SSD, medical-grade 21" or 24" monitor, all necessary software, mouse, keyboard, power cables						



Supply, Delivery, Installation, and Training of X-Ray Machine 500 MA with CR System for Al-Nashmah Hospital Taiz Governorate.

	#	Item Description	X-Ray Machine 500 mA (HF)	Specification Provided	Unit	Model	Brand	Country of Origin	Remarks
9		3. Dry Laser / Dry-View Imaging Printer (film-based):							
	1		Print images from CR workstation in DICOM 3 format						
	2		Mechanism to print images to 8×10, 10×12, 11×14, 14×17 film sizes (minimum 2 universal trays online)						
	3		Resolution ≥ 500 DPI or more						
	4		Throughput: 45-60 films/hour of size 14×17 (35×43 cm) or more						
	5		Multiple image and slide printing capability						
	6		Ethernet network compatible						
	7		Suitable online UPS with 30-60 minutes backup time						
10		Essential Requirement:							
	1		That the bidder has the capability for corrective and preventive maintenance of the unit.						
	2		That the bidder/supplier has the engineer/s trained and capable for corrective and preventive maintenance for the model bidded.						
	3		Service engineer should be presently employed by the bidder/supplier or authorized by the manufacturer.						
	4		Guaranteeing the availability of all spare parts for the next ten (10) years or more.						
	5		That the equipment is a brand new unit and not a discontinued model or a demo model & not refurbished model.						
	6		That the terms and conditions stated in the contract shall be honored by the manufacturer in the event that a change of exclusive distributorship will occur during the duration of the said contract.						
	7		Quick guide card intended to describe the basic operations and routine maintenance in practical applications for the equipment.						
	8		Technical support from the manufacturer incase the agent or distributor doesn't response when needed.						
	9		The Supplier Company's Commitment to Calibration and Maintenance Required for the Device During the Maintenance Guarantee Period from The Beginning of Operating the device to the Delivery of the Device after the end of the free Warranty According to National and International Standards and Manufacturer Requirements.						
11		Maintenance:							
	1		Preferred Less Maintenance Needed. 3 Years Free Maintenance, Including PM Kit.						
	2		Service Manual Operation Manual (Hardcopy & Softcopy)						
	3		Application Software and Interface Connection Included.						
	4		Spare Parts List With code No.						
	5		Including Maintenance and calibration Tools.						
12		Life Span for Machine:	At Least 10 Years						
13		Training:	Training (3) Doctors to Operate and use the Device, and Training (2) Medical Device Engineers to Maintain and Calibrate the Device (Full Training Program)						
14		Self Diagnostic Error / Calibration Massage:	Included						
15		Power Supply:	100-240 V, 50/60 Hz Electrivy Safety Class I.						
16		Other Specification:	Please Specify Other Specification						