

1	Conventional X-Ray	
	Description of Function	Fill your Specification
	Used for routine X-ray examinations at healthcare facilities.	
	<b>Technical Specifications</b>	
	Should be floor to floor mounted	
	<b>X-ray Generator:</b>	
	Microprocessor based, high frequency inverter generator, the generator shall have at least 30kHz.	
	Generator Output: not less than 30 Kw	
	Radiographic voltage: 40 kV to 140kV, in 1Kv step.	
	Radiographic current approx : 10 to 350 mA	
	Exposure time: 0.001sec (1msec) - 10sec	
	Anatomical Programmable Radiographic mode shall be available.	
	Manual & automatic exposure control and automatic brightness control shall be available.	
	Shall come with overload protection device.	
	<b>Floor Mounted Tube Stand:</b>	
	Longitudinal travel: approx. 1750mm.	
	Vertical travel: from 630 -1850mm or in the range.	
	Movement arrested by electromagnetic brakes.	
	Rotation of tube arm around vertical axis: 1800; lockable at 00 to +/- 900.	
	<b>X-Ray Tube:</b>	
	Maximum tube output shall match with the generator output of not less than 30 Kw.	
	X-ray tube rotating: +/-90°.	
	Large focus not more than 1.2 mm.	
	Small focus not more than 0.6 mm.	
	Maximum tube voltage 140 KV.	
	Filtration: min 2.5mm Al equivalent.	
	Cooling method passive or forced air and/or oil cooling.	
	Anode rotating speed: More than 3000 rpm.	
	Anode heat capacity shall not be less than 200 KHU.	
	<b>Collimator:</b>	
	Manually adjustable.	
	Manually selectable filters.	
	Light localizer with timer controlled light.	
	Built-in light switch should be provided.	
	Turning angle should be min +/- 45 degree.	
	Light source: halogen lamp or better.	
	<b>Radiography Patient Table:</b>	
	Radiography table shall be fixed height, 4-way floating top type with foot switch control.	
	Come with grid and cassette tray, with grid ratio: approx 8:1 or more. Grid line number: 40 line/cm. Focus distance: 115cm.	
	Cassette size: accept all sizes from cassette 5" x 7" cm to 14" x 17" type.	
	Radiography table shall be fixed height of about 60cm.	
	Table top to film distance: approx. 6cm.	
	Table top transverse movement : approx. ±14cm.	
	Table longitudinal movement : approx. ± 29cm.	
	Table top dimension: approx. 2000 x 800 mm (LxW)	
	Table movement arrested by electromagnetic brakes.	
	Capable of carrying patient weight not less than 150 Kg .	
	<b>Floor Mounted Bucky Stand:</b>	
	Vertical travel: from 460-1700mm or in the range.	
	Moving Grid with Grid ratio approx: 8:1 or more. Grid line number: 40 lines/cm.	
	Shall come with Automatic Exposure Control for vertical bucky exposures.	
	Cassette size: accept all sizes from 5"x7" to 14"x17".	
	Movement arrested by electromagnetic brakes.	
	<b>Control Console:</b>	
	Digital Display.	
	Minimum 3 Point Exposure Technique.	
	Status display, error display.	
	Shall have area dose product determination and display.	

Description of Function	Fill your Specification
Shall come with radiography remote control in control room.	
<b>Accessories, spares and consumables</b>	
All standard accessories, consumables and parts required to operate the equipment.	
Lead apron, light weight with Lead equivalence 2mm- 02 nos.	
<b>Power supply:</b>	
Power supply: 220/240 V AC , 50Hz single phase schuko plug OR 415 ± 5% V (3 Phase), 50Hz fitted with appropriate plug	
<b>Environmental factors</b>	
The unit shall be capable of being stored continuously in ambient temperature of 0 -55deg C and relative humidity of 15-95%	
The unit shall be capable of operating in ambient temperature of 20-50 deg C and relative humidity of 80%	
<b>Standards &amp; Safety Requirements</b>	
Should be CE or FDA approved product certificate.	
<b>Warranty</b>	
Comprehensive warranty for 2 years.	
Availability of spare parts for minimum (10) years.	
<b>User Training</b>	
Must provide operating and service trainings local and overseas	
<b>Documentation</b>	
User (Operating) manual in English Should provide 2 sets(hardcopy and soft-copy)	
Service (Technical / Maintenance) manual in English Should provide 2 sets(hardcopy and soft-copy)	
List of important spare parts, accessories and consumables with their part numbers and costing.	
Certificate of calibration and inspection from factory.	

2	C-Arm Machine	
Description of function	Fill your Specification	
Used in orthopaedic fractures for imaging of bone pathology or fractures on display monitor during operation.		
<b>Technical specifications</b>		
<b>X-Ray Generator</b>		
Microprocessor based, high frequency inverter generator, output: not less than 8 kw		
Fluoroscopic/ Radiographic KV range: 40-110 kv		
Fluoroscopic mA range: 0.1-9 mA		
<b>X-Ray Tube</b>		
Output should match the output of the generator,		
Rotating anode type, dual focal spot, shall not be more than 0.6 mm and 1.2 mm		
Anode heat storage capacity not less than 300 KHU		
Inherent filtration should be at least 3 mm Al eq		
Should be operator controlled automatic collimation		
<b>C-Arm:</b>		
Focus - I.I. Distance shall be at least 100 cm		
Depth shall be ~ 75cm		
Horizontal travel at least 200mm		
Vertical travel at least 450 mm		
Orbital movement shall be ~125°		
Swivel range shall be ~12°		
Rotation about horizontal axis shall be more than +/-180°		
<b>Image Intensifier:</b>		
At least 23 cm input screen with direct coupling with camera		
Shall be at least 52 lp/ cm		
Noise reduction, scattered light trap for high contrast dynamics		
CCD camera technology with ABC and AGC control		
<b>TV Monitor:</b>		
2 units LCD monitor side by side for live and reference image		
Shall be at least 43 cm with automatic brightness control		
Should have image rotation facilities		
Shall be at least 625 scanning lines at 50 Hz		
Trolley for 2 display screens and with the alphanumeric keyboard included		

Description of Function	Fill your Specification
High resolution and anti glare	
<b>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 25000 images	
RAM Memory of 256 images	
Mosaic display of 16 images	
Zoom (x 2)	
Measures: at least distances,angles	
<b>Accessories, spares and consumables</b>	
All standard accessories, consumables and parts required to operate the equipment.	
Sterilizable textile cover and clips, for the X-ray tube and the Cassette holder for 24 x 30 cm	
Lead apron, light weight with Lead equivalence 2mm- 02 nos.	
<b>Power supply:</b>	
Input power supply: 220/240 V AC , 50Hz single phase schuko plug	
<b>Environmental factors</b>	
The unit shall be capable of being stored continuously in ambient temperature of 0 -55deg C and relative humidity of 15-95%	
The unit shall be capable of operating in ambient temperature of 20-50 deg C and relative humidity of 80%	
<b>Standards and safety requirements</b>	
Should be FDA or CE approved product certificate.	
<b>Warranty</b>	
Comprehensive warranty for 2 years.	
Availability of spare parts for minimum (10) years.	
<b>User Training</b>	
Must provide operating and service trainings local and overseas	
<b>Documentation</b>	
User (Operating) manual in English Should provide 2 sets(hardcopy and soft-copy)	
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