TECHINICAL SPECIFICATION FOR USG, PORTABLE, COLOUR DOPPLER

S. N.	Purchaser's Specifications(for kankai mun)	Bidder's Compliance Sheeet		
		Yes/No	Page No. in Catalogue	Remarks
	USG Portable Colour Doppler			
	Manufacturer			
	Brand			
	Type/Model			
	Country of Origin			
1	**Description of Functions**			
	A general purpose notebook-type colour Doppler ultrasound imaging system.			
2	**Operational Requirements**			
	It shall operate on AC power supply as well as built in rechargeable battery. The machine is intended to be carried to the field or the patient ward with the inbuilt battery system to examine patients who could not come to USG room.			
3	**System Configurations**			
A	Portable colour Doppler ultrasound imaging system, 1unit.			
B	1 unit of broad bandwidth of approx.2 - 5MHz , convex array probe for OB/GYN and abdominal application.			
C	1 unit of broad bandwidth of Approx. 4 - 15MHz , Linear array probe for Vascular & Small Parts application.			
D	1 unit of Black & White thermal printer.			
4	**Technical Specifications**			
	Main unit:			
A	The system must be latest generation technologically advanced Digital Portable Color Doppler system, with physical alphanumeric and Backlit keyboard, with mobile trolley for friendly use.			
B	System must be offered with a very high dynamic range of at least 180 db to pick up subtle echoes. Dynamic range in Db must be clearly mentioned in the technical quote or letter from manufacturer must be submitted.			
C	System must be offered with a minimum 12 inch High Resolution Medical grade monitor. And monitor itself can be swiveled independently at least 20 degree.			
D	System should have at least 2 active universal probe ports, and third probe port should be optional, and probe adaptor not preferred.			
E	Operating modes B-mode, M-mode, B/M Mode, Doppler Mode, Color flow, Power Doppler, PW Doppler, CW and TDI mode .			
F	System should support broad band probes spanning a frequency of approx. 1-12 MHZ.			
G	In-built hard disk with minimum capacity of 128 GB. And built-in battery should support at least 90 minutes of scanning.			
H	System must be offered with Speckle Reduction imaging: Image processing technique to remove speckle and clutter artifacts.			
I	System should have facility of DICOM, at least 2 USB ports.			
J	System should be capable of scanning depth of at least 30cms. Scanning Depth should be clearly mentioned in the technical quote. If not mentioned please attach a letter from manufacturer along with the technical bid clearly stating the scanning depth in the offered system.			
K	System must be offered with 8 TGC slide pot with independently adjustable Gain control.			
L	Real time flow volume analysis should be available.			
M	The system should have all measurement packages: Abdominal, OB, GYN, Cardiology, Vascular etc.			
N	System should have Digital zoom facility for region of interest.			

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O	System should have Trapezoid Imaging, Spatial Compound Imaging, B steer.			
P	System should support Auto IMT an Auto Trace.			
Q	The system should have one button image optimization for 2D, Color and Doppler.			

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R	The system should have Gain of 1~255 adjustable.			
S	The system should have quick measurement, which can be defined & select by one button.			
T	The system should have user define keys for friendly operation.			
5	**Accessories, Spare Parts and Consumables**			
A	All standard accessories/consumables/parts (including 2 x 5Ltr. Jar of ultrasound gel) required for the proper operation of the above item shall be included in the offer.			
B	All standard items specified in system configuration must be included in the offer.			
6	**Operating Environment**			
	Power supply: 220 – 240 VAC, 50Hz fitted with appropriate plug.			
7	**Standards & Safety Requirements**			
A	Must submit ISO13485:2003/AC:2007 for Medical Devices **AND**			
B	CE (93/42 EEC Directives) and USFDA approved product certificate.			
C	Electrical safety conforms to standards for Electrical Safety IEC 60601-2-37 Medical electrical equipment – Part 2-37: Particular requirements for the basic safety and essential performance of ultrasonic medical diagnostic and monitoring equipment.			
8	**User/Technician Training**			
	The Supplier shall conduct user/technician training for this equipment to enable operators to use the equipment properly. The training shall include the use of all operational functions of the equipment, as well as routine checks and maintenance expected by users.			
9	**Warranty**			
	Comprehensive warranty for 2 years after acceptance.			
10	**Maintenance Service During Warranty Period**			
	During the warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required.			
11	**Installation and Commissioning**			
	Supplier must accomplish proper installation & commissioning of equipment onsite.			
12	**Documentation**			
A	User (Operating) manual in English.			
B	Service (Technical / Maintenance) manual in English.			
C	List of important spare parts and accessories with their part number and costing.			

Note:
Bidder must completely fill the Technical Specification Form (TSF).
Page number in the catalogue of all the required parameters must be clearly mentioned and highlighted.
Failure in doing so may lead to rejection of bid from technical committee.

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TECHINICAL SPECIFICATION FOR X-RAY 500 MA

S. N.	Purchaser's Specifications(kankai mun F/Y78/79)	Bidder's Compliance Sheeet		
	X-ray,500ma	Yes/No	Page No. in Catalogue	Remarks
	Manufacturer			
	Brand			
	Type/Model			
	Country of Origin			
1	**Description of Functions**			
1.1	A general purpose X-ray machine for routine X-ray examinations at healthcare facilities.			
2	**Operational Requirements**			
2.1	It shall be suitable to be used for adult and paediatric patients in general Radiography examination.			
3	**System Configurations**			
3.1	X-ray Generator,1 unit			
3.2	X-Ray tube & tube support system, 1 unit			
3.3	Radiographic patient table, 1unit			
3.4	Floor mounted bucky stand, 1 unit			
4	**Technical Specifications**			
I	**X-ray Generator:** Bidder shall indicate brand and model information here and provide technical data document for X-ray generator offered			
4.1	Line frequency or high frequency generator , the generator shall have approx. 40kHz.			
4.2	Generator Output: approx. 40 kW (500mA at 100kV)			
4.3	Radiographic voltage: approx. 40 kV to 120kV, in 1kV step or better			
4.4	Radiographic current: 10 to 500mA or better			
4.5	Exposure time: 0.01sec (1msec) - 6sec or better			
4.6	**Must Have Anatomical Programmable Radiographic mode.**			
4.7	Shall come with overload protection device.			
4.8	Power supply: 3 phase, 380-415V 50/60Hz or single phase			
II	**X-Ray Tube:(approx.)**			
4.1	X-ray tube rotating: +/-120°.			
4.11	Large focus not more than 1.2 mm.			
4.12	Small focus not more than 0.6 mm.			
4.13	Maximum tube voltage 120 KV. Maximum tube output shall match with the generator output of approx.40 KW.			
4.14	Filtration: min 2.5mm Al equivalent.			
4.15	Cooling method passive or forced air and/or oil cooling.			
4.16	Anode rotating speed: More than 3000 rpm.			
4.17	Anode heat capacity shall not be less than 200 KHU.			
III	**Radiography Patient Table:(approx.)**			
4.18	Radiography table shall be fixed height or height adjustable, 4-way floating top type with foot switch control or sensor control or manual			
4.19	Come with grid and cassette tray, with grid ratio: not less than 10:1. Grid line number: 40 line/cm. Focus distance: 115cm.			
4.2	Cassette size: accept all sizes from cassette 5"x7" cm to 14"x17" type.			
4.21	Radiography table shall be fixed height of about 60cm.			
4.22	Table top to film distance: approx. 6cm.			
4.23	Table top transverse movement : approx. ±14cm.			
4.24	Table longitudinal movement : approx. ± 29cm.			
4.25	Table top dimension: approx. 2000 mm x 800 mm.			
4.26	Shall come with a three-field AEC or equivalent			
4.27	Table movement arrested by electromagnetic brakes or manual brakes.			
IV	**Floor Mounted Bucky Stand:(approx.)**			
4.28	Vertical travel: from 460-1700mm or in the range.			

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	X-ray,500ma	Yes/No	Page No. in Catalogue	Remarks
4.29	Moving Grid with Grid ratio not less than 10:1. Grid line number: 40 lines/cm.			
4.3	Shall come with Automatic Exposure Control for vertical bucky exposures.			
4.31	Cassette size: accept all sizes from 5"x7" to 14"x17".			
4.32	Movement arrested by electromagnetic brakes.			
V	**Floor Mounted Tube Stand:(approx.)**			
4.33	Longitudinal travel: approx. 1750mm.			
4.34	Vertical travel: from 630 -1850mm or in the range.			
4.35	Movement arrested by electromagnetic brakes or manual brakes.			
4.36	Rotation of tube arm around vertical axis: 180^0; lockable at 0^0 to +/- 90^0.			
VI	**Collimator:**			
4.37	Manually adjustable.			
4.38	Manually selectable filters adds advantage.			
4.39	Light localizer with timer controlled light.			
4.4	Built-in light switch should be provided.			
4.41	Turning angle should be min +/- 45 degree.			
4.42	Halogen lamp.			
VII	**Control Console:**			
4.43	Digital Display.			
4.44	Minimum 3 Point Exposure Technique.			
4.45	Status display, error display.			
5	**Accessories, Spare Parts and Consumables**			
5.1	**Accessories:**			
	• Lead apron, light weight with Lead equivalence 2mm-01 nos.			
5.2	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).			
6	**Operating Environment**			
6.1	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.			
6.2	Power supply: 380-415VAC 3 phase 50Hz fitted with appropriate plug for X-ray generator fitted with appropriate plug for other units. The power cable must be at least 3 metres in length.			
7	**Standards & Safety Requirements**			
7.1	Must submit ISO 13485:2003/AC: 2007 **AND**			
7.2	CE (93/42 EEC Directives) or AERB OR USFDA approved product certificate.			
7.3	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.			
8	**User Training**			
8.1	The Supplier shall conduct user training for this equipment to enable operators to use the equipment properly. The training shall include the use of all operational functions of the equipment, as well as routine checks and maintenance expected by users.			
9	**Warranty**			
9.1	Comprehensive warranty for 2 years from acceptance.			
10	**Maintenance Service During Warranty Period**			
10.1	During warranty period supplier must ensure preventive maintenance & corrective/breakdown maintenance whenever required.			
11	**Installation and Commissioning**			

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	X-ray,500ma	**Yes/No**	**Page No. in Catalogue**	**Remarks**
11.1	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.			
12	**Documentation**			
12.1	User (Operating) manual in English.			
12.2	Service (Technical / Maintenance) manual in English.			
12.3	List of important spare parts and accessories with their part numbers and costing.			
12.4	Certificate of calibration and inspection from factory.			

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