**AUTOCLAVE, HORIZONTAL**

| S.N. | Purchaser's Specifications (Damak Hospital FY:2082/83) |
|---|---|
| | **Autoclave, Horizontal** |
| | **Manufacturer** |
| | **Brand** |
| | **Type/Model** |
| | **Country of Origin** |
| 1 | **Descriptionof Function** |
| | **Autoclave, Horizontal for sterilization.** |
| 2 | **Operational Requirements** |
| | **Autoclave, Horizontal for sterilization.** |
| 3 | **SystemConfiguration** |
| | Autoclave, Horizontal with complete with accessories. |
| 4 | **TechnicalSpecifications** |
| A | The autoclave shall be Horizontal type. |
| B | **Capacity:**400L or more. |
| C | Industrial immersion type water heater to generate steam within a reasonableperiodof timeon2/3phase220/440V50HZacsupply. |
| D | Operatingpressure:2 Bar (30 psig/2280 mmHg) or higher |
| E | Operatingtemperature:121°Cormore. |
| F | **Materialof Construction:**<br>a Outer/Inner chamber, Jacket, Door: SS304.<br><br>c Heater Plate: Brass/Stainless steel. |
| G | Shall have temperature, pressure and vacuum gauges. Etc |
| H | **SafetyFeatures:** |
| I | b Gaugeglasswithsafetyvalves.<br>c Heat resistant door silicon gasket for steamtight sealing. |
| 5 | **Operating Environment** |
| A | The systemoffered shall be designed to operate normallyunder the conditionsof thepurchaser'scountry.TheconditionsincludePower Supply,Climate,Temperature,Humidity,etc. |
| B | Powersupply:220–240VACor440V-460V,50Hzfittedwith appropriateplug. |
| 6 | **StandardsandSafetyRequirements** |
| A | This unit must be certified to meet ISO13485, EN13445orASME BPV Code Section VIII, or equivalent. |
| B | Submit theIEC61010-2-040 or equivalent certificate for electrical safety. |
| 7 | **User/TechnicianTraining** |
| | Mustprovideuser/techniciantraining(includinghowtouseand maintaintheequipment). |
| 8 | **Warranty** |
| | Comprehensive warranty for 2years from acceptance. |
| 8 | **Maintenance Service During Warranty Period** |
| | During the warranty period supplier must ensure corrective/breakdown maintenance whenever required. |
| 10 | **Installation and Commissioning** |

| | |
|---|---|
| 11 | The bidder must arrange for the equipment to be installed and commissionedbycertifiedorqualifiedpersonnel;anyprerequisites for installation to be communicated to the purchaser in advance, in detail. |
| **12** | **Documentation** |
| A | User(Operating)manualinEnglish |
| B | Listofimportantsparepartsandaccessorieswiththeirpartnumber and costing. |

TECHINICAL SPECIFICATION FOR ARTERIAL BLOOD GAS ANALYZER

| S.N. | Purchaser's Specifications (Damak Hospital FY:2082/83) |
|---|---|
| | Arterial Blood Gas Analyser |
| | Manufacturer |
| | Brand |
| | Type / Model |
| | Country of Origin |
| 1 | Description of Function |
| | Blood gas analysers are used to measure blood gases, electrolytes, pH values and biochemical parameters of the blood |
| 2 | Operational Requirements |
| | Fully automatic, ABG analyser. |
| 3 | System Configuration |
| | Fully automatic Blood Gas Analyzer with electrodes and built in printer. |
| 4 | Technical Specifications |
| A | Essential Measured parameters; pH, pCO2, pO2, Na+, K+, Ca++,etc . |
| | Calculated parameters must include pH, pCO2, pO2, Na+, K+, Ca++,etc . |
| C | Sample type: whole blood and capillary blood. |
| D | Sample volume: Approx.100ul or better. |
| E | Must come with USB ports. |
| F | Display on At least 6 inch LCD colour touch screen display. |
| G | Data print out on built in graphic printer. |
| 5 | Accessories, spares and consumables |
| | 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. |
| 6 | Operating Environment |
| A | 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. |
| B | Power supply: 220 – 240 VAC, 50Hz fitted with appropriate plug. |
| 7 | Standards and Safety Requirements |
| A | Must submit ISO13485:2003/AC:2007 for Medical Devices AND |
| B | CE (93/42 EEC Directives) AND USFDA approved product certificate. |
| 8 | User Training |
| | Must provide user training (including how to use and maintain the equipment). |
| 9 | Warranty |
| A | Comprehensive Warranty for 2 years |
| B | Preventive Maintenance Service Bi-Annually during Warranty Period |
| C | During warranty period supplier must ensure corrective/ breakdown maintenance whenever required. |
| 10 | Installation and Commissioning |
| | The bidder must arrange for the equipment to be installed and commissioned by certified or qualified personnel; any prerequisites for installation to be communicated to the purchaser in advance, in detail. |
| 11 | 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 numbers and costing. |
| D | Certificate of calibration and accessories with their part number and costing. |

# SPECIFICATIONS OF C-ARM Machine

| S.N. | Purchaser's Specifications (Damak Hospital FY:2082/83) |
|---|---|
| | **Mobile C-Arm with flat panel detector.** |
| | **Manufacturer** |
| | **Brand** |
| | **Type / Model** |
| | **Country of Origin** |
| **1** | **Description of Function** |
| 1.1 | Microprocessor controlled C-arm with inbuilt flat panel detector 1K X 1K imaging chain should provide excellent image quality at low radiation, ideally suited for general surgeries in many application fields and special application such as orthopedics, urology, Gastroenterology, pain management, Spine fixation. |
| **2** | **Operational Requirements** |
| 2.1 | It shall be suitable to be used for adult and pediatric patients in general radiography examination, and it shall operate on single phase AC power supply. |
| **3** | **System Configuration** |
| 3.1 | A portable mobile trolley C-Arm machine with standard accessories. |
| **4** | **Technical Specifications** |
| **4.1** | **Flat Panel detector** |
| | Image Matrix should be 1K x 1K or more |
| | Pixel pitch should be 155 micrometer pixel or less |
| | ADC conversion should be 16bit or more. |
| **4.2** | **Monitor** |
| a | Min.32-inch single- or 17-inch dual monitor or more High Resolution (1920 x 1080) Full HD LED Monitor with Auto Clean, Active Back-light control and contrast booster with superb fluoroscopic viewing monitor mounted on mobile Trolley should be provided. |
| **4.3** | **X-Ray Tube** |
| a | Monoblock tube head having dual focus stationary anode X-Ray tube of focal spot 0.6mm (small focus) &large focus (1.5mm) should be provided |
| b | Anode Heat Storage capacity should be 40KHU or more. |
| c | System should have laser based aiming tools to reduce exposure for doctors and patients. |
| d | Collimator: fixed |
| **4.4** | **Control Unit:** |
| a | A very compact, soft touch control panel with graphical color TFT display of min. 5-inch size on which KV, mAs, Fluoro mA,and other indicators can be displayed |

| | |
|---|---|
| **4.5** | **X ray Generator** |
| | a.High Frequency not less than 40 KHz. |
| | b. Output power should be 5 KW or more. |
| | c. Fluoro & Rad. Kv 40 to 110 KV or better |
| | d. Max. mA**:** 80mA or more. |
| | e. Radiographic mAs:0.4 to 200mAs or better |
| | f. Pulse Fluoroscopic mA(peak): -<br>• 0.1 to 3mA (Fluoro Mode) or better<br>• up to 8mA (HD Mode) or better |
| **4.6** | **Memory system** |
| **a** | Should include Memory system |
| **4.7** | **Image Acquisition** |
| a | Image processing software with real time image capturing, storage, and display in 1K X 1K format. |
| b | Unlimited data storage with high resolution, 1K X 1K format. |
| c | 1000 runs of 100 frames image memory with Unlimited patient creation Storage at full resolution 1024 x 1024. |
| d | Single/dual monitor support for enhanced Last Image Hold. |
| e | System should have features of post image enhancements. |
| f | Optimal dose indicator algorithm in manual X-ray mode to avoid x-ray adjustment. |
| g | Should have feature of video rotation angles. |
| h | Image Rotation, Image Mirror support |
| i | Should have features of Negative Image, Contrast adjustment, Sharpness, Brightness, Advance and Ultra Enhancements |
| j | Must have Customizable key map configurations |
| k | Dedicated Patient Mode (Without Registration), add/ modify information. |
| l | Image Format Support BMP, JPEG, PNG,etअ |
| m | Real time Horizontal and Vertical Video Flip functions. |
| n | Should have inbuilt APR system. |
| o | System should auto Save Image after exposure |
| p | System should store Patient Image Counter and patient name. |
| q | Real time digital zoom facilities. |
| r | Real time noise with reduction with Averaging |
| s | Real time Image Flip function Horizontal &Vertical. |
| t | Import Patient Data |
| **4.8** | **Storage** |
| a | System should able to store image more then 10000 images. |
| b | Fluoro saving as per user need |
| c | Last image hold saving as per user need |

| | |
|---|---|
| **4.9** | **C-arm Movements (approx.)** |
| a | Fully counter balanced movement |
| b | Rotation: ±180 or better |
| c | Arc orbital movement: 120 or more |
| d | Horizontal movement: 200mm or more |
| e | Vertical movement: 400 or more |
| f | Clearance:700 mm or more |
| g | Swivel range: ±12.5° or better |
| h | SID: 900 mm or more |
| i | System should have features of locks for all the manual movements of C-arm |
| j | Should have emergency switch to shutdown entire machine operations. |
| **5** | **Accessories, spares and consumables** |
| 5.1 | 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. |
| 5.2 | Accessories: |
| | Lead apron-03 no<br>Thyroid shield-03 no<br>Lead eyewear-03 no |
| **6** | **Operating Environment** |
| 6.1 | The product 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 requirements** |
| a | The machine should be operable on single phase 220 – 240 VAC, 50Hz with appropriate plug for X-ray generator fitted with appropriate plug for other units. The power cable must be at least 3 meters in length. |
| b | Electronic voltage stabilizer should be provided |
| c | UPS for power backup of the software should be provided. |
| **7** | **Standards and Safety Requirements** |
| 7.1 | Must submit ISO13485 for Medical Devices AND |
| 7.2 | Must submit CE or USFDA approved product certificate. |
| **8** | **User Training** |
| 8.1 | Must provide user training (including how to use and maintain the equipment). |
| **9** | **Warranty** |
| 9.1 | Comprehensive warranty for 2 years should be provided. |
| **10** | **Maintenance Service During Warranty Period** |
| 10 | During the warranty period supplier must ensure corrective/breakdown maintenance whenever required. |
| **11** | **Installation and Commissioning** |

| | |
|---|---|
| 11 | The bidder must arrange for the equipment to be installed and commissioned by certified or qualified personnel; any prerequisites for installation to be communicated to the purchaser in advance, in detail. |
| **12** | **Documentation** |
| 12 | User (Operating) manual in English. |
| 12 | Service (Technical / Maintenance) manual in English. |
| 12 | Manufacturer authorization letter |

# TECHINICAL SPECIFIFCATION FOR ESU

| S.N | Purchaser's Specifications (Damak Hospital FY:2082/83) |
|---|---|
| | **Cautry Machine,** |
| | **Manufacturer:** |
| | **Brand:** |
| | **Type/Model:** |
| | **Country of Origin:** |
| 1 | **Description Of Function** |
| 1.1 | A diathermy machine (electrosurgical unit) |
| 2 | **Operational Requirements** |
| 2.1 | It shall operate on AC power supply in the operating theatre. |
| 3 | **System Configurations** |
| 3.1 | Diathermy Machine (Electrosurgical) 300W or more with complete accessories. |
| 4 | **Technical Specifications** |
| 4.1 | Nominal HF output: 300 W or more at 300 ohm |
| 4.2 | At least 2 modes of operation: mono-polar cutting and mono-polar/bipolar coagulation. |
| 4.3 | Mono-polar cutting modes shall have different level of effects from pure cutting to blend cutting. |
| 4.4 | Come with Min.3 mono-polar coagulation modes: soft, forced and spray. |
| 4.5 | Desiccate mode for low voltage contact coagulation suitable in delicate tissue work |
| 4.6 | Fulgurate mode for efficient non-contact coagulation in most applications. |
| 4.7 | Spray mode for coagulation large tissue areas with minimum depth of necrosis. |
| 4.8 | Come with Min.3 bipolar modes: precise, standard and macro or equivalent. |
| 5 | **Accessories, Spare Parts and Consumables** |
| 5.1 | All standard accessories/consumables/parts required for the proper operation of the above item shall be included in the offer. Bidders shall specify, in a separate Excel worksheet, the quantity and details of any items included in this offer which have not been specified in this Technical Specifications Forms. |
| 6 | **Operating Environment** |
| 6.1 | Power supply: 220-240V AC, 50Hz fitted with appropriate plug. The power cable must be at least 3 metres in length. |
| 7 | **Standards & Safety Requirements** |
| 7.1 | Must submit ISO13485:2003/AC:2007 for Medical Devices **AND** |
| 7.2 | CE (93/42 EEC Directives) and USFDA approved product certificate. |
| 7.3 | Shall meet IEC 60601-2-2 Medical Electrical Equipment - PART 2-2: Particular Requirements for the Safety of HIGH FREQUENCY SURGICAL EQUIPMENT. |
| 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 after acceptance. |
| 10 | **Maintenance Service During Warranty Period** |
| 10.1 | Preventive and corrective maintenance services during warranty period shall be included. |
| 11 | **Installation and Commissioning** |
| 11.1 | It shall be installed and commissioned by the Supplier at the final destination(s), |
| 12 | **Documentation** |
| 12.1 | User (Operating) manual in English. |
| 12.2 | Service (Technical / Maintenance) manual in English. |

| S.N | Purchaser's Specifications (Damak Hospital FY:2082/83) |
|---|---|
| | **Cautry Machine,** |
| **12.3** | List of important spare parts and accessories with their part numbers and costing. |
| **12.4** | Certificate of calibration and inspection from factory. |
| | |

| S.N. | Purchaser's Specifications(Damak Hospital FY:2082/83) |
|---|---|
| | **Grossing Work Station** |
| | **Manufacturer:** |
| | **Brand:** |
| | **Type / Model:** |
| | **Country of Origin:** |
| **1** | **Description of Function** |
| 1.1 | Grossing work station is needed for simplification of specimen preparation, measure, wash, disect, and magnify the view of the specimen. |
| **2** | **Operational Requirements** |
| 2.1 | It shall be made of corrosive resistant high grade 304 stainless steel and unbreakable transparent toughened glass and floor based model. |
| **3** | **System Configuration** |
| 3.1 | Grossing Station with pathology camera system and software, complete unit with complete accessories. |
| **4** | **Technical Specifications** |
| 4.1 | Dimensions (W x D): approx. 140 cm x75 cm or more |
| 4.2 | The grossing station should have integrated illumination for the entire work area and must have an additional spotlight for enhanced visibility. |
| 4.3 | It must have an inbuilt ventilation system to efficiently remove formalin fumes. |
| 4.4 | The station should have storage compartments and a magnetic tool holder for convenient organization and easy access to instruments. |
| 4.5 | It must be equipped with a sink with hot and cold-water faucet for cleaning purposes. |
| 4.6 | A high-capacity waste disposal unit for efficient waste handling and prevent blockage in the drainage. |
| 4.7 | It should include a polyethylene dissecting board with a ruler and contrast area for improved visibility of biopsy samples. |
| 4.8 | **Usability & Reporting**: The system must be easy to use with an intuitive interface, should support video recording for case documentation, must allow storage of reports for patient documentation, and can be used for final patient reports, pathologist review. |
| 4.9 | The grossing station must come with a pathology camera system and software. |
| 4.1 | **Camera & Display**: The system must have an HD or better camera with LED illumination for clear imaging and must include an LCD/LED screen monitor for easy operation and real-time viewing. |
| **5** | **Accessories, spares and consumables** |
| 5.1 | 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 product 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: 220 – 240 VAC, 50Hz Single Phase fitted with appropriate plug. The power cable must be at least 3 meter in length. |
| **7** | **Standards and Safety Requirements** |
| 7.1 | Must submit ISO13485:2003/AC:2007 for Medical Devices AND |
| 7.2 | CE (93/42 EEC Directives) or USFDA listed /Approved product certificate. |
| **8** | **User Training** |
| 8.1 | Must provide user and Biomedical engineering staffs training (including how to use and maintain the equipment). |
| **9** | **Warranty** |

| | |
|---|---|
| 9.1 | Comprehensive warraty for two years and next one year free AMC. |
| **10** | **Maintenance Service During Warranty Period** |
| 10.1 | During warranty period supplier must ensure Planned Preventive Maintenance (PPM) in every six months and corrective/breakdown maintenance whenever required. |
| **11** | **Installation and Commissioning** |
| 11.1 | The bidder must arrange for the equipment to be installed and commissioned by certified or qualified personnel; any prerequisites for installation to be communicated to the purchaser in advance, in detail. |
| 11.2 | All the installation including electrical, civil, plumbing and fitting of exhaust (including fan and pipe) shall be the bidder's responsibility |
| **12** | **Documentation** |
| 12.1 | User (Operating) manual in English. |
| 12.2 | Service (Technical / Maintenance) manual in English. |
| 12.3 | The principal company should be responsible of fulfilling warranty/guarantee, in case local authorized agent gets changed or agent is not able to achieve the same. The commitment letter/ letters of the same should be attached |
| 12.4 | Certificate of calibration and inspection from factory with the delivery of machine |
| Note | Bidder must completely fill the Technical Specification Form (TSF). Only Yes/no/all complies should not be written. Page number in the original catalogue of all the required parameters must be clearly mentioned and specification be highlighted in the catalogue. Failure in doing so may lead to rejection of bid from technical committee. |

| Technical Specification of Laparoscopy System | |
|---|---|
| **S.N.** | **Purchaser's Specification(Damak hospital FY:2082/83)** |
| | **Laparoscopy System** |
| | **Manufacturer** |
| | **Brand** |
| | **Type / Model** |
| | **Country of Origin** |
| **1** | **Description of Function** |
| **1.1** | Full digital high-definiation image system with CMOS visual system. Resolution: 1920x1080 pixels or continous use of 16:9 formats in full HD or Higher both for display and capturing of images in same original format. All setting possible with camera head buttons and touch setting or buttons panel should be available in front of processor. |
| **2** | **Operational Requirements** |
| **2.1** | The laparoscopic surgery camera, Processor with Touch or buttons panel and monitor must have individual components as given below. |
| **3** | **System Configuration** |
| **3.1** | Video Processor with built in LED light source or separate light source- 1 unit |
| **3.2** | 3 CMOS or Full HD CMOS camera head-1 unit |
| **3.3** | Cystoscope 0 deg,19 fr |
| **3.4** | Insufflator - 1 unit |
| **3.5** | Monitor-1 unit |
| **3.6** | Trolley - 1 unit |
| **4** | **Technical Specifications Video Processor with inbuilt LED light source or separate Light source.** |
| **4.1** | **Observation Mode:** |
| | Signal output: HD-SDI, DVI etc |
| | Zoom : 3 modes (Approx.1.0, 1.2, 1.5.etc) or more |
| | Processor should have touch or easy touch buttons or equivalant for stting panel. |
| | **Documentation** |
| | Should have facilities for USB memory to capture and store the Still image as well as to transfer the image from processor internal memory. |
| | **Light Illumination** |
| | Examination lamp: LED with Approx. 10000 hours life or more. |
| | Should have Forced-air cooling method or equivalent. |
| | **Automatic Brightness Adjustment:** |
| | Should have automatic LED drive brightness adjustment. |
| | Should have 15 or more steps automatic exposure |
| | Should have Auto/Manual brightness mode |
| | Processor should have Class I type of protection against electric shock |
| **4.2** | **Processor Power Supply** |
| | Rated voltage: 100-240 V AC; within ± 10% |
| | Rated frequency: 50/60 Hz; within ± 1 Hz |
| | Rated input: Approx.400 VA or better. |
| **4.3** | **Camera Head:** |
| | Weight: should not be more than 300g |
| | CMOS image sensor (3x) or Full HD CMOS image sensor. |
| | Focal length f=16 or less to 32 or more |
| | hould have TYPE BF |
| | **Must supply Full HD or better Autoclavable Telescope** |

| | |
|---|---|
| **4.4** | Outer Diameter: Approx.10mm |
| | Direction of view: 30 degree |
| | Working length" 320 ± 5 mm |
| | It must have ED Glass or equivalent Lenses |
| **4.5** | **Insufflators:** |
| | High Flow Insufllator (220-240V) |
| | Abdominal Pressure Control: 5 or less to 24 mmHg or more |
| | Flow Rate Settings: 1 or less to 45 L/min or more |
| | It should have real time pressure, flow rate and volume monitoring facilities. |
| | Should be same manufacturer whose Laparoscope system is offered. |
| **4.6** | **Light Transmit Cable**<br>It should have more than 4 mm diameter and minimum 3 Meter in length. |
| **4.7** | **Monitor:** |
| | HIGH DEFINITION LCD MONITOR with LED backlight |
| | Screen size: 24 inches or more |
| | Panel: a-Si TFT Active Matrix. |
| | Luminance: Min.300 cd/m2 |
| | Resolution: HD (1920 x 1080) |
| | Aspect ratio: 16:9 |
| | Viewing angle:160° or more. |
| | Number of colours: Min. 16 billion |
| | Contrast ratio: 1000:1 or more |
| | Should have DICOM |
| | Video Input: Mini-DIN 4-pin x1, RGB, NCx1, DVI-Dx1, HD/SD-SDI etc. |
| | Video Output: DVI-D should be fan-less design for clean and silent operation. |
| | It should have A variety of display modes - including Mirror Image, Side-by-Side, Picture-in- Picture, and Picture-out-picture or equivalent. |
| **4.8** | **Trolley:**<br>Bidder should provide trolley with four casters in built transformer by same manufacturer whose Laparoscope system is offered. |
| **4.9** | Acessories(From same manufacturer) |
| **SN** | **Item Name** |
| 1 | Maryland Forceps |
| 2 | Laproscopic Cauttery Hook |
| 3 | Laproscopic Scissors |
| 4 | Laproscopic Grasper |
| 5 | Laproscopic Bipolar Forceps |
| 6 | Non Traumatic Grasper |
| 7 | Bowl Grasper Forceps |
| **5** | **Standard & Safety Requirements** |
| 5.1 | Must submit ISO 13485:2003/AC:2007 for Medical DevicesAND |
| 5.2 | CE (93/42 EEC Directives) and USFDA approved product certificate for the system. |
| **6** | **User Training** |
| 6.1 | The Supplier shall conduct onsite 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. |
| **7** | **Warranty** |
| 7.1 | Comprehensive warranty for 2 year after acceptance. |

| | |
|---|---|
| **8** | **Maintenance Service During Warranty Period and accessory** |
| 8.1 | During the warranty period supplier must ensure preventive maintenance and corrective/breakdown maintenance within 48 Hour |
| **9** | **Installation and Commissioning** |
| 9.1 | The bidder must arrange for the equipment to be installed and commissioned by certified or qualified personnel; any prerequisites for installation to be communicated to the purchaser in advance, in detail. |
| **10** | **Documentation** |
| 10.1 | User (Operating) manual in English. |
| 10.2 | Service (Technical / Maintenance) manual in English. |

# Technical Specification of cytocentrifuge

| S.N. | Purchaser's Specifications (Damak Hospital FY:2082/83) |
|---|---|
| | **Manufacturer** |
| | **Brand** |
| | **Type/Model** |
| | **Country of Origin** |
| **1** | **Description of Function** |
| | The slide centrifuge system is microprocessor controlled; digital bench top LBC slide preparation system. |
| **2** | **Operational Requirements** |
| 2.1 | The slide centrifuge shall be based on density gradient or equivalent centrifugation to gently separate cellular information from obscuring material. |
| **3** | **System Configuration** |
| 3.1 | Slide centrifuge system for liquid based cytology, complete |
| **4** | **Technical Specification** |
| 4.1 | Centrifuge shall microprocessor control that contain brushless DC motor for maintenance free long life. |
| 4.2 | System shall consist of LCD digital display with speed and time indicator. |
| 4.3 | Shall have speed control setting up to 2000 or more RPM. |
| 4.4 | Speed Precision: ± 100 rpm or better. |
| 4.5 | Time Range: 1-999min or better. |
| 4.6 | Shall have audio and visual indication for error and system failure. |
| 4.7 | Shall have slide holder capacity of at least 4 samples at a single run. |
| 4.8 | It shall have electronic door lock, over speed and imbalance protection. |
| 4.9 | Power consumption:300W or less |
| **5** | **Accessories, spares and consumables** |
| 5.1 | 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. Bidder must specify the quantity of every item included in their offer ( including items not specified above) |
| 5.2 | Accessories:<br>• Vortex (1 Set)<br>• Chamber for 100 Tests. |
| **6** | **Operating Environment** |
| 6.1 | The product 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: 220-240 VAC, 50 Hz fitted with appropriate plug. The power cable must be at least 3 meter in length. |
| **7** | **Standard and Safety Requirements** |
| 7.1 | Must submit valid ISO 13485 for Medical Devices |
| 7.2 | Must submit valid USFDA or CE certificate for Instrument |

| | |
|---|---|
| **8** | **User Training** |
| 8.1 | Must provide user training (including how to use and maintain the equipment). |
| **9** | **Warranty** |
| 9.1 | Warranty for 2 years from the date of installation |
| **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 | The bidder must arrange for the equipment to be installed and commissioned 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 |

| Binocular Microscope with High resolution camera adjustable | |
|---|---|
| | |
| | |
| Focusing | Stage height movement (coarse movement stroke: 15 mm ) |
| | troke per rotation for coarse adjustment knob: at list 36.8 mm |
| Illumination System | LED power consumption 2.4 W (nominal value) |
| Stage | Traveling range (X × Y): 76 mm × 52 mm must have ergonomic grip for easy carrying. |
| Eyepiece (anti-fungal) | Paired, High quality (the image of the object as seen through the binocular eyepiece must be well defined centrally in at least 2/3 field of view) |
| Objectives | at list Four Objectives 4x to 100x oil |
| | |
| | |
| | |
| Image Capture | 8M (3840*2160) JPEG/TIFF Image in SD Card or USB Flash Drive |
| | Sony Exmor CMOS sensor; |
| | 4K HDMI/ LAN/Wi-Fi / USB multiple video outputs; |
| | 4K/1080P auto switching according to the monitor resolution; |
| | Video format: 4K(3840*2160) H264 encoded MP4 file; |

# Technical Specification for OPG

| S.N | Technical specification |
|---|---|
| | **Orthopantomogram machine(Damak Hospital FY:2082/83)** |
| | Manufacturer |
| | Brand |
| | Type/Model |
| | Country of Origin |
| **1** | **Orthopantomogram machine** |
| 1.1 | Panoramic picture and Sinus LAT CEPH, shows full-mouth X-rays in a single film whereas X-Ray facility in a panoramic system provides dentists with the flexibility needed for temporomandibular joint analysis and produces repeatable lateral, anterior-posterior, posterior-anterior and oblique views of the skull. |
| **2** | **Operation** |
| 2.1 | Must cater to all types of patients including adult, paediatrics, standing, sitting and wheel chair patients. |
| 2.2 | Advanced direct digital technology to cater to filmless imaging. |
| **3** | **System Configuration** |
| 3.1 | Orthopantomogram (OPG) machine with Sinus LAT CEPH complete accessories. |
| 3.2 | Machine & Software Compatible Branded Computer recommended by manufacturing company. |
| **4** | **Technical Specification** |
| 4.1 | **Function:** Pano and CEPH |
| 4.2 | Scan time**:** Pano : HD 12 sec - 15 Sec / Normal 10 sec-14 Sec or less |
| 4.3 | Scan time**:** Sinus LAT CEPH : HD 7 sec - 15 Sec / Normal 10 sec-14 Sec or less |
| **5** | **Generator/Tube** |
| 5.1 | Generator Type:  Inverter Type |
| 5.2 | Tube Voltage: Approx.60-90kVp or above (1 Kv Increment) |
| 5.3 | Tube Current:Approx.4-10 mA or more ( 1 mA Increment) |
| 5.4 | Cooling System: Air Cooling ( Protect ≥ 60℃ ) |
| 5.5 | Total Filtration : Min 2.8 mm AI |
| 5.6 | Gray Scale: 14 bit or better |
| **6** | **Detector** |
| 6.1 | Type: CMOS Photodiode Array |
| 6.2 | Gray Scale: 14s bit or better |
| 6.3 | Energy Range 60 - 90 kV orbetter |
| **7** | **Digital Imaging Software** |
| 7.1 | General Administration |
| 7.2 | 2D Digital Imaging |
| 7.3 | Patient search, by ID or by name, from database |
| 7.4 | Patient search by image type, date, and comments |
| 7.5 | Creating new patients |
| 7.6 | Implant Simulation in 2D with implant library |
| 7.7 | Patient Consultation Features videos |

| | |
|---|---|
| 7.8 | Editing patient information etc |
| **8** | **Panoramic imaging** |
| 8.1 | Support for TWAIN compatible scanners and digital camera |
| 8.2 | The System provide the following Study/Template functionality |
| 8.3 | Creating/editing study templates |
| 8.4 | Image capturing directly to study templates, capture assisted by user definable templates |
| 8.5 | Combining different image types to same Study |
| **9** | **Accessories, Spare and Consumables**<br>All standards accessories, consumables and parts required to operate the equipment, including all standard tools and clearing 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) |
| **9.1** | Most provide Appropriate printer for printing films with one pocket of film. |
| **10** | **Operating Environment**<br>The product offered shall be designed to be stored and to operate normally under the conditions of the purchaser's country. The Conditions include power supply, purchaser's country requirements. |
| **11** | **Standards and Safety Requirements** |
| 12.1 | Must submit ISO 13485:2003/AC : 2007 for Medical Devices AND |
| 2.2 | CE (93/42 EEC Directives) and USFDA approved product certificate. |
| 12.3 | Shall meet IEC-60601-1-2:2001 General Requirements of Safety for electromagnetic Compatibility |
| **13** | **User Training** |
| 13.1 | Must provide user training (including how to use and maintain the equipment). |
| **14** | **Warranty** |
| 4.1 | Comprehensive warranty for minimum 2 years after letter of acceptance and 3 years maintenance contract. |
| **15** | **Maintenance Service During Warranty Period** |
| 15.1 | During the warranty period supplier must ensure planned preventive maintenance (PPM) and corrective/breakdown maintenance whenever required. |
| **16** | **Installation and Commissioning** |
| 6.1 | The bidder must arrange for the equipment to be installed and commissioned by certified or qualified personnel; any prerequisites for installation to be communicated to the purchaser in advance, in detail. |
| **17** | **Documentation** |
| 17.1 | User (Operating) manual in English |
| 17.2 | Service (Technical / Maintenance) manual in English |
| 17.3 | Manufacturer Authorization Letter is to be submitted. |