	f. X-ray cassette tray g. Kidney bridge h. Patient Restraint Strap i. Accessories for operating in prone position j. Optional accessories for endourology work

5 Environmental factors

Sl	Name
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%

6 Standards & Safety

Sl	Name
6.1	Should be US FDA , CE, UL or BIS approved product
6.2	Manufacturer and supplier should be ISO certfied for quality standards.
6.3	International Safety standards like IEC 60601-2-46 or equivalent if applicable

7 Training

Sl	Name
7.1	Comprehensive training for staff of user department and support services till familiarity with the system.

8 Warranty & Service

Sl	Name
8.1	Comprehensive warranty for 2 years.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

SPECIFICATIONS OF OPERATING THEATRE LIGHT: MOBILE

1 Description of Function	
1.1	Mobile operating light is required for illuminating the operating field in an emergency environment and the system can be moved from place to place.
2 Operational Requirements	
2.1	State of the art system with shadow less light
3 Technical Specifications	
3.1	a. Mobile light on lockable castors b. Should be LED based microprocessor control technology c. Light output 1,00,000 Lux or more d. Colour temperature 4500K or better e. Colour Rendering Index (CRI) 95 % f. Sterilizable focusing handle g. Should withstand wide voltage fluctuation h. Should have intensity control from 40-100%
3.2	Emergency Power Unit having in-built CVT with automatic change over from Mains to Battery mode in the event of power failure to provide 60 minutes back up
4 System Configuration Accessories, spares and consumables	
4.1	System as specified
4.2	The rates for all the accessories should be quoted individually and separately
5 Environmental factors	
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%
6 Power Supply	
6.1	Power input : 220-240V/ 50 Hz AC Single phase fitted with appropriate Indian plugs and sockets.
7 Standards & Safety	
7.1	Should be US FDA , CE,UL or BIS approved product
7.2	Manufacturer should be ISO certified for quality standards.
7.3	Electrical safety conforms to standards for electrical safety IEC 60601-1 General Requirements (or equivalent BIS Standard
7.4	Shall meet internationally recognised standard for Electro Magnetic Compatibility (EMC) for electromedical equipment: IEC-60601-1-2 :latest edition Or Equivalent BIS) or should comply with 89/366/EEC: EMC-

	directive as amended
7.5	Certified to be compliant with IEC 60601-2-41: Particular requirements for the safety of Operation Theatre Light or equivalent if applicable

8 Training

8.1	Comprehensive training for staff of user department and support services till familiarity with the system.

9 Warranty & Service

9.1	Comprehensive warranty for 2 years.
9.2	Percentage of uptime guarantee of the equipment during warranty period for which commitment is to be given must be specified with acceptance of applicable penalty clauses in case of failure to do so.
9.3	After sales service must be provided in the city of installation. In situations requiring service/repair of the unit outside the city of installation, the expenditure on account of this will have to be borne by the supplier

10 Documentation

10.1	Product Literature in original along with that of accessories and indigenous components if any. Photocopies/computer generated copies are not acceptable
10.2	Statement of compliance with tender specifications with clear and unambiguous links to relevant portions of product literature/authentic document, which should be highlighted. Alternatives provided for noncompliant specifications with justification must be described in detail with supporting literature.
10.3	Certificate of compliance with standards and approvals stated above
10.4	Certificate of manufacturer/principal regarding authorisation of service facility provided by the supplier
10.5	List of Equipment available in the Service Centre for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.
10.6	List of important spare parts and accessories, which are required for maintenance and repair, with their part number and costing.
10.7	Terms and conditions of warranty and CMC including schedules of visit by service personnel with check list of services to be carried out
10.8	Commitment for supply of log book with check list for daily, weekly, monthly and quarterly preventive maintenance with contact details of service personnel along with the equipment. The job description of the hospital technician and company service engineer should be clearly spelt out in the log book.
10.9	List of users of quoted model with performance certificate from major institutions

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the “All inclusive lump sum price” should include all such costs.

ANESTHESIA WORK STATION

A system integrating anaesthetic gases flow delivery vaporization, monitoring and ventilation

1. Anesthesia machine constructed from welded tubular / epoxy powder painted steel. Stainless steel top and 1 no. lockable drawers and electrical outlet to be provided. Should have large castor wheel with foot brake. Gas specific, high pressure forged brass gas blocks with integrated pin indexed yoke for oxygen and nitrous oxide with long leaf metal diaphragm with non interchangeable gas supply inlet (Pipeline connection) for oxygen, N2O and air with color coded HP antistatic tubes.

2. Separate colour coded large gauges to indicate cylinder and pipeline pressure of oxygen, nitrous oxide and C air.

3. Having mechanical hypoxic guard incorporating nominal basal flow of atleast 100 ml for minimal flow anaesthetic techniques with system on / off switch

4. Having reservoir based audible oxygen failure alarm of at least 7 seconds.

5. Dual cascaded flow meter for oxygen, nitrous oxide and single for Compressor Air accurately calibrated with an accuracy of + 2.5 % and range of at least 10 ltr./min.

6. Emergency oxygen flow of at least 35 ltr / min with non locakale push button to be provided.

7. Should have selected twin vaporizer manifold with automatic interlocking facility

8. Having 3 latest vaporizers for halothane sevoflurane and isoflurance all should be temperature, pressure and flow compensated, with key filling arrangement and should be quick mountable.

9. Agency capacity should be minimum 225 ml of free volatile anesthetic agent.

10. Should be integrally fitted with at least 2 kg capacity reversible canister, double chamber type of CO2 absorber system having provision to bypass. Absorber system through a switch and ventilate with bag

11. All sensor connection shall be internal to help prevent disconnection.

12. Electrically operated pneumatically driven integrated anesthesia ventilator, bag in bottle type with volume control with pressure limited and integrated PEEP.

13. Ventilator should automatically compensate for fresh gas by adjusting fresh gas flows for changes in fresh gas flow, small system leak changing lung compliance or compression losses.

14. The ventilator should have bellows and be integrally mounted to absorber system

15. Should have large LCD display for patient data like, TV, MV frequency 02 conc., P Mix. P Mean and air way bar graph along with set data simultaneously

16. The display screen should be mounted in alarm for easy viewing
17. Facility to change I:E Ratio should be provided.
18. Alarming setting should be available for low and high and tidal volume, minute volume airway pressure and apnea.

19. The ventilator to have at least 60 minutes battery back up

20. The anaesthesia system should have a integrated passive scavenging system with pressure relief valve.
21. The anesthesia machine should have monitoring facility of following parameter in a suitable single monitor :

22. Monitor should be with multi-parameter module with minimum 15 inches colour TFT display with 8 channels.

23. The monitor should not require any, lengthy start-up procedure or calibration. It should be ready to monitor as soon as on / off switch is pressed.

24. Should have 24 hours graphical and numerical trend with split screen facility of all parameters with at least 15 critical alarms summary.

25. Monitor to have ventilation, haemodynamic and oxygenation calculation with drug calculator package

26. Should be able to monitor and display all parameters in single screen.

ECG

5 Lead ECG with simultaneous display of 3 lead with ST measurement. Waveform frequency response should be from 0.5 to 2.5 Hz. Arrythmia detection facility should be provided.

RESPIRATION

1. Range should be 6 to 60 BPM with waveform should have alarm for apnea and high and low alarm limit for respiratory ate.
2. Monitor shall incorporate two temperature channel ranging from 20.0 to 45 C with an accuracy of atleast + 0.1 and resolution of 0.1 C.

NIBP & IBP

1. Should be measured through oscillometric principle with automatic recognition between adult / infant numeric display should show systolic, diastolic and mean pressure values

6. Should have two IBP Channels with suitable compatible accessories.

7. Pulse Oximetry

1. Should be measured through Anti motion and low flow technology.
2. Waveform display should show diagnostic plethysmograph in user adjustable scale.

CO2

1. Should be measured through side stream infrared absorption technique

2. Measurement range should be atleast 0 – 10%
3. Breath by breath capnograph display

4. Numeric display of inspired and end tidal CO2

Patient Oxygen

1. Should be measured through differential paramagnetic sensor or fuel cell technology (to be supplied for 5 years).
2. Measurement range should be at least 0 – 100%
3. Breath by breath oxygram display
4. Numeric display of inspired and expired oxygen.

Agent Monitoring

Agent monitoring for nitrous oxide, halothane, isoflurane and sevoflurane should be provided.

Should have following accessories:

1. 5 Lead ECG clip with cable (4 in No.) [Central Cable as well as ECG clip cable, in 2 parts]
2. central and skin temperature probes (2 each)
3. adult and paediatric SPO2 sensor with cable (4 each),
4. adult , pediatric & neonatal cuffs with hose (4 each),
5. anaesthesia gas / spirometry accessory kit (4 each).
6. IBP reusable transducers with cable (4 in No.)
7. Disposable domes with complete kit (100 in No.)
8. Etco2 sampling kits (20 in No.)
9. Disposable anaesthesia breathing circuits.(20 each)
10. Should have a battery backup of atleast 30 minutes

General Conditions

1. Should enclose compliance statement. The bidder should enclose the original product data sheet, brochure and compliance sheet. Computer generated data sheet and brochure will not be accepted. The serial number of specifications must be indicated against the relevant portion of the compliance sheet and data sheet.
2. Should be US- FDA approved product
3. Should have service facility in Delhi.
4. Must submit printed catalogue and technical data sheet to substantiate the offer.
5. All imported components like machine monitor and ventilator should be from one manufacturer/ principal.

6. Any misinformation regarding the specification of the equipment offered would mean outright technical rejection.
7. Demonstration of the equipment is mandatory.
8. Warranty : 98% uptime warranty period of the complete system with extension of the warranty period by double the downtime period.
9. Comprehensive Maintenance Contract:

(a) For the main equipment along with accessories for five years
(b) With labour and spares after satisfactory completion of warranty period.
(c) The cost of CMC should be quoted along with the taxes as applicable, on the date of tender opening.
(d) Cost of CMC will be added for ranking purposes as per bid document
(e) The payment of CMC will be made as per bid document.

(f) There will be 98% uptime warranty during CMC period for complete system with extension of CMC period by double the downtime period.

10. Back to back warranty to be given by supplier from principal/manufacturer of the equipments to supply spares for a minimum of 10 years.

11. The bidder should enclose the original product data sheet, brochure and compliance sheet, Computer generated data sheet and brochure will not be accepted. The serial number of specifications must be indicated against the relevant portion of the compliance sheet and data sheet.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

EQUIPMENT SPECIFICATIONS FOR DEFIBRILLATOR WITH MONITOR

1	**Description of Function**		
1.1	Defibrillator is required for reviving the heart functions by providing selected quantum of electrical shocks with facility for monitoring vital parameters.		
2	**Operational Requirements**		
2.1	Defibrillator should be Bi- Phasic, light weight (< 8kg) and latest model		
2.2	Should monitor vital parameters (ECG, NIBP, HR, SPO2 and EtCO2[optional] and display them		
2.3	Should print the ECG on thermal recorders.		
2.4	Should work on Manual and Automated external defibrillation (AED) mode. Manual selection maximum upto 360 J.		
2.5	Should be capable of doing synchronised & asynchronised cardioversion		
2.6	Can be operated from mains as well as battery		
2.7	Should have defibrillator testing facility (?)		
2.8	Demonstration of the equipment is essential.		
3	**Technical Specifications**		
3.1	Should be a Low Energy Biphasic defibrillator monitor with Recorder, within a maximum energy of 360 Joules		
3.2	Should monitor ECG through paddles, pads and monitoring electrodes and Defibrillate through pads and paddles.Should have Automatic Lead switching to see patient ECG through paddles or leads		
3.3	Should measure and compensate for chest impedance for a range of 25 to 1500hms		
3.4	Should have a built in 50mm strip printer/ thermal recorder		
3.5	Should have charging time of less than 5 seconds for maximum energy. Charging indicator should be there.		
3.6	Should have Display- TFT coloured LCD at least 8” diagonal for viewing messages and ECG waveform of 5 seconds		
3.7	Should have external paddles with paddles contact indicator – for good paddle contact. Both Adult and pediatric paddles should be available.		
3.8	Should have event summary facility for recording and printing at least 250 events and 50 waveforms.		
3.9	Should have a battery capable of usage for at least 120 minutes and/or 30 discharges.		

3.10	Should be capable of printing Reports on Event summary, configuration, self test, battery capacity etc		
3.11	Should have facility for self test/check before usage and set up function		
3.12	Should have SP02 and NIBP integrated facility, EtCO2 (optional)		
3.13	Should be capable of delivering energy in increments of 1-2 joules up to 10J and increments 5-10 J till 50 and up to a maximum of 50J thereafter.		
3.14	Should have user friendly 1,2,3 color coded operation.		

4 System Configuration Accessories, spares and consumables

4.1	Defibrillator -01		
4.2	Paddles Adult (pair) -01		
4.3	Paddles –Paediatrics(pair) -01		
4.4	Patient cable -02		
4.5	ECG Rolls -50		
4.6	Disposable pads-10 nos.		
4.7	NIBP Cuff Adult - 02 NIBP Cuff Paediatrics- 02 NIBP Cuff Infants- 02		
4.8	SPO2 Finger Probe-Adult -02 SPO2 Ear Probe - -02		
4.9	Complete set of ECG Leads- 02		

5 Environmental factors

5.1	The unit shall be capable of operating continuously in ambient temperature of 0 – 50 °C and relative humidity of 15-90%		
5.2	The unit shall be capable of being stored continuously in ambient temperature of -20 – 60 °C and relative humidity of 15-90%		
5.3	Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.		

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz		
6.2	Resettable overcurrent breaker shall be fitted for protection		

7 Standards, Safety and Training

7.1	Should be US-FDA or CE (European directive) approved product		
7.2	Electrical safety conforms to standards for electrical safety IEC-60601-1 General		

	Requirements and IEC-60601-2-25 Safety of Electrocardiograms . (OR EQUIVALENT BIS Standard)
7.3	Drop Test-Withstands 1 meter drop to any edge, corner or surface.
7.4	Should conform to international test protocols on exposure to shock forces and to vibration forces. The standard should be documented.
7.5	Should meet IEC 529 Level-2 (IP2X) for enclosure protection solid foreign object ingress.
7.6	Should meet IEC 529 Level 3 (IP3X)(spraying water) for enclosure protection , water ingress.
7.7	Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.
7.8	Warranty as per bid document.

8 Documentation

8.1	User Manual in English
8.2	Service manual in English
8.3	List of important spare parts and accessories with their part number and costing
8.4	Certificate of calibration and inspection from factory.
8.5	Log book with instruction for daily , weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out
8.6	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
8.7	Compliance Report to be submitted in a tabulated and point wise manner clearly mentioning the page/para number of original catalogue/data sheet.Any point ,if not substantiated with authenticated catalogue/manual, will not be considered.
8.8	Must submit user list and performance report within last 5 years from major hospitals.

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the “All inclusive lump sum price” should include all such costs.

SPECIFICATIONS FOR ELECTRO SURGICAL UNIT (ESU)

1 Description of Function

Sl	Name
1.1	ESUs are used for surgical cutting and for controlling bleeding by causing coagulation (hemostasis) at the surgical site. They deliver high-frequency electrical current through an active electrode tip, causing desiccation, vaporization, or charring by resistive heating in the target tissue.

2 Operational Requirements

Sl	Name
2.1	Microprocessor/Microcontroller technology

3 Technical Specifications

Sl	Name
3.1	Compatible with Argon Plasma Coagulator
3.2	Should provide monopolar output for cut, coagulation (fulguration & spray) & blend
3.3	Should have bipolar cut and coagulation in multiple levels with automatic bipolar coagulation.
3.4	Activation by foot switch and hand switch
3.5	Activation of bipolar by foot switch and automatic start/stop system
3.6	Auto diagnosis on switching on and during working to continuously monitor all parameters
3.7	Automatic stoppage of output in case of malfunction with acoustic and visual signal with display of error code.
3.8	Output powers adjustable automatically or manually from the control panel.
3.9	Programmable memory for output settings
3.10	Simultaneous access to mono and bipolar by 2 or more users
3.11	Should be usable with laparoscopic monopolar and bipolar instruments, for which programmes and accessories must be available
3.12	System for neutral plate safety by continuous monitoring of contact quality and connection
3.13	System for monitoring and control of leakage current
3.14	Frequency Ieakage on the patient should be less than 10 micro Amp.

4 System Configuration Accessories, spares and consumables

Sl	Name
4.1	System as specified
4.2	The accessories should include (a) trolley, (b) mains cable with power plug for standard Indian sockets, (c) foot switches for different outputs, (d) reusable and single use neutral electrode for adults and children along with cable for neutral electrode and fixation device wherever required, (e) sterilizable and disposable electrode handle with and without finger switch with cable for electrode handle, (f) set of electrodes (long and short) with electrode container with holder, (g) tip cleaner, (h) bipolar forceps with cable, (i) cable for connecting to standard mono polar and bipolar laparoscopic instruments, (j) dedicated instruments for open and laparoscopic monopolar and bipolar use. *The accessories and their quantity will be chosen from among the ones listed above as well as those listed at 4.4 depending upon actual requirement.*
4.3	The system should be capable of accepting standard accessories of major international brands, which should be specified and for which suitable adaptor, if required, is to be quoted
4.4	The codes and rates of all possible individual accessories should be quoted separately with clear mention of period of validity of rates

5 Environmental Factors

Sl	Name
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%

6 Power Supply

Sl	Name
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian power-plug
6.2	Electronic Voltage corrector/stabilizer of appropriate ratings meeting BIS Standards/Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)

7 Standards & Safety

Sl	Name
7.1	Should be US FDA , CE, UL or BIS approved product.
7.2	Manufacturer and Supplier should have ISO certification for quality standards.
7.3	IEC 60101-1 Medical Electrical Equipment, General Requirements for safety
7.4	Shall meet internationally recognised standard for Electro Magnetic Compatibility (EMC)

	for electromedical equipment: IEC-60601-1-2 :latest edition Or Equivalent BIS) or should comply with 89/366/EEC; EMC-directive as amended
7.5	Certified to be compliant with IEC 60601-2-2 Medical Electrical Equipment Part 2-2: Particular requirements for the safety of High Frequency Surgical Equipments: latest edition

8 Training

Sl	Name
8.1	Comprehensive training for staff of user department and support services till familiarity with the system.

9 Warranty & Service

Sl	Name
9.1	Comprehensive warranty for 2 years and 3 years Comprehensive Maintenance Service after warranty. The cost of CMC must be quoted in the price bid.
9.2	Percentage of uptime guarantee of the equipment during warranty and CMC period for which commitment is to be given must be specified with acceptance of applicable penalty clauses in case of failure to do so.
9.3	After sales service must be provided in the city of installation. In situations requiring service/repair of the unit outside the city of installation, the expenditure on account of this will have to be borne by the supplier

10 Documentation

Sl	Name
10.1	Product Literature in original along with that of accessories and indigenous components if any. Photocopies/computer generated copies are not acceptable
10.2	Statement of compliance with tender specifications with clear and unambiguous links to relevant portions of product literature/authentic document, which should be highlighted. Alternatives provided for noncompliant specifications with justification must be described in detail with supporting literature.
10.3	Certificate of compliance with standards and approvals stated above
10.4	Certificate of manufacturer/principal regarding authorisation of service facility provided by the supplier
10.5	List of Equipment available in the Service Centre for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.
10.6	List of important spare parts and accessories, which are required for maintenance and repair, with their part number and costing.
10.7	Terms and conditions of warranty and CMC including schedules of visit by service personnel with check list of services to be carried out
10.8	Commitment for supply of log book with check list for daily, weekly, monthly and

	quarterly preventive maintenance with contact details of service personnel along with the equipment. The job description of the hospital technician and company service engineer should be clearly spelt out in the log book.
10.9	List of users of quoted model with performance certificate from major hospitals

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Specifications for
Ultrasonic Cutting & Coagulation Device
for General and Laparoscopic Surgery

1 Description of Function

Sl	Name
1.1	The ultrasonic cutting and coagulation device cuts and coagulates vessels and tissue bundles by precisely directed ultrasonic energy. The technology involves control of bleeding by coaptive coagulation at low temperatures ranging from 50°C to 100°C produced by ultrasonic oscillation: vessels are coapted (tamponaded) and sealed by a sticky protein coagulum.

2 Operational Requirements

Sl	Name
2.1	The system is suitable for General as well as Laparoscopic Surgery is required.

3 Technical Specifications

Sl	Name
3.1	The system consists of 1. Microprocessor controlled Ultrasonic Generator having the following features:- a. Generates ultrasound at app 55.5 khz frequency b. The equipment should have a minimum of 5 power levels with power level display c. The power output should not be less than 70 Watts d. It should have power entry filters and should be defibrillator protected. e. It should have vibration range of 50-100 microns. f. Standby mode g. System diagnosis and trouble shooting guide h. Warning system for malfunctioning 2. Hand-piece with in-built transducer & silicon connecting cable 3. Blade System consisting of coagulating shears and blades for open and laparoscopic surgery, capable of sealing blood vessels up to 5 mm diameter 4. Foot pedal 5. Cart for the generator

4 System Configuration Accessories, spares and consumables

Sl	Name
4.1	System as above
4.1	ACCESSORIES FOR OPEN SURGERY: 1. Hand pieces of different types 2. 9cm & 17cm shaft, curved, tapered tip for precise dissection, seals 5 mm vessels, as well as lymphatic with16 mm active blade & 240-degree activation, triggers support multiple hand positions 3. 5mm Hand Activated Curved Coagulating Shears capable of sealing blood vessels upto 5mm in diameter, 23 cm shaft length Ergonomic Grip 4. Dissecting Hook having telescoping shaft (10cm-14cm) with integrated hand activation control buttons

	5. Hand Activated Straight Coagulating Shears capable of sealing blood vessels upto 5mm in diameter, 18 cm shaft length Scissor Grip 6. Curved Blade having telescoping shaft (10cm-14cm) with integrated hand activation control buttons
4.2	ACCESSORIES FOR LAPAROSCOPIC SURGERY:- 1. Hand pieces of different types 2. 5mm Lap Hand Activated Curved Coagulating Shears capable of sealing blood vessels upto 5mm in diameter, 36 cm shaft length, ergonomic handle 3. 5mm Lap Dissecting Hook, 32 cm
4.3	OTHER ACCESSORIES:- 1. Blade wrench 2. Any other as per requirement of the specific brand

5 Environmental factors

Sl	Name
5.1	The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40 deg C and relative humidity of 15-90%

6 Power Supply

Sl	Name
6.1	Power input to be 220-240VAC, 50Hz fitted with Indian plug
6.2	Electronic Voltage corrector/stabilizer of appropriate ratings meeting BIS Standards/Specifications.(Input 160-260 V and output 220-240 V and 50 Hz)

7 Standards & Safety

Sl	Name
7.1	Should be FDA , CE,UL or BIS approved product
7.2	The generator must be CF isolated applied device and defibrillator protection must be available.
7.3	Manufacturer and Supplier should have ISO certification for quality standards.
7.4	Electrical safety conforms to standards for electrical safety IEC 60601-1 General Requirements (or equivalent BIS Standard)
7.5	Shall meet internationally recognised standard for Electro Magnetic Compatibility (EMC) for electromedical equipment: IEC-60601-1-2 :latest edition Or Equivalent BIS) or should comply with 89/366/EEC; EMC-directive as amended
7.6	Certified to be compliant with IEC 60601-2-2 Medical Electrical Equipment Part 2-2: Particular requirements for the safety of High Frequency Surgical Equipment if applicable or equivalent

8 Training

8.1	Comprehensive training for staff of user department and support services till familiarity with the system.

9 Warranty & Service

Sl	Name
9.1	Comprehensive warranty for 2 years and 5 years Comprehensive Maintenance Service after warranty. The cost of CMC must be quoted in the price bid.
9.2	Percentage of uptime guarantee of the equipment during warranty and CMC period for which commitment is to be given must be specified with acceptance of applicable penalty clauses in case of failure to do so.
9.3	After sales service must be provided in the city of installation. In situations requiring service/repair of the unit outside the city of installation, the expenditure on account of this will have to be borne by the supplier

10 Documentation

Sl	Name
10.1	Product Literature in original along with that of accessories and indigenous components if any. Photocopies/computer generated copies are not acceptable
10.2	Statement of compliance with tender specifications with clear and unambiguous links to relevant portions of product literature/authentic document, which should be highlighted. Alternatives provided for noncompliant specifications with justification must be described in detail with supporting literature.
10.3	Certificate of compliance with standards and approvals stated above
10.4	Certificate of manufacturer/principal regarding authorisation of service facility provided by the supplier
10.5	List of Equipment available in the Service Centre for providing calibration and routine Preventive Maintenance Support. as per manufacturer documentation in service/technical manual.
10.6	List of important spare parts and accessories, which are required for maintenance and repair, with their part number and costing.
10.7	Terms and conditions of warranty and CMC including schedules of visit by service personnel with check list of services to be carried out
10.8	Commitment for supply of log book with check list for daily, weekly, monthly and quarterly preventive maintenance with contact details of service personnel along with the equipment. The job description of the hospital technician and company service engineer should be clearly spelt out in the log book.
10.9	List of users of quoted model with performance certificate from major institutions

NOTE:

Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into

consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the "All inclusive lump sum price" should include all such costs.

Equipment Specifications for Syringe Infusion Pump

1 Description of Function	
1.1	The Syringe Infusion Pump provides uniform flow of fluid by precisely driving the plunger of a syringe down its barrel. It provides accurate and continuous flow rate for precise delivery of I.V. medication in critical medical care.
2 Operational Requirements	
2.1	The syringe pupm should be programmable, user friendly , safe to use and should have battery back up and comprehensive alarm system. This should be able to integrate in the HIS
2.2	Demostration of the equipment is essential.
3 Technical Specifications	
3.1	Flow rate programmable from 0.1 to 1000 ml/hr or more in steps of 0.1 ml/hr with user selectable flow set rate option. SAVE last infusion rate even when the AC power is switched OFF.
3.2	Bolus rate should be programmable to 40 – 500 ml/hr or more with infused volume display. Reminder audio after every 0.5 ml delivered bolus. SAVE last Bolus rate even when the AC power is switched OFF.
3.3	Display of Drug Name with a provision of memorizing 10~15 names by the operator
3.4	Keep Vein Open (KVO) must be available 1.0 ml/hr or set rate if lower than 1.0 ml. User should have choice to disable KVO whenever desired.
3.5	Selectable Occlusion pressure trigger levels selectable from 300/500/900 mmHg
3.6	Must Work on commonly available ISI/CE/FDA APPROAVED/CERTIFIED 20, 50/60 ml Syringes with accuracy of minimum of +/-2% or better.
3.7	Automatic detection of syringe size & proper fixing. Must provide alarm for wrong loading of syringe such as flanges out of slot; disengaged plunger, unsecured barrel etc.
3.8	Anti bolus system to reduce pressure on sudden release of occlusion

3.9	Should have comprehensive alarm package including:Occlusion limit exceed alarm ,Near end of infusion pre-alarm & alarm,Volume limit pre-alarm & alarm,KVO rate flow,Low battery pre-alarm and alarm,AC power failure,Drive disengaged and preventive maintenance.
3.10	Rechargeable Battery having at least 5~6 hour backup for about 5ml/hr flow rate with 50ml syringes. Larger battery life and indication of residual life will be preferred.

4 System Configuration Accessories, spares and consumables

4.1	Syringe Infusion Pump -01
4.2	Mounting device/ Docking Station for two or four pumps as per requirement so as to enable to power up to 2-4 pumps with one power cord when mounted on IV pole. -01

5 Environmental factors

5.1	Shall meet IEC-60601-1-2 :2001(Or Equivalent BIS) General Requirements of Safety for Electromagnetic Compatibility.
5.2	The unit shall be capable of operating continuously in ambient temperature of 10 -40deg C and relative humidity of 15-90%
5.3	The unit shall be capable of being stored continuously in ambient temperature of 0 -500 C and relative humidity of 15-90%

6 Power Supply

6.1	Power input to be 220-240VAC, 50Hz

7 Standards, Safety and Training

7.1	Should be US FDA or CE approaved product
7.2	Electrical safety conforms to standards for electrical safety IEC-60601-1 General Requirements
7.3	Manufacturer should be ISO certfied for quality standards.
7.4	Certified for meting IEC60601-2-24:Particular requirements for the safety of infusion pumps and controllers
7.5	Should meet IEC 529 Level 3 (IP3X)(spraying water) for enclosure protection , water ingress.
7.6	Electrical Safety Classification Class I/II, Type CF and Internally powered equipment.
7.7	Certified for meeting IEC 60601-1-4 Medical electrical equipment - Part 1-4: General requirements for safety - Collateral Standard: Programmable electrical

	medical systems
7.8	Comprehensive warranty for 2 years.
7.9	Should have local service facility .The service provider should have the necessary equipments recommended by the manufacturer to carry out preventive maintenance test as per guidelines provided in the service/maintenance manual.

8 Documentation

8.1	Certificate of calibration and inspection from factory.
8.2	List of Equipments available for providing calibration and routine maintenance support as per manufacturer documentation in service / technical manual.
8.3	User Manual in English
8.4	Service manual in English
8.5	Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job descriptin of the hospital technician and company service engineer should be clearly spelt out.
8.6	List of important spare parts and accessories with their part number and costing.
8.7	User list to be provided with performance certificate .
8.8	Performance report in the last 5 years from major hospitals should be enclosed.

RAPID INFUSION PUMP

1. The equipment should have Roller type Peristaltic pump /volumetric pump

2. The Equipment should have high levels of safety from air embolism by integrating atleast two ultrasonic air detection sensors.

3.Heating process should be done by an electro magnetic induction heating system.

4.The Equipment should have two infra -red temperature sensors for accurate deliveryof fluids at 37deg.C.

5. The equipment should have the facility to automatically purge air for removal of any outgassed air to prevent it from entering the patient line. No manual process should be involved.

6. The equipment should have operator controlled Bolus infusion key for rapid response in critical situations.

7. The equipment should have a line pressure control sensor for restriction of flow in case of line occlusion immediately and stop the delivery of fluids for patient safety.

8.The Equipment should have a recirculate mode for pre - warming of fluids during transport.

9.The Equipment should have an interactive on-board display system which displays information about the rate of infusion, total volume infused, real temperature of fluids, line pressure etc.

10.The equipment should have internal rechargeable battery backup.

11.Consumables should be universal for all flow rates ranging between 2.5ml to 750 ml per minute.

12. Warranty as per tender document.

13.The Principals / supplier firm/ vendor should have a 24 hours. Service center facility based at Delhi / NCR.

14.The Principals must give a certificate that if the supplier / vendor is changed during the course of guarantee / warrantee period, the principals would be responsible for the up keep / maintenance of the quote/ supplied equipment, besides honoring all the terms and conditions of CMC/AMC in letter and spirit.

15.Spares / consumables should be available for a period of at least eight years after expiry of the guarantee / warrantee period.

16.Performance certificates from satisfied customers from Central Govt./State Govt/reputed private hospitals must be appended in respect of the quoted equipment.

NOTE:
Bidders are requested to visit AIIA, Sarita Vihar, New Delhi to assess the site condition of Equipment placement and installation in this Section. Bidders must take into consideration in its bid costs to be incurred for any additional work viz. Electrical cabling of suitable ratings, Electrical points of suitable ratings, water connection, water drainage, plumbing & allied requirement for the equipment etc. required for successful installation, commissioning and running of the Equipment and the “All inclusive lump sum price” should include all such costs.

SPECIFICATIONS FOR PATIENT WARMING SYSTEM

1. Should be suitable for intra-operative applications.
2. Should consist of active warming arm-cum-shoulder section, pair of leg segments and abdominal segment to cover the entire body.
3. Should be based on semiconductor polymer foil for precise warming of entire patient body during & after surgery.
4. Size
   - Abdominal Segment : (40-45) cm x (85-90) cm
   - Arm & Shoulder Section : (170-175) cm x (28-32) cm
   - Leg Segment : (40-45) cm X (85-90) cm
5. Control unit should be capable of warming minimum four segments at a time.
6. Control unit should have Color LCD touch screen for easy operation.
7. Control unit should have touch screen display to select & display temperature of all four segments at a time.
8. Control unit should automatically detect the number of segments which are connected to the unit and display the same on the screen.
9. Should offer precise digital temperature control with selectable temperature range of 36 to 42º C in steps of 0.1ºC
10. Arm cum shoulder segment should be divided in two sections capable of being switched ON or OFF independently depending upon the nature of surgery and condition of patient.
11. Should have facility to measure & display the real time core body temperature of the patient continuously on the screen.
12. Should also have on screen graphical display of patient body temperature for the entire duration of surgery.
13. Should have facility to independently adjust the temperature of individual segment.
14. Should have a provision to connect whole body blanket & pediatric size blanket to the same control unit for future requirement.
15. Should have safety features such as Automatic check, Precise temperature control between warming system and patient, Autostop on detecting any problem
16. Should have non latex anti-bacterially coated, blood and fluid Resistant covers
17. Covers should be washable and replaceable
18. The control unit should be light weight not more than 3.6 kg, small in size (23 x11x16.5 cm approx.) and easily attachable to IV rod/OT table with fixing claw.
19. Should have low energy consumption and noiseless operation
20. It must be CE marked.

MAGILL FORCEP (Adult & Pediatric)

- Stainless Steel
- Adult/Pediatric
- The anterior portion should have a hole and should be serrated
- It should be non lockable.

STILLET ENDOBRONCHEAL TUBE

Malleable