



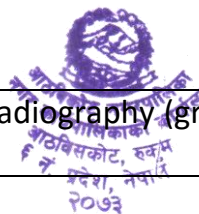
TECHNICAL SPECIFICATIONS OF X-RAY MACHINE

Following are the minimum requirements. Products offered must meet these parameters herein.

S.N.	Technical specifications/ composition of tender enquiry X-Ray Machine	Compliance on each parameter with detailed substantiation how the offered product meets the requirement.	Remarks, if any
1	General technical description:		
1a	Integrated tube stand assembly with wall / ceiling supports to ensure fast installation.		
1b	Radiography Patient table		
1c	Rotating tube stand that supports off table radiography.		
1d	High frequency generator with automated exposure control (AEC) and anatomical programmable radiography (APR).		
1e	Wall stand for chest radiography		
2	Generator		
2a	High frequency (at least 20 KHz) generator with minimum ripple having at least 50 kilo Watt output. Latest compact size generator assembly, preferably integrated into table		
2b	Kv range: 40-125 Kilo volt with 5 KV steps.		
2c	Exposure time range: 1 m sec (or less) to 5 sec (or more)		
2d	It should have digital display of mA, kV, timer, mAs on console.		
2e	Should have self diagnostic programs and error displays		
2f	Should have electronic overload protection device		
3	X-ray tube:		
3a	Should have a rotating anode with anode rotation speed of 2600 rpm or more		



3b	Should have dual focal spots with the following focal spot size range: small focal spot size: 0.6 or better, large focal spot size: 1.2 mm or better		
3c	mA range: 300 or 500 milliamperere or more		
3d	mAS range:0.5-600(or more)		
3e	Tube anode heating capacity: at least 150 kilo Heat Units		
3f	Tube anode heat dissipation capacity: at least 40 kilo Heat units per minute		
3g	Should have a collimator with auto-off function		
3h	Incoming voltage indicator should be present		
3i	Automatic exposure control (AEC) should be available		
3j	The machine should have anatomical programmable radiography (APR) presets loaded for ease of use.		
3k	Any additional feature e.g. intensifying screen if present should be mentioned		
4	X-ray table and horizontal bucky:		
4a	The unit should be coupled to a horizontal table having floating table top with both longitudinal (at least +/- 42 cm) and transverse (at least +/-11 cm)movements.		
4b	Table top height (from ground) to be at least 65 cms.		
4c	Table top should be at least 210 cm (length) and 80 cm (width).		
4d	Table top material to have low radiation absorption.		
4e	It should have front pedals with electromagnetic locks for locking and releasing the table movements.		
4f	The table should have a mobile bucky with a grid ratio of 10:1 (or better) at a focal distance of 115 cm. The bucky should be compatible with all standard size cassettes (8"x 10", 10"x 12", 11"x 14", 14" x 17").		
4g	The table should be able to support patient load of upto 180 kg.		
5	Vertical wallstand:		



5a	Should have a vertical bucky with oscillating/moving grid for chest radiography (grid ratio-8:1 or better).		
5b	The bucky should have electromagnetic lock.		
5c	The vertical movement range should be 125 cm or more with the lowest point (from cassette centre to ground) being not more than 55 cm and the highest point being not less than 175 cm.		
6	Collimator :		
6a	Manual shutter control collimator.		
6b	Collimator rotation to be 360 degrees with detents at 90 degrees		
6c	Field size indications markers should be present		
7	Must be FDA or CE certified		
8	Annual maintenance cost (AMC) and Comprehensive maintenance cost (CMC) should be separately mentioned for the next five years.		
9	Annual maintenance cost (AMC) and Comprehensive maintenance cost (CMC) should be separately mentioned for the next five years.		
10	The successful bidder would have to ensure onsite training of end users after installation of the unit.		
11	Refurbished/amalgamated unit will not be acceptable.		
12	The bidder should enclose the original product data sheet, brochure and compliance sheet, without which the bid will be rejected. Computer generated data sheet and brochure will not be accepted. The serial number of specifications must be indicated against the relevant portion of the compliance sheet and data sheet.		
13	Standards & Safety Requirements		
	Must submit ISO13485:2003/AC:2007 for Medical Devices AND CE (93/42 EEC Directives) or USFDA approved product certificate.		
	Shall meet: IEC 60601-1-3 - Part 1: General Requirements for safety - Collateral		



	Standard: General Requirements for Radiation Protection in Diagnostic X-Ray Equipment. IEC 60601-2-7 - Part 2-7: Particular Requirements for the Safety of High-Voltage Generators of Diagnostic X-Ray Generators.		
14	Operating Environment		
	All standard accessories, consumables and parts required to operate the equipment, including all standard tools and cleaning and lubrication materials, to be included in the offer. Bidders must specify the quantity of every item included in their offer (including items not specified above).		
	The system offered shall be designed to be stored and to operate normally under the conditions of the purchaser's country. The conditions include Power Supply, Climate, Temperature, Humidity, etc.		
	Power supply: 380-415VAC 3 phase 50Hz fitted with appropriate plug for Xray generator fitted with appropriate plug for other units		
15	Installation and Commissioning		
	The bidder must arrange for the equipment to be installed by certified or qualified personnel; any prerequisites for installation to be communicated to the purchaser in advance, in detail.		
16	Documentation		
	User (Operating) manual in English.		
	Service (Technical / Maintenance) manual in English.		

Bidder's Signature.....

Date.....