Technical Specification for Portable Color Doppler USG Machine

S. N.	Purchaser's Specification	Bidder's Offer
	Portable Color Doppler USG Machine	
	Manufacturer	
	Brand	
	Type/Model	
	Country of Origin	
1	**Description of Functions**	
1.1	A portable laptop type color Doppler ultrasound imaging system.	
2	**Operational Requirements**	
2.1	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**	
3.1	Portable color doppler ultrasound imaging system, 1unit.	
3.2	1 unit of broad bandwidth of 2 - 5MHz (±2) , convex array probe for OB/GYN and abdominal application.	
3.3	1 unit of broad bandwidth of 6 - 16MHz (±2) , linear array probe for acute condition (appendicitis, Testicular torsion, Colitis, Diverticulitis colitis, cellulitis, breast abscess, neck abscess, etc.) ,small parts (Breast, Testis, Thyroid, etc.) , superficial (skin lesions, etc.), pediatric abdomen scanning application.	
3.4	1 unit of Black & White thermal printer.	Manufacturer: ……. Model: …… Country of Origin: ……..
3.5	Trolley/ Cart for the ultrasound system	
4	**Technical Specifications**	
4.1	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. It shall comply with the following requirements for this purpose:	
4.2	Shall have built-in rechargeable battery which shall support minimum 2 hours of routine ultrasound examinations.	
4.3	It shall come with a custom-made trolley, lockable castors to hold the main unit with provision of a probe holder for storage of 3 probes, printer and ultrasound gel.	
A	**Main unit:**	
4.4	Minimum 12 inches color LCD/LED display	
4.5	Full alphanumeric keyboard.	
4.6	Probe connector: at least 2 inbuilt probe connectors	
4.7	The system shall accept most of the common probe types of: convex array, linear array, phased array.	
4.8	Should come with various Scan modes: B, M, PDI, CFM, PW, CW Mode, tissue harmonic imaging or more.	
4.9	With digital broad bandwidth multi-frequency imaging capability.	
4.10	Doppler angle and angle correction.	
4.11	Frame rate shall be minimum 150fps	
4.12	Display depth: minimum 28 cm.	

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4.13	Grayscale levels: at-least 256.	
B	**The machine shall include the following functions:**	
4.14	Programmable pre-set examination protocols store common setting related to image display/adjustment, annotation.	
4.15	Must come with software packages for Abdomen, Gynecology, Obstetrics, Urology, Small Part and upgradable to cardiology package.	
4.16	Must have Neonatal and Obstetric analysis: MSD (Mean Sac Diameter), CRL (crown-rump length), FHR (Foetal Heart Rate), BPD (biparietal diameter), HC (head circumference), AC (abdominal circumference), FL (femur length), GA (estimation of gestation age), EFW (estimation of foetal weight), AFI (Amniotic Fluid Index) and other additional analytic tool accompanied with machine.	
4.17	Shall have velocity color to detect color flow with PW and CW	
4.18	Shall come with automatic gain control.	
4.19	Shall have DICOM Connectivity for image export with lifetime key and wireless network storage.	
4.20	Dynamic range, selectable minimum 200dB.	
4.21	Image Storage: The system shall be capable of storing both still and video images, with a minimum storage capacity of 1,000 images in the main unit.	
4.22	Cine memory of 250 or more frames for cine loop playback.	
4.23	Image Presentation: Single, Dual	
5	**Accessories, Spare Parts and Consumables**	
5.1	All standard accessories/consumables/parts including • 5 bottles of ultrasound gel (at-least 250 ml) • 10 rolls of paper • Shock proof standard cover • Probe cover for each probe required for the proper operation of the above item shall be included in the offer.	
6	**Operating Environment**	
6.1	Power supply: 220 – 240 VAC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metres in length.	
7	**Standards & Safety Requirements**	
7.1	Submit product's valid ISO 13485 for Medical Devices	
7.2	Submit product's valid EU-CE (MDD Directive 93/42/EEC) certificate **or** official extension notice issued directly by the notified body, clearly listing the offered model **or** MDR (2017/745) for offered medical device.	
7.3	Submit USFDA (510K) approved product	
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**	

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9.1	Comprehensive warranty for min 2 years after acceptance.	
9.2	Submit commitment letter from the manufacturer for availability of spare parts for 5 years after completion of warranty period	
10	**Maintenance Service During Warranty Period**	
10.1	During the warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance whenever required.	
11	**Installation and Commissioning**	
11.1	Supplier must accomplish proper installation & commissioning of equipment onsite.	
12	**Documentation**	
12.1	User (Operating) manual in English.	
12.2	Service (Technical / Maintenance) manual in English.	