

TECHNICAL SPECIFICATIONS FOR MOBILE C-ARM MACHINE

Department of Pediatric Orthopedics SSPHPGTI intends to procure one new Basic C-arm for Trauma applications in Emergency O.T. in line with Government's commitment to boost Emergency Trauma Centre Services at the Institute. Bids should be directly from the Manufacturers/Principals or authorized distributors of Principals for the supply, commissioning and maintenance of the Mobile C Arm for the Institute as per the specifications below. The Unit should be compatible with Indian Power Supply, and have the following features: -

A. X-ray Tube -

1. High-Frequency Generator with a Power output rating of a minimum of 5 KW or more. Should be microprocessor controlled with Automatic, Semiautomatic, and Manual Selection modes for kV (Range 40 -120kV or more) & mA (Range 0.1 - 10 mA or more) and permit Pulsed and Digital Radiography exposures.
2. X-ray tube should have a Dual Focus rotating anode with a Heat Storage Capacity of at least 300 KHU.

B. Image Detection System -

1. CMOS (Complementary Metal Oxide Semiconductor) image detection technology and image intensifier of size 9 inches or more.

C. Switches & Controls -

1. **Hand switch** with spirally coiled cable (at least 2 meters in length) with switch for shooting image/ image transfer/ storage.
2. **Footswitch** with Blood and Fluid ingress protection.
3. **Button controls** at C-arm chassis / Monitor cart for operating c-arm, image processing, and motorized movements.
4. **Safety features** like Emergency Stop Button, Xray Exposure Indicator (Light / Sound / Both), and Thermal-safety Sensors and cut-off.
5. Should permit at least 2x zoom/ magnification.

Prof. Avinash Agrawal
MD, IDCC, IFCCM, FICCM, FIACCM, FCCP (USA)
Head, Department of Critical care,
King George's Medical University, UP, Lko

6. Display all parameters for mode, magnification, movements, fluoro-time, kV, mA, etc.

D. C-arm -

1. Fully counter-balanced C-arm with integrated cables, wheels, and locks for all movements.
2. Orbital movement at least 120° , Angulation movement at least $\pm 180^\circ$, Horizontal movement at least 200 mm, Vertical travel of at least 420 mm, Swivel range at least $\pm 10^\circ$, Source to Detector distance of at least 95 cm, Depth of C-Arm at least 650 mm and C-arm opening /free space of at least 750 mm.
3. Should have a laser pointer for accurate positioning of the x-ray beam.
4. Should have a System of parallel shutters & diaphragm for symmetric radiation-free collimation.
5. Safety alarm for set radiation dose level and integrated radiation dose measuring chamber.

E. Image Display System -

1. Medical grade (preferably touch screen) display system of 21-inch (or more) anti-reflection anti-glare flicker-free direction-adjustable foldable screens.
2. High brightness LED display with high viewing angle mounted on a mobile monitor cart with integrated keyboard for entry of patient details with a touchpad.

F. Image processing & storage -

1. Integrated image storage and processing system.
2. Should permit image rotation and inversion in 2 axes
3. Last Image hold capability with temporary storage of at least 30 Current Case Images for quick review.
4. LAN and USB 3.0 (or higher) connectivity for image transfer
5. Should permit display or download of Radiation Dose Reports
6. Integrated Windows/Linux-based System - Intel processor, at least 8 GB RAM,

Prof. Avinash Agrawal
Head, Department of Clinical care,
King George's Medical University, UP, Lko.

- Hard Disk with a capacity of at least 500 GB
7. Image storage of at least 50,000 in 1K x 1K format

G. Essential Accessories -

1. Online UPS cum stabilizer with at least 30 minutes full working back up and inbuilt over current/ voltage protection
2. Light-Weight Radio-protective Leadless (Six) marked for doctors
3. Light-Weight Radio-protective Low lead (Six) aprons marked for Technicians & Nursing Staff
4. Wall/ Floor mounted stands to hang Ten Aprons separately
5. Thyroid shield (Leadless) - Three
6. Gonadal Shield - Two
7. Power Cords and Cords connecting C-Arm with monitor cart should be at least 5 meters in length.
8. Disposable Sterile Covers of proper size - three hundred.

Conditions for tender:

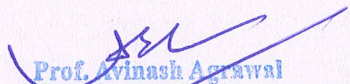
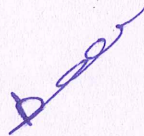
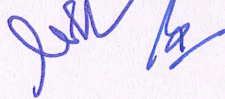
1. All accessories should be from the same Original Equipment Manufacturer for the main unit.
2. Instruments must be ISO certified and a copy should be enclosed. (The ISO Certificate must be issued by any organization accredited by the Bureau of Indian Standard or accredited by the international accrediting forum "IAF" (Certificate to be attached).
3. Should be USA FDA and/ or European CE be approved by 4 digits notified body.
4. Other necessary certifications if any required will be provided by the bidder for the smooth functioning of the machine.
5. Installation process should be performed by O.E.M trained service engineers/ service representatives on OEM letterhead or Service Report within 15 days of supply, with the mandatory provision of providing preventive services visit of OEM trained Service Engineer/ Service Representative quarterly per year till the completion of warranty period (i.e., 20 visits for the first 05 years) & further quarterly visits (04 visits/year) year till the completion of CMC period.

Prof. Avinash Agrawal
MD, IDCC, IFCCM, FICCM, FIACEM, FCCP (USA)
Head, Department of Critical Care,
King George's Medical University, UP, Lko.

6. The equipment should have a Brand name/ Model Number embossed/etched on the equipment.
7. All the technical specifications in the compliance statement must be supported by Original Literature from the firm/ O.E.M with highlighting Numbering & flagging of all technical certificates.
8. Offered Equipment should have a strong Government Installation base.
9. Offered Equipment should have a Regional Sales Service Centre of the Original Equipment Manufacturer in the region for a 95 % uptime guarantee.
10. For the offered main unit, the essential, optional required consumables'/accessories' shelf life should be declared on the Original Equipment Manufacturer's letterhead.
11. In case of technical snag/failure/breakdown the response time for the inspection should be within 24 hours and repair within 05 days otherwise provide a service machine/ alternate arrangement to be made till the period of recovery of the breakdown of the unit, failing which attracts penal action as per the decision of institute/ hospital.
12. For offered equipment the Training of technical staff and users should be performed by Original Equipment Manufacturer trained Service Engineers at the proper designated place- at bidders' cost.
13. Company should quote their latest model and need to provide an affidavit for the same.
14. As a tendering process the Demonstration of the offered Equipment is Mandatory at hospital/institute premises or other designated places at the bidder's cost.
15. The bidder must comply with the General Financial Rules and their modifications if any issued by the Government of India- 2017.
16. Any bidder from a country that shares a land border with India will be eligible to bid in the tender only if the bidder is registered with the Competent Authority (i.e., Registration certificate issued by the Ministry of Commerce and Industry (Department for Promotion of Industry and Internal Trade- DPIIT after October 2020). If any such bidder is not registered with DPIIT they will be liable for technical disqualification.
17. Principal (OEM) must authorize only one agent to be quoted in the bid otherwise multiple quotes through different agents in the same bid will be canceled.
18. The Bidder and its OEM both have to submit a notarized affidavit on the Indian Non-Judicial Stamp Paper of Rs.100/- that the bidder has not quoted the price higher than the current financial year and last financial year supplied to any government Institute/ Organization/ reputed Private Organization. OEM also has to submit that the price quoted by the bidder in the bid is on its behalf and the lowest in the current and last

financial year in the country. Therefore, if at any stage it has been found that the supplier and its OEM have quoted lower rates than those quoted in this bid; the Institute (the purchaser) would be given the benefit of lower rates by the Supplier and any excess payment if any, will become immediately payable to the Institute (the purchaser). If such an affidavit is not submitted, the bid will be outrightly rejected. (Part of technical bid).

19. Guarantee / Warranty Period: Separate offers of Comprehensive Maintenance Contract (CMC on main equipment) and Annual Maintenance Contract (AMC on main equipment) for further 5 years after expiry of 5 years of warranty (i.e., 6th, 7th, 8th, 9th and 10th years) in rupees only (and on basis of percentage of price) should be included in a financial bid in the absence of which the offer is liable to be rejected. Payment for CMC/AMC shall be made only after the expiry of the warranty of 5 years, in case the Institute (the purchaser) decides for availing of CMC/AMC services. Contract for CMC/AMC shall be decided on expiry of warranty but rates (not more than 5% inclusive of all taxes for 6th to 10th year) will be frozen at the price of an issued purchase order before the release of payment by the Institute (the purchaser). However, the Institute (the purchaser) may decide not to enter into any CMC/AMC contract without assigning any reason for the same, which shall be binding upon the bid.



Prof. Avinash Agrawal
MD, IDCC, IFCCM, FICCM, FIACCM, FCCP (USA)
Head, Department of Critical care,
King George's Medical University, UP, Lko.

