

PUDUCHERRY STATE HEALTH MISSION

COMPARATIVE STATEMENT FOR TECHNICAL SPECIFICATION OF 'FULL FIELD DIGITAL MAMMOGRAPHY SYSTEM'

Product Name-->	AMULET		HOLOGIC Value Selenia with SVDX 200		MAMMOMAT Inspiration		MAM VENUS+	
	M/s. Fuji Film India Pvt. Ltd., Chennai	Marks Awarded	M/s. Trivitron Healthcare Pvt. Ltd., Chennai	Marks Awarded	M/s. Siemens Ltd., Chennai	Marks Awarded	M/s. Allengers Medical Systems Ltd., Chandigarh	Marks Awarded
Technical Specification	-	-	Technical data sheet not provided	-	-	-	-	-
1. Should be an advanced high-end digital mammography machine which allows fast, low-dose, high-quality 3D imaging of the breast.	Yes	10	Yes	10	Yes	10	Yes	10
2. System should be upgradable with latest technology available in future.	Yes	10	Yes	10	Yes	10	Yes	10
1. Gantry assembly:								
o The system should consist of a tube head and detector assembly that has isocentric rotation for every positioning. The angle of C-arm movement shall be displayed.	Yes	10	Yes, 195 to -150 C-arm rotation	10	Yes	10	Yes	10
o The isocentric movements should be motorized. The patient Compression device should have automatic multispeed variable compression system which senses the breast density and adjust the compression force.	Yes provided, details not mentioned	10	Yes, details not mentioned	10	System is equipped with opcomp	10	Automatic multispeed compression not mentioned/provided, Manual fine tuning provided	5
o Magnification devices of ratio 1.5 and 1.8 x should be offered.	Yes	10	Yes, ratio not mentioned	8	Ratio 1.5 only provided	8	Yes	10
o At least a pair of two foot switches should be provided for compression.	Yes	10	Yes	10	Yes	10	Yes	10
o Digital display of motorized and manual compression force and compression thickness should be available on either side of gantry	Yes	10	Yes	10	Yes	10	Yes	10
o Grid ratio should be mentioned. Mention about grid/breast support assembly system.	6.1, 4.1 lines/cm	10	4:1	8	5:1, reciprocating grid	9	5:1; 30 lines/cm. Focal distance 60 to 70 cm grid provided	9
o The compression should be extremely smooth and there should be automatic decompression at the end of each exposure.	Yes	10	Yes	10	Yes, 8cm decompression	10	Yes	10
o There should be a safety mechanism for compression with respect to power failure.	Yes	10	Yes	10	Yes, emergency unlocking device provided	10	Yes	10
o Two compression paddles for small and large breasts with Regular sliding movement.	Yes	10	Yes	10	2 paddles provided, 20 x 30 and 18 x 24 formats provided	10	No. of compression paddles not mentioned	5
o Round spot and square spot compression paddle or equivalent	Yes	10	Spot and Contact paddles available	10	Special spot compression paddles provided (image size 18 cm x 24 cm)	10	Not mentioned	5
2. X-Ray Generator:								
The X-ray generator should be high frequency with the following parameters:								
o kV range: at least 20-35 kV in steps of 1 kV.	Yes	10	20 to 39 kV in steps of 1 kV	10	23 - 35 kV in steps of 1 kV	10	20-35 kV in steps of 0.5 kV	10
o mAS range: 2-500 mAS or more.	Yes, 600 mAS	10	3 - 500 mAS	9	Mo anode: 2-500 mAS in mAS mode; 5-500 mAS in AEC mode	10	1-700 mAS	10
o Exposure time: 10ms - 4 sec. or better.	Yes, 10ms, 10 sec.	10	15 ms to 2.5 sec.	7	10 ms - 4s (large focus) and 60ms - 6s (small focus)	10	0.04 to 10 sec.	10

Product Name-->	AMULET		HOLOGIC Value Selenia with SVDX 200		MAMMOMAT Inspiration		MAM VENUS+	
	M/s. Fuji Film India Pvt. Ltd., Chennai	Marks Awarded	M/s. Trivitron Healthcare Pvt. Ltd., Chennai	Marks Awarded	M/s. Siemens Ltd., Chennai	Marks Awarded	M/s. Allengers Medical Systems Ltd., Chandigarh	Marks Awarded
Technical Specification								
o Maximum mA: 100 mA or higher.	100 mA	10	Technical data sheet not provided 100 mA	10	Mo - 150 mA, W-188 mA	10	190 mA	10
o Exposure parameters should be displayed.	Yes	10	Yes	10	Yes	10	Yes	10
o Should display the dose delivered after each exposure.	Yes	10	Yes	10	Yes	10	Yes	10
o Automatic exposure control device should be provided.	Yes	10	Yes	10	Yes, OPPOSE provided	10	Yes	10
3. X-Ray tube Unit:								
o Dual focus rotating anode tube with Focal spot size: 0.1 mm and 0.3 mm.	Yes	10	Yes, details not provided	8	Yes	10	Yes	10
o Anode heat storage capacity should be at least 150 KHU or higher.	300 KHU	10	300 KHU	10	162 KHU	10	300KHU	10
o Please mention the material of anode and advantages. Mono material preferred.	Polybdenum Alloy and 10% Re/Tungsten face on molly alloy	10	Tungsten target	10	Mo and W, Advantage of W anode mentioned	10	Molybdenum	10
o Should have at least two filters. Please mention the material used in the filter and its thickness.	Mo anode: 30 um +/- 3um Mo and 25um +/- 2.5um Rh W anode: 50 um +/-5um RH	10	0.050 mm Rhodium (Rh); 0.050 mm Silver (Ag)	10	Mo filter- 0.03mm; Rh filter - 0.025mm; W tube /Rh filter- 0.05mm	10	Mo filter- 0.04mm +/- 0.006mm; Rh filter- 30 microns	10
o Tube heat storage capacity of 2 MHU or more.	5 MHU	10	1 MHU	5	2.43 MHU	10	2MHU	10
4. Flat panel detector:								
o Type of detector. should be amorphous selenium.	Yes	10	Yes	10	Yes	10	Yes	10
o Direct Capture Technology.	Yes	10	Yes	10	Dual Digital	10	Yes	10
o Detector size: 24cm x 29cm or more with two image format	23.6 cms x 29.6 cms, Two image format not mentioned	9	24 cms x 29 cms Flat panel detector, with two image formats 10x24 & 24x30	10	24cms x 30cms. Two image format with possibility of 18x24 & 24x30	10	24cms x 30 cms. Two image format with 24 x30 & 18 x 24	10
Please mention the expected life time of the detector.	7 years	8	Minimum 10 years	10	Not provided	8	8-10 years	9
o Pixel Size: 85u or less. Lower will be preferred.	50 u	10	70 u	8	85 u	6	85u	6
Image matrix in pixels: large size 3K x 3.5K or more Small Size: 2K x 2.5K or more.	3.5 K x 4.7 K / large 4.7K x 5.9 K	10	2560 x 3328 and 3328 x 4096	10	2816 x 3584 (large), 2016 x 1816 (small)	8	1 image size mentioned 2.8 K x 3.5 K	9
No Ghosting or lag effect should be present, image depth should be at least more than 12 bits.	Yes, 14 bits	10	Not mentioned	0	Yes, 13 bits	10	Yes 13 bits	10
5. Digital acquisition system:								
o Storage capacity should be 10000 image or more.	Yes, no. of images not mentioned	8	9,000 screening mammography images	9	24,700 images (1000 GB HD)	10	10,000 images	10
o Should provide Dual 5 Megapixel Grayscale medical grade LCD image monitor with high luminance.	Yes	10	Yes 5 MP dual Monitors	10	Yes, 5 MP dual LCD monitor	10	Yes, 5 MP, 2 nos. of LCD monitors provided	10
o State of art associated software technology should be available with the data acquisition system. Kindly mention the features advantages and upgradability.	Yes	10	Yes	10	Yes	10	Yes	10

Product Name-->	AMULET		HOLOGIC Value Selenia with SVDX 200		MAMOMAT Inspiration		MAM VENUS+	
	M/s. Fuji Film India Pvt. Ltd., Chennai	Marks Awarded	M/s. Triviron Healthcare Pvt. Ltd., Chennai	Marks Awarded	M/s. Siemens Ltd., Chennai	Marks Awarded	M/s. Allengers Medical Systems Ltd., Chandigarh	Marks Awarded
Technical Specification								
o It should be possible to receive the demographic patient data directly from Hospital Information System. The demographic patient data should also be able to be entered manually. Retrieval of images from CD, DVD or PACS should be possible.	Yes	10	Yes	10	Yes	10	Compatibility to Hospital Information System (HIS) facility to retrieve images possible	8
o It should be DICOM ready and mention the facilities related to connectivity.	Yes	10	Yes	10	Yes	10	Yes	9
o Film prints and CD, DVD copying should be possible.	Yes	10	Yes	10	Yes	10	Yes	9
o Dry Laser camera with at least 3 online film trays compatible for film sizes of 11x14 and 14x17 inches, 500 dpi or more for printing the digital images should be supplied. System should allow user to take print out in user defined format.	Nos, not mentioned	-	Provided as optional	-	Details not mentioned	-	Yes, 650 PPI	-
o Latest technology: Highly effective computer aided detection (CAD) digital mammography solution for early detection of cancer. There should be advanced technology for identification of micro calcification and suspicious lesions.	Yes	-	Yes, FDA approved	-	Details not mentioned	-	Yes	-
6. Review Work station:								
o High performance Dual Processor CPU with clock speed 3 GHz of higher. (Branded company product).	Yes, Clock speed 1 GHz	10	Yes	10	2 x quad core xeon processor with min of 2.53 GHz	7	Yes, clock speed 3 GHz	9
o Memory of 4 GB High Speed RAM or better.	1 GB RAM	5	1 GB RAM	5	8 GB RAM	10	Yes, 4 GB RAM	9
o Local image storage of min 1TB or higher.	500 GB	5	1 TB	10	500 GB provided	5	Yes, 1 TB	10
o Video board resolution of 1024 grey levels (10 bit).	Yes, possible, but Bits not mentioned	10	10 bits	10	10 bits	10	Yes	9
o Monitor Resolution 5000 x 5000 pixel.	Yes, possible, but pixels not mentioned	10	Yes	10	Not mentioned	10	2560 x 2048 pixes	5
o Dual high contrast resolution SMP LCD medical grade monitors should be provided (Branded company product).	Yes	10	Yes	10	Yes, 5MP	10	Yes	10
o Multi modality viewer capability for display of ultra sound x-ray, digital mammography, MRI, PET, CT, etc.	Yes	-	Yes	-	Yes, Possible	-	Yes	-
<i>The following imaging processing should be possible on the work station:</i>								
a. Measurements, distance angle.	Yes	10	Yes	10	Possible	10	Yes.	10
b. Zoom, roam, magnification, Quadrant zooming or selected zooming.	Yes	10	Yes	10	Possible	10	Yes	10
c. Brightness and contract	Yes	10	Yes	10	Possible	10	Yes	10
d. Image inversion.	Yes	10	Yes	10	Possible	10	Yes	10
e. Contrast enhancement processing	Yes	10	Yes	10	Possible	10	Yes	10
f. Flip rotate inward.	Yes	10	Yes	10	Possible	10	Yes	10
g. Annotations, measurements.	Yes	10	Yes	10	Possible	10	Yes	10
h. Image evaluation like contrast enhancement histogram display, length measurements before and after comparison etc.	Yes	10	Yes	10	Possible	10	Yes	10
User selectable screen layout from the available combination	Yes	10	Yes	10	Yes	10	Yes	10
There should be a CD, DVD ROM drive available.	Yes	10	Yes	10	Yes	10	Yes	10

Sumit

Product Name-->	AMULET		HOLOGIC Value Selenia with SVDX 200		MAMMOMAT Inspiration		MAM VENUS+	
	M/s. Fuji Film India Pvt. Ltd., Chennai	Marks Awarded	M/s. Trivitron Healthcare Pvt. Ltd., Chennai	Marks Awarded	M/s. Siemens Ltd., Chennai	Marks Awarded	M/s. Allengers Medical Systems Ltd., Chandigarh	Marks Awarded
Technical Specification	-	-	-	-	-	-	-	-
7. Diagnostic review software to be available:								
o Advanced mammography specific hanging protocols.	Yes	10	Yes	10	Yes	10	Yes	10
o Customizable user environment including hanging protocols.	Yes	10	Yes	10	Yes	10	Yes	10
o Advanced Session Scheduling function.	Yes	10	Yes	10	Yes	10	Yes	10
o Easy image export to communication graphic format for use in presentations.	Yes	10	Yes	10	Yes	10	Yes	10
o Intelligent Roaming.	Yes	10	Yes	10	Yes	10	Yes	10
8. Others:								
1. Should be supplied with transparent lead radiation shield, face shield, remote service modem, quality control tool kit, user manual, technical documentation, etc.	Yes	-	Provided as optional	-	Yes	-	Yes	-
2. Dedicated online UPS (Branded company product) for the entire machine and accessories supplied including the work station shall be provided for a minimum backup of at least 30 minutes.	Yes, UPS 30 minutes backup for all PC and required parts	8	Provided as optional	-	10 KVA UPS with 30 minutes backup for complete system provided	10	Yes 5 KVA UPS with 30 minutes backup for entire machine provided	10
3. Should be supplied with ACR phantom, phantom for calibration of AEC, phantom for calibration of image detector.	Yes	-	Optional	-	Yes, provided	-	Yes	-
4. The digital mammography unit with all features as per specification shall be FDA / CE approved and if other international standard certificates are available should be mentioned.	US FDA and CE approved	10	Yes	10	FDA approved	10	CE certified	5
5. The company should provide 2-3 years complete Warranty for the entire unit and accessories.	2 Years	8	2 Years	8	2 Years	8	3 Years	10
6. Please quote comprehensive AMC after the Warranty period including X-ray tube & other necessary accessories for the next 5 years.	Yes, 5 Years	10	Yes, 5 Years	10	Yes, 5 years	10	Yes, 5 years, separately quoted	10
9. Turn Key:								
Complete turn key work for the site preparation including false ceiling cable ducting lighting earthing lead lining on the doors and all other works required for the installation of the equipment need to be done by the supplier.	Yes	10	Yes	10	Yes, Provided	10	Yes provided	10
10. Training:								
(i) Two days training for mammography interpretation should be arranged for two Radiologists in the nearby available centre.	Yes	10	Yes	10	Yes	10	Yes	10
(ii) Onsite training for four Radiographers should be arranged for 3 days.	Yes	10	Yes	10	Yes	10	Yes	10
Technical Rating	631	605	Total	629	Total	611	Total	611
Technical Ranking	I	IV		II		III		III

MISSION DIRECTOR
Puducherry State Health Mission