

TECHNICAL SPECIFICATION FOR LAPAROSCOPIC EQUIPMENTS

General Terms:-

- Bidders should quote individual prices for all instruments and not club their prices.
- Tenderers should give the detailed specification indicating compliance/deviation against the specification asked in the tender.

A- **VIDEO and INSUFFLATOR part-**

- **3 CCD HD Progressive Scan Digital Video System:** It should have the following features:-

High Definition Camera

The system should be truly Digital HDTV endoscopic video camera. The system should have the maximum Resolution of 1920 x 1080 pixels, progressive scan and the consistent use of 16 : 9 format for input and output.

The system should have the following Special Features:

- **Visibly Improved Imaging :-** CCD sensing chip to optimise image quality and Digital Source Sampling to maximise hi-fidelity image transmission
 - **Optimization to any size:-** The system should have integrated Parfocal Optical Zoom (F = 14-30 mm, 2X) to enhance the quality of image Size and cross specialty standardization of the camera system, regardless of the telescope used.
 - **Plug and go:-** The system should automatically optimize all settings. The system should be ready - to- use as soon as it is connected to the camera control unit.
 - Additional features like Narrow band imaging and Photo dynamic Diagnosis may be optionally/additionally available.
- Camera System should be compatible with Communication Bus System for remote controlled operation of the various features of the camera along with other equipment.

Technical Specification:

Image Sensor	3 x 1/3" CCD-Chip
Pixels	1920 x 1080
Lens	Integrated Parfocal Zoom Lens, F = 14 mm - 30mm
Video Output	Composite signal to BNC socket Y/C signal to S-VHS Socket (2 x) RGB signal to D-Sub socket HDTV signal to DVI-D Socket Digital SDI signal DV-for Digital recording
Input	Keyboard input for character generator. 5 - pole DIN Socket,
Control Output	3.5 mm stereo jack plug, (Acc 1, Acc 2)
Certified to	IEC 601 - 1, 601-2-18, CSA 22.2 No. 601, UL 2601 & CE Label etc.



High Definition Medical Grade Monitor:

- HDTV display in original 16 : 10 HDTV format.
- 1080 p/50 & 1080 p/60 displays possible.
- Dripwater protected, dustproof housing
- LCD crystal display
- Resolution of 1920 x 1200 pixels
- Screen diagonal - 23" or more
- Desk top with pedestal.
- SDI/HD-SDI, Composite, S-Video RGB, DVI-D and VGA input(specify which all are available)
- facility for fixing with OT Booms desirable.

INSUFFLATOR UNIT

Electronic Insufflator with:-

- Clear, adjacent displays for set value and actual value to allow easy monitoring of insufflations process
- Front panel keys for precise pre-selection of set values
- Optical and acoustic warning signals in the event of patient overpressure
- Fully, automatic, electronically controlled gas refill (e.g. in case of gas loss when changing instruments)
- Safety - constant monitoring of intra-abdominal pressure to reduce any overpressure immediately

Technical Specifications:

Gas flow/minute	0 - 20 ltrs
Pressure (mmHg)	0 - 30
Intra - abdominal pressure guage	0 - 50 (mm Hg)
Power supply	100-240 VAC (50-60 Hz)

Xenon Light Source:-

It should have powerful and long-life 300 watt xenon lamp.
 It should have built-in automatic brightness control directly through BNC (Input/Output).
 Lamp life should be approx. 500 hours on continuous use.
 Display of lamp life/Bulb usage meter warning light
 Should have an emergency lamp with visual indicator

LIGHT GUIDE CABLE-

- Autoclavable
- Light weight
- Length should be around 3 meter and diameter 3.5 mm.

Mobile Videocart- indigenous.

- Antistatic castors, equipped with locking brakes
- Shelves - fixed (3) and inclinable (1) preferably
- 6 or 7 Equipotential plugs on a terminal strip
- handles
- 1 cable channel mounted on the left or right side of the column
- non-sliding stands for units
- A camera mount
- A drawer unit

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B-Specifications for Electro Surgical Unit (ESU)

- Should be of Microprocessor/Microcontroller technology
- Should provide monopolar output for cut, coagulation (fulguration & spray) & blend.
- Should have bipolar cut and coagulation in multiple levels with automatic bipolar coagulation.
- Activation by foot switch and hand switch
- Activation of bipolar by foot switch and automatic start/stop system
- Auto diagnosis on switching on and during working to continuously monitor all parameters
- Automatic stoppage of output in case of malfunction with acoustic and visual signal with display of error code.
- Output powers adjustable automatically or manually from the control panel.
- Programmable memory for output settings.
- Simultaneous access to mono and bipolar by 2 users
- Should be usable with laparoscopic monopolar and bipolar instruments, for which programmes and accessories must be available
- System for neutral plate safety by continuous monitoring of contact quality and connection.
- The accessories should include :-

- (a) mains cable with power plug for standard Indian sockets,
- (b) foot switches for different outputs,
- (c) reusable and single use neutral electrode for adults and children along with cable and fixation device
- (d) sterilizable and disposable electrode handle with and without finger switch with cable
- (e) set of electrodes (long and short) with electrode container with holder,
- (f) tip cleaner,
- (g) bipolar forceps with cable,
- (h) cable for connecting to standard mono polar and bipolar laparoscopic instruments,

C- TELESCOPES AND HAND INSTRUMENTS

- (i) Telescope 10 mm, 0 degree
- (ii) Telescope 10 mm, 30 degree
- (iii) Telescope 5 mm, 30 degree
- Completely distortion free
- Compatible with Quick lock for attachment of video adaptors
- Large field of view and depth of focus
- Autoclavable
- Should have high definition optics

D. Resusable Basic Laparoscopic Hand Instrument(all should be dismantalable) :

- Veress Needle 120 mm
- Veress Needle 100mm
- Long Trocar and Trocar Tube/cannula 11 mm
- Sealing Caps for 11 mm Trocar (pkt of 10 each)
- Long Trocar and Trocar Tube/cannula 5/5.5 mm
- Sealing Caps for 5/5.5 mm Trocar (pkts of 10 each)
- Reducer 11mm to 5mm with sealing caps

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- Lap HF-electrode 5 mm, Hook Type
- Lap HF-electrode 5 mm, Spatula Type
- Dissecting, grasping forceps, 5 mm x 36 mm, Maryland type, Rotatable
- Lap Aspiration needle 5 mm
- Non crushing bowel holding forceps 5mm x 36 mm
- Dissecting and Grasping Forceps, Right Angled, rotating with HF pin for unipolar coagulation, size 5mm, length 36 cm
- Grasping Forceps/Alligator with 2 x 4 teeth, double action jaw, with deactivable ratchet handle, rotating, with connector pin for unipolar coagulation, size 5mm, length 36 cm
- Manhens Grasping Forceps, jaws with multiple teeth, width of jaws 4.8mm, with removable ratchet handle, rotating with connector pin for unipolar coagulation, size 5mm, length 36 cm
- REDDICK-OLSEN Dissecting and Grasping forceps rotating with connector pin for unipolar coagulation, size 5mm, length 36 cm
- Babcock Grasping Forceps, metal handle, rotating, size 5mm, length 36 cm
- Bowel-Grasper, fenestrated, rotating, size 5mm, length 36cm
- METZENBAUM Scissor, curved, length of blades 12mm, rotating, with connector pin for unipolar coagulation, size 5mm, length 36 cm
- Spare insert for METZENBAUM Scissor
- Liga clip applicator - 10 mm- for LT300
- Liga clip applicator - 10 mm for LT400
- High Frequency cord Unipolar for HF units
- Suction & Irrigation cannula 5 mm, thumb control type
- Irrigation & Suction tube with lateral holes, with two way stop cock, anti reflex surface, length 36cm
- Bipolar Coagulating Forceps, cross serrated, width of jaws 3mm, with nonretracting jaws, dismantling in 4 parts (Handle, outer tube, inner tube, Insert)
- High Frequency Cord, bipolar
- Rotating claw Forceps, single action jaws, size 10mm, length 36cm
- Knot Tier for extracorporeal Knotting
- Dismantling fan retractor, distendable, size 5/10mm, length 36cm
- Needle holder, ergonomic handle with ratchet, left curved jaws with tungsten carbide inserts
- Cleaning Brush, length 35cm, 0.0. 2.5mm
- Cleaning Brush, length 50cm, 0.0. 11 mm
- Cleaning Brush, length 50cm, 0.0. 7mm

Additional Instruments for Dept of Obst & Gynae

- Stitch cutting scissors laparoscopic
- Allis type forceps
- Myomectomy screw
- Uterine manipulator / elevator with guard
- Ovarian drilling / aspiration needle
- Port closure needle
- Tissue retrieval forceps or toothed forceps 10 mm
- Tissue retrieval forceps or toothed forceps 5 mm

Additional Instruments for Dept of Urology

- Hem-o -lock clip applicator - 10 mm (large)
- Hem-o -lock clip applicator - 10 mm (medium)
- Vascular Clamp applicator size 10mm length 32cm for use with deployable vascular clamps consisting of Inner Rod, outer tube



- Deployable Vascular clamp, Parallel -action jaws length of jaws 5cm size 10mm overall length 11cm for use with vascular clamp applicator
- Laparoscopic SATINSKY Clamp short version length of jaws 8cm depth of jaws 2cm straight sheath size 10mm, length 30cm with axial ring handle ratchet with security locking device
- Laparoscopic SATINSKY Clamp short version length of jaws 8cm depth of jaws 5cm curved sheath size 10mm, length 30cm with axial ring handle ratchet with security locking device
- Tweezers for delicate dissection and coagulation
- Laparoscopic mini Metzenbaum scissors
- Needle holder, ergonomic handle with ratchet, right curved jaws with tungsten carbide inserts
- Needle holder, ergonomic handle with ratchet, straight jaws with tungsten carbide inserts (5mm, 30mm)
- Maryland forceps straight
- Johann atraumatic forceps
- Croceolmni forceps
- Clinching forceps

E. Specifications for Vessel Sealing System

- Consistent vessel sealing capability
- Microprocessor/Microcontroller technology
- Radiofrequency energy generator
- Capable of permanent sealing of vessels up to and including 7 mm in diameter and tissue bundles without dissection, isolation, sticking or charring.
- When the seal cycle is complete, output to the hand-piece should be automatically be discontinued with an audible tone.
- Average seal cycle is 2 to 4 seconds.
- Technology to monitor changes in tissue impedance thousands of times a second, and adjust energy output accordingly to deliver the appropriate amount of energy for the desired tissue effect.
- Feedback-controlled response system to automatically discontinue energy delivery when the seal cycle is complete.
- Memory of most recently used intensity and power setting.
- Auto diagnosis on switching on and to continuously monitor all parameters during working.
- Automatic stoppage of output in case of malfunction with acoustic and visual signal with display of error code.
- Frequency leakage on the patient should be less than 50 mA at low frequency and less than 70 mA at high frequency.
- The accessories should include (a) mains cable with power plug for standard Indian sockets, (b) foot switch, (c) electrodes and cables for both open and laparoscopic surgery
- Lap and open scissors to be quoted along with the set
- US FDA papers certifying 7mm vessel seal should be enclosed.

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