

**OFFICE OF THE DIRECTOR  
GAMBAT INSTITUTE OF MEDICAL SCIENCES, GAMBAT**



**Tender Document for Supply of Machinery / Equipment at Gambat Institute of  
Medical Sciences for Financial Year 2015-16**

M/S \_\_\_\_\_

**Due on: 16-11-2015 at 12:30pm**

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## 1(a) INVITATION FOR BIDS

Date: \_\_\_\_\_

ADP No: \_\_\_\_\_

Bid reference No: \_\_\_\_\_

1. The Director Gambat Institute of Medical Sciences invites sealed bids (the **financial envelop** should be separated with earnest money of 2.5% for each item), from eligible firms a foreign Bidders is entitled to bid only in joint venture with a Pakistani contractor having manufacturing facility in Pakistan.
2. Bidders may obtain further information from, inspect at and acquire the bidding documents from the office of the Director Gambat Institute of Medical Sciences.
3. A complete set of Bidding Documents may be purchased by an interested Bidder s on submission of a writing application to the above office and upon payment of a non-refundable fee of **Rs.3000/-**
4. All bids (Technical must be accompanied by a Bid Security in the amount of **2.5% of Bid Amount** in the form of Security deposit, Bank Draft / Pay order on bid security from or in the form of deposit at call or from a foreign bank duly counter guaranteed by a schedule bank of Pakistan in favor of Director Gambat Institute of Medical Sciences and must be delivered to office of the Director Gambat Institute of Medical Sciences, Gambat District Khairpur (Mir's) Sindh at or before 12:00noon on dated 16-11-2015 Bids will be open at 12:30pm on the same day, in the presence of Bidders representatives who choose to attend at same address.

**Address:-**

**OFFICE OF THE DIRECTOR  
GAMBAT INSTITUTE OF MEDICAL SCIENCES,  
GAMBAT, DISTRICT KHAIRPR (MIR'S) SINDH.**

**Director  
Gambat Institute of Medical Sciences,  
Gambat**

**1(b) CHECK LIST**

**The provision of this checklist is essential prerequisite along with submission of tenders.**

S/NO	DETAILS	YES / NO	PAGE# ANNEX.
<b>KNOCK OUT CLAUSES</b>			
<b>1</b>	Original receipt for purchase of tender Original receipt for purchases of tender for each alternate		
<b>2</b>	The financial envelops should be separated of each item, clearly marked company name and quoted serial item number and name		
<b>3</b>	Copy of earnest money without amount in technical bid		
<b>4</b>	Acceptance of terms and condition, tender documents duly signed and stamped		
<b>5</b>	Sole agency certificates [as per annex: A]		
<b>6</b>	Proof of past import of quoted items from manufacturers (copy of bill of entry & etc)		
<b>7</b>	Original Literature/ Brochure of product showing complete contact details of the manufacturer (as per annex. B)		
<b>8</b>	Copy of previous installation reports in reputable Govt./Private teaching hospitals		
<b>9</b>	Copy of GST Certificate		
<b>10</b>	Copy of NTN Certificate		
<b>11</b>	Copy of Last three years paid income tax challan		
<b>12</b>	Copy of registration with chamber of commerce		
<b>13</b>	Copy of registration with PNRA in case of X-Ray, Ultrasound.		
<b>14</b>	Bank certificate showing financial capability		
<b>15</b>	Bidders questioner proforma for bid evaluation		
<b>16</b>	Price should not be mentioned on technical bid		
<b>17</b>	Certificate / documentary proof of the effect that the Principal is the original manufacturer of the required goods (major components, mainframe, etc)		
<b>18</b>	Certificate regarding quality of production for conformity with international Standards (Copy of certificate FDA, CE, JIS [as per annex.C])		

**Signature & seal (bidder):** \_\_\_\_\_







### **3. TERMS AND CONDITIONS:**

- 3.1 Bid should remain valid for 90 days from the date of financial opening.
- 3.2 Bidders shall quote their price on C.I.F for Gambat Basis. FOR Offer should be inclusive of all duties/Taxes/Octroi/Transportation etc. and all other expenses on free delivery to consignees end at Gambat Institute of Medical Sciences.
- 3.3 Price should be quoted for both C.I.F and FOR basis in Figure and words failing which the offer will be ignored.
- 3.4 Free installation along with all accessories including labor charges/Demonstration at consignees end must be borne by the bidder.
- 3.5 03 years free service from the date of installation and undertaking regarding availability of spare parts for at least 08-10 years may also be confirmed by the bidder.
- 3.6 Sole agent certificate for the quoted items from the Manufacturer must be attached by the bidder. Certificate should valid for three years from the date of issue which should be verifiable by concern authority.
- 3.7 Bidders are required to submit proof of past import of quoted items from Manufacturer by submitting copy of bill of entry (Custom Clearance documents). Bill of landing / Airway bill and etc.. along with their bid.
- 3.8 The supplier will be bound to train nominated technical personnel to operate / repair and maintain the supplied equipment.
- 3.9 Bidders should confirm the presence of Manufacturers trained service/installation Engineers/Technicians and provide the detail of their working experience, Manufacturer training Certificate, list of tools and test equipment, approximate area of workshop in the premises of their office and address along with the bid.
- 3.10 List of hospitals, name of department, contact numbers of the end users, in which the quoted equipment are working must be attached. Copy of previous installation report in a reputed Govt./Private [Teaching Hospitals/ repair certificate if any, of the similar quoted items from the end user should be attached along with the bid.
- 3.11 In case of purchase of C.I.F, the bidder will bear the charges of clearing agent. Godown Rent, Airline D/O charges and all other charges including Transportation to consignees end excluding custom duty and tax. Certificate will be issued by this office to clarify that the import has been made for the hospital in question so as to avail the facility of exemption of duties/taxes as per Government Rules.
- 3.12 In this tender envelops procedure as per SPPRA 2010 rules will be followed i.e. Technical and Financial proposal separately, i.e. single stage two envelops system. The envelope must contain tender enquiry no. on the top and TECHNICAL/FINANCIAL PROPOSAL clearly in order to avoid any confusion. The tenders shall be submitted with all documents, drawing literature & catalogue (in equipment) in Technical proposal, with sealing wax. The name of manufacturer or supplier should be affixed on the face of envelop at the left side, moreover, financial envelops should contain financial bid each item separately.
- 3.13 tenders must be filled in with blue or black ink in the column provided and on separate letter head duly signed.
- 3.14 The tenders must be free from erasing, cutting and overwriting. in case of erasing, cutting and overwriting, authorized person should initial it.
- 3.15 The rates of each item should be written in figures as well as in words. In case of discrepancy the price in words will be taken as authenticate and final.
- 3.16 Conditional tenders will be ignored and will not be considered / entertained / accepted.
- 3.17 tender shall be accompanied by Earnest Money @ 2.5% of the value of stores quoted by them in form of call deposit / pay order/demand draft in the name of Director Gambat Institute of Medical Sciences, Gambat.
- 3.18 Copy of earnest money (without amount) must be attached along with the technical bid and the original along with financial bid in case of disclosure of price or amount of Earnest Money in the technical bid, the bid will be rejected.
- 3.19 Original purchase receipt must be enclosed with their technical offer.
- 3.20 The tender rate (FOR) price should be inclusive of all taxes. Income and sales tax etc payable to Federal and Provincial Government or local bodies and no claims on these accounts shall be entertained.
- 3.21 The bidder shall furnish General Sales Tax (GST) Registration Certificate of the firm failing which the offer will be ignored. In case the item is exempted from GST either documentary evidence or certificate from competent authority shall be attached with the offer.



- 3.22 The bidder shall furnish copy of valid Professional Tax Certificate, Income Tax Certificate; Last three years paid income tax Challan, proof of registration with Chamber of Commerce.
- 3.23 For the X-ray Equipments, bidders must submit a valid copy of Registration with PNRA (Pakistan Nuclear Regulatory Authority).
- 3.24 Bidder should submit a fresh ban certificate showing strong financial capability of firm.
- 3.25 the original printed catalogue / technical brochure showing detail technical specification, clear photo/picture of the quoted item, Manufacturers address, Phone number , e-mail address and website must accompany with offer.
- 3.26 The equipment to be imported comply/certificate at CE / FDA standards certificate should be attached along with the offer.
- 3.27 Store is required immediately. The tenderer, may however give their short guaranteed delivery period by which the supply will be completed positively.
- 3.28 If the Contractor fails to attain completion of the supply or installation within the time for completion, he shall pay to the purchaser liquidated damages at the rate of 2% per month (0.5% per week) of the Contract Price, or the relevant part thereof. The aggregate amount of such liquidated damages shall in no event exceed 10% of the bid amount. Once the “Maximum Limit” is reached, the purchaser may consider termination of the Contract.
- 3.29 Tenderers are required to furnish a detail technical quotation on their letter head and specify the standard and optional items / accessories as required in the tender specification. Bidder should clearly mention make, model and country of origin of the quoted items.
- 3.30 Choice to select /ignore any alternate offers shall rest with the purchaser.
- 3.31 tenders shall purchase separate tender documents and furnish purchases receipt for each alternate offer in case they want to submit alternate offers without separate purchase receipt (original) are supposed to be rejected.
- 3.32 No manufacturer shall authorize their distributor/ agent/ any firm or person to quote the same item which manufacturer quoted it-self in any tender. Failing that offer of both the manufacturer as well as other bidder shall be ignored.
- 3.33 The bidder shall comprise a single package containing two separate envelops. Each envelops shall contain separately the financial proposal and the technical proposal.
- 3.34 The envelops shall be marked as “**FINANCIAL PROPOSAL**” and “**TECHNICAL PROPOSAL**” in bold and legible letters to avoid confusion.
- 3.35 Initially only envelops marked as “**TECHNICAL PROPOSAL**” shall be retained in the custody of the procuring agency without being opened.

**4. PURCHASER’S RIGHT TO VARY QUANTITIES AT TIME OF AWARD.**

The purchaser reserve the right to increase/decrease or delete the quantities of goods etc at the time of award of contract and also reserve the right to enhance the quantity goods and services originally specified in the schedule of requirements without any change in unit price of other terms and conditions of goods at any time during contract period.

**5. NOTIFICATION OF AWARD/ADVANCE CONTRACT:**

- 5.1 Prior to the expiration of the period of the bid validity, the purchaser will notify the successful bidder in writing, delivery by hand or by register by cable to be confirmed that their bid has been accepted.
- 5.2 The notification of award will constitute the formation of the contract.

**6. AWARD OF CONTRACT AND CONTRACT AGREEMENT.**

Subject to the fulfillment of all codal formalities, the purchaser will award the contract to the successful bidder whose bid has been determined to be qualified to perform the contract satisfactory.

**7. PERFORMANCE SECURITY.**

The successful tenderers will have to deposit with the purchase security depots as under in shape of call deposit / bank guarantee at the rate of 2.5% of the value of the contract.

**8. PAYMENT TERM:**

- 8.1 in case of purchase on CIF, this office will establish Letter of credit for 80% of contract value in favor of Manufacturer, remaining 20% payment will be release in the equivalent Pak. Rupees of CIF amount after

successful completion of delivery of equipment at consignee end. Insurance charges for opening L/C and the difference in currency fluctuation will be borne by bidder.

8.2 Terms of payment for F.O.R purchase 100% after supply of equipment at consignee end.

**9 FEE FOR AWARD OF CONTRACT:**

9.1 Stamp duty @0.3% shall be borne by the suppliers.

**10. UNDERTAKING**

10.1 That I/We agree whether our tender accepted for total partial or enhanced quantity for all or any single item. I/We also agreed to supply and accept the said item at the rates for the supply of contracted quantity within the stipulated period shown in the contract.

10.2 I/We understand and confirm the refund of cost different if the same good is/was supplied at lower rates to any other Government / Semi Government Institution in the Province in same fiscal year.

10.3 I/we undertake that: that I any of the information submitted in accordance to this tender enquiry found incorrect our contract may be cancelled at any stage on our cost and risk.

**11. CERTIFICATE**

We guarantee to supply the sores exactly in accordance with the requirement specified in the invitation to this tender

Signature of Tenderer: \_\_\_\_\_

Name & Designation \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## 12. CRITERIA FOR EVALUATION OF BIDS

Quality and the following evaluation factors criteria will be employed on technical proposals. The number of points allocated to each factor shall be specified in the evaluation report. Only bids securing minimum of 70% marks would be considered for further process.

<b>EVALUATION CRITERIA (ELECTRO-MEDICAL EQUIPMENTS)</b>
-------------------------------------------------------------

S/NO	13. ASSESSMENT PARAMETER	Marks
<b>13.1</b>	<b>Availability of technical staff of the company / firm in reference to the product.</b>	<b>15</b>
<b>Following two companies shall be considered ascertain the availability / expertise of technical staff:</b> A. Number of technical staff i) At least two technical staff members 05 ii) 01 additional number for every additional technical member shall be granted with maximum up to 05 B. Technical staffs academic qualification 05 B.Sc degree in (Bio-medical / Electronic) Engineering from recognized institution shall be granted one additional mark. How ever. B. Tech shall not be considered for additional mark. M.Sc / Master degree holder from recognized institution shall be 2 additional marks.		
<b>13.2</b>	<b>Manufacturer's local agent capacity for technical services with reference to the product.</b>	<b>15</b>
1. Repair workshop facility with the diagnostic tools and test equipment as submitted along with the quotation 03 2. Physical size and facility of workshop attached photo. 03 3. Test and diagnostic tools list. 03 4. Service manual and other technical documentation list. 03 5. Availability of spare parts and accessories at workshop list 03		
<b>13.3</b>	<b>FINANCIAL SOUNDNESS</b>	<b>12</b>
1. Income tax paid challan for last three years 04 Balance sheet, audited for the last financial year 08 OR Bank statement for the last financial year 06 If balance sheet and bank statement both are deposited then only marks of balance sheet (8 Marks) would be counted. Tapering down phenomenon regarding rating of marks shall be applied on competitive firms		
<b>13.4</b>	<b>Overall reputation in reference to the product (cliental)</b>	<b>10</b>
<b>Overall reputation of the product shall be envisaged by following criteria:</b> A. References / certificates provided regarding performance of the product from head of the concern institute / hospital. B. References/ Certificates of the product shall be verified by the department independently C. Attestation of being Category "A" D. Purchaser have right to exercise Market Survey / Internet Exploring Survey give indicator marks.		
<b>13.5</b>	<b>General overall sale turnover of the organization</b>	<b>10</b>
A. 60% or more sales proportion of medical equipment (quoted items) 08 B. 40% or more sales proportion of scientific equipment 02		
<b>13.6</b>	<b>International Sales and country of origin of quoted item</b>	<b>15</b>
A. Sale of product in two or more continents 10 B. Sales of production in single continent 05		
<b>13.7</b>	<b>Product Certification</b>	<b>10</b>
Certificate FDA /CE (MDD)/JIS A. Any two certificates 10 B. Any one certificate 05		
<b>13.8</b>	<b>Exclusive Agency Certificate , Attested by Embassy, &amp; Chamber of Commerce from native Country of Manufacturer</b>	<b>08</b>
A. 10 years or more for each products or 08 B. 5 years or more for each products 05 C. Less than 3 years 03		
<b>13.9</b>	<b>Other</b>	<b>05</b>
Submission of original brochures and required certificates as per tender terms and Conditions. 05		

**Assessment parameter: 13.1.1**

**Availability of technical staff of the company/firm in reference to the product:**

1. Total Number of Technical Staff: \_\_\_\_\_
2. No. of B.Sc. degree in Bio-Medical Engineering holder \_\_\_\_\_
3. No. of B.Tech / Diploma holder \_\_\_\_\_
4. No. of MSc / Master Degree holder \_\_\_\_\_
5. Details of Engineers \_\_\_\_\_

S/NO	Name of Engineer	Qualification	Experience No of Years	Manufacturer's training with name of equipment and duration

**Signature:** \_\_\_\_\_

**Seal:** \_\_\_\_\_

**ASSESSMENT PARAMETER: 13.2.1**

Manufacturer's local agent capacity for technical services in reference to the product.

Physical size and facility of workshop \_\_\_\_\_  
(Please attach photograph or picture of your workshop)

Details of test and diagnostic tools: \_\_\_\_\_  
(Please attach a separate sheet describing the test and diagnostic tools)

Details of service manual and other technical documentation: \_\_\_\_\_  
(Please attach a separate sheet describing the detail of manuals and other supporting documents)

Detail of separate parts and accessories available at workshop: \_\_\_\_\_  
(Please attach a separate sheet mentioning the list of spare parts and accessories)

**Assessment Parameter:13.3.1**

**Financial Soundness**

Copy of Income Tax Paid Challan for last three years: \_\_\_\_\_

Copy audited balance sheet by a recognized audit firm: \_\_\_\_\_

**OR**

Copy of Bank statement for the last financial year: \_\_\_\_\_

**Assessment Parameter:13.4.1**

**Overall reputation in reference to the product (Cliental)**

No of References \_\_\_\_\_

(Reference will be verified)

No of Certificates, regarding performance of the product from head of concerned institute/hospital \_\_\_\_\_

**Signature:** \_\_\_\_\_ **Seal:** \_\_\_\_\_











**15. BID FORM AND PRICE SCHEDULE**

Dated: \_\_\_\_\_

Tender No. \_\_\_\_\_

To:

[name and address of Procuring agency]

Gentlemen and/or Ladies;

Having examined the Bidding Documents including addenda nos: [insert number's], the receipt of which is hereby duly acknowledged, we, the under signed, offer the supply and deliver [description of goods and service] in conformity with the said Bidding Documents for the sum of [total Bid Amount in words and figures], or such other sums as may be ascertained in accordance with the schedule of Price attached herewith and made part of this bid.

We undertake, if our bid is accepted, to deliver the goods in accordance with delivery schedule specified in the schedule of requirements.

If our bid is accepted, we will obtain a guarantee of a bank in the sum of equivalent to \_\_\_\_\_ percent of the Contract Price for the due performance of the Contract, in the form prescribed by the Procuring Agency.

We agree to abide by for a period of [ number] days from the date fixed for bid opening as per bid terms and condition, and it shall remain binding upon us and may be accepted at any time before the expiration that period.

Until a formal contract is prepared and executed, this bid, together with your written acceptance thereof and your notification of award shall constitute a binding Contract between us.

Commissions of gratuities, if any, paid or to be paid by us to agents relating to this Bid, and to contract execution if we are awarded to contract, are listed below;

Name and address of agent	Amount and Currency	Purpose of commission or gratuity
_____	_____	_____
_____	_____	_____

We understand that you are not bound to accept the lowest or any bid you may receive.

Dated this \_\_\_\_\_ day of, \_\_\_\_\_ 2015

Signature: \_\_\_\_\_

In the capacity of: \_\_\_\_\_

Duly authorized to sign bid for and on behalf of \_\_\_\_\_

**16. BID SECURITY FORM**

Where as [name of bidder] (hereinafter called the Bidder) has submitted its bid dated [date of submission of bid] for the supply of [name /or description of goods] (hereinafter called the bid).

KNOW ALL PEOPLE by these presents that we [name of bank] of [name of country], having our registered office at [address of bank] (hereinafter called the bank) are bound up to [name of procuring agency] (hereinafter called "The procuring Agency") in the sum of for which payment well and truly to be made to said procuring agency, the bank binds itself, its successors and assigns by these presents. Sealed with the common seal of the said bank this \_\_\_\_\_ day of \_\_\_\_\_, 20 \_\_\_\_\_

The conditions of this obligation are:

1. If the bidder withdraws its bid during the period of bid validity specified by the bidder on the bid for:

Or

2. If the bidder, having been notified of the acceptance of its bid by the procuring agency during the period of bid validity:
3. Fails or refuses to excuse the contract form, if required; or
4. Fails or refuses to furnish the performance security, in accordance with the instruction to bidders.

We undertake to pay to the procuring agency up to the above amount upon receipt of its first written demand, without the procuring agency having to substantiate its demand, provided that in its demand the procuring agency will note that the amount claimed by it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to and including twenty eight (28) days after the period of bid validity, and any demand in respect thereof should reach the bank later than the above date.

\_\_\_\_\_  
[Signature of Bank]

**17. CONTRACT AGREEMENT**

THIS AGREEMENT made at \_\_\_\_\_ day of 20\_\_\_\_\_ between [name of procuring agency] of [country of procuring agency] (herein after referred to as the “Procuring Agency”) of the on Part; and [name of supplier ] of [ city and country of supplier] (herein after called the “Supplier”) of the other Part.

WHERE AS the Procuring Agency invite bids for certain goods and ancillary services, viz [brief description of goods and service] and has accepted the bid by the Supplier for the supply of those goods and service in the sum of [contract price in words and figures] (hereinafter called “the contract price)

**Now this Contract Witness as Follows:**

1. In this agreement words and expressions shall have the same meanings as are respectively assigned to them in the General Conditions of this Contract hereinafter referred to:
2. The following documents shall be deemed to form and be read and construed as part of this agreement, viz:-
  - a. The Bid form and Price Schedule submitted by the Bidder;
  - b. The Schedule of requirements;
  - c. The technical Specification;
  - d. The General Conditions of Contract;
  - e. The Special Conditions of Contract;
  - f. The Procuring Agency’s Notification of award;
3. In consideration of the payments to be made by the Procuring Agency to the Supplier as hereinafter mentioned, the supplier hereby covenants with the Procuring Agency to provide the Goods and Services and to remedy defects therein in conformity in all respects with the provisions of this Contract.
4. The Procuring Agency hereby covenants to pay the Supplier in consideration of the provision of the Goods and Services and the remedying of defects therein, the Contract Price or such other sum as may become payable under the provisions of this contract at the time and the manner prescribed by this Contract.

IN WITNESS whereof the parties here to have caused this agreement to be executed in accordance with their respective laws the day and year first above written.

Signed, sealed, delivered by \_\_\_\_\_ the \_\_\_\_\_

(For the procuring agency)

Signed, sealed, delivered by \_\_\_\_\_ the \_\_\_\_\_

(For the supplier).

**18. PERFORMANCE SECURITY FORM**

To,

[Name of the Procuring Agency]

[Whereas name of Supplier] (hereinafter called “the Supplier”) has undertaken in pursuance of Contract No. [Number] dated [date] to supply [description of goods] (hereinafter called “the Contract”).

And whereas it has been stipulated by you in the said Contract that the Supplier shall furnish you with a Bank Guarantee by a reputable bank fore the sum specified therein as security for compliance with the Suppliers performance obligations in accordance with the Contract.

And whereas we have agreed to give the Supplier a Guarantee.

Therefore we hereby affirm that we are Guarantors and responsible to you on behalf of the Supplier up to a total of [amount of the Guarantee in words and figures] and we undertake to pay upon your first written demand declaring the Supplier to be in default under the Contract and without cavil or argument, any sum or sums within limits of [Amount of Guarantee] as aforesaid, without your needing to prove or to show grounds or reasons for your demand or the sum specified therein.

This guarantee is valid until the \_\_\_\_\_ day of \_\_\_\_\_ 20\_\_\_\_\_

Signature and seal of the Guarantors / Bank: \_\_\_\_\_

[Name of Bank or Financial Institution] \_\_\_\_\_

[Address] \_\_\_\_\_

[Date] \_\_\_\_\_

**19. MANUFACTURER’S AUTHORIZATION FORM**

To,

[Name of Procuring Agency]

[Tender No]

WHEREAS [name of the Manufacturer] who are established and reputable Manufacturers of [name and/or description of the goods] having factories at address of factory]

Do hereby authorize [name and address of Supplier/ Agent] to submit a bid, and subsequently negotiate and sign the Contract with you against IBF No.[Reference of the invitation to Bid] for the goods manufactured by us.

We hereby extend our full guarantee and warranty as per Clause 15 of the General Conditions of Contract for the goods offered for supply by the above firm against this Invitation for Bids.

---

[Signature for and on behalf of manufacturer]

Note:

This letter of authority should be on the letter head of the Manufacturer and Should be signed by a person competent and having the power of attorney to bind the Manufacturer. It should ne included by the bidder in its bid.

S#	Name of equipment with technical specification	Qty	CIF Price		FOR Price	
1	<p><b>HIGH END ULTRASOUND SYSTEM</b></p> <p>Monitor should be 19" flat panel display (Flicker free)  Vertical articulation range: 8 to 100cm  Left/Right swivel articulation: ±38°  Vertical articulation range: 8 to 100cm  Monitor Screen resolution: 1280x1024  Contrast ratio: 800:1  System should be light weight  DICOM ready  Transducer ports: min 03  Hard disk capacity: 1.5 T Byte  Image storage capacity: min 600,000  Read/write CD-R/DVD-R  UBS ports: min 02  BW printer  FDA &amp; CE approved</p> <p><b>Imaging Modes</b>  2D and Tissue Harmonic Imaging (THI)  B mode with frame rate Up to 1000 fps  3D &amp; 4D Imaging  Color Doppler Velocity  Color Doppler Energy  M-mode  M-mode and Tissue Harmonic Imaging (THI)  M-mode and Color Doppler Velocity  PW Doppler</p> <p><b>Beamforming in 2D Imaging</b>  More than 50,000 processing channels  System dynamic range : 210 dB or better  Depth display range: 0.5 to 30 cm  Volume Rates: min 30 vps</p> <p><b>2D Image Processing</b>  Display dynamic range: 30 – 90 dB  field-of-view range: from 15 to 90°  Image zoom: 10x</p> <p><b>Color Doppler Velocity / Color Doppler Energy</b>  Max Color Frame Rate: min 210 fps</p>	01	Unit Price	Total Price	Unit Price	Total Price

Gain: -20 to 20 dB in 1 dB increments

**Display Details**

2D/C mode, dual 2D/C mode, live dual 2D/C

2D/C/D mode (simultaneous triplex),

2D/C/D mode (update)

2D/CDV/ Color Doppler M-mode

2D/DTI– for fetal echo

2D/DTI/PW DTI–for fetal echo

2D/DTI/Color Doppler M-mode – for fetal echo

**Pulsed Wave Doppler**

PW Sweep Speed: Up to five

PW Maps: Up to eight

Display dynamic range: 30 to 60 dB in 5 dB increments

Gain: 0 to 90 dB in 1 dB increments

Display formats: 04

DTI Doppler tissue imaging should include:

DTI Velocity (DTV) capability

DTI Acceleration (DTA) capability

DTI Energy (DTE) capability

DTI capability in color Doppler M-mode

Multi-frequency probes

**Intraoperative L shaped probe**

Frequency range: 5 – 14 MHz

FoV 61 mm; 40 degree

Max. Disply depth : 6 cm

compatible with the STERRAD Sterilization System

Multiple frequencies for all modes 2D, M-mode, Harmonics, Color Doppler (CDV and CDE), and PW Doppler

Exam Types: Vascular and General Surgery, breast, small parts and musculoskeletal imaging

**Linear probe**

Frequency range: 4 – 9 MHz

depth up to 140 mm

variable 2D frequencies

variable THI frequencies (independently)

variable Color Doppler frequencies (independently)

variable PW frequencies (independently)

variable Contrast frequencies (independently)

Exam Types: Breast, Cerebrovascular, Fetal Echo, Musculoskeletal, OB/GYN, Pediatric Abdomen, Pediatric Hip,

Pelvis, Penile, Peripheral Vascular, Testicle, Thyroid

**CONVEX 4D Transducer**

	<p>Frequency range: 1 – 7 MHz  depth up to 300 mm  variable 2D frequencies  variable THI frequencies (independently)  variable Color Doppler frequencies (independently)  variable PW frequencies (independently)  Exam Types: Abdomen, Fetal Echo, OB/GYN, Pelvis, Renal  Complete Cardiac imaging SW with dedicated transducer  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
2.	<p><b><u>VIDEO PROCESSOR HD + WITH INTEGRATED AUDIO &amp; VIDEO RECORDING AND INTEGRATED LIGHT SOURCE 300 WATT XENON COMPLETE ACCESSORIES.</u></b>  <b>High Definition (HD+) Video Processor with Full G.I Scan management, with Integrated audio and video recording</b>  <b>Progressive Scanning Capability Latest &amp; Built-in integrated 300 Watt Xenon light source:</b>  High Definition HD+ images for a clear and more detailed visualization  System should be HD+ Digital Video and Image Processor  Digital Image Enhanced technology functions  Built on a computer-based platform  Direct typing on monitors, White Balance Adjuster  Lever lock mechanism  Digital signal processing.  Dynamic range expansion.  Freeze Scan.  Twin Mode white light and enhanced G.I scanning image can be displayed simultaneously to support detection and demarcation.  Picture in Picture , Electronic Zoom function  Full G.I Scan Management with post processing technology  Surface enhancement  Contrast enhancement  Tone Enhancement  Multimodal image enhancement technology to diagnose the gastro, colon, esophago, Pit pattern, Barrett’s &amp; vasculature  Integrated <b>Video assisted LCD Touch Screen</b> interface panel for controlling all the functions of endoscopic video processor.  Integrated HD+ Video recorder.(Video, Audio and image)  Micro phone for recording of audio.</p>	01 each				



User interface: keyboard, touch screen and Scope buttons.

**Light Source:**

300 Watt Xenon Light source

**Video Outputs:**

HD+ video outputs (wide screen) HD-SDI (2), DVI (1)

Standard video outputs RGB, Y/C, Composite

**Pump:**

Level Settings: 5 (+1 to +5)

**Brightness Control**

Electronic Shutter & Xlum Mode

Auto Mode: Average/Peak 11 steps (-5 to -1, 0, +1 to +5)

Manual: 11 steps (-5 to -1, 0, +1 to +5)

**Color Balance:**

Blue: 11 steps (-5 to -1, 0, +1 to +5)

Red: 11 steps (-5 to -1, 0, +1 to +5)

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**HIGH DEFINITION GASTROINTESTINAL VIDEO SCOPE (ADULT) WITH PROVISION OF LATEST TECHNOLOGY G.I SCAN**

High Definition & High Performance Gastrointestinal Video Scope (Adult) with provision of Latest technology G.I Scanning.

Extra ordinary HD+ Image

Excellent therapeutic options within the slimmest diameter

Full vision technology

Close focus for detailed examination and close visualization of mucosa

180° axially rotatable connector head for user safety and maneuverability

Scope should have single connector for Light source and Video processor.

Tone Enhancement for Gastro & Pit patterns (TE-G) (TE-P) Via I-scan.

Scope should have remote control assignment for I-scan functions.

Forward Water Jet System

Angle of View 140°

Depth of field 2-100 mm

Channel Diameter 3.2 mm

Insertion Tube Diameter not less than 9.8 mm

Angulations (Up/Down) 210°/120°

Angulations (Right/Left) 120°/120°

Working Length 1050 -1100 m

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**HIGH DEFINITION RETRO VIEW COLONO VIDEO SCOPE ADULT WITH G.I SCAN IMAGING TECHNOLOGY**

<p>High Definition Colono Video Scope (Adult) with provision of Latest technology G.I Scan  Extra ordinary HD+ Image  Retroview colonoscope with 210° upward movement  Excellent maneuverability due to smaller bending radius  Retro flex view enables you to visualize behind the colonic folds  Full vision technology  180° axially rotatable connector head for user safety and maneuverability  Scope should have single connector for Light source and Video processor.  Tone Enhancement for Gastro, Pit patterns &amp; Vasculature (TE-G) (TE-P) (TE-V) Via G.I Scan.  Scope should have remote control assignment for I-scan functions.  Forward Water Jet System  Angle of View 140°  Depth of field 3-100 mm  Channel Diameter 3.2 mm  Insertion Tube Diameter 11.6 mm  Angulations (Up/Down) 210°/180°  Angulations (Right/Left) 160°/160°  Working Length 1700 - 1750 mm  <b>Balloon Catheter Qty 10</b>  Single Balloon assisted deep ileoscopy  Work with your standard endoscope, implemented the working channel of the endoscope, easy &amp; intuitive to use  Catheter length: 3500 mm, balloon diameter: 40 mm  Inflated balloon set pressure: 60 mbar  <b>Air Supply Unit Qty 01</b>  Support for One / Two balloons for GI Endoscopy  Technology: Pressure / vacuum pumps  Pressure set point 60 ± 10 mbar  4 safety mechanism  User interface: double foot pedal , 5 indications light  Country of Origin: Japan / USA  <b>Pediatric Video Gastro Scope</b>  Transnasal Video Gastroscope , Full vision technology  180° axially rotatable connector head for user safety and maneuverability  Scope should have single connector for Light source and Video processor.  Scope should have remote control assignment for I-scan functions.  Angle of View 140°  Depth of field 4-100 mm  Channel Diameter 2.0 mm  Insertion Tube Diameter 5.4 mm</p>					
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Angulations (Up/Down) 210°/120°  
 Angulations (Right/Left) 120°/120°  
 Working Length 1100 – 1150 mm  
**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**  
**HIGH DEFINITION PEDIATRIC VIDEO COLONO SCOPE WITH LATEST G.I SCAN**  
 High Definition Ultra Slim Colono Video Scope (Pediatric) with provision of Latest technology G.I Scan  
 Extra ordinary HD+ Image  
 Full vision technology  
 180° axially rotatable connector head for user safety and maneuverability  
 Scope should have single connector for Light source and Video processor.  
 Tone Enhancement for Gastro, Pit patterns & Vasculature (TE-G) (TE-P) (TE-V) Via G.I Scan  
 Smallest diameter for easy maneuvering  
 Scope should have remote control assignment for I-scan functions.

Forward Water Jet System  
 Angle of View 140°

Channel Diameter 2.8 mm  
 Insertion Tube Diameter 9.8 mm  
 Angulations (Up/Down) 180°/180°  
 Angulations (Right/Left) 160°/160°  
 Working Length 1700 - 1750 mm

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**  
**HIGH FREQUENCY CAUTERY UNIT WITH ENDOSCOPIC ACCESSORIES COMPATIBLE**

Monopolar cutting 1 (pure)  
 Cutting current allowing smooth, scab-free cuts  
 Monopolar cutting 2 (blend)  
 Cutting current allowing a smooth cut with little scab formation  
 Endo-Mode  
 Time-controlled cutting mode  
 Monopolar contact coagulation  
 Coagulation current with deep-reaching effects; electrode in  
 Direct contact with the tissue. Particularly suitable in TUR  
 Endo-Pulse mode : 100 WATT  
 General mode : 400 Watt : Blend 1  
 Monopolar spray coagulation  
 For surface coagulation (fulguration). This type of current is particularly suitable for haemostatic purposes when performing  
 Standard Accessories :  
 HF-cable plug for endoscopic instruments  
 Earth Plate for endoscopy

Foot switch

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**PERISTALTIC FLUSHING PUMP**

- » Adjustable flow rate approx.: 470 - 1200 ml
- » Activate pump by hand-switch
- » Continuous using via foot-switch
- » Water bottle autoclavable
- » Safety interruption on water deficiency to avoid air-insufflation

Power supply: 230V / 50 Hz

Country of Origin: USA / Europe / Japan

**CARDIAC OUTPUT MONITOR LATEST VERSION:-**

**Parameters:**

ECG, NIBP, SPO2, RESP, HR, 2 x Temp, 2 x IBP

- » 12.1" Full Colour LCD/TFT Display
- » Touch-Screen Operation
- » 6 Waveforms & 7 Numeric Display Zones
- » Adult & Paediatric Operating Modes
- » Defibrillator Protection
- » Electro-Surgical Interference Protection
- » Pacemaker Detection
- » ST-Segment Analysis
- » Arrhythmia Detection & Analysis
- » Waveform Trace Speeds of 6.25, 12.5 and 25.0 mm/sec

**» ECG:**

- » Lead Selection: I, II, III, V, aVL, aVR, and aVF
- » Automatic Lead Selection
- » ECG Waveform and Numeric Heart Rate
- » Waveform sweep speeds 6.25, 12.5 & 25.0 mm/sec
- » Lead off detection, alarms on lead failure
- » Heart Beat Indication with QRS Beeps

**» Respiration:**

- » Waveform & Numeric Display
- » Waveform Sweep Speed 6.25, 12.5 & 25.0 mm/sec

**» NIBP:**

- » Oscillometric Measurement in mmHg
- » Automatic & Manual Measuring Modes
- Numeric Display for Systolic, Diastolic and Mean Pressures

- » Selectable Automatic Measurement/Inflate Intervals, adjustable at 3, 4, 5, 10, 15, 30, 60, 90, 120 and 240 minutes

- » Automatic Cuff Deflation
- » Over pressure protection
- » Rising Cuff/Continuous Pressure Display
- » **Temperature:**
- » Numeric Display in °C or °F
- » Display Parameters of T1, T1 and DT (Delta T) when using both channels
- » **SpO2:**
- » Massimo SpO2
- » Measurement Range from 1% to 100%
- » Pulse Rate from 25 to 300BPM
- » Waveform and Numeric Display
- » Waveform Sweep Speeds of 6.25, 12.5 & 25.0 mm/sec
- » **Alarms:**
- » User adjustable High & Low settable on all parameters
- » Visual and Audio Indication of Alarms
- » **Other Features:**
- » 120 Hours of Trends
- » Network Capability
- » Original Wall Mounting
- » Built-in rechargeable battery with charger, Battery backup of 5 Hours on AC failure
- » Complete System Including 2 x 3 Lead ECG Cable, 2 x NIBP Cuff with Hose (Adult), Skin & Rectal Temperature Probes, Reusable SpO2 Sensor (Adult), NIBP Cuff with Hose (Adult), and all other allied accessories including Operating & Service Manuals.

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**SUCTION MACHINE**

Reciprocating, oil free pump & piston mechanism.  
 Heavy duty Mobile Suction Unit with twin jars of capacity up to 4 or 5 liters each, autoclavable.  
 Aspiration rate up to 30 or more liters /minutes at 650-900mm.Hg. Vacuum continuously adjustable  
 10X bacterial filter  
 Footswitch  
 Complete aspiration set  
 220V/50Hz. I Phase  
 Trolley with lockable wheels.  
 Efficient and powerful – 30 liters per minute – the most precise among suction pumps  
 Fast – vacuum build-up to 85kPa  
 Safe – incorporates “3guard” protective technology  
 Whisper quiet – 42dBA at maximum vacuum  
 Low maintenance – incorporates “Low Friction“ Piston/Cylinder-technology

Compatible with Connectors of Flexible endoscopic system.  
**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**HIGH DEFINITION MEDICAL GRADE LED DISPLAY**

26 Inch Screen Size

Aspect ratio: 16:9

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**TROLLEY IMPORTED WITH ALLIED COMPONENTS**

Imported Cart for endoscopic system

Keyboard tray, shelf for system , endoscope hanger

Drawer for accessories, integrated socket

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**CUPBOARD FOR ENDOSCOPE (IMPORTED)**

Imported Endoscope hanging cupboard

Scope capacity: 5 endoscope

Vertical hangers, scope holders with pull out hanging rails

Manual push button per scope position

Door access: Via PIN Keyboard

Glass door panel

HEPA filter air through chamber and internal endoscopic channels

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**PATIENT TROLLEY / PATIENT ENDOSCOPIC COUCH**

Dedicated examination/procedure couch for endoscopy

3 sectioned examination couch

Electrically Operated

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**RECORDING SYSTEM / PATIENT REPORTING SYSTEM**

Latest Configured computers for procedure recordings & patient recording

Laser Color Printer

Locally Supplied

**ERCP ROOM**

**High Definition (HD+) Video Processor with Full G.I Scan management, with Integrated audio and video recording**

**Progressive Scanning Capability Latest & Built-in integrated 300 Watt Xenon light source:**

High Definition HD+ images for a clear and more detailed visualization

<p>System should be HD+ Digital Video and Image Processor  Digital Image Enhanced technology functions  Built on a computer-based platform  Direct typing on monitors, White Balance Adjuster  Lever lock mechanism  Digital signal processing.  Dynamic range expansion.  Freeze Scan.  Twin Mode white light and enhanced G.I scanning image can be displayed simultaneously to support detection and demarcation.  Picture in Picture , Electronic Zoom function  Full G.I Scan Management with post processing technology  Surface enhancement  Contrast enhancement  Tone Enhancement  Multimodal image enhancement technology to diagnose the gastro, colon, esophago, Pit pattern, Barrett’s &amp; vasculature  Integrated <b>Video assisted LCD Touch Screen</b> interface panel for controlling all the functions of endoscopic video processor.  Integrated HD+ Video recorder.(Video, Audio and image)  Micro phone for recording of audio.  User interface: keyboard, touch screen and Scope buttons.  <b>Light Source:</b>  300 Watt Xenon Light source  <b>Video Outputs:</b>  HD+ video outputs (wide screen) HD-SDI (2), DVI (1)  Standard video outputs RGB, Y/C, Composite  <b>Pump:</b>  Level Settings: 5 (+1 to +5)  <b>Brightness Control</b>  Electronic Shutter &amp; Xlum Mode  Auto Mode: Average/Peak 11 steps (-5 to -1, 0, +1 to +5)  Manual: 11 steps (-5 to -1, 0, +1 to +5)  <b>Color Balance:</b>  Blue: 11 steps (-5 to -1, 0, +1 to +5)  Red: 11 steps (-5 to -1, 0, +1 to +5)  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p> <p><b>HIGH DEFINITION ERCP SCOPE WITH LATEST G.I SCAN WITH DETACHABLE CAP</b></p>					
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High Definition ERCP / Duodeno Scope  
 Must be of latest series and High Definition With detachable cap.  
 FVT (Full Vision Technology)  
 Scope should have 10° -15° oblique movement /Retrograde.  
 180° Anti loop connector  
 Wide range of Treatment should be possible  
 Treatment applications in endoscopic sphincterotomy (EST), endoscopic retrograde biliary drainage (ERBD), lithotripsy  
 Elevator control wire within the scope  
 Channels are brush able  
 Distal cap should be detachable or equivalent for decontamination.  
 Depth of field 4-60mm  
 Angle of View 100° (10° retro)  
 Channel Diameter 4.2 mm  
 Rigid Distal Width 13.0 mm  
 Insertion Tube Diameter 11.6 mm  
 Angulations (Up/Down) 120° - 130° / 90° - 100°  
 Angulations (Right/Left) 100° - 105° / 90° - 100°  
 Working Length 1250 mm  
**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**CARDIAC OUTPUT MONITOR LATEST VERSION:-**

**Parameters:**

- ECG, NIBP, SPO2, RESP, HR, 2 x Temp, 2 x IBP
- » 12.1" Full Colour LCD/TFT Display
- » Touch-Screen Operation
- » 6 Waveforms & 7 Numeric Display Zones
- » Adult & Paediatric Operating Modes
- » Defibrillator Protection
- » Electro-Surgical Interference Protection
- » Pacemaker Detection
- » ST-Segment Analysis
- » Arrhythmia Detection & Analysis
- » Waveform Trace Speeds of 6.25, 12.5 and 25.0 mm/sec
- » **ECG:**
- » Lead Selection: I, II, III, V, aVL, aVR, and aVF



- » Automatic Lead Selection
- » ECG Waveform and Numeric Heart Rate
- » Waveform sweep speeds 6.25, 12.5 & 25.0 mm/sec
- » Lead off detection, alarms on lead failure
- » Heart Beat Indication with QRS Beeps
- » **Respiration:**
- » Waveform & Numeric Display
- » Waveform Sweep Speed 6.25, 12.5 & 25.0 mm/sec
- » **NIBP:**
- » Oscillometric Measurement in mmHg
- » Automatic & Manual Measuring Modes
- » Numeric Display for Systolic, Diastolic and Mean Pressures
- » Selectable Automatic Measurement/Inflate Intervals, adjustable at 3, 4, 5, 10, 15, 30, 60, 90, 120 and 240 minutes
- » Automatic Cuff Deflation
- » Over pressure protection
- » Rising Cuff/Continuous Pressure Display
- » **Temperature:**
- » Numeric Display in °C or °F
- » Display Parameters of T1, T1 and DT (Delta T) when using both channels
- » **SpO2:**
- » Massimo SpO2
- » Measurement Range from 1% to 100%
- » Pulse Rate from 25 to 300BPM
- » Waveform and Numeric Display
- » Waveform Sweep Speeds of 6.25, 12.5 & 25.0 mm/sec
- » **Alarms:**
- » User adjustable High & Low settable on all parameters
- » Visual and Audio Indication of Alarms
- » **Other Features:**
- » 120 Hours of Trends
- » Network Capability
- » Original Wall Mounting
- » Built-in rechargeable battery with charger, Battery backup of 5 Hours on AC failure
- » Complete System Including 2 x 3 Lead ECG Cable, 2 x NIBP Cuff with Hose (Adult), Skin & Rectal Temperature Probes, Reusable SpO2 Sensor (Adult), NIBP Cuff with Hose (Adult), and all other allied accessories including Operating & Service Manuals.

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**SUCTION MACHINE HEAVY DUTY**

Reciprocating, oil free pump & piston mechanism.  
Heavy duty Mobile Suction Unit with twin jars of capacity up to 4 or 5 liters each, autoclavable.  
Aspiration rate up to 30 or more liters /minutes at 650-900mm.Hg. Vacuum continuously adjustable  
10X bacterial filter

Footswitch

Complete aspiration set

220V/50Hz. I Phase

Trolley with lockable wheels.

Efficient and powerful – 30 liters per minute – the most precise among suction pumps

Fast – vacuum build-up to 85kPa

Safe – incorporates “3guard” protective technology

Whisper quiet – 42dBA at maximum vacuum

Low maintenance – incorporates “Low Friction“ Piston/Cylinder-technology

Compatible with Connectors of Flexible endoscopic system.

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**HIGH DEFINITION MEDICAL GRADE LED DISPLAY**

26 Inch Screen Size

Aspect ratio: 16:9

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**TROLLEY IMPORTED WITH ALLIED COMPONENTS**

Imported Cart for endoscopic system

Keyboard tray, shelf for system , endoscope hanger

Drawer for accessories, integrated socket

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**X- RAY VIEWER**

Imported X-Ray Viewer

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**PATIENT TABLE**

Dedicated examination/procedure couch for endoscopy

3 sectioned examination couch

Electrically Operated

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**CUPBOARD FOR ENDOSCOPE (IMPORTED)**

Scope capacity: 5 endoscope

Vertical hangers, scope holders with pull out hanging rails

Manual push button per scope position

Door access: Via PIN Keyboard  
Glass door panel  
HEPA filter air through chamber and internal endoscopic channels  
**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**RECORDING SYSTEM / PATIENT REPORTING SYSTEM**

Latest Configured computers for procedure recordings & patient recording  
Laser Color Printer  
Locally Supplied

**ENDOSCOPIC ULTRASOUND GASTRO SCOPE (RADIAL)**

High Resolution Color CCD scope, CCD Chip should be on scope tip  
360° electronic radial-array ultrasound transducer  
Ultrasound connector should fully immersible  
Capable of 5 – 10 MHz ultrasound frequencies and a wide spectrum of imaging layers  
Scope should have the facility of Sono Elastography  
Scope should have Screening Endoscopy feature  
180° axially rotatable connector head for user safety and maneuverability  
3 way air / water valve for air & water insufflation  
Scope should provide the full screen image on LCD  
Scan system (Radial)  
Scan angle (360 °)  
Scan Mode (B-mode/COLOR DOPPLER)  
Acoustic frequency (MHZ) 5-10  
Field of View 140°  
Forward Viewing  
Range of observation 4-100  
Angulations up 130° Down 60° Right 60° Left 60°  
Insertion Tube Diameter 12.1 mm  
Distal width Probe 12.0 mm  
Distal width optic 12.0 mm  
Channel Diameter 2.4mm  
Working Length (mm) 1250

**Biopsy Probe**

A Wide Band dedicated Biopsy Probe (5.0-2.0Mhz) which has through crystal biopsy  
Slit. Needleless of 14G to 23G can be used It is possible to soak the entire probe in liquid  
sterilants by using its optional water proof case.

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**ENDOSCOPIC ULTRASOUND GASTRO SCOPE (LINEAR)**

High Resolution Color CCD scope, CCD Chip should be on scope tip

120° electronic ultrasound transducer  
Color chip CCD which provides full-screen vivid endoscopic images  
Ultrasound connector should fully immersible  
Capable of 5 - 10 MHz ultrasound frequencies and a wide spectrum of imaging layers  
Scope should have the facility of Sono Elastography  
Real-Time Ultrasound Guided Fine Needle Aspiration Biopsy (FNA) Pulsed  
Scope should have Screening Endoscopy feature  
Color Doppler Imaging Elevator Controls for Accessories  
180° axially rotatable connector head for user safety and maneuverability  
3 way air / water valve for air & water insufflation  
Full vision technology  
Scan direction (Longitudinal)  
Scan system (Convex)  
Scan angle (120 °)  
Scan Mode (B-mode/COLOR DOPPLER)  
Acoustic frequency (MHZ) 5-10  
Field of View 120°  
Forward oblique 50°  
Range of observation 5-100 mm  
Angulations up 130° Down 130° Right 120° Left 120°  
Insertion Tube Diameter 10.8 mm  
Distal width Probe 11.5 mm  
Distal width optic 12.0 mm  
Channel Diameter 2.8 mm  
Working Length 1250 mm  
Scan direction: Longitudinal

**Trans abdominal Probe or Equivalent fibro scan**  
A wide band linear probe (7.2-3.0 MHz, 38mm FOV) designed for observation of deep area. This probe has good Doppler sensitivity in deep area. With software of fibrosis and cirrhosis detection  
**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**HD LATEST DIGITAL COLOR DOPPLER FULL BODY ULTRASOUND SCANNER WITH REAL TIME ELASTOGRAPHY FOR ENDOSCOPIC ULTRASOUND**  
Digital Colour Ultrasound Scanner for endoscopic examination. Fully digital beam former and Compound Pulse Wave Generator with broad band harmonics. Trolley based system.  
**Operating Modes:**  
2D, M and Combination, Power Doppler, Spectral Doppler, Colour Doppler, 3D, Live 3D.  
**Image:**  
Full screen split and dual select screen formats.

**Computing System:**

Computer with alpha numeric key board and built-in trackball.  
Key board freeze facility including foot switch control.  
Dynamic range 90 dB  
High Resolution 17" LCD Color monitor or larger  
Digital acquisition, storage and review of complete ultrasound studies with built in hard disk.  
The studies can be stored on to CD or DVD.  
DICOM compatible.

**Measurements & Soft wares:**

Measurement of length, angle, distance, depth, area, circumference velocity and volume.  
Tissue Harmonic Imaging  
Echo Endoscopy ultrasoundgraphy (EUS)  
High Definition Tissue Harmonic Imaging mode  
HI Com function  
Trapezoidal display function  
HI REZ  
Fine Flow Function to display high frame rate & high Definition Doppler image  
HI Support  
Auto image optimization  
real time elastography  
programmable patient data management software  
system should be compatible with Gastroscope Linear & Radial

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**HQ PENDANT SYSTEM**

**The Endoscope systems should be mounted on High quality pendant system**

They should be ceiling pendants, specs are as follows:  
Pendants for each endoscopy room, two arm, three arm or four arms depending on the room size and requirement, with cable management system and media bridge. They should be able to handle large stacks of endoscopic equipment.  
They should have capability of attaching IV stands with the equipment stack.  
Pendant should be able to support equipment according to requirements of different rooms. (The final detailed user requirements will be fine-tuned after infrastructure survey by the endoscopy team and the vendor)  
Pendants should have max load capacity for 1000kg with capability to support following equipment:  
Light source for endoscopes  
Processor for endoscopes  
Cautery unit  
Insufflator unit  
Vital sign monitor  
EUS processors and light source

Suction unit if central suction is not available  
Two spare electrical outlets should be available also  
They should have multiple electric outlets with spark free imported switches, suction, and outlet for medical gases and connectivity for Data Port.  
They should have capability of mounting monitor screens, capability to expand and reduce shelves, and preferably with capability to dock with the mobile trolley system.

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**RESUSCITATION TROLLEY**

**Emergency Cart, w/break-away lock, 37",**

**Drawers:**

Drawer: 3" drawer x 3 + 6"Drawer x 2 + 9"Drawer x 1

Casters: 5" Plastic TPR Casters

**Caster Function Options**

TPR Twin Wheel Caster (Φ: 125 x74mm)

Central Key Lock

Drawer rail function: Auto-return

With locking bar

Should include the following:

3" (3 x1), 6" (6 x1) Drawer divider, magnetic label & plastic seals.

Magnetic label holder X 5 pcs

Plastic seals in red (50pcs / pack)

**Should include the following accessories:**

- I.V. Pole
- Stainless steel Defibrillator Shelf
- Suction unit
- CPR Cardiac Board (440x510x10mm)  
Should be of Macromolecular Polymer and easy to clean.
- Oxygen Tank Holder (145x125x403mm)  
Adjustable ties securely fasten the oxygen tank.

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**CO2 INSUFFLATOR VERSATILE SYSTEM**

Operating modes: Low, Medium & High

One button start stop operation

Completed with functional accessories

Cylinder hose

Gas Tube

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**LATEST DIGITAL FLOROSCOPY ( IMAGE INTENSIFIER FOR ERCP ) WITH COMPLETE ACCEROSIES C-ARM FLOUROSCOPY FOR ERCP.**

FDA Approval with K number/ CE marking with MDD compliance/ JIS

The C-arm needs to be capable of performing fluoroscopy / radiography during procedures on the body for all patient sizes.

**Operational Requirements**

Should be a mobile unit including C-Arm and image processing/viewing system with large wheels for easy transportation and with easy maneuverability.

**Technical Specifications**

The system shall be equipped with cable pushers on the C-Arm wheels so that cables lying on the floor will not limit the C-Arm movements.

The C-Arm shall have a minimum distance of 90 cm between the source & image receptor to facilitate larger imaging space and clearance around the patient/table.

The system shall allow interchanging the positions of x-ray tube and imaging system.

The C-Arm shall be able to rotate  $\pm 180^\circ$  to allow the imaging chain to accomplish angled projections.

The system shall have vertical C-Arm travel capability (preferably 16" or higher) to adjust the imaging chain height.

**Movements:**

Orbit Rotation motor driven or manual, Multiple Angulations, with provision to take orthogonal views of the application from multiple angulations, Horizontal Travel, Swivel travel, Free Space, Electromagnetic brakes for precise positioning of the arms

**X-Ray Tube:**

The x-ray tube shall be preferably rotating anode type.

**Dual focal spots**

Higher anode heat storage capacity would be preferred. (Please specify)

Higher anode cooling capacity would be preferred. (Please specify)

**X-Ray Generator:**

Microprocessor controlled.

The generator shall be 15 KHz or higher frequency or DC converter type.

The power load shall be of not less than 2 KW and KVp Range: 40 – 110

KV, Radiographic Current: 20 mA or higher, Fluoroscopic Current: 0.2 – 15 mA.

The mAs range in radiographic mode shall be of minimum 120 mAs.

motorized Collimator system: Shutters - Iris Diaphragms

Laser localizer beam

Cine +LIH

**Image Intensifier System:**

Image intensifier based panel for x Ray Imaging

The image intensifier shall be at least 9 inch to have wide coverage.

DQE @ 65%

CCD CAMERA

Resolution Active pixel 1024 × 1024  
 minimum 10 bits ,25frames /s  
 Contrast resolution 1024 grey level  
 The image intensifier shall be equipped with a grid with 8:1 ratio.or better  
 The system shall be equipped with a high resolution of minimum 1k x 1k imaging chain.  
 Image display shall be minimum 17” high resolution TFT black &white monitor medical grade. TFT resolution 1280x1024, (02 monitors.)  
 Radiographic Film Cassette Holder :detachable  
 Offer should include complete spare parts kit for the C-arm. The list of items to be supplied should be included.  
**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**DISINFECTION SYSTEM**

**IMPORTED LEAKAGE TESTER INTEGRATED WITH DISINFECTION SYSTEM**

Leakage test takes place throughout the duration of the reprocessing activity  
 Pre cleaning with doses of at least 1% can be selected in the program menu  
 Irrigation after pre cleaning, time selectable from 1 min. – 60 min. Repeat irrigation, time selectable from 1 min. – 60 min.  
 Disinfection time selectable from 1 min. – 60 min.  
 Neutralization time selectable from 1 min. – 60 min.  
 Password protected menu  
 Process-specific parameters can be selected  
 Electronic pressure and through-flow monitoring for each individual channel  
**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**Ultrasonic cleaner**

High performance 37kHz sandwich transducer systems  
 Cleaning tank made of cavitation-resistance stainless steel, LED-Display, showing set and Remaining time of cleaning period. Turning knob for setting continued and short-period operation from 1 - 30 min. Sweep function for an optimised sound field, degas function for efficient degassing cycles, dry-run protected heating. Turning knob for tank drainage  
 capacity: 6.9 Liters  
**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

**IGH FREQUENCY ARGON-BEAMER SYSTEM WITH ENDOSCOPE COMPLETE  
 HIGH FREQUENCY CAUTERY UNIT WITH ENDOSCOPIC ACCESSORIES COMPATIBLE**

Monopolar cutting 1 (pure)  
 Cutting current allowing smooth, scab-free cuts



<p>Monopolar cutting 2 (blend)  Cutting current allowing a smooth cut with little scab formation  Endo-Mode  Time-controlled cutting mode  Monopolar contact coagulation  Coagulation current with deep-reaching effects; electrode in  Direct contact with the tissue. Particularly suitable in TUR  Endo-Pulse mode : 100 WATT  General mode : 400 Watt : Blend 1  Monopolar spray coagulation  For surface coagulation (fulguration). This type of current is particularly suitable for haemostatic purposes when performing  Standard Accessories :  HF-cable plug for endoscopic instruments  Earth Plate for endoscopy  Foot switch  Country of Origin: USA / Europe / Japan  Flow rate increments 0.1 to 12 l/min (measured at the distal end of the applicator) Resolution (l/min) 0.1 to 1 l / 0.2 to 3 l / 0.5 to 5 l / 1 to 12 l Gas cylinder to be used 5 l or 10 l , Max. Gas-cylinder pressure 200 bar Connection to central gas supply system: min. supply pressure 2.5 bar max. supply pressure 4.5 bar Minimum purity of argon gas 99.998%  Dimensions 405 x 135 x 380 mm (W x H x D) Weight 6.9 kg Classification of unit and accessories II b Approval/mark of conformity CE 0297, in compliance with 93/42/EEC  Accessories needed with.  Force Argon Qty : 01  HF connection cable Qty : 01 No  Interface cable: Qty: 01 No.  Double foot switch Qty : 01  Sterile filter.  micron internal filter ( Built in with system)  1.2 micron external filter ( Sterile pack with argon hand set)  Cylinder with pressure and connection Line  <b><u>HIGH FREQUENCY CAUTERY UNIT WITH ENDOSCOPIC ACCESSORIES COMPATIBLE</u></b>  Monopolar cutting 1 (pure)  Cutting current allowing smooth, scab-free cuts  Monopolar cutting 2 (blend)  Cutting current allowing a smooth cut with little scab formation  Endo-Mode  Time-controlled cutting mode  Monopolar contact coagulation</p>					
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Coagulation current with deep-reaching effects; electrode in Direct contact with the tissue. Particularly suitable in TUR  
 Endo-Pulse mode : 100 WATT  
 General mode : 400 Watt : Blend 1  
 Monopolar spray coagulation  
 For surface coagulation (fulguration). This type of current is particularly suitable for haemostatic purposes when performing  
 Standard Accessories :  
 HF-cable plug for endoscopic instruments  
 Earth Plate for endoscopy  
 Foot switch  
 Country of Origin: USA / Europe / Japan  
 Flow rate increments 0.1 to 12 l/min (measured at the distal end of the applicator) Resolution (l/min) 0.1 to 1 l / 0.2 to 3 l / 0.5 to 5 l / 1 to 12 l Gas cylinder to be used 5 l or 10 l , Max. Gas-cylinder pressure 200 bar Connection to central gas supply system: min. supply pressure 2.5 bar max. supply pressure 4.5 bar Minimum purity of argon gas 99.998%  
 Dimensions 405 x 135 x 380 mm (W x H x D) Weight 6.9 kg Classification of unit and accessories II b Approval/mark of conformity CE 0297, in compliance with 93/42/EEC  
 Accessories needed with.  
 Force Argon Qty : 01  
 HF connection cable Qty : 01 No  
 Interface cable: Qty: 01 No.  
 Double foot switch Qty : 01  
 Sterile filter.  
 micron internal filter ( Built in with system)  
 1.2 micron external filter ( Sterile pack with argon hand set)  
 Cylinder with pressure and connection Line

**ENDOSCOPY ACCESSORIES ITEMS**

Qty

**1. DOUBLE PIGTAIL PLASTIC BILIARY STENTS**

- |                                                              |    |    |
|--------------------------------------------------------------|----|----|
| a. Double Pigtail Plastic biliary pigtail stents 7fr x 5cm   | 10 |    |
| b. Double Pigtail Plastic biliary pigtail stents 7fr x 10cm  |    | 5  |
| c. Double Pigtail Plastic biliary pigtail stents 7fr x 12cm  |    | 2  |
| d. Double Pigtail Plastic biliary pigtail stents 10fr x 5cm  |    | 20 |
| e. Double Pigtail Plastic biliary pigtail stents 10fr x 10cm | 2  |    |
| f. Double Pigtail Plastic biliary pigtail stents 10fr x 12cm | 1  |    |

**2. SOEHENDRA BILIARY PLASTIC STENTS**

- |                                           |   |  |
|-------------------------------------------|---|--|
| a. Soehendra biliaryt stent 8.5 fr x 7cm  | 3 |  |
| b. Soehendra biliaryt stent 8.5 fr x 9cm  | 3 |  |
| c. Soehendra biliaryt stent 8.5 fr x 10cm | 3 |  |

d.	Soehendra biliaryt stent 8.5 fr x 12cm	3					
e.	Soehendra biliaryt stent 10 fr x 7cm	3					
f.	Soehendra biliaryt stent 10 fr x 9cm	3					
g.	Soehendra biliaryt stent 10 fr x 10 cm	2					
<b>3.</b>	<b><u>PLASTIC BILIARY STENTS WITH SETS</u></b>						
a.	Plastic biliary stent sets 8.5 fr x 8 cm		1				
b.	Plastic biliary stent sets 8.5 fr x 9 cm		1				
c.	Plastic biliary stent sets 8.5 fr x 10 cm	1					
d.	Plastic biliary stent sets 8.5 fr x 12 cm	1					
e.	Plastic biliary stent sets 8.5 fr x 15 cm	1					
f.	Plastic biliary stent sets 10 fr x 8 cm	1					
g.	Plastic biliary stent sets 10 fr x 9 cm	1					
h.	Plastic biliary stent sets 10 fr x 10 cm	1					
i.	Plastic biliary stent sets 10 fr x 12 cm	1					
j.	Plastic biliary stent sets 10 fr x 15 cm	1					
<b>4.</b>	<b><u>PLASTIC BILIARY STENTS WITHOUT SETS</u></b>						
a.	Plastic biliary stent 7 fr x 7 cm	1					
b.	Plastic biliary stent 7 fr x 8 cm	1					
c.	Plastic biliary stent 7 fr x 9 cm	1					
d.	Plastic biliary stent 7 fr x 10 cm	1					
e.	Plastic biliary stents 7 fr x 12 cm	1					
f.	Plastic biliary stent 7 fr x 15 cm	1					
g.	Plastic biliary stent 8.5 fr x 7 cm	4					
h.	Plastic biliary stent 8.5 fr x 8 cm	4					
i.	Plastic biliary stent 8.5 fr x 9 cm	2					
j.	Plastic biliary stent 8.5 fr x 10 cm	2					
k.	Plastic biliary stent 8.5 fr x 12 cm	2					
l.	Plastic biliary stent 8.5 fr x 15 cm	2					
m.	Plastic biliary stent 10 fr x 7 cm	10					
n.	Plastic biliary stent 10 fr x 8 cm	10					
o.	Plastic biliary stent 10 fr x 9 cm	6					
p.	Plastic biliary stent 10 fr x 10 cm	6					
q.	Plastic biliary stent 10 fr x 12 cm	4					
r.	Plastic biliary stent 10 fr x 15 cm	2					
<b>5.</b>	<b><u>METALLIC BILIARY STENTS</u></b>						
a.	METALLIC BILIARY STENTS 10 x 60mm (covered)		8				
b.	METALLIC BILIARY STENTS 10 x 80 mm (covered)		8				
c.	METALLIC BILIARY STENTS 10 x 100 mm (uncovered)		4				
<b>6.</b>	<b><u>PANCREATIC STENTS</u></b>						

a. pancreatic stent only 7fr x 9cm	4				
b. pancreatic stent only 7fr x 7cm	4				
c. pancreatic stent only 7fr x 5cm	4				
d. pancreatic stent only 8.5fr x 9cm	4				
e. pancreatic stent only 8.5fr x 7cm	4				
<b>CANNULA</b>		14			
<b>7. ERCP CATHETER (BALL TIP)</b>					
ERCP CATHETER (ball tip)	2				
<b>8. ERCP CATHETER (TAPER TIP)</b>					
ERCP CATHETER (Taper Tip)	2				
<b>9. ERCP CATHETER (Standard Tip)</b>					
ERCP CATHETER (Standard Tip)		2			
<b>10. ERCP CATHETER (Glo Tip)</b>					
ERCP CATHETER (GLO TIP)	2				
<b>11. GL0 - TIP SPRAY CATHETER</b>					
GL0 - TIP SPRAY CATHETER		2			
<b>12. ERCP DOUBLE LUMEN CATHETER</b>					
a. 6FR/200CM CATHETER RADIO OPAQUE BAND		2			
b. ERCP SWING CATHETER	2				
<b>13. SPHINCTEROTOME</b>					
a. Triple lumen sphincterotome 25mm	7				
b. Triple lumen sphincterotome 30mm	2				
c. Double lumen sphincterotome 20mm	2				
d. Ultrataper sphincterotome 20mm	2				
e. Triple lumen sphincterotome 20 mm	2				
f. Triple lumen sphincterotome long nose 20 mm	2	2			
g. Triple lumen sphincterotome long nose 30 mm	2				
h. Triple lumen balloon sphincterotome short nose	3				
<b>14. NEEDLE KNIFE</b>					
a. guide wire straight 0.21/480cm	10				
b. guide wire straight 0.25/480cm	20				
c. guide wire straight 0.35/480cm	30				
<b>GLIDE WIRE</b>					
a. GLIDE WIRE 0.20 guage		2			
b. GLIDE WIRE 0.21 guage		2			
c. GLIDE WIRE 0.25 guage		3			
d. GLIDE WIRE 0.35 guage		3			
<b>17. SAVARY GILLIARD WIRE GUIDE</b>					
a. 200cm length,Savary Gilliard wire	1				

b. 250cm length,Savary Gilliard wire	1				
<b>18. BASKET</b>					
a. 4 wire soft basket 7fr/220cm 2x4cm	1				
b. 4 wire soft basket 7fr/220cm 2.5 x 5cm	3				
c. 4 wire soft basket 7fr/220cm 3 x 6cm	3				
d. 6 wire soft basket 7fr/220cm 2x 4cm	1				
e. 6 wire soft basket 7fr/220cm 3 x 6cm	1				
f. 8 wire soft basket 7fr/240cm 2 x 4cm	2				
g. 8 wire soft basket 7fr/240cm 3x 6cm	2				
<b>19. FOREIGN BODY RETRIEVAL BASKET</b>					
Double lumen extraction basket 8fr/200cm 2x4cm	3				
<b>20. WIRE GUIDED DORMIA BASKET</b>					
Double lumen extraction basket 8fr/200cm 2x4cm	5				
<b>21. Net Dormia basket</b>	2				
<b>22. Roth Net Basket</b>	2				
<b>23. LITHOTRIPTOR BASKET OF DIFFERENT SIZES AND SHAPES</b>					
a. Lithotriptor Basket 2.5cm	2				
b. Lithotriptor Basket 2 cm		1			
c. Lithotriptor Basket 3 cm		2			
<b>24. STENT RETRIEVAL BASKET (DEVICE)</b>			2		
<b>25 .EXTRACTOR BALOON</b>					
Tri-Ex multiple size radiopaque extractor balloon 7fr/200cm	40				
<b>27. PLASTIC NASOBILIARY DRAIN</b>					
a. Nasobiliary drainage set 7fr x 250 cm 5 sideholes	4				
b. Nasobiliary drainage set 7fr x 250 cm 9 sideholes	4				
c. Nasobiliary drainage set 8.5fr x 250 cm 5 sideholes	4				
d. Nasobiliary drainage set 10fr x 250 cm 5 sideholes	4				
e. Nasobiliary drainage set 10fr x 250 cm 9 sideholes	4				
<b>27. BIOPSY FORCEP</b>					
a. Nonspiked re-usable gastroscopy forcep (2.3 mm)	3				
b. Nonspiked re-usable gastroscopy biopsy forcep (1.8 mm)	2.				
c. Nonspiked re-usable colonoscopy biopsy forcep	3				
d. spiked re-usable gastroscopy forcep	1				
e. spiked re-usable colonoscopy biopsy forcep	1				
<b>28. HOT BIOPSY FORCEP</b>					
Colonoscopy Hot Biopsy Forcep		3			
<b>29. RAT TOOTH FORCEP</b>		2			
<b>30. CROCODILE FORCEP</b>		3			

<b>31. <u>TRIPOD forcep</u></b>	<b>2</b>				
Single-use 3 prongs grasping forcep 5.5 fr sheet CGF-1-240 colonoscope		3			
<b>32. <u>TRICLIP ENDOSCOPIC CLIPPING DEVICE (Disposable)</u></b>					
3 prong/12mm clip 7 fr catheter	30				
<b>33. <u>BICLIP ENDOSCOPIC CLIPPING DEVICE (Re-Usable)</u></b>					
a. Rotatable clip fixing device (EGD)	1				
b. Rotatable clip fixing device (Colonoscopy)	1				
c. Rotatable clip fixing device (ERCP)	1				
<b>34. <u>CLIPS</u></b>					
a. Long clip	40 pc/set				
b. Standard clip	40 pc/set				
c. Short clip	40 pc/set				
<b>35. <u>PEG TUBES</u></b>					
a. 18 Fr percutaneous endoscopic gastrostomy set	2				
b. 24 fr/5.5cm 150cm percutaneous endoscopic gastrostomy set	5				
c. 20 fr percutaneous endoscopic gastrostomy set	3				
<b>36. <u>BALLOON REPLACEMENT GASTROSTOMY TUBE</u></b>					
a. 18 fr Balloon replacement gastrostomy tube	1				
b. 20fr Balloon replacement gastrostomy tube	2				
c. 24 fr Balloon replacement gastrostomy tube	2				
<b>37. <u>GASTROSTOMY TUBE REPLACEMENT BUTTON</u></b>					
24 fr Passport low profile gastrostomy device	1				
24 fr Passport low profile gastrostomy device	1				
<b>38. <u>BAND LIGATOR</u></b>					
Esophageal varices band ligator MBL-6	25				
Esophageal varices band ligator 10 bands MBL-10	5				
Esophageal varices band ligator 6 bands on small barrel MBL-6-XS	10				
Esophageal varices band ligator 10 bands on small barrel MBL-10-XS	2				
Esophageal varices band ligator 6 bands on extra large barrel MBL-6-XL-C	5				
Esophageal varices band ligator 4 bands on extra large barrel MBL-4-XL-C	3				
<b>39. <u>ESOPHAGEAL STENT</u></b>					
Esophageal covered metallic stents of variable sizes					
Esophageal covered metallic stents 20mm x 10 cm	1				
Esophageal covered metallic stents 20mm x 12 cm	1				
Esophageal covered metallic stents 20mm x14cm	1				
<b>40. <u>ESOPHAGEAL UNCOVERED METALLIC STENTS OF VARIABLE SIZES</u></b>					
Esophageal uncovered metallic stents 20mm x 10 cm	1				
Esophageal uncovered metallic stents 20mm x 12 cm	1				
Esophageal uncovered metallic stents 20mm x 14 cm	1				

<b><u>41. ENTERAL METALLIC STENT</u></b>					
ENTERAL METALLIC STENT (25x60mm)		1			
ENTERAL METALLIC STENT (22x 60mm)		5			
ENTERAL METALLIC STENT (22 x 90 mm)		5			
ENTERAL METALLIC STENT (25 x 90 mm )	5				
ENTERAL METALLIC STENT (22 x 120 mm )		5			
ENTERAL METALLIC STENT (22 x 140 mm)	4				
<b><u>42. INJECTORS</u></b>					
Disposable injector 23Guage ( Pediatric)		10			
Disposable injector 23Guage ( Upper)		10			
Disposable injector 21Guage ( Upper)		10			
Disposable injector 23 Guage (Colon)		20			
<b><u>43. SENGSTAKEN BLAKEMORE</u></b>					
Sengstaken Esophageal varices tube blakemore type 18fr					
Sengstaken Esophageal varices tube blakemore type 16fr	1				
<b><u>44. GOLD PROBE</u></b>					
gold probe (Gastroscope)		1			
gold probe (colonoscope)		1			
<b><u>45. XENON BULB</u></b>		2			
<b><u>46. ARGON PLASMA COAGULATION PROBE</u></b>					
Argon Plasma Coagulation Probe (gastroscope)		5			
Argon Plasma Coagulation Probe (Colonoscope)		5			
<b><u>47. HEMOSTASIS LOOPS</u></b>					
Locking device		1			
<b><u>48. WIRE GUIDED LOCKING DEVICE</u></b>			1		
<b><u>49. CYTOLOGY BRUSH</u></b>					
2mm diameter brush Gastroscope		5			
3mm diameter brush Gastroscope		15			
3mm diameter brush colonoscope		5			
<b><u>50. SCOPE CLEANSING BRUSH</u></b>					
endoscopic cleansing brush double end brush		5			
endoscopic cleansing brush single end brush		10			
<b><u>51. SAVARY CLEANSING BRUSH</u></b>					
Savary cleaning brush 3mm/110cm		2			
<b><u>52. ACHALASIA BALLOON DILATORS</u></b>					
Achalasia balloon diameter 3.5 mm		1			
<b><u>53. BILIARY INFLATION DEVICE</u></b>					
Biliary balloon inflation device		1			
achlasia balloon inflation device		1			

CRE balloon inflation device	1					
<b><u>54. SOEHENNDRA BILIARY DILATORS</u></b>						
Soehenndra biliary dilation catheter 6fr /200cm	5					
Soehenndra biliary dilation catheter 7fr /200cm	3					
Soehenndra biliary dilation catheter 8.5 fr /200cm	3					
Soehenndra biliary dilation catheter 10 fr /200cm	3					
Soehenndra biliary dilation catheter 11.5 fr /200cm	1					
<b><u>55. CRE BALLOON</u></b>						
CRE wire guided balloon dilatation 6,7,8 mm	2					
CRE wire guided balloon dilatation 8,9,10 mm	5					
CRE wire guided balloon dilatation 10,11,12 mm		5				
CRE wire guided balloon dilatation 12,13.5,15 mm	10					
CRE wire guided balloon dilatation 15,16.5,18 mm	10					
CRE wire guided balloon dilatation 18,19,20 mm	8					
<b><u>56. BILIARY BALLOON DILATOR</u></b>						
Biliary balloon Dilator 6mm x 2cm	5					
Biliary balloon Dilator 6mm x 4cm	5					
Biliary balloon Dilator 8mm x 2cm	5					
Biliary balloon Dilator 8mm x 3cm	5					
<b><u>57. SAVARY GILLIARD DILATOR COMPLETE SET</u></b>						
Savary gilliard dilator complete set	1					
<b><u>58. SNARES</u></b>						
standard oval snare Braided loop 7fr/240cm, 2.5x5.5cm	5					
jumbo oval snare Braided loop 7fr/240cm, 3x6cm	5					
Mini hexagonal snare Braided loop 7fr/240cm, 1.5x2.5 cm	5					
Mini hexagonal snare Braided loop 7fr/240cm, 3x4.5 cm	5					
Rotating Snares	5					
<b><u>59. HEMMOROIDAL MULTI BAND LIGATOR</u></b>						
Short shot saeed hemorroidal multi band ligator Large Size (6 band)	5					
Short shot saeed hemorroidal multi band ligator (4 band)	25					
<b><u>60. BIOPSY CAP VALVE (PACKETS)</u></b>						
Biopsy channel Cap (PACK)	10					
<b><u>61. SUCTION VALVE</u></b>						
Suction Valve	10					
<b><u>62. Air water Valve</u></b>						
Air water Valve	10					
<b><u>63. SOACKING CAPS</u></b>						
<b><u>64. ENDOSCOPIC SUBMUCOSAL DISSECTION (ESD KIT)</u></b>						
Hook Knife	2					



Dual Knife	2					
IT knife	2					
Flex Knife	2					
<b>65. Silicon OIL ( 1 litre Bottle)</b>		<b>2</b>				
<b>66. SCOPE LENS CLEANER ( Bottle)</b>		<b>10</b>				
<b>67. WD-40 ( Bottle)</b>						
<b>68. Filter for water sterlization 5 micron 20inch</b>						
<b>69. Filter for water sterlization 1 micron 20inch</b>						
<b>70. Filter for water sterlization 0.2 micron 20inch</b>						
<b>71. Carbon filter (5 micron) 20inch</b>						
<b>72. Over tube</b>	<b>1</b>					
<b>73. Disinfectant solution &amp; Detergent (5 lit each)</b>	<b>250</b>					
<b>74. Hemmoroidal multi band ligator</b>	<b>10</b>					
<b>75. Proctoscope with SET (Small)</b>	<b>1</b>					
<b>76. Proctoscope with set (medium)</b>	<b>2</b>					
<b>77. Proctoscope with set (Large)</b>	<b>2</b>					
<b>78. Hemorroidal Ruber Band (packets)</b>		<b>25</b>				
<b>79. Cholangioscopy Access Balloon</b>	<b>10</b>					
<b>80. EUS Accessories</b>						
<b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b>						

03	<p><b><u>Patient Beds(For Recovery Room)</u></b>  Semi fowler beds  Made of 16 SWG Pipe 2 ½ x 1 ¼ rectangular pipe section welded together at corners  Lying area of strips with semi-fowler adjustment.  Backrest adjustable by means of a screw crank.  Heavy duty frame,  mobile on 4 castors, 125mm dia. (two diagonal lockable) fitted under the legs of head &amp; foot penal  Telescopic adjustment of two stainless steel pipes with tightening screw.  Having two I.V. hanging ports, suitable for fitting on the bed  <b><u>Over Bed Table Paeds</u></b>  Table top made of laminated melamine board fitted  Steel tubular frame.  Duly plastic resin coated.  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	08				
04	<p><b><u>Patient shifting trolleys/stature</u></b>  Trolley hydraulic height adjustment with foot pedal  Gas spring assisted back section adjustment  Trendelenburg adjustment.  Height adjustment 55-85cm or better  back section length 72 cm or better  safe working load 170kg or better  Centrally lockable wheels  High quality powder-coated finish, prepared for finishing by abrasive blasting  X-ray pocket under the back section  Paper roll holder  Oxygen bottle holder for 5 kg bottle  Accessory basket for the lower frame  Attachment belts  Pair of side rails  and places to mount IV poles  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	04				
05	<p><b><u>Wheel Chairs</u></b>  Made of seamless chrome plated steel tubing (18-gauge).  Wheels: Chrome plated rims, with push rims for self propulsion.  Solid rubber tires, 610 mm (24”) diameter. Front swivel casters rubber –tired, with heavy duty bearings Single hand brake.  Push handles with non-slip rubber / plastic grips, Foot rests, folding, of cast aluminum folding seat and back of strong</p>	04				

	<p>and washable material.  Frame made of stainless steel tubing chrome plated. Bicycle tyre wheels, all steel with additional hand roll for self propelling.  Rubber tubeless tyres with a single hand break provided for both wheels cast aluminum folding. Foot boards adjustable for two positions Seamless tube M.S 1" dia, 18-gauge. Wheels bicycle type 24" dia S.S. wheel tyres solid tubeless 1" thick rubber.  Castors 5" dia with solid neoprene rubber tyres.  Skirt guard 22" gauge stainless steel 77" x 4-1/2".  Seat 16" x 16" upholstered on deodar wood 3/4" thick with 4" superior quality. Foam, Covered with washable locally made Rexene dark brown black. Foam Molty foam/Master. Seat will be provided in 3" x 16"M.Single frame reinforced with two cross M.S-Strips 1" W 3/6" Thick. Back 16" x 16" covered with best quality Pak made Rexene.  Propelling hand rail 20" dia 3/4" pipe, chrome plated  <b>Local Made</b></p>					
06	<p><b><u>PULSE OXIMETER</u></b>  Non-invasive measurement of oxygen saturation and pulse rate &amp; NIBP  LCD/TFT color screen size 7 inches more  Display of oxygen saturation and pulse rate and NIBP  Display of Pleth waveform.  Oxygen saturation measurement range from 0 -100%.  Pulse rate measurement from 30-250 bpm.  NIBP Cuff pressure measuring range 0-280 mm.Hg  Visual and audible indication of alarms.  High and low alarms settings.  Adult finger sensor (reusable type) I  pediatric finger sensor (reusable type) I  NIBP Cuff for adults &amp; Pediatric  Battery operating time 4 hours or more  Power of 220 V/ 50 Hz.  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	08				
07	<p><b><u>DEFIBRILLATOR</u></b>  Biphasic transthoracic (external) defibrillator with TFT/LCD display  Synchronized output with ECG.  Control of energy charging/ delivering on main panel &amp; apex paddle.  Charging Indicators.  The energy range should be adjustable for peads and adults up to 200Joules.  Charging Time for full energy will be less than 7 sec.  Screen Size of approx. 5 inch or better.  Display of HR, ECG through paddles and Lead I.II &amp; III patient cable.</p>	03				

	<p>Built in recorder for printing of full summary on standard paper. Alarms for High and low Heart rate, low battery warning. AC 220V / 50Hz operated. Built-in Rechargeable battery with charger for minimum 70 shocks at max. Energy</p> <p>External pediatric and adults Paddles, ECG cable. AED facility with cable. <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
08	<p><b><u>CARDIAC MONITOR</u></b> Non fade TFT/LCD color display Screen size: min. 12" TFT/LCD colour display. Minimum 5 to 8 or more wave form display Electro-surgical interference suppression/protection Defibrillator protection Freeze and cascade facility. Waveform traces speed; 12.5/25 / 50mm/sec. Touch screen <b>Parameters:</b> <b>ECG :</b> Numeric: heart rate. Waveform : Six Wave forms minimum for ECG real time and freeze ECG trace pulse rate 15-300bpm or better <b>NON-INVASIVE BLOOD PRESSURE (NIBP):</b> Method: Oscillometric principle/automatic vibration Numeric: systolic, diastolic and mean pressure Selectable auto inflate interval settings Rising cuff/continuous pressure display. NIBP Pressure range 0-300 mm.Hg or better <b>TEMPERATURE:</b> Numeric: temperature selectable in °C/°F. measurement range 0-50 C or better <b>PULSE OXIMETRY:</b> Numeric: 0-100% oxygen saturation measuring range. Waveform-Plethysmograph pulse with pulse strength indication. Reusable sensor electrode. Reusable cuff. Pulse rate range 20-300 bpm or better <b>ARRHYTHMIA ANALYSIS:</b> Arrhythmia analysis and st analysis. <b>RESPIRATION:</b></p>	08				

	<p>Breath rate display and settable apnea alarms.  respiration range 7-120bpm or better  Apnea alarm 0-40 sec or better  Sweep speed; 6.25, 12.5 mm/sec.</p> <p><b>OTHER FEATURES:</b>  Trend data; 100 hours and better graphical and tabular</p> <p><b>ALARMS:</b>  High &amp; low (settable) on all parameters  Visual and audible indication of alarms.</p> <p><b>OPERATING REQUIREMENTS :</b>  Ac 220v/50HZ  In built rechargeable battery for at least 3to 4 hour ac power failure at full parameter.</p> <p><b>NOTE:</b>  The system must be complete with all sensors, probes, cables or any other accessories required for measuring all the above selected parameters.</p> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
09	<p><b><u>INFUSION PUMP</u></b>  Operates on any brand of infusion set.  Automatic control of infusion rate independent of venous or arterial pressure, solution container height, and solution viscosity. Bolus function manual or automatic. Air bubble detector. Automatic pressure release after occlusion.  Automatic switchover to keep-vein-open (KVO) rate of 1.0 ml/hr (or previous rate, whichever is less). Compatible with commonly available Infusion sets.  History and log events with graphic illustrations min 50 or better  Nurse call and RS 232 facility  operate through remote control function facility</p> <p><b>On/off:</b>  Light indicates main or battery operation</p> <p><b>Flow sensor:</b>  Detects a “no flow” situation i.e. empty container</p> <p><b>Display:</b>  TFT/LCD display which indicates flow rate, infused volume, volume to be infused, volume balance, infusion time, remaining time, battery capacity, occlusion level, pressure barograph, medication name.</p> <p><b>Infusion Rate</b>  0.1-999.9 ml/hr in 1 ml increments</p> <p><b>Infusion Time</b>  1min to 99 hours 59 minutes</p> <p><b>Automatic Rate Calculation</b>  On total volume + time</p> <p><b>Flow rate Selection</b></p>	08				

	<p>From 1 -1200 ml or better  Accuracy of above parameters +/- 5%  Bolus rate 1-800 ml or better  <b>Kvo Rate</b>  0.1– 10 ml/hr or better  <b>Audible And Visual Alarms</b>  Activated by:  Empty Container  Occlusion  Low Battery  Open Door  Air-in-Line  Internal Malfunction  End of infusion  <b>Battery</b>  Rechargeable maintenance free dry batteries with four hours or more operation when fully charged.  <b>Safety features:</b>  Door locks while functioning  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
10	<p><b><u>CRASH/EMERGENCY CART</u></b>  For Cardiac Emergency and emergency  Operating features and characteristics: Recessed top storage area  Trolley with imported and 2-lockable casters  Structure and drawers in stainless steel AISI304  Walls in orange moulded strong polymer  Ample worktop with moulded 4-sides raised rim and ergonomic built-in push handle, scratch resistant  4 drawers in stainless steel AISI304 mounted on stainless steel ball-bearing fully-extending rails, complete with colored handles with label holder for quick identification of content  Extendable writing surface ,twin IV hook, in rilsan coated steel  Plate for defibrillator, size adjustable, swivel, with holding straps  2 transparent tilt-out bins  shelf for vacuum pump  Oxygen Tank Holder/Bracket  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	04				
11	<p><b><u>AMBU BAGS</u></b>  Silicon Resuscitation Bag with adult and child face mask sizes 1,2,3,4 with E2 valve and fully Autoclavable.  Reservoir Bag volume 1700 ml or more.  Oxygen Reservoir Volume approximately 2500ml for adult and child  Tidal maximum volume: approximately 1000ml for adult</p>	06				

	<p>Resuscitation bag to be manually operable and able to be connected to an oxygen source upto 100% for ventilation through a mask or an endotracheal tube.  To be able to connect to an oxygen source up to 100%.  Unit to be supplied with a carrying case  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
12	<p><b><u>FIBER OPTIC INTUBATION SCOPE</u></b>  Portable Fiber Optic Flexible Intubation scope  Can be used in ICU, Ward and Emergency  Insertion tube diameter: 3.5 mm or better  Field of view: 90° or better  Depth of field: 3 – 50 mm or better  Instrument channel: 1.4 mm or better  Angulations: Up 130° Down 130° or better  Working length: 600 mm or better  Total Length 880 mm or better  Self contained battery operated LED light source  Sharp and constant intensity light  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				
13	<p><b><u>LARYNGOSCOPE</u></b>  Macintosh type blade  Blade Sizes 1, 2, 3, plus medium stain blade  SS/ corrosion free Blades.  Dry Battery handle.  Blades of stainless steel with integral light carrier.  LED Fiber optic laryngoscope.  Complete with batteries and carrying case.  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	04				
14	<p><b><u>BP APPARATUS</u></b>  Mercury 300mm Hg with die cast metal housing large reservoir with spilling over arrangement (auto lock), tube with 3 mm silicone. Rubber bulbs. 02 Velcro cuff for Adults. Complete with basket for storage of cuffs.  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	08				
15	<p><b><u>VENTILATOR (EMERGENCY CASES)</u></b>  <b>Patient Range:</b>  Infant, Pediatrics and Adult.  Microprocessor based controlled ventilation system.  LCD/TFT colors touch screen size 5” Minimum. Or better  FDA and CE Mark</p>	01				

**Modes of Ventilation:**

Volume control  
Assisted CMV  
Pressure control  
Assist Pressure support  
SIMV  
Non invasive ventilation

**Other Controls**

Inspiratory tidal volume :50 – 2100 ml or more  
Respiratory frequency : 1- 99 bpm  
Inspiratory pressure : 05-60 cm H<sub>2</sub>O  
I : E ratio :1:4/4:1  
PEEP : 0 - 30 cm H<sub>2</sub>O  
flow : 6-100 l/M  
FiO<sub>2</sub>/ O<sub>2</sub> delivery : 21 – 100%  
Base flow NIV ON :03-30 L/Min w/peep

**Monitoring Parameters**

Total breath rate.  
Oxygen concentration FIO<sub>2</sub>  
O<sub>2</sub> Cylinder time  
Peak expiratory flow  
I : E ratio  
Peak, mean, and base Pressure  
event history log 1000 events or better  
display trend graphs 72 hours

**Alarms.**

Apnea 5-70 see  
AC power failure  
High and low breath rate  
FiO<sub>2</sub> variation  
Low and high base line pressure  
Gas supply source failure  
Low battery.

**Power supply**

220 V 50 Hz  
internal compressor system  
Internal chargeable for all parameters battery backup 10 hours.  
Autoclavable reusable patient tubing circuit for peads and Adult (02)

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**



16	<p><b><u>SUCTION MACHINES</u></b>  Heavy duty Mobile Suction Unit with twin jars of capacity up to 4 or 5 litre each, Autoclavable (Polysulfone).  Aspiration rate 60 litres/minutes at 630-740 mm.Hg  Noise level should not exceed 50dB.  Vacuum continuously adjustable  Change over regulator  10X bacterial filter  Complete aspiration set with tubing  triple flow safety Device  220V/50Hz. I Phase  imported Trolley with lockable wheels  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	06				
17	<p><b><u>12 CHANNEL ECG MACHINE</u></b>  12 channels ECG machine with TFT/ LCD display.  twelve channel display minimum on screen at a time  color screen size six inches or more  Automatic measurement and Interpretation  Automatic and manual Operation  Variable gain: 1/2, 1, 2 cm/mV  data export in XML and PDF format facility  USB,SD Card ,RS 232 port facility  Recording Trace speed: 5,6.25,10, 25 and 50 mm/sec,  Muscle artifact and AC (50Hz) interference filter  Mains AC as well as battery operation .for 2 hours minimum.  Complete with standard accessories, including patient cable with re-usable electrodes and Mobile Cart local  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	02				
18	<p><b><u>CAPNOGRAPHY EQUIPMENT FOR OLD AGED EUS PATIENTS</u></b>  Non-invasive measurement of oxygen saturation and pulse rate &amp; ETCO2  LCD/TFT color screen size 7 inches more  Display of oxygen saturation and pulse rate and ETCO2  Display of Pleth waveform.  Oxygen saturation measurement range from 0 -100%.  Pulse rate measurement from 30-250 bpm.  EtcO2 Main stream or side stream  Visual and audible indication of alarms.  High and low alarms settings.  Adult finger sensor (reusable type) I  pediatric finger sensor (reusable type) I  EtcO2 sensor 01</p>	01				

	Battery operating time 4 hours or more Power of 220 V/ 50 Hz. <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b>					
19	<b><u>INSTRUMENT TROLLEY (BESIDES BEDS)</u></b> mobile, 4 leg frame made of 18/10 or 18/8 (I.O. to specify) Cr Ni steel Pipe 16 SWG all made of stainless steel 1” Dia. Tubular frame forms a safety rail no sharp edges. Two shelves surface ground to reduce glare Resistant to disinfectants Instrument trolley, 800mm high, fitted above and below with frames and shelf 20 SWG made of Cr Ni steel size 24” x 18” to accept two sterilization tray. Four 75mm swivel castors electrically conductive <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b>	08				
20	<b><u>OXYGEN SUPPLY CYLINDERS</u></b> Brand new and Empty Colour Coded Medical Oxygen angled Type Valve Nominal Oxygen Gas Capacity 48 CFT with Regulator Stand for Cylinder Cylinder to be certified by regulatory authority <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b>	03				
21	<b><u>IV POLS</u></b> Base constructed from M.S. Pipe 1” x 2”. 18SWG with adjustable 4 prongs. Rod made of S.S. Steel. Mobile on 50 mm casters. <b>Local Made Subject to approval of samples</b>	20				
22	<b><u>MULTIMEDIA FOR CONFERENCE ROOM</u></b> <b><u>Technology</u></b> LCD /DLP 3D <b><u>Resolution</u></b> 1024 x 786 Supported up to XGA <b><u>Lumens</u></b> 2600 to 2800 <b><u>Contrast Ratio</u></b> 1000:1 <b><u>Image Size</u></b> 22.9 to 302 Inches <b><u>Distance Projection</u></b> 1.2 to 11 meter <b><u>Keystone function</u></b> + - 30 Vertical <b><u>Computer Compatibility</u></b>	01				

	<p>UXGA, SSGA, XGA ,VGA, SVGA</p> <p><b><u>Video Compatibility</u></b> HDMI X 2 , S-Video x 1 , Mani jack Audio output x 1, USBPort x 1</p> <p><b><u>Control</u></b> RS-232 interface x 1, RJ45 (LAN for network control interface) x 1,+12v Trigger x 1</p> <p><b><u>Speaker</u></b> 3W</p> <p><b><u>Noise</u></b> 30dp</p> <p><b><u>Lamp life</u></b> 3000 hrs.</p> <p><b><u>Power supply</u></b> 240 v</p> <p><b><u>Other Features</u></b> Advance Security feature with Password protection Quick Power up design Full remote control function Multi display mode Auto shutdown timer Direct power on function Dust free filter</p>					
23	<p><b><u>External Storage device with more than 4 TB storage</u></b> Standard specification</p>	10				
24	<p><b><u>Forced air warming device with blanket.</u></b> Standard specification</p>	01				
25	<p><b><u>Blood warmer</u></b> Standard specification</p>	01				
26	<p><b><u>Glucometer</u></b> Standard specification</p>	04				
27	<p><b><u>Heater-Cooler Unit Specifications.</u></b> The heater cooler unit should be remotely controlled with the Heart lung machine. There should be 3 separate Water tank in the Heater cooler. Two water tank for Cardioplegia delivery system for giving immediate Hot and cold shot to the patient. 1 water tank for the Oxygenator and for the Thermal blanket. The temperature range should be 2 degrees till 40 degree Celsius. The water tank should be of 10 liters. There should be 1 adult blanket and 1 peads blanket for the heater cooler unit. Three ports should be given at the back. 1 for Cardioplegia 1 for blanket and 1 for oxygenator.</p>	01				

	<p>The unit should be sound prove and noise should not be more than 98 db.  The unit should not take more than 10 minutes to go from highest temperature to lowest temperature.  <b>Quality Standard</b>  FDA approved and CE mark  <b>WARRANTY /GUARANTEE</b>  One year warranty with free service and part after installation and 10 years part availability at component level.  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
28	<p><b><u>ANESTHESIA MACHINE WITH VENTILATOR WITH COMPLETE MONITORING</u></b>  Anesthesia 3 gas unit (O2, N2O, Air)  Digital Display of Pipeline &amp; cylinder pressure on screen.  Central Gas Driven Unit with Central Gas hoses  Pin index cylinder yokes for Oxygen &amp; Nitrous Oxide (One for each)  Connections for large Oxygen and Nitrous Cylinders (One for each)  O2 Flush Control up to 75 lit or better  Lockable Castors  Isoflorane &amp; Sevoflorane both vaporizer will be supplied with each unit  3 X Drawers to store various items  Power outlet with socket outlet  Absorber 1.5 kg complete with valve for bag / ventilator  <b>Anesthesia Ventilator</b>  Built-in electrically driven Electronic anesthesia ventilator.  The ventilator shall be capable of ventilating Adult &amp; Pediatric patient down to 2 kg body weight.  The ventilator shall have a graphic screen with following features as minimum requirement.  Screen Size 6“ Color or more  <b>Modes of Ventilation</b>  Volume Preset time cycle ventilator (IPPV mode)  Pressure Controlled Mode  Manual / Spontaneous  <b>Control Ranges:</b>  Frequency: 4 to 60 bpm or better  PEEP: 0 to 20 cmH2O  Trigger sensitivity: 2 to 15 l/min or better  <b>Continuous monitoring of O2 concentration, Frequency, Tidal Volume, Minute Volume, Pressure</b>  Breathing mode selection (Standby / Volume / Spontaneous &amp; pressure)  Fresh Gas Decoupling System  Built in oxygen monitoring  Automatic Flow sensor &amp; O2 Calibration  Tidal volume from 20ml to 1400ml or better  <b>Battery Backup for 45 minutes or better</b></p>	01				

	Power Supply 220VAC, 50Hz Supplied with Adult and Pediatric Anesthesia breathing circuit (one of each) <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b>				
29	<b><u>MOBILE X-RAY (100MA) WITH BATTERY</u></b>  Generator type      5.0kW, 50Hz high frequency inverter type micro-processor controller Power                 A/C ,D/C operated with 5 to 6 hours battery backup kV Range             40 – 110kV, 1.0kV increment mA Range            20 – 110mA, variable Console & Display   LCD Display, technical value indication Anatomical, Density, Grid / Non-Grid Preset  Tech, Store Switch  Software             330 APR program, Remote Control Software X-Ray Tube          Fixed anode type, 1.5mm Focal Spot size Collimator          Manual operation, double slit type  X-ray Field Size: 35cm x 35cm @ 1m SID Auto compensation   Line voltage comp. $\pm$ 10% Power Requirement   Free voltage (100-264Vac), Single phase, 50 / 60Hz Size (L x W x H)      652mm x 636mm x 1364.4mm Safety : FDA approved , ISO , TUV approved , CE , MDD Mark <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b>	01			
30	<b><u>HEART LUNG MACHINE</u></b> Country of origin: USA, Japan, Western Europe. FDA / CE Approval Latest Version Heart Lung Machine 05 Pump Complete Modular Pumps console With all Modular Parameter Five single roller Pumps with no cables. Dual Pressure module Temperature module Capacitive Level sensor Ultrasonic Bubble detector Flexible Led arm Gas blender ( Standalone) Cardioplegia Monitoring Unit Computer interface. System Control Panel Venous occluding clamp(Standard) Dual Drive Belt for better activity.	01			

Pressure Monitor: For monitoring with Pressure module.

Arterial and cardioplegia with transducers.

With Transducer kit and cable 2m long.

b) Time – Timers at least three

c) Temperature Monitor with at least four probes ( Esophageal 1x adult , 1x Pead) ( For oxygenator 1x )

Air- Oxygen Blender (Stand-alone): with hoses and Flow meter which alarms and also detect high and low gas pressure alarms.

Safety Devices.( Air Emboli protection system)

a) Level Sensor Capacitive type with 100 Level sensor pads.

b) Air Bubble sensor should be Ultrasonic type. ( Should be able to detect 300um bubbles)

c) Flexible LED Lamp.

**Pump configuration:**

a. The unit should have 5-pump compactly arranged with separate sockets (no cables) to control flow. Modules Should have easy access sockets for Interchanging the pump on console

b. Each individual roller pump should be capable of running independently.

c. Should have a spill proof base.

d. The unit should be supplied with a Battery backup for the complete system, safety and accessories for a minimum of 90 minutes or better. Switch over from main power to battery backup should be automatic and immediate. HLM System should have a facility to start on battery .The battery unit should be built in to the pump base and it should be rechargeable. For arterial pump battery backup should be 180 minute or more.

e. Monitoring flow rates in LPM&RPM should be digitally display on the pump.

f. Each Pump should have easy mechanism for occlusion setting for different thickness of tubes

g. Should have hand crank facility as a safety feature.

h. The Console should have a compact base place for the entire pump head.

i. Should have oxygenator holder 1x for adult.

All the pumps should have facility of pulsatile mode

Instrument tray for the instruments.

PRESSURE MONITOR: ( Dual pressure module )

a) Facility to monitor pressure range: -997 to +997 or Equivalent.

b) Facility to monitor one arterial line pressure and one cardioplegia line pressures, along with necessary pressure transducers, cables and domes reusable, with accurate digital display and alarm facilities audio and visual.

TIMER MONITOR:

Facility for 3 time displays With stop, reset and start function

TEMPERATURE MONITOR:

a) 04 temperature displays for patient monitoring and for cardioplegia monitoring with digital

Display in Celsius with 4 necessary compatible temperature probes.

AIR- OXYGEN BLENDER:(Stand Alone)

To work at 50-60 PSI for membrane oxygenator with water trap attached with necessary hoses and connections of

	<p>minimum of 5 meters length and with dual flow glass flow meters.</p> <p><b>ULTRASONIC AIR SENSOR :</b>          Ultrasonic air sensor to detect bubbles to work equally well with crystalloid and blood; should be possible to fit anywhere in the circuit easily.</p> <p><b>LEVEL SENSOR SYSTEM:</b>          a) <i>Should be able to provide both alert alarm for audible and visual alarms or low blood level alarm.</i>          b) <i>Micro –bubble detection: 300 micrometer or better</i></p> <p><i>Bar Leds, sensor fault, override facility.</i></p> <p><b>STAND ALONE ONLINE ARTERIAL AND VENOUS BLOOD MONITORING :</b>          a) LCD display of 10.4 touch screen monitor or better.</p> <p><b>Monitoring of Arterial Line :</b>          b) Measurement method for partial oxygen should be Luminescence or equivalent.          c) Measurement method for temperature infrared thermopile sensor or equivalent.          d) Measurement of Hemoglobin, Arterial partial pressure of oxygen, Arterial temperature. PaO2,</p> <p><b>Monitoring Venous line :</b>          e) Measurement method for partial oxygen should be SPECTROPHOTMETRIC or equivalent.          f) Measurement method for temperature infrared thermopile sensor or equivalent.          g) Measurement of line , Hemoglobin , hematocrit , PaO2 , SvO2 , VO2 , Q-Blood          h) Interface for PC Connection Rs-232 Input /output          i) USB Connection for Printer          j) Integrated barcode scanner.</p> <p><b>Accessories :</b>          k) Venous probe ;Venous temperature sensor ( 10x);          Arterial probe ; Arterial Temperature sensor ( 10x)</p> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
31	<p><b>INTRA AORTIC BALLOON PUMP:</b>          Self-contained mobile console with ECG amplifier with possible selection 5 leads arterial blood pressure amplifier.          Colour graphic displays at least of 10” for display of arterial and pressure heart rate balloon volume used and alarm conditions with trouble shooting procedures.          Fall safe system. V Pacing switch. Progressive viewing sequence          5 lead ECG cable, male connector pressure, and transducer adopter, chart recorder.          Transportable, Compact IABP system with minimum 3 Hours of Battery Backup or better          Should have 3 modes of Operation, 1) Automatic 2) Semi-Automatic 3) Manual.          Should have IABP ratio 1:1, 1:2, 1:3.          System should be capable of automatically selecting appropriate Trigger i.e. ECG or Pressure and also accurately select the inflation and Deflation points, in Automatic mode.          In the automatic mode of operation user should be in control of the deflation Point.          System should have Automatic Fiber Optic Pressure Signal Capability and should be capable of working with 7Fr. and smaller Fiber Optic Balloons.</p>	01				

	<p>The zeroing / Calibration of the pressure wave form should be automatically done once the Catheter is inserted into the patient (in vivo Calibration).</p> <p>The system should have fiber-optic IABP and catheter system that automatically calibrates in the patient after insertion and automatically recalibrates in vivo every two hours or sooner should patient or environmental conditions change.</p> <p>The system should have capability of sending an electrically isolated low level pressure output signal which enables the user to send the Fiber Optic Pressure wave form to a patient monitor by simply attaching a cable.</p> <p>The system should quickly adapt to rate or rhythm changes in order to optimize augmentation and support during diastole.</p> <p>Operation Modes: Auto, Semi Auto, Manual</p> <p>On screen indication for Helium level in the cylinder and Battery level for timely intervention and correction</p> <p>Intra-Aortic balloon pump should be suitable for pediatric surgery</p> <p><b>ORIGIN: EUROPE/USA/JAPAN OR EQUIVALENT</b></p>					
32	<p><b><u>HYPO/HYPERThERMIA</u></b></p> <p>Hypo/Hyper Thermia Unit use for Temperature Control And Monitoring System with Cardioplegia Supply with the following features:</p> <p>System should be latest Version</p> <p>5“ Inch or more colour touch screen LCD/LED for smooth operation</p> <p>Automatic De-airing and emptying function for implies filling of the tubing and removing air of external devices.</p> <p>Temperature gradient facility for both patient and Cardioplegia side</p> <p>Water temperature range: 1-40 °c accuracy: +/-0.3 deg/ C</p> <p>Tank volume capacity : 25 liters or better</p> <p>Flow capacity within patient water circulation: 18 L/min or better</p> <p>Flow capacity within Cardioplegia water circulation: 9 L/min or better</p> <p>Initial cooling capacity: 6000 kj/h or Better</p> <p>Compressor will automatically start if a shortage of ice in the tank.</p> <p>UV-light for disinfect internal water tubing and hoses with 254 nm wavelength or better.</p> <p>Maximum pressure, patient water circulation :1.5-2.0 bar or better</p> <p><b>Accessories :</b></p> <p>At Least Two reusable Thermal Blankets (Adult&amp;Pead one each)</p> <p>External Temperature sensor.</p> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				
33	<p><b><u>PORTABLE HEART LUNG MACHINE</u></b></p> <p><b><u>1.OBJECTIVES &amp; PREREQUISITES:</u></b></p> <p>a) System shall be optimal for ECMO (Extra Corporeal Membrane Oxygenation) and ECLS (Extra Corporeal Life Support Therapy)</p> <p>b) System shall provide complete system solution for long-term support of heart and lung function in adults, pediatrics, and infants.</p> <p>c) System should provide extracorporeal support to replace or support the patient’s circulation and respiration or equivalent.</p>	01				



<p>d) System should be comprised with disposables, integrated sensors and software versions or equivalent.</p> <p>e) System should have Possibility for patients who require <u>veno-venous support &amp; veno-arterial support</u> and the use of a <u>Minimal extracorporeal circulation (MECC) &amp; (LVAD&amp;RVAD)</u></p> <p>f) System shall have single pump module for adult, children, and infants</p> <p>g) The entire ECMO unit shall be guaranteed for hardware and performance for at least first two years, following which the same will be covered by guaranteed supply of all kinds of spares for ten (10) years minimum.</p> <p>2. <u>COMPONENTS:</u></p> <p>a) <u>ECMO FOR ECMO UPTO 30 DAYS.</u>  Should flow 0-9.9 LPM  Should generate rpm 0-5000  Power rating 100-240volts, 50-60 Hz and 11-28 volts DC  Portable emergency hand crank  Compact lightweight console (less than 10kg weight)  LCD touch screen to display the following</p> <p>a) 04 nos of external pressures (Range: -500 to +900mm Hg)</p> <p>b) 03 nos of internal pressures (Range: -500 to +900mm Hg)</p> <p>c) 04 nos of external temperatures (Range: -10 to +45oC)</p> <p>d) 02 nos of internal temperatures (Range: -10 to 45o C)</p> <p>e) 01 no of Venous blood oxygenated saturation (SVO2) (Range: -10to 100%)</p> <p>f) 01 no of hemoglobin (Range 5 to 15 g %)</p> <p>g) 01 no of Hematocrit (Range 15 to 50 50%)</p> <p>h) 01 no flow sensor with integrated bubble sensor to measure flow rate and bubbles.</p> <p>i) 01 no level sensor-measuring reservoir blood level.</p> <p>Portable emergency hand crank  Back flow prevention mode(zero Flow)  Data recording facility (3sec-10 min interval) with USB Port retrieval of same into a USB stick or PC.  03 nos of resettable clock timers.  01 nos of countdown timer  03 modes of applications suited for OR,ICU and transport  Dual mode of control</p> <p>a) LPM – Litres per minute</p> <p>b) RPM- Revolutions Per minute</p> <p>Battery backup of 90 minutes with provision for battery exchange and charge while in use on AC supply</p> <p>Level sensor safety system  Back flow detection system  Alarm settings</p> <p>c) High and Low RPMs</p> <p>d) For Low Flow</p> <p>e) Console lamps with cable</p>					
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	<p>Unit protection with Splash, drips and defibrillator  One connector each for alarm, output (ward call), Ethernet cable, external drive, ECG signal  Complete supply of battery, cables, US and related accessories  Should have road and Air transport approval  Should be CE/FDA Approval  <u>3.Sprinter cart:-</u>  a. Should be stainless steel body four wheels with double shelve  b. Low profile design maximizing safety  c. Height adjustable infusion pole mast  d. Inbuilt gas cylinder holder  e. Should be able to incorporate all components of the ECMO system  f. Double wide wheels for easy transportability  <u>4.Mechanical Gas Blender(Oxygen Air Mixture):</u>  a. Display air, Oxygen, Carbon di Oxide and FiO2  b. Capable of delivering FiO2 21-100%  c. Should include supply cables for air and Oxygen  d. Should include water trap  <u>5.Dissposable:</u>  <u>HLS MODULE /7 Liter</u>  Should have 30 days CE certification for continuous usage  Integrated sensors for pressures (Venous, arterial and internal) and temperature (arterial and venous) monitoring  Integrated measuring cell for venous probe to measure venous oxygen saturation (Svo2)Hemoglobin, Hematocrit and Venous temperature Onsite support  Training for team on site , 1x anesthesiologist , 1x perfusionist , 1x cardiac surgeon  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
34	<p><b><u>ENT DIAGNOSTIC UNIT</u></b>  Steel painted with epoxy powders structures  Layer of transparent gloss for disinfection and protection against liquids  Mobile structure with 6 antistatic rubber castors  Maximum air capacity: 26/Min  Integrated Germicide Compartment  Drawer combination with various type of multi-compartments trays for instruments  1 pull out accessory compartment  1 drawer for dirty instruments with a removable plastic tray  1 big drawer as dust bin  Clar Lamp support with light intensity adjustment switch  Suction system with dry pump of 70 Lt/m capacity  Vacuum for suction adjustment  Insufflation system with manometer (Nasal and olive tubal insufflation)</p>	01				

<p>Electronic touch screen console  Articulated arm with instrument tablet (Syringe, suction and insufflation)  Ear washing syringe with 2 lt water tank  Water tank should be equipped with acoustic reserve warning signal, acoustic and visual on touch screen  Microprocessor controlled heating element  Quick Heating Mirror warmer  Anti bacterial filter (Hydrophobic PTFE filters)  Kit Syringe for Medicaments  Air syringe group  1 atomizers for powder and 1 for liquid spary  2 bottle holder for medicaments  3 Endoscope supports for flexible and rigid endoscopes  Flexible and Rigid Endoscopes  Flexible Endoscope, diameter 4.9 mm, working length 300 mm, movement Up down 130°, Depth of field: 3 – 50 mm, angle of view 75°, Instrument Channel: 2.2 mm  Rigid Nose Scopes, diameter 2.7 mm, angle of view 0°, Length 145 mm  Rigid Ear Scopes, diameter 2.7 mm, angle of view 0°, length 80 mm  Laryngoscope with handle, diameter 10 mm, angle of view 90°, length 195 mm  Light Source  LED Light source temperature min 180 Lumen 5500° K  Neutral LED Light source 4100°K to 5500°K, 180 lumen  Color Touch Screen to control the functions  Fiber Optic cable  Pole Support for Microscope equipped articulated arm for monitor PC  Microscope  Coaxial illumination through fiber optic with 5 magnification steps  Apochromatic magnification  Diameter: 48 mm, working distance 250 mm  Manual magnification charger: 5 click stops  Focusing range 13 mm  23 Inch LCD (or more) with integrated PC Touchscreen with video capturing software  Intel Core i5/i7 processor  Wireless keyboard and mouse  Wireless video camera  Consists on  Wireless handpiece  LED light source integrated 180 lumen 5500° K  Wireless LED Head Light  Wireless comfortable head light with modern rechargeable battery pack</p>					
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	<p>High light emission for long lasting operation  Equipped with ergonomic leather bolstered headband  On / Off switch on the battery  Hydraulic Chair  Equipped with 2 linear motors  Independently operating up/down movement  Movement of seat and backrest  Solid construction in metal painted with epoxy powders  Upholstered parts should be composed of undeformable foam  Synchronized movement of legrest with backrest operated by joystick  Rotation of 90 deg left and right with blocking system by lever  Anatomical articulated head rest  Polyurethane detachable armsets, easy entrance of the patient by the side  Lifting capacity 180Kg  Fixed foot rest in chromed steel  Doctor Stool  Stool with five foot base  Elevation and height adjustment through gas spring  Self braking wheels pivoting to 360°  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
35	<p><b>HORIZONTAL BED HEAD UNIT FOR NORMAL CARE AND INTENSIVE CARE UNITS.</b>  Bed head units certified in CLASS IIB, according to the Medical Device Directive 93/42 ECC.  The products is manufactured following the standard applicable on medical device, electromagnetic compatibility (89/336 EEC) and electrical safety rules.  Made by extruded aluminum profile single truncing 1,8mm thickness, section of aluminum profile 350x200mm designed and realized specifically to facilitate the modularity of profiles.  Minimum length 1600mm.  Painted with thermoset epoxy-polyester paint.  Fixed to the wall by bracket made in steel and screws, in the bed head units there are 2 brackets for easier installation of units.  Easy to inspection of electrical device and light.  The slot of the direct light has an inclination of 22 degrees to optimize the correct lighting around the patient.  The lamp unit is easily removable to facilitate maintenance and replacement of neon lamps.  The Lower profile is divided by compartment in order to separate medical gas and electric components.  Smooth surface to guarantee cleanliness and ease of disinfection of the units.  Bed head units equipped with:</p> <ul style="list-style-type: none"> <li>- 1 x Indirect light 1x58W T8 electronic for neon lamps,</li> <li>- 1 x Direct light 1x18W T8 electronic for neon lamps,</li> <li>- 1 x Switch for Indirect light</li> </ul>	01				

	<ul style="list-style-type: none"> <li>- 1 x Switch for Direct light</li> <li>- 4 x Electrical sockets schuko standard 16A</li> <li>- 1 x Anodized medical rail for accessories 25x10mm</li> <li>- 1 x Gas box for AIR – VAC – OXY gas outlet BS standard</li> </ul> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
36	<p><b><u>VERTICAL BED HEAD UNIT FOR NORMAL CARE AND DAY CARE UNITS.</u></b></p> <p>Bed head units certified in CLASS IIB, according to the Medical Device Directive 93/42 ECC. The products is manufactured following the standard applicable on medical device, electromagnetic compatibility (89/336 EEC) and electrical safety rules.</p> <p>The Vertical solution of bed head units are designed to accommodate the telescopic arm and the medical curtain. Made by extruded aluminum profile single truncing 1,8mm thickness, section of aluminum profile 450x205mm designed and realized specifically to facilitate the modularity of profiles. Dimension 2000mm Painted with thermoset epoxy-polyester paint. The internal compartments are designed in order to separate medical gas and electric components. Smooth surface to guarantee cleanliness and ease of disinfection of the units.</p> <p>Each bed are equipped with:</p> <ul style="list-style-type: none"> <li>1 x Switch for Indirect light</li> <li>1 x Switch for Direct light</li> <li>2 x Electrical sockets schuko standard 16A</li> <li>1 x Gas box for AIR – VAC – OXY gas outlet BS standard</li> <li>1 x Front cover panel in high pressure laminate wood finished are at customer choice. The front panel is easily removed by the screws hidden in the lateral side of units.</li> <li>1 x KIT for privacy solution, with adjustable telescopic arm with fold down system and curtain in 100% TREVIRA CS flame retardant and antibacterial (dimension of curtain 2300x1400 mm, color at customer choice).</li> <li>2 x Lateral drawer in high pressure laminate finish at customer request dimension 400x350mm height 150mm with keys for locking.</li> <li>2 x Adjustable vertical pole made in stainless steel Height 1200mm, diameter 25mm need to clamp accessories (Max Load 50Kg).</li> </ul> <p>Bed head units certified in CLASS IIB, according to:</p> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				
37	<p><b><u>Suspended bed head unit for ICU, CCU and PICU</u></b></p> <p>The Bed head units certified in CLASS IIB, according to the Medical Device Directive 93/42 ECC. The products is manufactured following the standard applicable on medical device, electromagnetic compatibility (89/336 EEC) and electrical safety rules.</p> <p>Made by extruded aluminum profile single truncing 3,5mm thickness, section of aluminum profile 382x194mm designed and realized specifically to facilitate the modularity of profiles with 49 degrees inclination to facilitate the use of the equipment by the operator.</p> <p>Units with two vertical suspension for each bed made in aluminum profile 4mm thickness with H shape section 130x143mm, electrical cable and medical gas are completely separated.</p> <p>Cover flange for false-ceiling and later cap made in shock proof ABS material</p>	01				

<p>Painted with thermoset epoxy-polyester paint.          Composed by 2 side to install on the both side of unit the electrical components and device.          Indirect light installed in the upper part of bed head units, light cover made in polycarbonate to guarantee the best light diffusion in the environment. Direct light are accommodate under the units, light cover made in polycarbonate material.          The internal compartments are designed in order to separate medical gas and electric components. Smooth surface to guarantee cleanliness and ease of disinfection of the units          Suspended bed head units for 20 beds Length 50mt          21 x Adjustable bracket for ceiling mounted;          21 x Vertical suspension          Each bed are equipped with:          1 x Indirect light 1x58W T8 electronic for neon lamps;          1 x Direct light 1x18W T8 electronic for neon lamps;          1 x Switch for direct light          1 x Switch for indirect light          6 x Electrical sockets schuko standard 16A          3 x Equipotential ground sockets          2 x RJ45 cat. 5e. data sockets          1 x Gas box for AIR – VAC – OXY gas outlet BS standard          1 x Rotating infusion column with 6 electrical sockets schuko standard 16A, 2 orientable vertical pole 25 mm diameter for infusion pump;          1 x Rotating monitor column with 5 electrical sockets schuko standard 16A,          Gas box for AIR – VAC – OXY gas outlet BS standard, Shelf painted steel 440x400mm Max Load 45Kg 38mm diameter;          1 x Sliding and rotating trolley with 2 shelves painted steel 440x400mm Max Load 45Kg 38mm diameter, Gas box for AIR – VAC – OXY gas outlet BS standard.</p> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
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**LAPAROSCOPIC 3D VIDEO SYSTEM**

01 each

**1. The System should include the following items**

1.1	3D Full HD camera head with laparoscope and cable
1.2.	3D Camera Control Unit
1.3.	3D Xenon Light Source
1.4.	3D Full HD Monitor
1.5.	2D Monitor
1.6.	Trolley for 3D System
1.7.	3D Polarisation Glasses
1.8.	Sterile single use drape
1.9.	Accessories

**2. Specification of 3D Full HD camera head with laparoscope and cable**

2.1.	0 Degree image sensors camera head with following specifications:
2.1.1.	Minimum size: 1/3 inch
2.1.2.	Minimum resolution: native Full HD (1920 x 1080 pixel)
2.1.3.	Image aspect ratio 16:9
2.1.4	3D System should be CF registered for Cardiac Surgery

2.2.	5 feature Control buttons:
2.2.1.	1 button for white balance
2.2.2.	1 button for light source on-standby-switching
2.2.3.	1 button for snapshot and video
2.2.4.	1 button for menu and 180° live image rotation
2.2.5	Digital Zoom in four steps from X1.1 - X1.8 times

2.3.	All in one camera head with integrated twin cable for connection to light source and CCU
2.4.	Length of camera cable 4m
2.5.	Locking mechanism and protection of sterile single use drape
2.6.	Four integrated camera control buttons
2.7.	Integrated heating elements to prevent fogging of distal laparoscope tip
2.8.	Separate camera heads with 0° and 30° viewing angle
2.9.	Outer diameter including sterile single use drape 10 mm
2.10.	Focal area of approx 25 mm to 250 mm

2.11.	Working length with sterile single use drape approx. 330 mm
2.12	180° image rotation for 30° camera system by push of a button
2.13	Image sensors provide Full HD resolution (1920 x 1080 pixel) from the sensor itself, no upscaling of resolution to Full HD
2.14	Applied part acc. IEC 60601-1 type CF

### 3.Specification of 3D Camera Control Unit

3.1.	Connectors and ports
3.1.1.	2 DVI outputs
3.1.2.	1 LAN port
3.1.3.	2 USB ports
3.1.4.	1 S-video output
3.1.5.	2 HD/SDI outputs for 3D signal to 3D monitor
3.1.6.	1 BNC video output
3.1.7.	1 connector for master bus system
3.1.8.	1 single port for camera head connecting cable

3.2.	Control buttons
3.2.1.	6 buttons for menu control
3.2.2.	1 photo recording button
3.2.3.	1 video recording button
3.2.4.	1 switchover button 3D to 2D

3.3.	Menu functions
3.3.1.	Adjustable user settings for brightness, colour, detail, user name, reset to camera default
3.3.2.	Patient data collection (name, age, sex, patient number)
3.3.3.	Patient stamp function to stored image
3.3.4.	Preselectable storing to internal HDD or external USB-drive
3.3.5.	Freeze on capture function on/off
3.3.6.	Preselection of video quality normal/high/low
3.3.7	Time limit setting for video storing 5 seconds to infinity
3.3.8.	Storage management functions:
3.3.8.1.	Copy of internal HDD to external USB drive
3.3.8.2.	Format of internal HDD and external USB drive
3.3.9.	Patient review function



3.3.10.	White balance activating function
3.4.	Internal hard disc drive (HDD) >320 GB capacity
3.5.	Network connection interface
3.6	White balance function
3.7.	2D image storing function
3.8	2D video storing function

#### 4.Specification of Xenon Light Source

4.1.	Light source features
4.1.1.	1 light guide connector
4.1.2.	1 menu switch
4.1.3.	1 LED display
4.1.4.	2 buttons for increasing/decreasing the light intensity
4.1.5.	1 button for switching on/standby of the lamp

4.2.	Light source functions:
4.2.1.	Lamp life indication in hours
4.2.2.	Light output indication in %

4.3.	Minimum power 300 W
4.4.	Type of lamp xenon
4.5.	1 connector for data-bus-system

#### 5.Specification of 3D Monitor

5.1.	Minimum size of display 32"
5.2.	Minimum resolution 1920 x 1080 pixel
5.3.	Format 16:9
5.4.	2 inputs HD-SDI (left and right)
5.5.	1 2D to 3D adapter board
5.6.	1 connector for data-bus-system
5.7.	1 DVI Input

**6.Specification of 2D Monitor**

6.1.	1 DVI input
6.2.	Minimum size of display 17"

**7.Specification of Trolley**

7.1.	Minimum of four shelves
7.2.	Rear cart columns for high stability
7.3	Four antistatic double castors, front wheels with lock
7.4	Integrated drawer
7.5	Integrated push bar handle for easy maneuvering
7.6	Integrated holder for CO" bottle
7.7	Minimum dimensions 720 x 1610 mm x 620 (W x H x D)
7.8	Integrated insulation transformer max. 1600 VA
7.9	Articulating holding arm for secondary monitor

**8.Specification of Sterile Single Use Drape**

10.1.	Single use sterile drape with integrated locking mechanism
10.2.	Sterile barrier between unsterile camera/laparoscope and patient
10.3	Available in 0° andf 30° version
10.4	Distal glass window to allow unobstructed clear viewing
10.5	Integrated connector to camera holding device
10.6	Shelf life of 5 years
10.7	Latex free
10.8	Single sterile packed drape
10.9	Distal arm to hold camera head

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**8 Donor Set For Liver TX  
1- Vascular Instruments  
Vascular Clamps**

01each

S.No	Items Description	QTY.
1	COOLEY ATR.CLMPCVD42MM JW145MM	1
2	COOLEY PEDIATRIC FORCEPS 24MM160MM	1
3	BABY-SATINSKY CLAMP150MM	1
4	HOPT ATR.PANKREAS A.KIDNEY FCPS.50/200MM	1
5	DE'BAKEY-HARKEN ATR.VASC.FORCEPS 245MM	1
6	MICRO ATR.BULLDOGCLAMP STR.20/60MM	2
7	MICRO DIETHRICH BULLDOGCLAMP ANG.10/48MM	2

**Forcep**

S.No	Items Description	QTY.
1	CUSHING DEL STR FORCEPS 180MM	2
2	GERALD FORCEPS DEL CVD 175MM	2
3	DE'BAKEY ARTERIOTOMY SCISSORS CVD 175MM	2
4	METZENBAUM SCISSORS STR 180MM	2
5	DIADUST MICRO RING FORCEPS 1MM STR.185MM	2
6	DIADUST MICRO RING FORCEPS 1MM STR.210MM	2

**Needle Holder**

S.No	Items Description	QTY.
1	DUROGRIP NDL HLDR SERR 0.2/180MM	2
2	TC MAYO-HEGAR NDLHOLDERHVYSERR150MM	2
3	TC MAYO-HEGAR NEEDLE HOLDER305MM	2

**Scissors**

S.No	Items Description	QTY.
1	NOIR METZENBAUM SCISSORS CVD 180MM	1
2	NOIR NELSON-METZ SCISSORS CVD.230MM	1
3	POTTS-DE MARTEL SCISSORS45DGS/S185MM	1
4	METZENBAUM SCISSORS STR 180MM	1
5	FINE SCISSORS STRAIGHT 195MM LONG	1

**2 - General Set**

S.No	Items Description	QTY.
1	DEAVER RETRACTOR FIG 3 38MM300MM	1
2	MIKULICZ ABDOMINAL RETRACTOR 86X55MM	1
3	KOCHER-LANGENBECK RETR 80X16MM215MM	1
4	KOCHER RETR 4-PRGSEMI-S16X20220MM	1

**Artery Forcep**

S.No	Items Description	QTY.
1	LAHEY FORCEPS LONG-SERR 225MM	1
2	DE'BAKEY ATR.AORTA CRSS-CLMP240MM	1
3	ARTERY FORCEPS STRAIGHT 250MM	1
4	CRILE FORCEPS CVD 140MM	1
5	CRILE FORCEPS STR 140MM	1
6	ROCHESTER-PEAN FORCEPS STR 185MM	1
7	RAMPLEY SPONGE FORCEPS STR SERR 180MM	1
8	BABCOCK TISSUE FORCEPS 215MM	1
9	ALLIS FORCEPS 5X6 155MM	1
10	JUDD-ALLIS FORCEPS 3X4T.200MM	1

**Forcep**

S.No	Items Description	QTY.
1	LAZAR MICRO SUTURE FORCEPS 0.5MM 155MM	1
2	TISSUE FORCEPS 3X4 160MM	1
3	ADSON TISSUE FCPS FINE W/1X2T 150MM	1

**Scissor**

S.No	Items Description	QTY.
1	MAYO SCISSORS CVD 170MM	1
2	BABY-METZ SCISSORS DEL STR 145MM	1

**Miscellaneous**

S.No	Items Description	QTY.

1	LABORATORY DISH 2.5 L	1
2	LABORATORY DISH 1.0 L	1
3	KIDNEY TRAY 275MM 750ML	1
4	SCALPEL HANDLE #7 ENGLISH NO.5 160MM	1

3 - Retractor

Liver transplant system / resection system

Consisting of:-

S.No	Items Description	QTY.
1	MUNSTER WISHBONE RETRACTOR U SHAPED	2
2	MUNSTER FRAME HOLDER	1
3	MUNSTER WISHBONE RETRACTOR V SHAPED	2
4	MUNSTER CONNECTION CLAMP	4
5	MUNSTER OCTAG.NOTCH ROD 200MM W/JOINT	4
6	WRENCH 10MM	1
7	MUNSTER ABDOMINAL BLADE 62MMX76MM	4
8	MUNSTER ABDOMINAL BLADE80MM X80MM	4
9	MUNSTER BLADE 48MMX90MM	4
10	MUNSTER BLADE 48MMX105MM	4
11	ABDOMINAL WALL HOOK100X100MM	4
12	ABDOMINAL WALL HOOK 100X120MM	4
13	MUNSTER KELLY BLADE 63MMX55MM	4
14	BLADES PAIR 58X80MM BSC.	1
15	BLADES PAIR 72X84MM BSC.	1
16	MUNSTER LIVER BLADE 140MMX85MM	4
17	MUNSTER BLADE MALL 40MM	4
18	MUNSTER BLADE MALL 50MM	4
19	MUNSTER BLADE MALL 85MM	4
20	MUNSTER HARRINGTON BLADE 127MMX62MM	2
21	WIRE BASKET FOR STORING VALVES	1
22	WIRE BASKET FOR STORING ABDOMINAL RINGS	1

**4 - Liver Perfusion Set**

S.No	Items Description	QTY.
1	LABORATORY DISH 0.063 L	1
2	LABORATORY DISH 0.4 L	1
3	LABORATORY DISH 1.0 L	1

**Scissor**

S.No	Items Description	QTY.
1	HARVEY WIRE SCISSORS SERR 125MM	1
2	IRIS SCISSORS STR.S/S 110MM	1

**Forceps**

S.No	Items Description	QTY.
1	JUDD-ALLIS FORCEPS 3X4T.200MM	1
2	TITANIUM ADSON FORCEPS 1X2T.120MM	1

**Miscellaneous**

S.No	Items Description	QTY.
1	MICRO ATR.BULLDOGCLAMP STR.10/50MM	1
2	MICRO ATR.BULLDOGCLAMP STR.14/55MM	1
3	MICRO ATR.BULLDOGCLAMP STR.20/60MM	1
4	MICRO ATR.BULLDOGCLAMP ANG.10/45MM	1
5	MICRO ATR.BULLDOGCLAMP ANG.14/50MM	1
6	MICRO ATR.BULLDOGCLAMP ANG.20/55MM	1
7	HALSTED-MOSQ.FCPSDELSTR1X2 200MM	1
8	COTTLE MALLET FLAT/RND 320GR.30MM 185MM	1
9	DE'BAKEY DILATOR MALL 0.5MM 190MM	1
10	DE'BAKEY DILATOR MALL 1.0MM 190MM	1
11	DE'BAKEY DILATOR MALL 1.5MM 190MM	1
12	DE'BAKEY DILATOR MALL 2.0MM 190MM	1
13	DE'BAKEY DILATOR MALL 2.5MM 190MM	1
14	DE'BAKEY DILATOR MALL 3.0MM 190MM	1

**Recipient Instruments set for Liver TX**

1 - Vascular Instruments

S.No	Items Description	QTY.
1	BABY-SATINSKY CLAMP150MM	2
2	HOPT ATR.PANKREAS A.KIDNEY FCPS.50/200MM	2
3	DE'BAKEY ATR.FCPS 1.5MM STR150MM	2
4	MICRO ATR.BULLDOGCLAMP STR.10/50MM	3
5	MICRO ATR.BULLDOGCLAMP STR.14/55MM	2
6	MICRO ATR.BULLDOGCLAMP STR.20/60MM	2
7	MICRO ATR.BULLDOGCLAMP ANG.10/45MM	2
8	MICRO ATR.BULLDOGCLAMP ANG.14/50MM	2
9	MICRO ATR.BULLDOGCLAMP ANG.20/55MM	2
10	COOLEY ATR.CLMPCVD42MM JW145MM	2

**Forceps**

S.No	Items Description	QTY.
1	CUSHING DEL STR FORCEPS 180MM	2
2	GERALD FORCEPS DEL CVD 175MM	2
3	DE'BAKEY ARTERIOTOMY SCISSORS CVD 175MM	2
4	METZENBAUM SCISSORS STR 180MM	2
5	DIADUST MICRO RING FORCEPS 1MM STR.185MM	2
6	DIADUST MICRO RING FORCEPS 1MM STR.210MM	2

**Needle Holder**

S.No	Items Description	QTY.
1	DUROGRIP NDL HLDR SERR 0.2/180MM	2
2	BARRAQUER NEEDLE HLDRW/CATCHCVD120MM	2
3	TC MAYO-HEGAR NDLHOLDERHVYSERR150MM	2
4	TC MAYO-HEGAR NEEDLE HOLDER305MM	2

**Scissor**

S.No	Items Description	QTY.
1	POTTS-DE MARTEL SCISSORS45DGS/S185MM	1
2	POTTS-DE MARTEL SCISSORS25DGS/S185MM	1
3	DIETH.POTTS SCISSORS DEL.125 $\frac{1}{2}$ ANG.180MM	1

4	FINE SCISSORS STRAIGHT 195MM LONG	1
5	METZENBAUM SCISSORS STR 180MM	1
6	NOIR METZENBAUM SCISSORS CVD 180MM	1
7	NOIR NELSON-METZ SCISSORS CVD.230MM	1
8	FINE SCISSORS STRAIGHT 195MM LONG	1
9	METZENBAUM SCISSORS STR 180MM	1

**Miscellaneous**

S.No	Items Description	QTY.
1	SELF-RETAINING RETR 3X4T.BLUNT 240MM	1

2- General set

**Retractor**

S.No	Items Description	QTY.
1	DEAVER RETRACTOR FIG 3 38MM300MM	1
2	MIKULICZ ABDOMINAL RETRACTOR 86X55MM	1
3	KOCHER-LANGENBECK RETR 80X16MM215MM	1
4	KOCHER RETR 4-PRGSEMI-S16X20220MM	1

**Artery Forceps**

S.No	Items Description	QTY.
1	LAHEY FORCEPS LONG-SERR 225MM	1
2	DE'BAKEY ATR.AORTA CRSS-CLMP240MM	1
3	ARTERY FORCEPS STRAIGHT 250MM	1
4	CRILE FORCEPS CVD 140MM	1
5	CRILE FORCEPS STR 140MM	1
6	ROCHESTER-PEAN FORCEPS STR 185MM	1
7	RAMPLEY SPONGE FORCEPS STR SERR 180MM	1
8	BABCOCK TISSUE FORCEPS 215MM	1
9	ALLIS FORCEPS 5X6 155MM	1
10	JUDD-ALLIS FORCEPS 3X4T.200MM	1

**Forcep**

S.No	Items Description	QTY.
1	LAZAR MICRO SUTURE FORCEPS 0.5MM 155MM	1



2	TISSUE FORCEPS 3X4 160MM	1
3	ADSON TISSUE FCPS FINE W/1X2T 150MM	1

**Scissor**

S.No	Items Description	QTY.
1	MAYO SCISSORS CVD 170MM	1
2	BABY-METZ SCISSORS DEL STR 145MM	1

Miscellaneous

S.No	Items Description	QTY.
1	LABORATORY DISH 2.5 L	1
2	LABORATORY DISH 1.0 L	1
3	KIDNEY TRAY 275MM 750ML	1
4	SCALPEL HANDLE #7 ENGLISH NO.5 160MM	1

**3 - Retractor**

Liver transplant system / resection system

consisting of:

S.No	Items Description	QTY.
1	MUENSTER WISHBONE RETRACTOR U SHAPED	2
2	MUENSTER FRAME HOLDER	1
3	MUENSTER WISHBONE RETRACTOR V SHAPED	2
4	MUNSTER CONNECTION CLAMP	4
5	MUENSTER OCTAG.NOTCH ROD 200MM W/JOINT	4
6	WRENCH 10MM	1
7	MUNSTER ABDOMINAL BLADE 62MMX76MM	4
8	MUNSTER ABDOMINAL BLADE80MM X80MM	4
9	MUNSTER BLADE 48MMX90MM	4
10	MUNSTER BLADE 48MMX105MM	4
11	ABDOMINAL WALL HOOK100X100MM	4
12	ABDOMINAL WALL HOOK 100X120MM	4

13	MUNSTER KELLY BLADE 63MMX55MM	4
14	BLADES PAIR 58X80MM BSC.	1
15	BLADES PAIR 72X84MM BSC.	1
16	MUNSTER LIVER BLADE 140MMX85MM	4
17	MUNSTER BLADE MALL 40MM	4
18	MUNSTER BLADE MALL 50MM	4
19	MUNSTER BLADE MALL 85MM	4
20	MUNSTER HARRINGTON BLADE 127MMX62MM	2
21	WIRE BASKET FOR STORING VALVES	1
22	WIRE BASKET FOR STORING ABDOMINAL RINGS	1

Open Surgery Instruments (Reusable)

S.No	Items Description	QTY.
1	BIPOLAR PREP.SCISSORS FINE TIP 230MM	1
2	BIPOL.FORCEPS AAG FL.STR.0.9MM 200MM	1

Kidney Transplant System / Retractor System

S.No. 10 Consisting of:

S.No	Items Description	QTY.
1	MUNSTER WISHBONE RETRACTOR U SHAPED	2
2	MUNSTER FRAME HOLDER	1
3	MUNSTER WISHBONE RETRACTOR V SHAPED	2
4	MUNSTER CONNECTION CLAMP	4
5	MUNSTER OCTAG.NOTCH ROD 200MM W/JOINT	4
6	WRENCH 10MM	1
7	MUNSTER ABDOMINAL BLADE 62MMX76MM	4
8	MUNSTER ABDOMINAL BLADE80MM X80MM	4
9	MUNSTER BLADE 48MMX90MM	4
10	MUNSTER BLADE 48MMX105MM	4
11	ABDOMINAL WALL HOOK100X100MM	4
12	ABDOMINAL WALL HOOK 100X120MM	4
13	MUNSTER KELLY BLADE 63MMX55MM	4

14	BLADES PAIR 58X80MM BSC.	1
15	BLADES PAIR 72X84MM BSC.	1
16	MUNSTER LIVER BLADE 140MMX85MM	4
17	MUNSTER BLADE MALL 40MM	4
18	MUNSTER BLADE MALL 50MM	4
19	MUNSTER BLADE MALL 85MM	4
20	MUNSTER HARRINGTON BLADE 127MMX62MM	2
21	WIRE BASKET FOR STORING VALVES	1
22	WIRE BASKET FOR STORING ABDOMINAL RINGS	1

**Containers Validated For 5000 Cycles(Life Time containers.)**

S.No	Items Description	QTY.
1	BOTTOM FOR 1/1 CONTAINER HEIGHT:135MM	12
2	PRIMELINE CLEAR LID 1/1 SIZE	12
3	1/1 SIZE PERF BASKET 540X253X76MM	12
4	SILICONE CUSHIONING PAD 1/1 SIZE	12
5	STERILIT I OIL SPRAY	24

S.No	Items Description	QTY.
1	MAIER FORCEPS W/RCHT CVD260MM	2
2	BACKHAUS TOWEL CLAMP 110MM	6
3	TOWEL CLAMP FOR PAPER CLOTHS 115MM	4
4	MAIER FORCEPS W/RCHT STR 260MM	4
5	LABORATORY DISH 0.16 L	1
6	LABORATORY DISH 0.4 L	1
7	KIDNEY TRAY STAINLESS STEEL 250MM	1
8	SCALPEL HANDLE #4 135MM	1
9	SCALPEL #4L	1
10	SCALPEL HANDLE #3 125MM	1
11	TC BABY-METZ SCISSORSDEL CVDB/B145MM	1

12	TC METZENBAUM SCISSORS DEL CVD 180MM	1					
13	TC METZENBAUM SCISSORS CVD 200MM	1					
14	TC NELSON-METZ SCISSORS CVD 230MM	1					
15	TC NELSON-METZ SCISS CVD 260MM	1					
16	TC NELSON-METZ SCISSORS DEL CVD 285MM	1					
17	TC SUTURE WAVECUT SCISSORS CVD 180MM	1					
18	TC SUTURE SCISS W/1 SERR CVD 230MM	1					
19	TC LEXER SCISS NARR CVD 165MM	1					
20	SURGICAL SCISSORS STR S/B145MM	1					
21	TC DE'BAKEY CV DUCT SCISS 220MM	1					
22	TISSUE FORCEPS STR 1X2 145MM	2					
23	DISSECT.FORCEPS MED.WIDE 1X2T.200MM	2					
24	TISSUE FORCEPS 1X2 TEETH 250MM MED.	2					
25	DE'BAKEY ATR.FCPS 2.0MM STR150MM	2					
26	DE'BAKEY ATR.FCPS 2.0MM STR 200MM	2					
27	DE'BAKEY ATR.FCPS 2.0MM STR240MM	2					
28	DISSECTING FORCEPS INSULATED 200MM	1					
29	TISSUE FORCEPS INSULATED 200MM	1					
30	KOCHER FORCEPS STR 1X2 140MM	6					
31	PEAN FORCEPS STR 140MM	6					
32	HALSTED-MOSQUITO FCPS DELCVD1X2125MM	6					
33	HALSTED-MOSQUITO FORCEPS DEL CVD125MM	10					
34	HALSTED DELICATE FORCEPS STR 185MM	2					
35	HALSTED-MOSQUITO FCPSDELSTR1X2185MM	2					
36	KOCHER-OCHSNER FORCEPS STR 1X2 200MM	2					
37	KOCHER-OCHSNER FORCEPS STR 1X2240MM	2					
38	DE'BAKEY ATR.BULLDOGCLAMP CVD.25/80MM	2					
39	DE'BAKEY ATR.BULLDOGCLAMP CVD.30/90MM	2					
40	ALPHA VASCULAR CLAMP ANGLED 350 GRAMS	2					
41	ALPHA VASCULAR CLAMPSLT CURVED350 GRAM	2					
42	ALPHA VASCULAR CLAMP CURVED 350 GRAMS	2					
43	DE'BAKEY ATR.COARCTAT.CLMPANG65/225MM	2					

44	DE'BAKEY PERIPHERAL CLAMP 60DG180MM	2					
45	DE'BAKEY AORTA ANEURYSM CLMPCVD270MM	1					
46	DERRA PEDIATRIC FORCEPS 26MM175MM	1					
47	DE'BAKEY TANGENTIAL CLMP1.38MM-WD220MM	1					
48	DBAKY TNGENTIAL CLMP 2.48MM-WIDE 265MM	1					
49	DE'BAKEY TANGENTIAL CLMP 54/99/270MM	1					
50	DBAKY TNGENTIAL CLMP 4.58MM-WIDE270MM	1					
51	DE'BAKEY TANGENTIAL CLMP 5 75MM-W280MM	1					
52	DE'BAKEY CLAMP 60DG 55/85MM220MM	1					
53	DE'BAKEY CLAMP 60DG 65/100MM 275MM	1					
54	DE'BAKEY CLAMP 60 100/135/285MM	1					
55	DBAKEY AORTA ANEURYSM CLMPCVD130/315MM	2					
56	GUYON ATR.KIDNEY CLAMP230MM	1					
57	OVERHOLT-GEISS SUTURE FCPS #3 CVD225MM	2					
58	OVERHOLT FORCEPS # 1 CVD 295MM	2					
59	OVERHOLT-GEISS SUTURE FCPS#2CVD270MM	2					
60	MIXTER SUTURE FORCEPS RT-ANG 230MM	2					
61	DE'BAKEY SUTURE FORCEPS CVD230MM	1					
62	DE'BAKEY-RUMEL SUTURE FCPS CVD245MM	1					
63	MIXTER FORCEPS LONG-SERR 250MM	2					
64	MIKULICZ PERITONEUM FORCEPS CVD.200MM	6					
65	HABERER RIBBON RETRACTOR 50/40MM 305MM	1					
66	ATR.OVUM FORCEPS STR SM250MM	2					
67	VOLKMANN BONE CURETTE #0 5.2MM 170MM	1					
68	NELATON DIRECTOR W/TONGUE CVD160MM	1					
69	DOUBLE-ENDED PROBE 1.5MM 200MM	1					
70	DAVIS VASCULAR SPATULA 245MM	1					
71	ALLIS ATR.FORCEPS 8.4MM 255MM	2					
72	ROUX RETRACTOR3/SET 165MM	1					
73	LANGENBECK RETRACTOR 28X14MM	2					
74	LANGENBECK RETRACTOR 40X10MM	2					
75	KOCHER-LANGENBECK RETR 55X11MM 215MM	2					

76	VOLKMANN RETR4-PRGSEMI-S8.5X19220MM	2
77	FRITSCH ABDOMINAL RETRACTOR 46X75MM #4	2
78	MIKULICZ ABDOM.RETRACTOR 155X50MM 250MM	2
79	MIKULICZ ABDOMINAL RETRACTOR 180X50MM	2
80	CUSHING VEIN RETRACTOR 10X13MM 205MM	1
81	CRILE VESSEL HOOK BLUNT 90DEG 6/200MM	1
82	CUSHING VESS.HOOK BL.90DEG 6/280MM	1
83	TC CRILE-WOOD NDL HLDRSTRSERR 145MM	2
84	TC MAYO-HEGAR NDL HOLDERHVYSERR205MM	2
85	TC WANGENSTEEN NEEDLE HLDR SERR275MM	1
86	TC DE'BAKEY NDL HOLDER DEL SERR 180MM	2
87	TC DE'BAKEY NDL HOLDER DEL SERR 260MM	2
88	INTERIOR BOX F/BL930	2
89	REDON SPIKE CH.10 SLIGHT.CVD.KNIFE TIP	1
90	REDON SPIKE CH.12 SLIGHT.CVD.KNIFE TIP	1
91	TC RYDER NEEDLE HOLDERX-DELSERR210MM	1

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**NEURO SURGERY INSTRUMENT SET**

LAMINECTOMY INSTRUMENT SET

S.NO	DESCRIPTION	QTY.
1	SCALPEL HANDLE #3 E	1
2	SCALPEL HANDLE #4 E	1
10	METZENBAUM SCISSORS STR 145MM E	1
11	METZENBAUM SCISSORS CVD 145MM E	1
12	METZENBAUM SCISSORS CVD180MM E	1
13	METZENBAUM DISSECT..SCISSORS CVD.200MM	1
9	CUSHING DISSECT.FORCEPS STR.180MM	1
6	CAIRNS DOTT DISSECT.FORCEPS 178MM	2
7	DISSECT.FORCEPS MED.WIDE 1X2T.180MM	1
8	WAUGH DISSECT.FORCEPS 1X2T.184MM	1
4	RAMPLEY DRESSING FORCEPS,250MM	2

3	BACKHAUS TOWEL CLAMP 135MM E	6					
53	TC CRILE-WOOD NDL HLDRSTD SERR185MM	1					
50	TC MAYO-HEGAR NDLHOLDERHVYSERR150MM	1					
51	TC MAYO-HEGAR NDL HOLDERHVYSERR185MM	1					
52	TC MAYO-HEGAR NDL HOLDERHVYSERR205MM	1					
47	MAYO-HEGAR NEEDLE HOLDER150MM E	1					
48	MAYO-HEGAR NEEDLE HOLDER185MM E	1					
49	MAYO-HEGAR NEEDLE HOLDER200MM E	1					
15	WOUND RETRACTOR TRAVERS	2					
14	ANDERSON-ADSON RETR 4X4 SHARP 190MM	2					
17	HARVEY JACKSON RETRACTOR SHARP 3X3T.	1					
16	BECKMANN-ADSON RETR 4X4 SEMI-S 305MM	1					
18	CASPAR RETR ONLY F/BV450 W/KEY TE749	1					
19	CASPAR BLD 4-PRONGS 37X52MM F/BV450R	2					
26	KERRISON 130DG-UP 2MM 180MM	1					
27	KERRISON 130DG-UP 3MM 180MM	1					
29	KERRISON 130DG-UP 5MM 180MM	1					
28	KERRISON 130DG-UP 4MM 180MM	1					
32	RONGEUR CHUSHING ANG.UP 3X140MM	1					
33	RONGEUR CUSHING ANGLED UP 4 X 140MM	1					
34	RONGEUR CHUSHING ANG.DOWN 3X140MM	1					
35	RONGEUR CHUSHING ANG.DOWN 4X140MM	1					
30	LOVE-GRUENWALD RONGEURSTR2X10MM130MM	2					
31	SPURLING RONGEUR STR 4X10MM135MM	2					
36	CUSHING RONGEUR STR 2X10MM180MM	1					
38	LOVE-GRUENWALD RONGUP-BITE3X10MM180MM	1					
37	SPURLING RONGEUR STR 4X10MM180MM	2					
40	LOVE-GRUENWALD RONGDN-BITE3X10MM180MM	1					
41	SPURLING RONGEUR DWN-BITE 4X10MM180MM	1					
39	SPURLING RONGCVDUP-BITE4X10MM178MM	1					
5	WATSON-CHEYNE DISSECTOR LGTH 191MM	1					
42	STILLE OSTEOTOME FINE 25/205MM	1					
20	PENNYBACKER RONGEUR 203MM	1					
25	LEKSELL RONG FCPSDBACT.CVD 245MM	1					

24	STILLE BONE RONGEUR230MM	1
21	STILLE-RUSKIN BONE RONGEUR240MM	1
22	LUER-STILLE BONE RONGEUR STR 225.MM	1
23	LUER-STILLE BONE RONGEUR CVD 225MM	1
43	FERG-FRAZIER SUCT 6FR 2/110MM WRK-LGTH	1
44	FERG-FRAZIER SUCT 7FR110MM WRK-LGT	1
45	FERG-FRAZIER SUCT 9FR 3/110MMWRK-LGTH	1
46	FERG-FRAZIER SUCT 12FR 110MM WRK-LGT	1
54	1/1 SIZE PERF BASKET 485X253X76MM	1
	<b>Sterlization container Validated for 5000 Cycles</b>	
55	BOTTOM FOR 1/1 CONTAINER HEIGHT:120MM	3
56	CLEAR LID 1/1 SIZE	3
57	1/1 SIZE PERF BASKET 540X253X56MM	3

**LAMINECTOMY INSTRUMENT SET**

S.No	DESCRIPTION	QTY.
1	SCALPEL HANDLE #3 E	1
2	SCALPEL HANDLE #4 E	1
3	BACKHAUS TOWEL CLAMP 135MM E	6
4	RAMPLEY DRESSING FORCEPS,250MM	2
5	DANDY DELICATE FORCEPS CVD140MM	25
6	HUDSON HAND DRILL SET COMPLETE	1
7	TWIST DRILL 2MM DIA	1
8	HOOK HANDLE F/WIRE SAWS	3
9	GIGLI WIRE SAW FINE6-WIRES400MM	5
10	DEMARTEL CONDF/WIRE SAWSFLEX350MM	1
11	ELEVATOR CAIRNS 178MM	2
12	WEITLANER RETRACTOR 3X4T. SH.130MM	1
13	OLIVECRONA BONE RONGEUR CVD 205MM	1
14	LUER-STILLE BONE RONGEUR CVD 225MM	1
15	OLIVECRONA SPATULAFLATFLEX7&9MM178MM	1
16	OLIVECRONA SPATULA FLAT FLEX 11&13MM	1
17	OLIVECRONA BRAIN SPATULA 15 A.18MM	1



18	OLIVECRONA BRAIN SPATULA 18 A.22MM	1					
19	RASPATORY MCKISSOCK STR.197MM	2					
20	DAVIS VASCULAR SPATULA 245MM	1					
21	FERG-FRAZIER SUCT 7FR110MM WRK-LGT	1					
22	FERG-FRAZIER SUCT 9FR 3/110MMWRK-LGTH	1					
23	FERG-FRAZIER SUCT 12FR 110MM WRK-LGT	1					
24	KRAYENBUEHL NERV HKSHRTBALL-TIP184MM	2					
25	LOVE NERVE ROOT RETRACTOR STR 220MM	2					
26	SCHMIEDEN-TAYLOR DURA SCISSORS 155MM	2					
27	METZENBAUM SCISSORS CVD180MM E	1					
28	METZENBAUM DISSECT.SCISSORS STR.180MM	2					
29	MAYO-HEGAR NEEDLE HOLDER150MM E	1					
30	MAYO-HEGAR NEEDLE HOLDER185MM E	1					
31	TC MAYO-HEGAR NDLHOLDERHVYSERR150MM	1					
32	TC MAYO-HEGAR NDL HOLDERHVYSERR185MM	1					
33	TC DEBAKEY NEEDLE HOLDER 150MM	1					
34	TC DEBAKEY NDL HOLDER DEL SERR 180MM	1					
35	ADSON TISSUE FCPS FINE W/1X2T 120MM E	2					
36	ADSON FORCEPS SERR 120MM E	2					
37	DISSECT.FORCEPS MED.WIDE 1X2T.180MM	1					
38	CAIRNS DOTT DISSECT.FORCEPS 178MM	2					
39	KERRISON 130DG-UP 2MM 180MM	1					
40	KERRISON 130DG-UP 3MM 180MM	1					
41	FRAZIER BRAIN PUNCTURE CANNULA	2					
42	PENNYBACKER RONGEUR 203MM	1					
43	CONE LAMINECTOMY RETRACTOR 3 X 4 TEETH	1					
44	FORCEPS BAYO 1X2 200MM	2					
45	SPURLING RONGEUR STR 4X10MM180MM	2					
46	YASARGIL MICROFORM BAYO FCPS .6MM180MM	1					
47	YASARGIL MICROFORM BAYO FCPS.9MM180MM	1					
48	YAS. MICRO SCISSDELBAYOSTS/S225MM	1					
49	YAS.MICRO SCISS BAYOUP-CVDS/S225MM	1					
50	LABORATORY DISH 0.4 L	2					
51	KIDNEY TRAY STAINLESS STEEL 250MM	1					

52	1/1 SIZE PERF BASKET 485X253X76MM	1
53	TUNNELING INSTRUMENT 450MM	1
54	CLOWARD TYPE RETRACTOR W/5 BLADES 250MM	1
	<b>Sterlization container Validated for 5000 Cycles</b>	
	BOTTOM FOR 1/1 CONTAINER HEIGHT:120MM	3
	CLEAR LID 1/1 SIZE	3
	1/1 SIZE PERF BASKET 540X253X56MM	3

**TRANSPHENOIDAL PITUATARY SET**

S.No	Description	QTY.
1	FOERSTER SPONGE FCPS SERR STR 242MM E	2
2	BACKHAUS TOWEL HOLDING FORCEPS,110MM	1
3	SCALPEL HANDLE #3 E	2
4	TOENNIS-ADSON SCISSORS DEL CVD175MM	1
5	SURGICAL SCISSORS STR S/B145MM E	4
6	TISSUE FORCEPS STR 1X2 145MM E	1
7	GERALD DISSECT.FORCEPS STR.1X2T.175MM	1
8	GRUENWALD FORCEPS BAY.SH.W/O.T.200MM	2
9	KOCHER-LANGENBECK RETR 41X11MM216MM	1
10	CRILE-WOOD NEEDLE HOLDER 150MM	2
11	COTTLE CHISL/OSTEO.W/DPTH-MRK4MM178MM	1
12	COTTLE CHISEL/OSTEOTOMEW/MRK9MM178MM	1
13	COTTLE OSTEOTOME 6MM178MM	1
14	COTTLE Mallet FLAT/RND235G30MM184MM	2
15	FREER ELEVATOR S/B185MM	1
16	COTTLE ELEVATOR DBEND 203MM	1
17	BONE RASPATORY 8MM #2 165MM	1
18	HARTMANN NASAL SPECULUM LIGHT 145MM	1
19	CUSHING-LANDOLT SPECULUM 70X15MM	1
20	CUSHING-LANDOLT SPECULUM 90X15MM	1

21	CUSHING-LANDOLT SPECULUM 110X15MM	1
22	LANDOLT SPREADER F/SPECULUM OK100R-02R	1
23	KERRISON 130DG-UP 2MM 180MM	1
24	KERRISON 130DG-UP 3MM 180MM	1
25	KERRISON 130DG-UP 4MM 180MM	2
26	LANDOLT TUMOR FORCEPS BLUNT 9MM200MM	1
27	YASARGIL RONGEUR STR D:3.5/190MM	1
28	WEIBLAKESLEY RONGEURSTR3.6MM121MM	1
29	LANDOLT DISS MALLRTBLUNT DWN261MM	1
30	LANDOLT DISS MALLRTBLUNT UP261MM	1
31	LANDOLT CURETTEMALLSPATULA-TIP260MM	1
32	LANDOLT CURETTE MALL RND-TIP260MM	1
33	LANDOLT CURETTE MALL RND-TIP260MM	1
34	NICOLA CURETTE MALL LFT-CUT 260MM	1
35	NICOLA CURETTE MALL ANG 260MM	1
36	HARDY CURETTE MALL D:4/260MM	1
37	HARDY CURETTE MALL D:6/260MM	1
38	LANDOLT RASPATORY D:3.2/260MM	1
39	YASARGIL MOVABLE MIRROR D:6MM	1
40	FERGUSSON SUCT.CANN D:2.5MM WORK.L.200MM	1
41	FERGUSSON SUCT.CANN D:4.0MM WORK.L.200MM	1
42	LABORATORY DISH 0.16 L	1
43	KIDNEY TRAY STAINLESS STEEL 250MM	1
	<b>Sterlization container Validated for 5000 Cycles</b>	
44	BOTTOM FOR 1/1 CONTAINER HEIGHT:120MM	3
45	CLEAR LID 1/1 SIZE	3
45	1/1 SIZE PERF BASKET 540X253X56MM	3

**VASCULAR BASIC SET**

1	FOERSTER SPONGE HOLD.FORC.,SERRAT.JAWS	2
2	BACKHAUS TOWEL HOLDING FORCEPS,110MM	8

3	SCALPEL HDL.NO.3	1					
4	SCALPEL HDL.NO.4	1					
5	METZENBAUM DISSECT.SCISSORS CVD.145MM	1					
6	METZENBAUM DISSECT.SCISSORS CVD.200MM	1					
7	MAYO DISSECT.SCISSORS CVD.170MM	1					
8	OP.SCISSORS,STR.,BL/SH,145MM	1					
9	POTTS-DE MARTEL SCISSORS25DGS/S185MM	1					
10	POTTS-DE MARTEL SCISSORS45DGS/S185MM	1					
11	POTTS-DE MARTEL SCISSORS60DGS/S185MM	1					
12	TOENNIS-ADSON SCISS X-DEL CVD 175MM	1					
13	DEBAKEY ATRA FCPS 2.0MM STR150MM	1					
14	DEBAKEY ATRA FCPS 2.0MM STR 200MM	1					
15	TISSUE FORCEPS,STD.PATT.,1X2 T.,145MM	1					
16	DISSECT.FORCEPS STD.PATT.1X2T.200MM	1					
17	CUSHING DISSECT.FORCEPS STR.200MM	1					
18	HALSTED MOSQUITO FORCEPS STR.125MM	6					
19	CRILE ARTERY FORCEPS CVD.140MM	6					
20	PEAN ARTERY FORCEPS STR.140MM	6					
21	KOCHER-OCHSN.ARTERY FORC.1X2T.STR.160MM	4					
22	KOCHER-OCHSN.ARTERY FORC.1X2T.STR.200MM	2					
23	BABY-MIXTER FORCEPS HEAVY-CVD180MM	1					
24	OVERHOLT FORCEPS # 1 CVD209MM	1					
25	BABY-MIXTER FORCEPS CVD 140MM	1					
26	ALLIS ATRAUMATIC FORCEPS 6.2MM 155MM	1					
27	HALSEY NEEDLE HOLDER 130MM	1					
28	CRILE-WOOD NEEDLE HOLDER 150MM	1					
29	HEGAR-MAYO NEEDLE HOLDER 200MM	1					
30	TC RYDER NEEDLE HOLDERX-DELSERR155MM	1					
31	DESCHAMPS NDLF/RT-HNDBLTLNG-HK215MM	1					
32	DIRECTOR W/TONGUE STR 145MM	1					
33	DOUBLE-ENDED PROBE 1.5MM 145MM	1					
34	CUSHING VEIN RETRACTOR 10X13MM 203MM	2					
35	SENN-MILLER RECTOR. SH. 8X7/18X5.5MM	2					
36	FARABEUF RTRCTRS23X16/28X16-20X16/24X16	1					
37	VOLKMANN RETR4-PRGSEMI-S8.5X19222MM	2					
38	KOCHER-LANGENBECK RETR 41X11MM216MM	2					
39	CRILE VESSEL HOOK BLUNT 90DG 6/203MM	1					
40	ADSON-BABY RETRACTOR 3X4 BLUNT130MM	1					

41	ADSON LAMIN RETR 5X4 SEMI-S 325MM	1					
42	DAVIS VASCULAR SPATULA 245MM	1					
43	SCHMIDT DISSECTOR BLUNT 235MM	1					
44	DEBAKEY DILATOR MALL 1.0MM 190MM	1					
45	DEBAKEY DILATOR MALL 1.5MM 190MM	1					
46	DEBAKEY DILATOR MALL 2.0MM 190MM	1					
47	DEBAKEY DILATOR MALL 2.5MM 190MM	1					
48	DEBAKEY DILATOR MALL 3.0MM 190MM	1					
49	DEBAKEY DILATOR MALL 3.5MM 190MM	1					
50	DEBAKEY DILATOR MALL 4.0MM 190MM	1					
51	DEBAKEY DILATOR MALL 4.5MM 190MM	1					
52	DEBAKEY DILATOR MALL 5.0MM 190MM	1					
53	NABATOFF VEIN STRIPPER SET	1					
54	HANDLE FOR RING STRIPPER	1					
55	ENDARTERECTOMY STRIPPER 2.0MM	1					
56	ENDARTERECTOMY STRIPPER 3.0MM	1					
57	ENDARTERECTOMY STRIPPER 4.0MM	1					
58	ENDARTERECTOMY STRIPPER 6.0MM	1					
59	ENDARTERECTOMY STRIPPER 7.0MM	1					
60	ENDARTERECTOMY STRIPPER 8.5MM	1					
61	ENDARTERECTOMY STRIPPER 10.0MM	1					
62	ENDARTERECTOMY STRIPPER 12.0MM	1					
63	ENDARTERECTOMY STRIPPER 14.0MM	1					
64	SCHMID IRRIGATING CANNULA MALLEAB.LL.	1					
65	SCHMID IRRIGATING CANNULA MALLEAB.LL.	1					
66	GUIDE F/FB651R	1					
67	DEBAKEY BULDGX-ACT23MMJAWCVD78MM	1					
68	DEBAKEY BULDGX-ACT35MM JAWSTR90MM	2					
69	DEBAKEY BULDGX-ACT31MM JAWCVD86MM	2					
70	DEBAKEY BULDGX-ACT42MMJAWCVD97MM	1					
71	DEBAKEY ATRA MOSQUITO FCPS STR125MM	1					
72	DEBAKEY ATRA MOSQUITO FCPS CVD 125MM	1					
73	PEAN-DEBAKEY ATRAUMATIC FRCPS STR155MM	2					
74	PEAN-DEBAKEY ATRAUMATIC FRCPCVD 155.MM	2					
75	DEBAKEY ATRA COARCTAT. CLMPSTR65/225MM	1					
76	DEBAKEY PERIPHERAL CLAMP 60DG180MM	1					
77	DEBAKEY BLLDG CLAMPRING-HDL45DG25MM	1					
78	DEBAKEY COARCTAT FCPSANG15DEG50/165MM	1					

79	DERRA PEDIATRIC FORCEPS 26MM175MM	1
80	COOLEY PEDIATRIC CLAMP 60DG 30/160MM	1
81	PELKMANN FORCEPS CVD SERR261MM	1
82	KIDNEY TRAY STAINLESS STEEL 250MM	1
83	LABORATORY DISH 0.16 L	1
	<b>Sterlization container Validated for 5000 Cycles</b>	
84	BOTTOM FOR 1/1 CONTAINER HEIGHT:120MM	3
85	CLEAR LID 1/1 SIZE	3
86	1/1 SIZE PERF BASKET 540X253X56MM	3

**Neuro High speed Drill with Craniotome & Perforatos (Electric)**

S.No	Description	QTY.
1	MICROSPEED UNI CONTROL UNIT W/COOL.UNIT	1
2	MICROSPEED UNI FOOT CONTROL ONE PEDAL	1
3	MICROSPEED UNI MOTOR CABLE F/FOOT CTRL.	1
4	MICROSPEED UNI XS HIGHSPEED MOTOR	2
5	MICROSPEED UNI PERFORATOR DRIVER	1
6	XS ANGLED HANDPIECE I	1
7	XS STRAIGHT HANDPIECE I	1
8	XS ANGLED HANDPIECE II	1
9	XS STRAIGHT HANDPIECE II	1
10	XS CRANIOTOME HANDPIECE	1
11	XS FIXED DURAGUARD I	2
12	XS FIXED DURAGUARD II	2
13	XS HOLDING SLEEVE F/GB740R	1
14	CRANIAL PERFORATOR 9/12MM HUDSON SHANK	1
15	CRANIAL PERFORATOR 6/9MM HUDSON SHANK	1
16	ECCOS SET F/MICROSPEED UNI NEUROSURGERY	1
17	BOTTOM FOR 1/1 CONTAINER HEIGHT:135MM	1
18	CLEAR LID 1/1 SIZE	1
19	POWER SYSTEMS OIL SPRAY	6
20	XS DIAMOND BURR II D1.0MM	6
21	XS DIAMOND BURR II D1.4MM	6
22	XS CRANIOTOME CUTTER I	6
23	XS CRANIOTOME CUTTER II	6

**Set of Microsurgery Instruments for Neurosurgery**

S.No	Description	QTY.
1	YASARGIL MICRO SCISSORSSTRSERR225MM	2
2	YASARGIL MICRO SCISSORS UP-CVD245MM	2
3	YASARGIL MICROFORM BAYO FCPS.6MM240MM	2
4	YASARGIL MICROFORM BAYO FCPS.9MM240MM	2
5	MICROFORM TUMOR FORCEPS 3MM 240MM	2
6	MICROFORM TUMOR FORCEPS 5MM 240MM	2
7	YASARGIL NEEDLE HOLDER BAYO STR225MM	2
8	SAMII KNIFE/TUMOR TISSRND1.5MM230MM	2
9	SAMII KNIFE/TUMORTISSRND3.0MM230MM	2
10	SAMII KNIFE/TUMOR TISSRND4.5MM230MM	2
11	KRAYENBUEHL NERVE HOOK BALL-TIP 184MM	2
12	KRAYENBUEHL NERVE/VESSEL HKSHARP184MM	2
13	SENSATION MICROSCIS S/S BAY STR 90/217MM	2
14	SENSATION MICROSCIS S/B BAY STR 90/217MM	2
15	SENSATION MICROSCIS B/B BAY STR 90/217MM	2
16	SENSATION MICROSCIS S/B BAY CVD 90/217MM	2
17	MUELLER MICRO-SCISSORS CVD S/S 120MM	2
18	MICRO-SCSRFLT-HDL/CROSS-SERCVD120MM	2
19	VANNAS MICRO-SCISSORS ANGL.120MM	2
20	VANNAS MICRO-SCSRCRS/SER-HDLSTR160MM	2
21	MICRO-SCISSORSRND-HDLCVD S/S145MM	2
22	DIADUST MICRO RING FORCEPS 1MM CVD.185MM	2
23	DIADUST MICRO RING FORCEPS 2MM STR.185MM	2
24	MICRO FORCEPS DE'BAKEY 1MM STR.185MM	2
25	MICRO FORCEPS DE'BAKEY 1MM STR.210MM	2
26	YASARGIL NEEDLE HOLDER BAYO STR 200MM	2
27	YASARGIL NEEDLE HOLDERBAYOUP-CVD200MM	2
	<b>Sterlization container Validated for 5000 Cycles</b>	

	BOTTOM FOR 1/1 CONTAINER HEIGHT:120MM	5
	CLEAR LID 1/1 SIZE	5
	1/1 SIZE PERF BASKET 540X253X56MM	5

**ORTHO.INSTRUMENTS SETS**

S.No	Items Description	QTY.
1	BONE HOLDING FORCEPS (STANDARD SET)	1
	<b>Sterilization Contener for above set</b>	
	BOTTOM FOR 1/1 CONTAINER HEIGHT:90MM	1
	FULL-SIZE LID W/RETENTION PLATE SILVER	1
	<b>Total of Bone Holding Set</b>	
2	BASIC INSTRUMENTATION F/SCREWS/PLATES	1
	<b>Sterilization Contener for above set</b>	
	BOTTOM FOR 1/2 CONTAINER HEIGHT:90MM	1
	1/2-SIZE LID W/RETENTION PLATE SILVER	1
	<b>Total of Basic Ins F/Scr &amp;Plates</b>	
3	SET OF BONE SCREWS	1
	<b>Sterilization Contener for above set</b>	
	BOTTOM FOR 1/2 CONTAINER HEIGHT:120MM	1
	1/2-SIZE LID W/RETENTION PLATE SILVER	1
	<b>Total Of Set Of Bone Screw</b>	
4	SET OF BONE PLATES SPHERIC.GLIDING HOLES	1
	<b>Sterilization Contener for above set</b>	
	BOTTOM FOR 1/2 CONTAINER HEIGHT:90MM	1
	1/2-SIZE LID W/RETENTION PLATE SILVER	1
	<b>Total Of Set Of Bone Plate Spheric Gliding Holes</b>	
5	INSTRUMENTATION F/ANGULAR NAIL PLATES	1
	<b>Sterilization Contener for above set</b>	



	BOTTOM FOR 1/1 CONTAINER HEIGHT:90MM	1					
	FULL-SIZE LID W/RETENTION PLATE SILVER	1					
	<b>Total Of Set Of Ins F/Angular Nail Plates</b>						
6	SMALL FRAGMENT INSTRUMENTATION	1					
	<b>Sterilization Contener for above set</b>						
	BOTTOM FOR 1/2 CONTAINER HEIGHT:90MM	1					
	1/2-SIZE LID W/RETENTION PLATE SILVER	1					
	<b>Total Of Set Of Small Faragment Ins</b>						
7	SMALL FRAGMENT AND MINI INSTRUMENTATION	1					
	<b>Sterilization Contener for above set</b>						
	BOTTOM FOR 1/2 CONTAINER HEIGHT:90MM	1					
	1/2-SIZE LID W/RETENTION PLATE SILVER	1					
	<b>Total Of Set Of Small Faragment &amp; Mini Ins</b>						
8	SMALL FRAGMENT IMPLANT SET W/PERF CONTAI	1					
	<b>Sterilization Contener for above set</b>						
	BOTTOM FOR 1/2 CONTAINER HEIGHT:90MM	1					
	1/2-SIZE LID W/RETENTION PLATE SILVER	1					
	<b>TotalOf Set Of Small Farg Impt Set W/ Perf Cont</b>						
9	SMALL FRAGMENT AND MINI IMPLANTS SET	1					
	<b>Sterilization Contener for above set</b>						
	BOTTOM FOR 1/2 CONTAINER HEIGHT:90MM	1					
	1/2-SIZE LID W/RETENTION PLATE SILVER	1					
	<b>Total Of Set Small Frag &amp; Mini Implants Set</b>						
10	EXTRACT.INSTRUMENTATION F/INTRAMED.PINS	1					
	<b>Sterilization Contener for above set</b>						
	BOTTOM FOR 1/1 CONTAINER HEIGHT:90MM	1					
	FULL-SIZE LID W/RETENTION PLATE SILVER	1					
	<b>Total Of Set Extract. Ins F/ Intramed . Pins</b>						

<b>Battery Operated Ortho. Drill With Oscillating Saw Complete System</b>						
1	BATTERY OPERATED SMALL DRILL	1				
2	BATTERY OPERATED DRILL AND REAMER	1				
3	BATTERY OPERATED OSCILLATING SAW	1				
4	UNIVERSAL K-WIRE ATTACHMENT	1				
5	REAMER ATTACHMENT AO-LARGE	2				
6	DRILL ATTACHM.LARGE JACOBS	1				
7	REAMER ATTACHM.HUDSON/ZIMMER	1				
8	DRILL ATTACHMENT AO-SMALL	1				
9	ECCOS SET F/ACCULAN 3TI MOTORS/ACCESSOR.	2				
10	BOTTOM FOR 1/1 CONTAINER HEIGHT:135MM	2				
11	CLEAR LID 1/1 SIZE	2				
12	CHARGING UNIT	1				
13	MAINS CORD 5M LONG	1				
14	LID	1				
15	STERILE FUNNEL	2				
16	BATTERY REMOVAL DEVICE	2				
17	NIMH BATTERY	2				
18	NIMH BATTERY SHORT	2				
19	DISP.SAW BLADE RAPID ACTION 90/13/.89	5				
20	DISP.SAW BLADE RAPID ACTION 90/25/1.27	5				
21	STERILIT POWER SYSTEMS OIL SPRAY	6				
22	DISP.SAW BLADE RAPID ACTION 90/19/1.27	5				
<b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b>						
40	<b><u>LAPAROSCOPE SET 7MM WITH ACCESSORIES</u></b> Telescope Dia 7mm, 300mm long 0° Telescope Dia 7mm, 300mm long 25° Telescope Dia 7mm, 300mm long 50° Tracer Sleeves 7mm with Insufflation tap. Metal Sleeve, Standard Straight Distal Tip WL 150mm, 7mm Dia Metal Sleeve, Standard Oblique Distal Tip WL 100mm, 7mm Dia. Trocar Sleeve Conical Tip for use with Straight Tip Sleeve		01			

<p>Trocar Sleeve Pyramidal Tip for use with Straight Tip Sleeve</p> <p>Trocar Sleeve Conical Tip for use with Oblique Tip Sleeve</p> <p>Trocar Sleeve Pyramidal Tip for use with Oblique Tip Sleeve</p> <p>Reducing adapter for reduction from Dia 7mm to 5.5mm</p> <p>A traumatic Grasping Forceps both jaws Opening WL430mm</p> <p>A traumatic Grasping Forceps both jaws Opening Babcock WL 430mm</p> <p>Grasping Forceps blunt, both jaws opening WL 430mm</p> <p>Grasping Forceps 14mm tapered, both jaws opening WL310mm</p> <p>Grasping Forceps with teeth, both jaws opening. WL 310mm</p> <p>Grasping Forceps with one teeth, grooved, both jaws opening WL310mm</p> <p>Grasping Forceps with Two teeth grooved WL 430mm</p> <p>Grasping Forceps for fine structures WL 310mm</p> <p>Grasping Forceps and coagulation forceps, both jaws opening WL 310mm</p> <p>Grasping and Dissecting Forceps both jaws opening WL 310mm.</p> <p>Grasping and Dissecting Forceps curved left both jaws opening. WL 430mm</p> <p>Grasping and Dissecting Forceps 18mm, tapered, both jaws opening WL 310mm</p> <p>Grasping and Dissecting Forceps 20mm, single jaw action WL 310mm</p> <p>Grasping and dissecting forceps 15mm single jaw action</p> <p>Universal Grasping Forceps both jaws opening WL 310mm</p> <p>Plate shaped grasping Forceps both jaws opening WL 310mm</p> <p>Biopsy Forceps Spiked, both jaws Opening WL430mm</p> <p>Biopsy Forceps Cutting action WL430mm</p> <p>Biopsy Forceps Cutting action WL430mm</p> <p>Hook Punch by Frangenheim, cutting action. WL 310mm</p> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
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41	<p><b><u>C-ARM</u></b>  A Mobile C-Arm Image Intensifier suitable for use in Operation Theatres for Surgical procedures. The Control Panel should be fully feather touch for easy cleaning and disinfections.</p> <p>A) <b><u>IMAGE INTENSIFIER:</u></b>  Image Intensifying Tube : 9 Inches, Triple Field.  CCD Camera: High Resolution Compact CCD Camera. B/W, Pixels 752 X 582.  Monitor (2 Nos) : 15" or 17" Monitor along with a trolley.</p> <p>B) <b><u>C-ARM MOVEMENTS:</u></b>  Rotation : ±180°.  Motorized Up/Down : 430 mm  Horizontal Travel : 220 mm  Arc Orbital Movement : 125°.  Wig Wag : ±12.5°.</p> <p>C) <b><u>X-RAY GENERATOR:</u></b>  High Frequency (40 KHz) with Max. Output power 6 KW and Rotating Anode Tube of focal spot 0.3mm (small) &amp; 0.6mm (Large) to be provided.</p> <p>D) <b><u>CONTROL:</u></b>   LCD display of kV &amp; mA range)  Technic Selector switch for Fluoro &amp; Rad. Mode Selection.  KV Selection from 40 to 120 KY in steps  An inbuilt Radiographic Timer to select mAs in steps for more than 240mAs.  A 5 minutes cumulative Timer with Buzzer  Fluoro mA from 0.1-3 mA, continuously variable.  Indicators for left/right, up/down Image Rotation should be provided on Control Panel.  Thermal Safety cut off'.  The unit should be operable on SinglePhase 230 Y ±10% AC, 50 Hz  Automatic Brightness Stabilizer should be provided.  Provision must exist on Control Panel for easy identification of faults, to minimize the downtime.  Iris Collimator should be provided.  High Definition mode upto 7.5 mA should be available  Emergency fluoroscopy must be provided  Anatomical Programmed should be provided in radiography mode  Emergency stop of mains supply should be provided</p> <p>E) <b><u>DIGITAL IMAGE MEMORY SYSTEMS</u></b> should include the following:-  100 Frame Storage Memory with last image hold, Recursive filter, Pulsed fluoroscopy, Negative image &amp; contrast enhancement.  Should be operable from Memory Panel as well as Remote control. Facility to transfer and Store image in Pen Drive as well as through LAN Port should be available. Should display Date and Time.</p> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				
42	<p><b><u>Battery Operated Sternum Saw Specifications</u></b>  Dedicated cardio thoracic reciprocating saw hand piece  Operating speed variable &amp; stepless from 1000-14000 cpm</p>	01				

	<p>Small, ergonomic, quiet and light weight hand piece at 760g  Single trigger operation with safe mode selector  Handpiece of metal anodised aluminium construction  Tool-less quick fit blade locking mechanism  Reciprocating blade stroke 3.7mm  Single size micro adjustable (steerable) blade guard  Handpiece will have the option of:  - Sterile Li-Ion battery power; 13.2V large &amp; small capacity  - Aseptic (non sterile) NiMH battery power; 14.4V large, 10.8V medium &amp; small capacity  Handpiece should be of the DC brushless motor type  Handpiece should be of the high performance, hermetically sealed hybrid motor controller type  Handpiece should be fully machine washable  Lithium Ion sterilisable battery technology with 5-bar LED battery capacity fuel gauge  Unidirectional &amp; bidirectional cutting accessories  Half size sterilisation container</p> <p><b>Battery Charger</b>  4 position battery charger with diagnostic function, healthcare check and conditioning cycle. Health care check can be initiated by the user if required  Microprocessor controlled fully automatic intelligent charging system.  All sizes of sterile and aseptic batteries can be charged at the same time in any combination  Standard charging time of five to forty five minutes depending on the condition of the battery  Simple touch-screen LCD user interface display  Display shows battery empty, charging, finished, health check, light use &amp; replacement status  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
43	<p><b><u>Cell Saver</u></b></p> <p>Autotransfusion system intended for use in surgeries in which medium- to high-volume blood loss occurs, such as trauma cases.</p> <p>The system delivers moderate hematocrit and helps to remove traces of undesirable components, such as free hemoglobin, and is a critical tool in helping you avoid unnecessary allogeneic transfusions.</p> <p>Smart Suction technology integrated into the system to increase the opportunities to reinfuse your patients with a greater number of viable red blood cells (RBCs).</p> <p>The Cell Saver system provides improved data collection and transfer with an integrated bar code reader, a USB port for quick download of up to 100 stored procedures, and proprietary Blood Track Manager CS application for data storage and reporting</p> <p>Washout performance: (&gt;95% Albumin removal, &gt;95% Free hemoglobin removal, &gt;95% Heparin removal)  Data Collection and Management: Integrated bar code reader, USB port &amp; Data Manager application  Smart Suction: Integrated Smart Suction technology or manual suction up to -250 mmHg</p>	01				

	<p>Color Touch Screen: Easy-to-read graphic displays and onscreen help</p> <p>Programmable Parameters: Ability to define user-specific collection parameters and save them for future use.</p> <p>Separation Technology: Latham bowl and blow-molded bowl</p> <p>Multiple Bowl Sizes: 70 mL, 125 mL &amp; 225 mL</p> <p>Platelets Sequestration: Simplified disposables and user interface</p> <p>Light Weight and Portable: Provides increased flexibility and mobility for movement through the hospital</p> <p>Machine with cart (IV pole extended)</p> <p>Pump speed 0–1000 mL/min (adjustable)</p> <p>Centrifuge speed Latham bowl: 5650 rpm</p> <p>Blow-molded bowl: 7500 rpm</p> <p>Sequestration: 2050-5650 rpm (adjustable)</p> <p>Voltage 100–240 VAC ±10%</p> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
44	<p><b>THROMBOELASTOGRAPH</b></p> <p>Test / Assays: For measuring clot formation, clot kinetics, clot strength &amp; clot stability.</p> <p>Suited for all point-of-care &amp; lab testing situations.</p> <p>Microprocessor-controlled electromechanical coagulation instrument to determine all phases of coagulation in fresh and citrated whole blood samples.</p> <p>Two (2) independent measuring channels per analyzer &amp; up to eight (8) channels per computer.</p> <p>Individual temperature control for each channel.</p> <p>Measuring technique — shear elasticity of a coagulating sample, determined by motion of the pin.</p> <p>Disposable cups and pins with Heparinase.</p> <p>Platelet inhibition reagents: for the measurement of platelet inhibition by anti-platelet drugs.</p> <p>Anticoagulant dosages can be adjusted</p> <p>Data management and connectivity-ready capability.</p> <p>Long-term data storage and retrieval, with access to patient and quality control test data.</p> <p>Test results are stored in the order in which they are performed.</p> <p>The ability to externally transfer or save data enhances the system's versatility.</p> <p>Cup drive — Line-synchronized, with synchronous motor</p> <p>Transducer — Electrical-mechanical transducer of movement of torsion wire connected to the suspended pin</p> <p>Sample volume — 360 µ L or less.</p> <p>Power — external power supply, 220V model @ 50 Hz</p> <p>Initial warm-up time — Less than five minutes to warm sample</p> <p>Operating position — Setting verified with spirit level</p> <p>Desktop PC with licensed windows</p> <p>Weight not more than 08 kg.</p> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				

45	<p><b><u>VIDEO ENDOSCOPE SYSTEM, LIGHT SOURCE,GASTROSCOPE AND COLONOSCOPES WITH ORIGINAL TROLLEY &amp; LARGE LCD MONITOR</u></b></p> <p>Image Processor adopts the state-of-the-art technology to provide the high quality endoscopic image, and the safe and effective clinical diagnosis. The built-in workstation of the image processor is used to edit, manage and store the patient information, and print the patient report, which can well communicate with the network information system of the hospital. System maintenance and upgrade can be completed by updating software to achieve product improvements and advanced technology. The image processor complies with the international standards and regulations.</p> <p>Built-in workstation  300W of Xenon light source  500GB storage  Compatible with USB keyboard</p> <p><b><u>Interface</u></b>  Endoscope signal input port  Video output port: DVI port (1), component RGB/YPbPr port (1), S-VIDEO port (1), CVBS port (1), VGA port (1)  Video print control port  Footswitch</p> <p>Gigabit Ethernet network port (IEEE 802.3 )  USB ports (3)  RS232 ports (2)  Grounding terminal  Power supply port  Touch control panel</p> <p><b><u>Specifications</u></b>  Automatic white balance  White balance memory function  Automatic gain control: On/Off  Color tone adjustment Red: -9 to +9; Blue: -9 to +9  Structure enhancement Mode A: 0 -8; Mode B: 0 -8  Edge enhancement: I, II, III  Contrast enhancement: Low, medium or high  CHb enhancement: 0 -8  Automatic brightness control Auto: -9 to +9;Peak: -9 to +9;Average: -9 to +9  Magnification: ×1.4, ×1.6, ×1.8  Image freeze/storage: Supported by the button on the endoscope, keyboard or footswitch  Display mode: full screen and dual display  Monochrome display: On/Off  CHb chrome display: On/Off  Built-in workstation For patient information management: The patient information can be created, edited, saved, searched, printed, marked by bodymark, viewed in the form of report, backed up and exported. For digital image management: The image can be acquired, archived, transmitted, displayed, searched and is compatible with DICOM standard.  Storage capacity: ≥500GB  Support system version update</p>	01				
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Output format: Analog signal: PAL, NTSC Digital signal: 720P, 1080P, SXGA (1280×1024)

**Monitor:**

LCD monitor: 19" color display

Resolution: 1280×1024

Response time: 5ms

Dot pitch: 0.294 x 0.294mm

Visible angle: 170°

Video input port: S-VIDEO (1), CVBS (1), RGB/YPbPr (1), VGA (1), DVI-D (1)

Video output port: S-VIDEO (1), CVBS (1), RGB/YPbPr (1)

**Light Source: Technical Specification**

Unit should be with the xenon lamp as light source for endoscope system. On the basis of its special luminescence mechanism, the xenon lamp can provide better cold light source and longer lifespan than the traditional halogen lamp. Its color temperature approaches to that of the sunlight.

**Advanced Technologies**

Aspheric optical technology

Capacitor touch screen

**Functions:**

300W xenon lamp

Instantaneous strong light transmission

Auto output protection when the light source is not connected to the endoscope.

Auto brightness adjustment

Manual brightness adjustment

Auto spare lamp switch

Air blast cooling

Prompt for components replacement

Overheating protection

**Specifications**

Air feeding: 4 options (OFF, L, M and H)

Brightness adjustment: 19 levels

Max. output light flux: 1800 lumen ±10%

CCT: 5900K±10%

Color rendering index: > 90%

Adaptable optical fibre NA: NA0.55

Light output spot diameter: 5mm

Average operating life: 500 hours (continuous)

Spare lamp: halogen lamp, 12V/5A

Average operating life of spare lamp: 50 hours

**Interfaces**

Endoscope interface

Air pump interface

Brightness adjustment

Power switch

Lamp switch



	<p>Air pump switch  Light source indicator  Air pump indicator  Equipotential interface  Air pump feeding interface  Water bottle hook  <b>Complete with following items:</b>  Image processor 01  Video Gastroscope 01  Video Colonoscope 01  Original Trolley with LCD 01  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
46	<p><b><u>ECG MACHINE 3 CHANNELS WITH ORIGINAL TROLLEY</u></b>  <b>Foldable Display LCD Screen Size 5 to 6” inch</b>, Vivid waveform display,  Automatic ECG Measurement and interpretation software standard,  Paper Speed: 5mm/s, 6.25mm/s, 10mm/s, 12.5mm/s, 25mm/s, 50mm/s (±3%)</p> <p>Auto/Manual/Rhythm work modes, Automatic baseline adjustment,  Complete digital filtering, resisting baseline drift, AC and EMG interface,  Lead off detection and alarm, Built in high resolution thermal printer,  Built-in rechargeable Li-ion battery, for more than 5/6 hours backup,  Large patient data storage 150/200 which can be enlarged by a USB flash disk,  Communication interface: Ethernet/RS232/USB connections standard,  External USB printer port for connecting Laser printer/low cost printing,  With all standard accessories with original mobile trolley/arm for cable.  Note: The offered should be latest with FDA, TUV, CE and MDD certified</p> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				
47	<p><b><u>EXAMINATION AND TREATMENT CHAIR FOR GYNECOLOGY</u></b>  ELECTRO HYDRAULIC WITH COMPLETE ACCESSORIES WITH VIDEO COLONOSCOPE FULL HD WITH 21” MONITOR  AND EXAMINATION LIGHT 50000 LUX LED TYPE  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				
48	<p><b>DELIVERY BED COMPLETE ELECTRO HYDRAULIC WITH COMPLETE ACCESSORIES</b>  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				
49	<p><b>EXAMINATION LIGHT LED 50000 LUX OR MORE COMPLETE</b>  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				
50	<p><b>LATEST PATIENT TRANSPORT SYSTEM MOBILE FOR EMERGENCY, OUT PATIENT, INTENSIVE CARE, XRAY DEPT. COMPLETE WITH MEDICAL MATTRESS, IV POLE, ANTIMICROBIAL COATING WITH STRONG CASTORS WITH BRAKES</b>  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				

51	<p><b><u>PNEUMATIC TUBE SYSTEM COMPLETE / LATEST (FOR TRAUMA &amp; LAB BUILDINGS AT GIMS)</u></b></p> <p>TECHNICAL DETAILS:  MODE OF OPERAITON:  FULLY AUTOMATIC MULTI ZONE SYSTEM – REVERSING OPERATION  08 STATIONS IN IN LAB AND 10 STATIONS IN TRAUMA BUILDING  TOTAL 18 STATIONS WITH CARIER RACK 110MM TOTAL 54 PCS,  OPERATING SYSTEM: WINDOWS 2000 OR XP / LATEST, LCD MONITOR,  COMPLETE PC SYSTEM WITH GRAPHICAL DISPLAY OF ALL ZONES WITH MONITORING AND CARRIER FLOW IN GRAPHIC AND ALPHANUMERIC, STATUS INDICAITON OF ALL ZONES IN DIFFERENT COLORS, ACCESS TO PROGRAMMING MODE WITH DIFFERENT PASSWORDS IN DIFFERENT ACCESS LEVELS, AUTO START WILL AUTOMATICALLY COMPLETE ANY TRANSACTION IN PROGRESS WHEN POWER IS LOST/OFF, REAL TIME CLOCK, ZONE MASTER CONTROL, FIRE ALARM SYSTEM, AUTOMATIC DISTRIBUTION OF EMPTY CARRIERS, CARRIERS CAN BE RECALLED,  COMPLETE ACCESSORIESWITH FOLLOWING ACCESSOIRES:  RECEIVING BASKET, STEEL SLEEVES, DIVERTERS 2 WAY, 3 WAY, 4 WAY, TUBE SWITCH, OPTICAL, AIR REDUCTION CARRIERSTOP,  ZONE MASTER, COMPLETE WITH PC SYSTEM AND PRINTER,  BLOWER WITH CONTROL, AIR TUBE FLEXIBLE / TRANSPARENT,  SPARE PARTS FOR TROUBLE SHOOTING/SERVICE PURPOSE.  A HEAVY DUTY FULLY AUTOMATIC STRONG AND LATEST SYSTEM SHOULD QUOTED WHICH CAN BE CAPABLE TO CONNECT 250 OR ABOVE STATIONS FOR FUTURE EXTENSTION IN OTHER BUILDINGS. SYSTEM SHOULD BE CAPABLE TO CONNEXT 30 ZONES OR ABOVE.  QUOTED PRICES MUST INCLUDE:  COMPLETE STRONG PACKING EACH ITEM WITH FREIGHT CHARGES, INSTALLATION/COMMISSIONING THROUGH FOREIGN TRAINED ENGG. OPERATINNAL TRAINING AT SITE WITH 02 YEARS WARRANTY/PARTS.  NOTE: THE QUOTED SYSTEM SHOULD HAVE MAJOR HOSPITAL REFERENCE SITE IN PAKISTAN WITH CE/FDA CERTIFICATES.  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				
52	<p><b>PROFESSIONAL ECG SYSTEM (15/18 LEADS)</b></p> <p><b>Advance Features:</b>  15” or more high-resolution foldable color TFT touch-screen  Water proof alphanumeric keyboard, 12/15/18 lead ECG acquisition,  Automatic measurement and interpretation tested with authoritative and latest CSE/AHA/MIT data base, support on screen diagnosis,  Support USB flash disk/SD card external memory, Support Linear/2D barcode scanner,  PDF, SCP, FDA-XML and Dicom data export capabilities with HL7/Dicom connectivity,  Complete digital filters, resisting baseline drift, AC and EMG interference  Ethernet and RS-232 interface for data transmission to PC  Built-in rechargeable Lithium battery for up to 4 hour backup</p>	01				

	<p>Sleep mode for saving energy and extending LCD life  Real-time waveform freezing 120 seconds ECG waveform reviewable  Waveforms and auto-diagnosis results preview before printing  Automatic arrhythmia detection and recording  180 ECGs recording in internal memory  Automatic measurement and interpretation  Heart rate variability (HRV) analysis  Trolley and cable bracket standard  <b>Note: Reputable brand with FDA/CE certified products should be quoted.</b>  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
53	<p><b><u>HIGH END TRANSPORT MONITOR (FOR AMBULANCES/EMERGENCIES/TRANSPORT)</u></b>  LIGHT WEIGHT AND PORTABLE DESIGN SUITABLE FOR ADULT/PAEDS/NEONATE  AMBULATORY DESIGN WITH AP44 WATER PROOF AND DUSTPROOF  1.2M SHOCK RESISTANCE, LARGE CAPACITY BUILT IN MEMORY  PACEMAKER DETECTION, ELECTROSURGICAL INTERFERENCE PROOF  DEFIBRILLATION PROTECTION AND DEFIB SYNCHRONIZATION  ECG ALGORITHM OPTIMIZED FOR ARRHYTHMIA DETECTION  PACEMAKER DETECTION AND HR MEASUREMENTS.  12 LEAD DIAGNOSIS ALGORITHM WITH 200 KINDS OF ANALYSIS RESULTS  SP02 ALGORITHM WITH OUTSTANDING MOTION RESISTANCE AND  LOW PERFUSION RESISTANCE PERFORMANCE  SIGNAL INTENSITY MEASUREMENT AS A BLOOD PERFUSION INDICATOR  NIBP ALGORITHM OPTIMIZED FOR CARDIAC PATIENTS, HYPERTENSIVE  PATIENTS AND NEONATAL PATIENTS  LATEST NO FAN DESIGN, BI DIRECTIONAL COMMUNICATION WITH  CENTRAL MONITORING SYSTEM, SUPPORT HL7 VIA XML FILES WITH  RECHARGEABLE LITHIUM BATTERY 4 HOURS, TOUCH SCREEN STANDARD  NOTE: ONLY FDA/CE CERTIFIED LATEST MODELS SHOULD BE QUOTED.  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				
54	<p><b><u>VACUUM EXTRACTOR WITH SILICONE CUPS</u></b>  MOBILE HEAVY DUTY VACUUM EXTRACTOR  FOR OB/GYNE AND OPERATION THEATRE  CONVENIENT HANDLE FOR EASY MOVEMENT  COMPARTMENT FOR KEEPING ACCESSORIES  HIGH VACUUM AND HIGH FLOW RATE  FLOW RATE 90 L/MIN (HEAVY DUTY)  MAX. VACUUM PRESSURE: 675 MMHG  TWO UNBREAKABLE &amp; AUTOCLAVABLE JARS  WITH ANTIBACTERIAL &amp; HYDROPHOBIC FILTER  CAPACITY EACH JAR 4000 ML WITH FOOT SWITCH  OIL LESS PISTON TYPE VACUUM PUMP,  OVER FLOW VALVE SYSTEM STANDARD</p>	01				

	<p>SILICON AUTOCLAVABLE TUBES  MOBILE ANTISTATIC CASTERS 04 WITH  02 BRAKES, FULL ABS STRONG BODY,  WITH 02 SILICONE CUPS SMALL/MEDIUM  <b>Note: FDA/CE certified products should be quoted.</b>  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>				
55	<p><b><u>DIATHERMY MACHINE</u></b>  Electro Surgical Unit designed for speed, Accuracy and simplicity incorporating Biopolar and monopolar outputs simultaneously and Work independently of each other and a second Monopolar output is available. Both Biopolar and monopolar generators should provide Cutting and coagulation output modes giving optional speed and Precision which is essential when the minimization of tissue damage Is a priority.  <b>Input</b>  Mains 230V A.C.  240V A.C.  220V A.C. 50/60Hz  11 0V A.C.  Stabilized for ± 10%  Monopolar  Open Circuit  Power Crest Output  Factor Voltage(peak)  Normal cut 345W 1.9 1150  Blend 300W 3.0 2200  Cut (specialist) 345W 2.1 1500  Pinpoint Coag. 170W 5.1 2150  Spray Coag. 79W 8.7 4000  Nominal load 150-200 Ohms  Bipolar  Coag. high range 50W Variable 150  low range 15W Variable 230  Nominal load 100 Ohms  Frequency  Monopolar 475kHz  Bipolar 785kHz  Safety  Built to comply with EN60601-1:1990 and IEC 60601-2-2:1998  Class 1 Defibrillator proof</p>	01			

	<p>Drip-proof Leakage Currents Patient leakage (MSK) current: always less than 100 microamps to earth (ground) from all patient circuits at 230v 50Hz for the unit in normal conditions. Accessory Sets 0.6mm pointed tip. <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
56	<p><b><u>BODY PLETHYSMOGRAPH :</u></b> The Body Box combines powerful software, advanced digital technology and flow sensor to provide unparalleled ease of operation, reliability and infection control solutions for complete Pulmonary Function assessment. Body Plethysmograph offers comfort, easy access and flexible Testing options for all patients, children through adults. Spirometry, Thoracic Gas Volumes (TGV), Airways Resistance (RAW &amp; SGAW), Diffusing Capacity (DLco) by Real Time MultiGas Technology, Respiratory Mechanics (MIP/MEP), User-Defined Predicted Sets, Trending, HIPAA Security Software, RTD Diffusing Capacity. Regulator Kit for RTD DLCO ED Gas, DLCO 21% O2, 0.3% CH4, 0.3% CO, Bal N2 . •Cabin Design Virtually no • Small internal volume improves sensitivity and provides rapid equilibration. •Maximizes usable space for patient comfort while maintaining low total volume. Data management solutions include system connectivity, physician review station and electronic medical record interface. • On screen alerts based on ATS/ERS criteria and standards, • Real-time help screens, • Report Designer. • Powerful Microsoft SQL database. • Easy to learn, “one button” testing. • Patient can easily be transferred from a wheelchair eliminating need for special ramps. Software • Complete spirometry, dilutional lung volumes and diffusing capacity can be performed outside the chamber. • Quiet, inflatable door seal with no mechanical latches. Easy Access for all Patients • limit to accommodate larger patients Meets or exceed current ATS/ERS standards and • No warm-up or re-calibration between patients. • Easy to disinfect. • The flow sensor can be sterilized. • On-board indicator lights. Flow Sensor • Automatic gas calibration. • ADC Module. •Advanced Digital Electronics specifications. PC and Printer will provide locally. <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				
57	<p><b><u>ULTRASONIC SURGICAL ASPIRATOR WITH DUAL FREQUENCY HAND PIECES 23KHZ &amp; 36KHZ</u></b> For use in different brain and spinal operations. Magnetostrictive technology with water cool hand pieces. Ultrasonic Surgical Aspirator (console) with foot switch control system. System capable of dual frequencies. (23 KHz and 36 KHz) Electric ultrasonic aspirating system 100 Watt output power. Irrigation flow maximum 25 ml to 50 ml/min. Suction pressure 0-0.6 bar.</p>	01				

	<p>Steam autoclaveable hand pieces.          Ultrasonic surgical aspirator system on mobile trolley with 4-wheel castors.          Variable dual energy / frequencies and control aspiration.          Tissue selection mode.          Integrated cooling and suction facility.          Compatible module for electrosurgical unit.          Built in irrigation pump in the unit. Irrigation output The irrigation rate display shows digits 1 – 10          One Hand Piece straight with resonance frequency 36 kHz.          One Hand Piece angled with resonance frequency 23 kHz          Sterilization case for each hand piece          Ultrasonic bone sculpting saber tip          Micro Tip for transphenoidal work          Biopsy collection Trap          Tubing kit for irrigation system          Tubing kit for suctioning system          FDA or European Directive 93/42/EEC, CE certificates CE12756  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>				
58	<p><b>SYRINGE PUMP</b>          MICRO PROCESSOR CONTROLLED WITH BACK LIT LCD DISPLAY          WITH SLIDER HOOK WITH COMPACT DESIGN AND LIGHT WEIGHT          AUDIBLE AND VISIBLE ALARMS WITH SENSOR          FLOW RATE CAN BE CALCULATED BY INPUTING DOSE RATE          OCCLUSION (UPPER &amp; LOWER), COMPLETE, LOW BATTERY,          DOOR OPEN, MALFUNCTION, BUBBLE          AUTOMATIC SYRINGE SIZE DETECTION:          10, 20, 30 AND 50 ML SYRINGES OF ANY BRAND.          FLOW RATE RANGE: 0.1 – 1200ml/h          INFUSED VOLUME &amp; VOLUME MAX. LIMIT RANGE : 1 – 999.9 ml          BATTERY: RECHARGEABLE NI-CD BUILTIN AS STANDARD  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01			
59	<p><b><u>Digital Mobile Radiography System with built in 22" Inch Screen</u></b>          Mobile x-ray unit, H.F. microprocessor controlled x-ray generator          Power 32 kW.          Rotating anode x-ray tube focus 0.8-1.3mm.          Tube anode heat capacity 107kHU.          Max values 300mA, 100kV.          22" Touch screen LCD console with full screen image.          System Weight: maximum 280 kg.          Portable strongly built detector.          Portable detector sustains a weight of 7.5kg.          The System is a digital mobile x-ray unit equipped with a wireless 36x43cm flat panel detector.          The System also features +180°/-180° rotation of the x-ray mono block arm to facilitate exam execution in narrow spaces.          The System is 100% microprocessor controlled and equipped with a large area 22" LCD high contrast touch screen console,          The System has been designed with extensive use of light-weight alloys, thus allowing easy system mobility with minimal effort and</p>	01			

no need for costly and heavy system motors.

The System is characterized with a “dead man” breaking system with a comfortable handle that facilitates the unit movement and positioning. The breaking system blocks the unit in any position, just releasing the handle. An automatic closedown system prevents the unit from remaining in ON mode for prolonged time.

The System is 100% DICOM compliant. Once the imaging session is completed, the entire study can be automatically sent to a PACS, a review workstation, or a DICOM printer; a large number of studies can be also maintained locally for temporary storage. And, most importantly, the intuitive Graphical User Interface makes the entire process smooth and easy. Needless to say the System DICOM layer has been thoroughly tested and will seamlessly interface with any DICOM environment.

The System is equipped standard with the image enhancement algorithm, which makes it possible to expand the latitude of a single image and see all the relevant clinical details at the same time and without time-consuming Window/Level adjustment.

**TECHNICAL FEATURES**

<i><b>RADIOLOGICAL CHARACTERISTICS</b></i>	
Maximum power	32 kW
Inverter frequency	40 kHz
Max ripple	< 1% at max power
Exposure times	2-2200 ms
kV range	40-100 kV
mAs range	40kv - 200 mAs 50kv – 180 mAs
Max curent	300 mA @ 100kv
Operating mode	Two-points
Anatomical techniques	Over 550 ANATOMICA TECHNIQUES can be stored
X-ray tube type	Rotating anode
X-Ray monoblock Colum arm rotation	± 90 deg.
Monoblock rotation around (X-Y axis)	X ±180 deg. Y +103 deg. / -50 deg.
Focus height min	2022 mm
Maximum anode heat content	80 kJ (107 KHU)
Thermal monoblock	600 kj (800KHU)
APR	➤ 1000
Maximum continuous anode heat dissipation	300 W (24 KHU/min)
<b>Internal Battery</b> for unplugged exams executions	Standard
<i><b>OPERATING CHARACTERISTICS</b></i>	
Operator interface	Rear-lit High-Contrast 1280 x 1024 <b>22” LCD touch screen display</b> for all the operating parameters and messages for any possible anomalous conditions

DAP camera	Optional
Automatic closedown	The unit is fitted with an automatic closedown system minutes of not being used. This features prevent the unit from remaining on by mistake for long periods
X-ray push button	Manual with double click and 4m extensible cable (standard)

**ACQUISITION SYSTEM**

	Flat panel detector	Wire and WIFI
IMAGE ACQUISITION & STORAGE	Acquisition resolution	3000x2372x16 bit
	Scintillator	Cesium Iodide (CsI)
	Detector dimensions	35x43 cm
	Pixel pitch	139 µm
	Max. spatial resolution	3,6lp/mm
	Max images locally archived	28000 images (no compression) 56000 images (lossless compression)
	Automatic LUT	YES, Linear and Logarithmic
	Image Enhancement	YES, Automatic
Anatomic Programs	YES, preconfigured and editable	
DICO 3.0	Print SCU	YES, (Optional)
	Store SCU/SCP	YES
	Worklist Management SCU	YES
	Media Storage SCU (CD/DVD)	Optional
	MPPS SCU	YES
	Storage Commitment SCU	YES
	Verification SCU/SCP	YES
	Query/Retrieve SCU	YES

**MECHANICAL CHARACTERISTICS**

X-ray monoblock arm rotation	± 180°
Width [cm]	74.5 cm
Length [cm]	152 cm
Height [cm]	148 cm
Focus height max. [cm]	202 cm
Handling	Dead man brake
Weight [kg]	~ 280 kg

**ELECTRICAL DATA**



	<table border="1"> <tr> <td>Power supply voltage</td> <td>Single phase, 230 Vac (240V – 110Vac optional) +/-10%</td> </tr> <tr> <td>Frequency</td> <td>50/60 Hz</td> </tr> <tr> <td>Maximum Absorbed Current</td> <td>16 A</td> </tr> <tr> <td>Line impedance</td> <td>0.4 Ω</td> </tr> <tr> <td colspan="2" style="text-align: center;"><b>ENVIRONMENT CONDITIONS</b></td> </tr> <tr> <td>Operating temperature</td> <td>From 15o C to 35o C</td> </tr> <tr> <td>Operating humidity</td> <td>From 30% to 75%</td> </tr> </table> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	Power supply voltage	Single phase, 230 Vac (240V – 110Vac optional) +/-10%	Frequency	50/60 Hz	Maximum Absorbed Current	16 A	Line impedance	0.4 Ω	<b>ENVIRONMENT CONDITIONS</b>		Operating temperature	From 15o C to 35o C	Operating humidity	From 30% to 75%					
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60	<p><b>CRRT Machine</b>  Multifunctional therapy system for acute application in renal replacement and plasma therapy.  CVVH/HV-CVVH  CVVHDF  SCUF  MPS  HP  Featuring an ergonomically, intuitive operating concept which incorporates a wide range of additional renal replacement therapies.  Other progressive and extensive technical features include: -  A high resolution LCD Colour screen  Four roller pumps  Four robust, high precision scales.  Two individual bag heating system  An integrated heparin pump  The multifiltrate is optimally designed to carry out highly efficient therapies in the nephrological and intensive care environment.  The CRRT machine should be constructed with special scales to enable to hold 24 liters of haemofiltration solution.  This volume of solution allows the system to carry out a safe and smooth renal replacement therapy without the necessity of replacing bags.  Cassette should be available  Cassette enables the extra corporeal circuit to be fitted quickly and easily.</p> <p><b>STANDARD ACCESSORIES SHOULD BE SUPPLIED WITH UNIT AND BELOW DISPOSABLE ACCESSORIES</b></p> <table border="0"> <tr> <td>CVVH Procedure Disposable Kit</td> <td>10 Nos.</td> </tr> <tr> <td>HV-CVVH Procedure Disposable Kit</td> <td>10 Nos.</td> </tr> <tr> <td>CVVHD Procedure Disposable Kit</td> <td>10 Nos.</td> </tr> <tr> <td>CVVHDF Procedure Disposable Kit</td> <td>10 Nos.</td> </tr> </table> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	CVVH Procedure Disposable Kit	10 Nos.	HV-CVVH Procedure Disposable Kit	10 Nos.	CVVHD Procedure Disposable Kit	10 Nos.	CVVHDF Procedure Disposable Kit	10 Nos.	01										
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CVVHDF Procedure Disposable Kit	10 Nos.																			
61	<p><b>CENTRAL OR INFORMATION HUB</b>  <b>Main Features: -</b>  Central OR Information Hub to be used in Operation Theatres  Brilliant 42” full HD touch display  High performance industrial-grade workstation  Home button for intuitive system control  Full flexibility of video inputs from analog to state-of-the-art digital  Integrated sound system with iPod, dock, speakers and volume control</p>	01																		

Sealed touch screen for easy disinfection  
 Scales from minimal-invasive all-in-one on-wall to fully-fledged highly inter-convertible in-wall configurations  
 Touch data and manipulate using only gestures.  
 Interactive DICOM viewer created specifically for intuitive operation by the surgeon. With its unambiguous, practical touch interface and broad range of features to be prepped for the OR.  
 Fast and easy access to medical image data  
 Surgeon optimized OR functionality  
 Quick and direct interaction with DICOM images  
 Simplified multi-touch drag & drop user interface  
 One touch multi-planar reconstruction  
 Add-on data enrichment options for a variety of specialties

**Scope of Delivery**

**1. PLATFORM**

**ON-WALL PACKAGE**

Centralized OR information hub combining the latest technology with appealing, modern design.  
 At its core is a large 42" display with ultra-slim multi-touch interface that displays excellent image quality in full HD.  
 The system based on a premium performance workstation allows for connection with a multitude of video signals and routing content on up to six full HD displays if required by the user.  
 The newly designed control concept ensures intuitive management of data sources and displays with its drag & drop functionality.  
 Fast and easy access to medical image data is provided through the integrated interactive DICOM viewer.  
 Procedures can be conveniently documented with screenshots or single/dual channel recording with a single click.  
 On-wall features an integrated sound system with speakers, iPod/iPhone dock and volume control that brings digital music in the OR.  
 The on-wall mounting also allows for a compact all-in-one system setup

**2. MULTI-TOUCH INFORMATION GATEWAY**

Next-generation OR Integration platform based on computer and network technology rather than classical rack-based hardware.  
 Efficiently designed to route medical images, patient data and video sources to be viewed within an OR environment.  
 Base unit with brilliant 42" full HD (1920x1080 pixels) multi-touch display  
 Ultra-slim touch control (optical touch technology) replacing mouse and keyboard  
 High-performance server-grade workstation with Hexa Core Intel Xeon W3680 CPU (3.33 GHz, 6 cores, 12MB cache), 6 GB of main memory and 320 GB storage  
 Routing of any display content to connected external displays  
 Video out functionality provides two outputs (multi-touch display and one additional display) from the PC with up to full HD resolution.  
 Additional video-in/out functionality provided through articles #15601 and #15604.  
 On-wall mounting for compact all-in-one system setup with workstation attached to touch display  
 Integrated sound system with speakers, iPod/iPhone dock and volume control brings digital music in the OR  
 CD/DVD drive and USB 3.0 ports at PC and additional USB ports at display for import of medical image data stored on external media  
 Seamless extension to fully integrated IGS operating room  
 Customer site pre-requisite for integration of IGS system: systems connected to local network infrastructure (minimum 100 Mbit/s, recommended 1 Gbit/s, effective network speed 40 Mbit/s, recommended maximum latency 2 ms)

Full integration with databases such as PACS and web-based HIS and documentation such as HD streams and recordings for easy data access  
 Fast simultaneous access to e.g. PACS/hospital network and integration with e.g. IGS C-Arms via 2x high-speed network connection (up to 1 Gbit/s each)  
 Intuitive operating system for patient-centric data handling, application and display management  
 Central "Home Button" ensures intuitive system control  
 Intuitive content management of available displays via "drag & drop" functionality  
 Streamlined patient-centric access to DICOM and image data from multiple sources (PACS, CD/DVD, USB, Network)  
 Unified search and load of patient image data from all available sources with optimized usability, including intelligent pre-fetching and buffering of patient image data for increased performance  
 Ability to merge different patient data sets  
 Export of treatment documentation (e.g. screenshots) and plans to network storage or USB  
 HIPAA-compliant feature set including authentication, accountability log and automatic log-off  
 Built-in webcam and microphone for video- and audio-conferencing  
 Future-proof and scalable solution through modular software concept  
 Built-in power supplies for fibre-optical transfer lines  
 Requires external power switch for display  
 Power Input 100-240V; 50/60Hz  
 Power Consumption Touch Display (incl. transfer lines) Max. 350W  
 Workstation (incl. transfer lines) Max. 600W  
 Total of up to 6 Full HD video outputs, Up to 4 video signals with up to Full HD resolution can be displayed simultaneously, 2x USB 2.0 and 2x USB 3.0

**ENVIRONMENTAL REQUIREMENTS**

Temperature (Operation) 10°C to 35°C [50°F to 95°F],  
 Temperature (Storage) -10°C to 50°C [-14°F to 122°F],  
 Humidity (Operation) 20% to 80%. (non-condensing),  
 Humidity (Storage) 10% to 90% (non-condensing)

**TOUCH DISPLAY**

- |                   |                                                                                                                                                                 |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cleanability:     | Alcohol-based (e.g. Meliseptol, Mikrozyd AF Liquid)<br>Alkylamine-based (e.g. Incidin Plus 2%)<br>Active oxygen-based (e.g. Perform)<br>Aldehyde/chloride-based |
| - Panel Size      | 42"                                                                                                                                                             |
| - Resolution      | Full HD (1920x1080)                                                                                                                                             |
| - White Luminance | 450cd/m <sup>2</sup>                                                                                                                                            |
| - Viewing Angle   | 178° horizontal, 178° vertical                                                                                                                                  |
| - Contrast Ratio  | Typ. 1200:1                                                                                                                                                     |
| - Color Depth     | 10bit, 1.06 Billion colors                                                                                                                                      |
| - Technology      | Active Matrix TFT, IPS panel                                                                                                                                    |
| - DICOM           | DICOM preset, re-adjustable in field                                                                                                                            |
| - Touch Screen    | Infrared based multi-touch panel                                                                                                                                |



	<ul style="list-style-type: none"> <li>- Planning workstations which meet minimum technical requirements Node Server / Customer workstations which meet minimum technical requirements.</li> <li>- <b>Minimum Technical Requirements</b></li> <li>- Operating System: Windows 7 (64-bit) with Service Pack 1 • Graphics: DirectX 11 compatible with 512MB graphics memory,</li> <li>- Display resolution: 1280x1024</li> <li>- Processor: 2 physical cores</li> <li>- RAM: 4 GB</li> <li><b>4. ORIGIN DATA MANAGEMENT</b></li> <li>- Origin operating system facilitating intelligent and automatic synchronization of data between platforms and offering easy access to all new software capabilities.</li> <li>- Universal patient data management software that allows for import of patient data in DICOM format on systems</li> <li>- Easy and intuitive user interface for streamlined access to patient data and applications</li> <li>- Full control with support of touch gesture interaction as well as mouse and keyboard support</li> <li>- Provides the same look and feel whether in the O.R. or office, while planning or navigating</li> <li>- PACS access via DICOM "Query/Retrieve" (compatible to all major PACS systems)</li> <li>- Import from PACS ("Query/Retrieve" and "Push"), USB, CD/DVD, Qentry and network</li> <li>- Import of any modalities including CT, MR, PET/SPECT, X-ray</li> <li>- Receipt of data via DICOM "Push"</li> <li>- Selection of patient from patient list on PACS (C-FIND)</li> <li>- Screenshots and video recordings in DICOM format (recording ) can be sent to PACS (C-STORE)</li> <li>- Intelligent export of screenshots (.png or DICOM) and video recordings (.mp4 or DICOM)</li> <li>- Data export to different destinations (e.g. PACS, USB,..)</li> <li>- Data import and export tools: media filter (CD, USB,&amp;hellip;) and browsing of network folders</li> <li>- Patient data management tools including new patient creation, merging and editing of patient data</li> <li>- Patient pinning allows for manual pre-loading of DICOM images (e.g. all patients that are scheduled for O.R. 3 on Thursday) in order to reduce waiting times for PACS</li> <li>- Support of DICOM worklist</li> <li>- Group-based user rights</li> <li>- Link to remote support (iHelp)</li> <li>- HIPAA-compliant feature set including authentication, accountability log and automatic log-off</li> <li>- Generic license valid for all applications installed on system</li> <li>- <b>PACS requirements for optimal performance</b></li> <li>- PACS should feature complete implementation of the DICOM query/retrieve protocol on study, series and instance level for optimal performance.</li> <li>- Alternatively, operation on series and study level or study level only is possible resulting in loss of performance and fidelity of the user interface.</li> <li>- PACS should allow for several parallel associations for optimal performance.</li> <li>- DICOM data retrieved from a long-term archive should be cached for optimal performance.</li> <li>- Recommended network connection speed of the client 1Gb/s with latency</li> <li>- Recommended achievable download bandwidth from PACS 100Mb/s.</li> <li><b>5. VIDEO INPUTS: TWO CHANNELS UP TO FULL HD</b></li> <li>- High-end dual-channel frame grabber enables connection and display of external medical video sources in full HD</li> </ul>					
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	<p>resolution.</p> <ul style="list-style-type: none"> <li>- Supports two external digital or analog inputs to PC with up to full HD resolution</li> <li>- Adds another two video outputs from PC with up to full HD resolution</li> <li>- Video input formats: S-video, Composite, HD-SDI, DVI, RGB/VGA</li> <li>- Video output format: DVI</li> </ul> <p><b>6. TRAINING ON-SITE (1 DAY)</b></p> <ul style="list-style-type: none"> <li>- One day on-site training to be provided by manufacturer Support Specialist for the whole system™</li> <li>- complete functionality including:-</li> <li>- Authentication</li> <li>- Patient selection</li> <li>- Image viewing</li> <li>- Connection and routing of video signals</li> <li>- Interconnection with navigation platforms</li> <li>- Treatment plan viewing and session sharing</li> </ul> <p><b>TO BE QUOTED SEPARATELY</b></p> <ul style="list-style-type: none"> <li>- <b>PLATFORM SOFTWARE FEATURES</b></li> </ul> <p><b>7. ORIGIN INTEGRATION OF OR PC INTO DIGITAL OR</b></p> <ul style="list-style-type: none"> <li>- Enables bi-directional communication between platform and a hospital OR PC.</li> <li>- OR PC desktop can be viewed and controlled on through touchscreen and displayed on external screens connected to main unit</li> <li>- Allows for remote control of software from OR PC</li> <li>- Control of content management of all displays</li> <li>- Control of treatment documentation features (screenshots, streaming and recording)</li> <li>- Applications available on platform (e.g. interactive DICOM viewer, navigation software, etc.) can be viewed and controlled from OR PC</li> <li>- OR PC is integrated into "home screen" as additional display</li> <li>- Other software applications can run simultaneously on OR PC. Easy switch between control software and other applications possible</li> <li>- Requires installation of software on OR PC that is provided by hospital</li> <li>- <b>Requirements &amp; comments:-</b></li> <li>- Requires Windows 7 (64 bit) operating system hospital OR PC</li> <li>- Display resolution: 1920x1080 or 1920x1200</li> <li>- NET Framework 4.0 must be installed</li> </ul> <p><b>8. ORIGIN INTEGRATION OF COMPATIBLE 3RD PARTY SOFTWARE ON SYSTEM</b></p> <ul style="list-style-type: none"> <li>- Allows for installation of compatible 3rd party software (e.g. HIS client) on system platform: installed applications can be accessed through user interface.</li> <li>- Installation of 3rd party software through service engineer</li> <li>- Applications installed can be accessed through Each application is represented by an icon on "home screen"</li> <li>- <b>Requirements &amp; comments:</b></li> <li>- Compatibility of 3rd party software with Windows 7 (64 bit) operating system required; System performance must not be affected severely by 3rd party software.</li> </ul> <p><b>9. ORIGIN STREAMING AND RECORDING WITH WEB PORTAL: 2X HD OR 1 X FULL HD</b></p> <ul style="list-style-type: none"> <li>- Live-streaming or recording in digital HD or full HD quality including portal for web-browser access from anywhere (e.g.</li> </ul>					
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	<p>PC in a surgeon's office).</p> <ul style="list-style-type: none"> <li>- HD Streaming and recording of two display contents simultaneously with HD quality or one display content with full HD quality</li> <li>- Digital HD or full HD streaming (1280x800/720p or 1920x1200/1080p resolution with state-of-the-art MPEG4/H.264-encoding) allows efficient transmission of live view of any display content (e.g. navigation software, microscope or endoscope video) to any web-browsing enabled computer connected to network (typical data transfer rate / network load only ~8 Mbit/s)</li> <li>- Digital HD or full HD recording (1280x800/720p or 1920x1200/1080p resolution with state-of-the-art MPEG4/H.264-encoding) of any display content (e.g. navigation software, microscope or endoscope video) to local or network connected storage (typical file size only ~8 Mbit/s, i.e. ~60 MByte per minute recording)</li> <li>- Screenshot function to capture any display content in native resolution and store to local or network connected storage</li> <li>- Intuitive one-click control interface for streaming, recording and screenshot functionalities seamlessly integrated in Content Manager</li> <li>- Direct web-access to live stream, digital recordings and screenshots via system portal page accessible from any web-browsing enabled computer -no further software installation required HIPAA-compliant feature set including authentication, accountability log and automatic log-off</li> <li>- Requirements and further information:</li> <li>- Access via HTTP; optional additional access via HTTPS (requires certificate to be purchased by customer)</li> <li>- Login via "NTLM Authentication Scheme for HTTP"; optionally NTLM can be disabled and Kerberos can be used instead (not supported by Mac OS• Single-sign-on (automatic login with domain account)</li> <li>- Web browsers: 32bit-versions of Internet Explorer 8, Mozilla Firefox 4, Google Chrome 11, Opera 11 on Windows, Google Chrome 12 on Mac OS X (or later versions) with VLC 1.1.11 (or later versions) and VLC browser plugin</li> </ul> <p><b>10. ORIGIN AUDIO AND VIDEOCONFERENCING</b></p> <ul style="list-style-type: none"> <li>- Web-based audio- and videoconferencing solution</li> <li>- Allows for audio and video communication between (i) system and office PC, or (ii) between two systems</li> <li>- Purely web-based solution that requires no installation of hardware or additional software on client side besides web browser</li> <li>- Conferencing application available for office use on a wide range of operating systems: Apple OS, Windows 7, Windows 8, Windows XP, Windows Vista</li> <li>- Equipped with built-in web camera and microphone for conferencing</li> <li>- Alternatively the surgeon can use an external microphone connected to (e.g. via bluetooth headset) for audio communication from sterile field (external microphone not provided).</li> <li>- When viewing a live stream from the OR (e.g. displaying live microscope video) a single-click in the web portal allows to call the OR for remote consulting.</li> <li>- For optimized conferencing user administration recommends to run the Conferencing application on an iPlan Net server or a hospital server.</li> <li>- Article only available</li> <li>- Customer requirement: Google Chrome</li> </ul> <p><b>11. ORIGIN SURGICAL CHECKLIST</b></p> <ul style="list-style-type: none"> <li>- Surgical checklist for improved patient safety</li> <li>- Electronic checklist is based on WHO principles</li> <li>- Checklist guides through different questions to make sure that e.g. the correct patient is operated at the correct site, the OR team prepares for risk of high blood loss, the OR team will avoid inducing an allergic drug reaction for which the patient is</li> </ul>					
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	<p>known to be at risk, etc.</p> <ul style="list-style-type: none"> <li>- Checklist is available in the following languages: English, German, Spanish, French</li> <li>- Customization of checklist items support engineer according to hospital-specific requirements</li> <li>- Full integration of checklist in Hospital Information System (HIS): document providing evidence that all steps in the checklist were completed is sent to HIS and embedded in the electronic medical record of the patient</li> <li>- Hospital-specific customization of the HL7 interface by support engineer to enable communication between system and HIS</li> <li>- Customer requirement for HIS integration: (i) HL7 interface in HIS, (ii) Node server or hospital server running the Surgical Checklist application</li> </ul> <p><b>12. ORIGIN INTEGRATION OF HOSPITAL INFORMATION SYSTEM (HIS)</b></p> <ul style="list-style-type: none"> <li>- Automatic data synchronization between platform and hospital servers</li> <li>- Automatic identification of patients scheduled for surgery based on HL7 messages or DICOM worklist provided by the hospital</li> <li>- Patient list is created accordingly and displayed in the user interface of the platform. Eliminates search for patient name or ID.</li> <li>- Automatic synchronization of patient image data with hospital server.</li> <li>- Pre-loading (e.g. overnight) of image data of the scheduled patients.</li> <li>- Advanced treatment documentation management: automatic saving of screenshots or video recordings to hospital servers and notification of HIS (patient name, ID and storage location)</li> <li>- Hospital-specific customization of HIS integration by support engineer required</li> <li>- Article only available</li> <li>- Customer requirement for HL7 integration: (i) HL7 interface in HIS, (ii) iPlan Net server or hospital server running a application</li> </ul> <p><b>13. ORIGIN STREAMING AND RECORDING WITH WEB PORTAL: 1 X HD</b></p> <ul style="list-style-type: none"> <li>- Live-streaming and recording in digital HD quality including portal for web-browser access from anywhere (e.g. PC in a surgeon's office)</li> <li>- Digital HD streaming (1280x800/720p resolution with state-of-the-art MPEG4/H.264-encoding) allows efficient transmission of live view of any display content (e.g. navigation software, microscope or endoscope video) to any web-browsing enabled computer connected to network (typical data transfer rate / network load only ~4 Mbit/s)</li> <li>- Digital HD recording (1280x800/720p resolution with state-of-the-art MPEG4/H.264-encoding) of any display content (e.g. navigation software, microscope or endoscope video) to local or network connected storage (typical file size only ~4 Mbit/s, i.e. ~30 MByte per minute recording)</li> <li>- Screenshot function to capture any display content in native resolution and store to local or network connected storage</li> <li>- Intuitive one-click control interface for streaming, recording and screenshot functionalities seamlessly integrated in Content Manager</li> <li>- Direct web-access to live stream, digital recordings and screenshots via system portal page accessible from any web-browsing enabled computer -no further software installation required</li> <li>- HIPAA-compliant feature set including authentication, accountability log and automatic log-off</li> <li>- Requirements and further information:-</li> <li>- Access via HTTP; optional additional access via HTTPS (requires certificate to be purchased by customer)</li> <li>- Login via "NTLM Authentication Scheme for HTTP"; optionally NTLM can be disabled and Kerberos can be used instead (not supported by Mac OS)</li> <li>- Single-sign-on (automatic login with domain account)</li> <li>- Web browsers: 32bit-versions of Internet Explorer 8, Mozilla Firefox 4, Google Chrome 11, Opera 11 on Windows, Google</li> </ul>					
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	<p>Chrome 12 on Mac OS X (or later versions) with VLC 1.1.11 (or later versions) and VLC browser plugin</p> <ul style="list-style-type: none"> <li>- Requires IPv4 (without NAT) and open network ports for video stream</li> </ul> <p><b>14. ORIGIN REMOTE CONTROL FROM TABLET INSIDE OR</b></p> <ul style="list-style-type: none"> <li>- Enables a tablet (e.g. iPad) inside OR to communicate with platform:</li> <li>- content of touch-display can be viewed and controlled from tablet</li> <li>- Allows for remote control of software from tablet: touch display can be viewed and controlled from tablet</li> <li>- Content management of all displays</li> <li>- Control of treatment documentation features (screenshots, streaming and recording).</li> <li>- Applications installed on platform (e.g. Interactive DICOM viewer) can be started, viewed and controlled from tablet</li> </ul> <p><b>Requirements &amp; comments:-</b></p> <ul style="list-style-type: none"> <li>- Alternatively the remote control is also possible from a Touch Panel PC</li> <li>- Tablet or Touch Panel PC not included</li> <li>- Tablet operating system: latest version of Android, iOS or Windows</li> <li>- Touch panel PC shall run latest version of Internet Explorer, Chrome or Firefox</li> <li>- WiFi available for tablet</li> <li>- Only available for Platform System</li> </ul> <p><b>ELEMENTS</b></p> <p><b>15. ELEMENTS TRAJECTORY PLANNING</b></p> <ul style="list-style-type: none"> <li>- Planning of multiple trajectories for neurosurgical approaches</li> <li>- Interactive crosshairs for target and entry point definition</li> <li>- Flexible scaling of trajectory diameter</li> <li>- Probe's Eye and Inline views for trajectory verification</li> </ul> <p><b>Platform support</b></p> <ul style="list-style-type: none"> <li>- With minimum Patient Data Manager version 2.0</li> <li>- Customer workstations which meet minimum technical requirements. Quotation of article 10959 - CUSTOMER HARDWARE ID is mandatory</li> <li>- Node server or customer server which meet minimum technical requirements</li> </ul> <p><b>Minimum Technical Requirements</b></p> <ul style="list-style-type: none"> <li>- Operating System: Windows 7 (64-bit) with Service Pack 1</li> <li>- Graphics: DirectX 11 compatible with 512MB graphics memory</li> <li>- Display resolution: 1280x1024</li> <li>- Processor: 2 physical cores</li> <li>- RAM: 4 GB</li> </ul> <p><b>16. ELEMENTS DICOM VIEWER 3D</b></p> <ul style="list-style-type: none"> <li>- Instantaneous, high-quality 3D visualization for analysis by and increased diagnostic confidence of the surgeon.</li> <li>- 3D volume rendering of CT, MR, PET, SPECT datasets, with presets for visualization of skin, bone, vessel, DRR and MIP</li> <li>- Superimposition of 3D dataset visualization and surgical planning data (volume objects, trajectories and labeled points)</li> <li>- Selection of region of interest to cut and zoom onto the relevant anatomical volume (only available in Elements DICOM Viewer)</li> <li>- Threshold adjustment to adapt visualization to density of relevant anatomy</li> </ul> <p><b>Platform support</b></p> <ul style="list-style-type: none"> <li>- With minimum Patient Data Manager version 2.0</li> </ul>					
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	<ul style="list-style-type: none"> <li>- Customer workstations which meet minimum technical requirements. CUSTOMER HARDWARE ID is mandatory</li> <li>- <b>Minimum Technical Requirements</b></li> <li>- Operating System: Windows 7 (64-bit) with Service Pack 1</li> <li>- Graphics: DirectX 11 compatible with 512MB graphics memory</li> <li>- Display resolution: 1280x1024</li> <li>- Processor: 2 physical cores</li> <li>- RAM: 4 GB</li> </ul> <p><b>17. ELEMENTS SMARTBRUSH</b></p> <ul style="list-style-type: none"> <li>- Quick and easy volumetric outlining of pathologies and anatomical structures in medical images</li> <li>- Immediate 3D contouring &amp; Instant volume calculation by outlining on just two orthogonal slices</li> <li>- Interactive target delineation by dynamically following the path of a cursor or touch of a finger</li> <li>- Intelligent contour expansion with ambient edge detection</li> <li>- Flexibility to outline, adapt and review in axial, coronal and sagittal planes</li> <li>- Support of various CT, MR or PET sequence types for volumetric contouring and review</li> <li>- Simultaneous inclusion of fused data sets with different modalities during outlining</li> <li>- Dedicated spanned view to further review and optimize objects in all directions</li> <li>- Slice-by-slice view and adaptation in brush mode</li> <li>- Fast update and modifications of automated atlas segmentation results</li> <li>- Intuitive user interface with both mouse and touch control compatibility</li> <li>- Automatic creation of "Volumetric Report" PDF files per object with representative screenshots and details on geometrical measurements like volume, RECIST and Macdonald criteria</li> <li>- <b>Platform Support</b></li> <li>- With minimum Patient Data Manager version 2.0</li> <li>- <b>Technical Requirements</b></li> <li>- Operating System: Windows 7 (64-bit) with Service Pack 1</li> <li>- Graphics: DirectX 11 compatible with 512MB graphics memory</li> <li>- Display resolution: 1280x1024</li> <li>- Processor: 2 physical cores</li> <li>- RAM: 4 GB</li> </ul> <p><b>18. ELEMENTS IMAGE FUSION</b></p> <ul style="list-style-type: none"> <li>- Fast and precise fusion, based on mutual information algorithm enables to exploit all anatomical &amp; functional data sets simultaneously</li> <li>- Automatic fusion of numerous modalities including CT, MRI (T1, T2, FLAIR, MRA), PET, SPECT (PET, SPECT fusion not available in Spine &amp; Trauma 3D version 2.0)</li> <li>- Automatic pair selection with instantaneous pre-alignment and fusion</li> <li>- Possibility of manual fine-adjustments in all dimensions</li> <li>- Definition of a "Region of Interest" in all dimensions to exclude areas from fusion</li> <li>- Color overlay in amber-blue and Spyglass functionality for reviews</li> <li>- Ability to fuse a series of image datasets from different modalities and points of time</li> <li>- Compatible with datasets of various body regions</li> <li>- <b>Platform Support</b></li> <li>- With minimum Patient Data Manager version 2.0</li> <li>- <b>Minimum Technical Requirements</b></li> </ul>					
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	<ul style="list-style-type: none"> <li>- Operating System: Windows 7 (64-bit) with Service Pack 1</li> <li>- Graphics: DirectX11 compatible with 512MB graphics memory</li> <li>- Display resolution: 1280x1024</li> <li>- Processor: 2 physical cores</li> <li>- RAM: 4 GB</li> <li>- <b>DISPOSABLES</b></li> </ul> <p>19. <b>DISPOSABLE STERILE TOUCHPENS (24 PACKS A 5 PCS)</b></p> <ul style="list-style-type: none"> <li>- Disposable sterile touch pens to control touch screen displays.</li> <li>- Quantity: 24 packs a 5 pcs</li> <li>- Disposable item</li> </ul> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
62	<p><b>AUSCULTATION SIMULATOR:</b></p> <p>Teaching aid to study heart diseases, especially those that students or doctors do not hear very often during their practical work. The model should have the facility to simulate the characteristic changes in heart sounds and murmurs associated with uncommon heart conditions.</p> <p>The simulator reproduces 20 different heart sounds at 4 positions (aortic, pulmonic, tricuspid, and mitral valves) as well as 10 different respiratory sounds at 3 positions. All sounds should be heard by using a stethoscope.</p> <p>The heart rate should be adjusted.</p> <p>Consists of a soft-skin torso, a smartscope and a digital remote control with English display.</p> <p>Size: 62 x 43.5 x 27.5 cm, weight: 12.6 kg</p> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				
63	<p><b>DICOM HEART MODEL, CLEAR</b></p> <p>The Heart Model should be based on CT scan data of a healthy, adult male and should be anatomically correct inside and out.</p> <p>The heart model should be pliable which allows seeing all internal structures.</p> <p>The model comes pre-cut for easy examination.</p> <p>Uses of the model:</p> <ul style="list-style-type: none"> <li>A simulator for practice in coronary artery bypass grafting or other surgery</li> <li>A catheterization simulator</li> <li>Educational model for learning surgery skills.</li> <li>Stent placements</li> </ul> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				
64	<p><b>GIANT HEART MODEL, 3 TIME LIFE SIZE, 4 PARTS</b></p> <p>4-part heart model, 3X life size. It should be sectioned along the anterior plane to show internal structures, including the cardiac valves and the comparative morphology of the right and left ventricles.</p> <p>The right atrium is also removable. Mounted on base.</p> <p>Size : 24 x 25 x 28 cm.</p> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				

65	<p><b><u>HEART HYPERTROPHY</u></b>  This life size model shows the compensatory hypertrophy heart disease. This pathology is characterized by the myocardium thickening of the muscular fibres of the left ventricle. Hypertrophy heart disease is the complication of a chronic hypertension.  The model is divided in 2 parts and mounted on stand.  Size: 11 x 11 x 22 cm  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
66	<p><b><u>DICOM HEART MODEL, CLEAR</u></b>  The Heart Model should based on CT scan data of a healthy, adult male and should anatomically correct inside and out.  The heart model should pliable which allows seeing all internal structures.  The model comes pre-cut for easy examination.  Uses of the model:  A simulator for practice in coronary artery bypass grafting or other surgery  A catheterization simulator  Educational model for learning surgery skills.  Stent placements  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				
67	<p><b><u>HEART WITH BYPASS, 2X LIFE SIZE, 4 PARTS</u></b>  The 2x life size model describes all the main structures of the human heart in great detail.  The right part is detachable to expose the inner chambers and valves.  The left auricle and ventricle wall should be removed to show the atrium, the mitral valve, the ventricle and papillary muscles.  Additionally this model shows bypass to the right coronary artery as well as bypass to the left interventricular artery and to the ramus circumflexus.  Size: 15 x 13 x 24 cm,  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				
68	<p><b><u>TRAINING ARM FOR INTRAVENOUS INJECTION:</u></b>  This injection training model should have the most injectable veins.  The following veins should be punctured:  Basilic V.  Dorsal metacarpal V.  Median basilic V.  Cephalic V.  Digital V.  Median cephalic V.  Accessory cephalic V.  Thumb V.  Median antebrachial V.  Median cubital V.  Vein and skin should be replaced, the arm should moveable to enable the student to develop manipulation skills. I.m. and subcutaneous injection should also possible at the model. Supplied with storage case.  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	01				



COL Color  
CLA Clarity

**Consumables**

Pack: cassette with 400 strips for urine strip analysis. The onboard stability of the pack is 14 days  
cuvette: cassette with 400 cuvettes for urine microscopy analysis

**Sample input/output**

Load/unload capacity: 75 samples (= 15 racks), continuous loading/unloading  
Rack: 5 position rack, RD standard rack  
Tray: tray with 15 racks/75 samples, RD standard tray  
Automatically starts operation after routine, priority or emergency samples loading

**Sample container types**

Length: 65 - 115 mm. Diameter: 13 - 16 mm. Bottom: round, conical or false

**Minimal sample volume**

Test strip and microscopy: 2.8 mL

Test strip: 2.0 mL

Microscopy: 2.0 mL

Test strip reduced volume (no measuring cell measurements): 1.5 mL

Test strip reduced volume and microscopy: 2.3 mL

**Measurement principles**

Reflectance photometry: with 4 different wavelengths (465, 528, 560 and 615 nm)

Refractometry: SG testing

Turbimetry: clarity testing

Automated microscopy

Automatic image evaluation

**Calibration**

calibration strip for urine strip analysis

Reference cuvette for urine microscopy analysis

**Storage capacity**

Test results: up to 10,000 test results

QC, photometer calibration and measuring cell calibration data records: up to 300 for each

Operator can export all results of the analyzer, including QC and calibration results

**Power requirements**

Line voltage:

100-125 VAC, permanent connection (+10%, -15%)

200-240 VAC, permanent connection (+10%, -15%)

Line frequency: 50 or 60 Hz ( $\pm 5\%$ )

**Regulatory requirements**

The urine analyzer series meets the protection requirements laid down in IVD Directive 98/79/EC. Furthermore, instruments are manufactured and tested according to the following international standards:

**Operating conditions**

Ambient room temperature 18 to 32 °C (64.4 to 90 °F)

Relative humidity 30%-80%, non-condensing

**Physical dimensions must be:**

Width (with buffers) 107.9 cm (42.48 in)

Width (without buffers) 68.7 cm (27.05 in)

Depth 53.2 cm (20.94 in)

Height 64.4 cm (25.35 in)

Urine work area (with buffers):

	<p>Width 176.6 cm (69.53 in)  Depth 53.2 cm (20.94 in)  Height 64.4 cm (25.35 in)  <b>Uninterruptible power supply (UPS)</b>  Output power capacity 1500 VA  Battery runtime Min. 5 min  <b>Water quality</b>  Type II/IF (according to CLSI C3-A4 guidelines)  (Conductivity: 1µS/cm; 25 °C)  <b>Wash solution</b>  Recommended solution for performing the daily wash action:  4% Na-hypochlorite solution  <b>Cleaning solutions</b>  Recommended solutions for manually cleaning the instrument:  Ethanol  Mikrozyd (EtOH/Propanol)  <b>Display</b>  Touch screen, 19 inch (1280 x 1024 pixels)  <b>Keyboard</b>  Standard US QWERTY layout  <b>Environmental conditions</b>  Ambient room temperature 18 to 32 °C (64.4 to 90 °F)  Relative humidity 30%-80%, non condensing  Altitude and pressure Max. 2000 m (6'561 feet) above sea level  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
71	<p><b><u>FULLY AUTOMATED SAMPLE PREPARATION WITH REAL-TIME POLYMERASE CHAIN REACTION (PCR) TECHNOLOGY FOR AMPLIFICATION AND DETECTION</u></b></p> <p>Fully automated sample preparation from primary vials  Ready-to-use, load-and-go reagents  No thawing or mixing required  Less than 20-minute set-up for full run of 94 samples  Real-time PCR with digital data capture provides accurate qualitative results with no gray zone  Eliminates the need for equivocal sample retesting  Advanced results algorithm eliminates the need for manual curve analysis</p>	01				

	<p><b>Features and Benefits</b>  Easy-to-learn and easy-to-use software  Intuitive user interface  Requires only a few hours training at all levels of laboratory personnel  Seamlessly integrates both system components</p> <p><b>Streamlines workflow</b>  Fully automated sample preparation  High quality nucleic acid extraction technology  Robust engineering reduces maintenance and downtime  Bi-directional connectivity with an LIS for automated results reporting reduces labor and potential for error</p> <p><b>Promotes lab efficiency</b></p> <ul style="list-style-type: none"> <li>Processes up to 384 samples a day</li> <li>Load primary collection tubes and liquid cytology vials directly on the system</li> <li>Minimal input volumes allow multiple tests from the same patient specimen</li> </ul> <p>An expanding menu on a single platform  HI V*  HBV*  HCV*  HCV GT*  HPV  CT/NG  BRAF  KRAS  EGFR  HSV 1 and 2  Cdiff  MRSA/SA  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
71	<p><b><u>LIVER DIALYSIS MACHINE</u></b>  <b>Extracorporeal blood volume:</b> Total 279 ml = 152 ml (MARS® FLUX 2.1) + 127 ml (tubings)  <b>FLUX 2.1:</b> High flux dialyzer especially suited for removing protein-bound toxins from the patient’s blood by means of an human serum albumin (HSA) dialyzate.  <b>Effective surface area</b> : 2.1 m2  <b>Priming volume</b> : 152 ml  <b>Volume HSA dialyzate side</b> : 306 ml  <b>Performance data</b> (according to EN 1283) Clearance (HD) QB = 200 ml/min, QD = 500 ml/min, UF = 0 ml/min, +/- 20%  <b>Urea</b> : 195 ml/min  <b>Creatinine</b> : 187 ml/min  <b>Vitamine B12</b> : 149 ml/min</p>	01				



**Ultrafiltration rate in vitro Measured using bovine blood**

at QB = 300 ml/min, TMP = 200 mmHg : 133 ml/min

at QB = 500 ml/min, TMP = 200 mmHg : 180 ml/min

**UF-coefficient in vitro** : 83 ml/h\*mmHg

**Sieving coefficients (according to EN 1283) +/-20%**

**Measured using bovine blood at QB = 300 ml/min**

**Insulin** : 0.99

**β2-Microglobulin** : 0.63

**Albumin** : < 0.01

**Connections**

**Dialyzate and blood connectors according to EN 1283 and ISO 8637**

**Low flux dialyzer to be used to remove water-soluble toxins from the human serum albumin (HSA) dialyzate of the circuit.**

**Effective surface area** : 1.4 m<sup>2</sup>

Performance data (according to EN 1283)

**In vitro clearance specifications** : Counter-current, saline 37°C, QB = 200 ml/min, QD = 1000 ml/h, UF = 0 ml/min, +/- 20%.

**Urea** : 15 ml/min

**Vitamin B12** : 15 ml/min

**Inulin** : 14 ml/min

Sieving coefficients—typical values (according to EN1283) Bovine plasma, protein content 60 g/l, 37°C, QB = 200ml/min, UF = 20 ml/min

**Urea, Creatinine, Vitamin B12, Inulin** : 1

**Albumin** : < 0.01

**Water permeability** : 16 ml/(h\*mmHg\*m<sup>2</sup>)

**Max. transmembrane pressure** : 600 mmHg

**Connections to MARS® FLUX 2.1 dialyzer** : according to EN 1283 and ISO 8637

**Others** : Luer; ISO 594 ½

**Adsorber cartridges**

This adsorber cartridge is filled with vapor-activated carbon, to be used to clean the HSA dialyzate in the MARS® circuit. The carbon is uncoated and especially suited for elimination of low-molecular, non-polar compounds, such as aromatic polycyclic hydrocarbons or fatty acids.

This adsorber cartridge is filled with an ion-exchanger resin, to be used to clean the HSA dialyzate in the circuit.

This cartridge is especially suited for eliminating anionic molecules, such as bilirubin.

**Sterilization** : 2.1 steam

**set for PrismafleX system** : EtO

**Adsorber** : moist heat

**Tube kit** : gamma

	<p><b>Storage conditions</b> : between 8° and 27°C</p> <p><b>Weight and packaging</b> : 3.2 kg, 430 x 310 x 310 mm (W x H x D)</p> <p><b>Dialyzate MARS® circuit1)</b> : 500 ml with 20% (or 400 ml with 25%) human serum albumin (HSA)1) (according to the latest edition of the European Pharmacopeia, monograph 255: albumin solution from human)</p> <p><b>Dialyzate PrismafleX System1)</b> : Lactate or bicarbonate solution (according to the latest edition of the European Pharmacopeia, monograph 128: hemodialysis solutions)</p> <p><b>Rinsing volumes</b> : blood + dialyzate circuit 2 l MARS® circuit 4.5 l</p> <p><b>Rinsing solutions MARS® circuit1)</b> : 0.9% NaCl solution or lactate solution for hemofiltration or bicarbonate solution for hemofiltration</p> <p><b>Kit components</b> : MARS® FLUX 2.1 : MARS® set for PrismafleX (diaFLUX filter) : Adsorber cartridges – diaMARS® AC250 : diaMARS® IE250 Tube set AS-03 (units 1–4, Accessories incl. heating bag A ) Manual</p> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
72	<p><b><u>XRAY FILM VIEWER (LED TYPE/SLIM)</u></b></p> <p>Advance x-ray film viewer for professional use (2/3/4 sections) Screen and light route should made of acrlly produced in japan With better light tranmittance then glass, with long life without Distortion and colors changing, advance technology tft backlit Slim only 23mm thinkness for the complete unit, easy installation, Automatic start when film is inserted and turn off automatically When its taken away within 5 seconds Viewer could be used more then 200000 hours, light color 10000k Type: LED brightness: 4000 cd/m weight: 7/8 kgs maximum</p> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	10				
73	<p><b><u>2 MONITORS FOR OT INCLUSIVE ANESTHESIA MONITORING SYSTEM:</u></b></p> <p>Bedsides Patient Color Monitor Resp. (Impedance), NIBP, HR, SpO2, Dual Temperature, Dual IBP, CO2, Cardiac Output and Multigas Unit to be following: Operating Features and Characteristics : Display : to be 15 Inches, TFT Color LCD or above. Waveform : Non-Fade moving or non-fade fixed. Number of Traces : to be Up to 15-Traces Sweep Speed : to be 6.25mm/s, 12.5mm/s (Compressed : to be 6.25mm/s, Respiration) (Low Speed : to be 1.56mm/s, 6.25mm/s, 12.5mm/s).</p>	02				

Waveform Freeze : to be provided  
 Electro-Surgical Interface  
 Suppression/Protection : to be provided.  
 Neonatal & Pediatrics  
 Modes of Operation Detection and Alarms for all Parameters: to be provided.  
 Trend :  
 Graphical & Tabular Data available for all parameters for 1, 2, 4, 8, 24, 72hrs.  
 Operating Requirements :  
 AC 220V/50Hz.  
 Battery Operation:  
 Type of Battery: NICD  
 Operation Time: Approx. 1 hour with fully charged battery.  
**POWER REQUIREMENTS:**  
 Line Voltage: AC100 to 240V  $\pm$ 10%.  
 Line Frequency: 50 or 60Hz.  
 Power Consumption: AC Operation: 80VA max.  
 DC Operation: 50 W.  
**BATTERY OPERATION:**  
 Type of Battery: NICD  
 Voltage: 10.8 to 16V,  $\pm$ 5%.  
 Operation Time: Approx. 1 hour with Full Charged Battery.  
**ENVIRONMENT:**  
 Operating Temperature: 10o to 40oC.  
 Storage Temperature: -20 to 65oC, -15 to 55oC  
 for recording paper.

**SYSTEM COMPOSITION**

- Main Unit MU-671RK.  
 - Input unit AY-663P.  
 - Smart Unit AA-672P.  
 - Accessory Kit Y212A.  
 - Battery (X075) x 2.  
 - Multisite SPO2 Probe P225G for Adult, Paeds & Neonatal.  
 - Temperature probe, 401J, catheter for Adult P240B.  
 - Temperature probe, 402J for Child P241B.  
 - Temperature probe, 409J, disk type P242D.  
 - IBP connection cord, JP-920P, L901 x 2.  
 - CO2 sensor kit, TG-900P, P903.  
 - Airway adapter, YG-101T, 50 pcs/set, R801.  
 CO Connection Cord K962.  
 - Interface Unit QI-671P.  
 - Multigas unit, GF-210R-10K.  
 - Water trap YG-600P (SW) V918.  
 - Straight T-piece, YG-620P, V920A.

	<ul style="list-style-type: none"> <li>- Elbow T-piece, YG-621P, 25 pcs/set V920B.</li> <li>- Sampling tube YG-610P, V919.</li> <li>- Connection cable, YJ-601P, 2.5 m K978.</li> <li>- NIBP Cuff Small S943A, 05cm.</li> <li>- NIBP Cuff Medium S943B, 07cm.</li> </ul> <p><b>Accessory Kit Content</b></p> <ul style="list-style-type: none"> <li>- ECG Connection Cord.</li> <li>- ECG Electrode lead for 3 electrode K911.</li> <li>- NIBP Hose S902.</li> <li>- NIBP Cuff 13cm S944B.</li> <li>- SPO2 connection Cord K931.</li> <li>- Recorder WS-671P.</li> </ul> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
74	<p><b><u>MONITORS FOR RECOVERY MONITORING SYSTEM:</u></b></p> <p>Bedsides Patient Color Monitor Resp. (Impedance), NIBP, HR. SpO2 and Dual Temperature having following: Operating Features and Characteristics :</p> <ul style="list-style-type: none"> <li>- Display : 12.1 Inches, TFT Color LCD.</li> <li>- Waveform : Non-Fade moving or non-fade fixed.</li> <li>- Number of Traces : Up to 14-Traces</li> <li>- Sweep Speed : 6.25mm/s, 12.5mm/s , 25mm/s, 50mm/s (Compressed : 6.25mm/s, Respiration)</li> <li>(Low Speed : 1.56mm/s, 6.25mm/s, 12.5mm/s).</li> <li>- Waveform Freeze : to be provided</li> <li>- Electro-Surgical Interface Suppression/Protection : to be provided.</li> </ul> <p>Neonatal &amp; Paediatrics Modes of Operation Detection and Alarms for all Parameters: to be provided.</p> <p>Trend :</p> <ul style="list-style-type: none"> <li>- Graphical &amp; Tabular Data available for 72hrs for all parameters</li> </ul> <p>Operating Requirements :</p> <ul style="list-style-type: none"> <li>- AC 220V/50Hz.</li> </ul> <p><b>POWER REQUIREMENTS:</b></p> <p>Line Voltage: AC100 to 240V ±10%. Line Frequency: 50 or 60Hz. Power Consumption: AC Operation: 100VA max. DC Operation: 8.5 to 12.6 (Battery Operation).</p> <p><b>BATTERY OPERATION:</b> Type of Battery: Ni-MH</p>	10				

	<p>Voltage: 9.6V, ±5%.  Operation Time: Approx. 1.5 hours with Full Charged Battery.  ENVIRONMENT:  Operating Temperature: 10o to 40oC.  Storage Temperature: -20 to 65 oC, -15 to 55 oC for recording paper.  SYSTEM COMPOSITION:  Main Unit BSM-3562K.  - Accessory Kit Y212A.  - Battery (X075).  - Multisite SPO2 Probe for Adult, Paeds &amp; Neonatal.  - Temperature probe, 401J, catheter for Adult P240B.  - Temperature probe, 402J for Child  - Temperature probe, 409J, disk type P242D.  - NIBP Cuff Small S943A, 05cm.  - NIBP Cuff Medium S943B, 07cm.  ECG Connection Cord K922.  - ECG Electrode lead for 3 electrode K911.  - NIBP Hose S902.  - NIBP Cuff 13cm S944B.  - SPO2 connection Cord K931.  CO2 sensor kit, TG-900P, P903.  Airway adapter, YG-101T, 50 pcs/set, R801  Recorder WS-371P.  <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
75	<p><b><u>3) CENTRAL STATION FOR 2+6 MONITORS:</u></b>  - Main Unit PU-621R.  - 19" or more Color TFT/LCD Display*  - B/W Laser Printer*  - Hub *  - Cables*  - Keyboard*  - Mouse*  - UPS (Imported)*  <b>SPECIFICATIONS:</b>  <b>DISPLAY:</b>  <b>All Beds screen</b>  Number of patients: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20, 22, 24, 28, 32  Number of waveform traces: More than 1 trace/patient (Up to 32 patients)  Sweep speed: 6.25, 25, 50 mm/s (when 24 inch LCD display is used)  Waveform selection: Maximum 16 traces/auto  Waveform display: ECG, IBP, respiration wave, EEG, ETCO2, external input, pulse wave (SpO2),</p>	01				

<p>FLOW/Paw, others depends on the connected bedside monitor or transmitter  Number of numeric data: More than 4 parameters/patient (less than 4 parameters are also available)  Numerical selection: Up to 17 parameters/auto  Numeric data display: Heart rate, VPC rate, respiration rate, pulse rate, IBP (systolic, diastolic, mean), NIBP (systolic, diastolic, MAP), temperature, ΔT, blood temperature, ETCO<sub>2</sub>, tcPO<sub>2</sub>, tcPCO<sub>2</sub>, SpO<sub>2</sub>, ST level, O<sub>2</sub>, CO, CCO, PiCCO, ventilator, anesthetic gas, BIS, others depends on the connected bedside monitor or transmitter  Numeric data display size: Numeric data display size depends on the parameters  Waveform and numeric data display color: 32 colors  Alarm indication: Displays for each bed. Frame of alarmed bed lights or blinks*, highlighted message for arrhythmia (when arrhythmia is detected)*, highlighted numeric data (when vital signs alarms are generated)*, alarm sound* (Volume can be adjusted.* Minimum volume is more than 45 dB. Minimum volume can be set by the administrator.), alarm indicator lights  * Essential performance in EMC standard  Alarm silence: Displays alarm silence mark or silence mark with remaining minutes.  Alarm can be silence for each bed.  Recording: Alarm recording, manual recording, all beds recording  Alarm recording starts when an alarm is generated even which screen is displayed.  Sync sound: Displays QRS sync mark at the selected patient data display area. Sync sound is generated from the speaker (volume can be adjusted). Sync sound is generated even which screen is displayed. Alarm indicator lights.</p> <p><b>TREND WINDOW:</b>  Display formats: Trendgraph, tabular trend  Display times: Up to 120 hours/bed  Zoom in display: 1, 2, 4, 8, 12, 24, 48, 96 or 120 hours  Display interval: 5 minutes at NIBP measurement  Parameters: Depends on the connected bedside monitor  Recording: Recorder, network printer</p> <p><b>HEMODYNAMICS LIST WINDOW:</b>  Display format: Tabular trend  Number of files: 256 files/bed*  *The data is deleted after 120 hours even the files are less than a maximum number.  Parameters: Depends on the connected bedside monitor monitoring parameter  Recording: Network printer</p> <p><b><u>4.MONITORS FOR INTENSIVE CARE:</u></b>  Bedsides Patient Color Monitor  Resp. (Impedance), NIBP, HR, SpO<sub>2</sub>,  Dual Temperature, Dual IBP, CO<sub>2</sub>,  And Cardiac Output having following:</p>					
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<p>Operating Features and Characteristics :</p> <ul style="list-style-type: none"> <li>- Display : 15 Inches, TFT Color LCD.</li> <li>- Waveform : Non-Fade moving or non-fade fixed.</li> <li>- Number of Traces : Up to 15-Traces</li> <li>- Sweep Speed : 6.25mm/s, 12.5mm/s</li> <li>(Compressed : 6.25mm/s, Respiration)</li> <li>(Low Speed : 1.56mm/s, 6.25mm/s, 12.5mm/s).</li> <li>- Waveform Freeze : Provided</li> <li>- Electro-Surgical Interface</li> </ul> <p>Suppression/Protection: Provided.</p> <ul style="list-style-type: none"> <li>- Neonatal &amp; Paediatrics</li> </ul> <p>Modes of Operation Detection and Alarms for all Parameters: Provided.</p> <p>Trend :</p> <ul style="list-style-type: none"> <li>- Graphical &amp; Tabular Data available for all parameters for 1, 2, 4, 8, 24, 72hrs.</li> </ul> <p>Operating Requirements :</p> <ul style="list-style-type: none"> <li>- AC 220V/50Hz.</li> </ul> <p>Battery Operation :</p> <p>Type of Battery : Nicd</p> <ul style="list-style-type: none"> <li>- Operation Time : Approx. 1hour with fully charged battery.</li> </ul> <p><b>POWER REQUIREMENTS:</b></p> <p>Line Voltage: AC100 to 240V <math>\pm</math>10%.</p> <p>Line Frequency: 50 or 60Hz.</p> <p>Power Consumption: AC Operation: 80VA max.</p> <p>DC Operation: 50 W.</p> <p><b>BATTERY OPERATION:</b></p> <p>Type of Battery: Nicd</p> <p>Voltage: 10.8 to 16V, <math>\pm</math>5%.</p> <p>Operation Time: Approx. 1 hour with Full Charged Battery.</p> <p><b>ENVIRONMENT:</b></p> <p>Operating Temperature: 10o to 40oC.</p> <p>Storage Temperature: -20 to 65oC, -15 to 55oC for recording paper.</p> <p><b>SYSTEM COMPOSITION:</b></p> <p>Main Unit</p> <p>Input unit AY-663P.</p> <p>Smart Unit AA-672P.</p> <p>Accessory Kit Y212A.</p> <ul style="list-style-type: none"> <li>- Battery (X075) x 2.</li> <li>- Multisite SPO2 Probe P225G for Adult, Paeds &amp; Neonatal.</li> <li>- Temperature probe, 401J, catheter for Adult P240B.</li> </ul>					
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- Temperature probe, 402J for Child P241B.
- Temperature probe, 409J, disk type P242D.
- IBP connection cord, JP-920P, L901 x 2.
- CO2 sensor kit, TG-900P, P903.
- Airway adapter, YG-101T, 50 pcs/set, R801.
- CO Connection Cord K962.
- NIBP Cuff Small S943A, 05cm.
- NIBP Cuff Medium S943B, 07cm.

**Page 8 of 9 Accessory Kit Content Y212A:**

- ECG Connection Cord K922.
- ECG Electrode lead for 3 electrode K911.
- NIBP Hose S902.
- NIBP Cuff 13cm S944B.
- SPO2 connection Cord K931.
- Recorder WS-671P.

**5) MONITORS FOR INTERMEDIATE CARE:**

Bedsides Patient Color Monitor

Resp. (Impedance), NIBP,

HR. SpO2 and Dual Temperature

having following:

Operating Features and

Characteristics :

- Display : 12.1 Inches, TFT Color LCD.
- Waveform : Non-Fade moving or non-fade fixed.
- Number of Traces : Up to 14-Traces
- Sweep Speed : 6.25mm/s, 12.5mm/s, 25mm/s, 50mm/s  
(Compressed : 6.25mm/s, Respiration)
- (Low Speed : 1.56mm/s, 6.25mm/s, 12.5mm/s).

- Waveform Freeze : Provided

- Electro-Surgical Interface

Suppression/Protection : Provided.

- Neonatal & Paediatrics

Modes of Operation Detection

and Alarms for all Parameters: Provided.

Trend :

- Graphical & Tabular Data available for 72hrs for all parameters

Operating Requirements :

- AC 220V/50Hz.

**POWER REQUIREMENTS:**

Line Voltage: AC100 to 240V ±10%.

Line Frequency: 50 or 60Hz.

Power Consumption: AC Operation: 100VA max.

DC Operation: 8.5 to 12.6 (Battery Operation).



	<p><b>BATTERY OPERATION:</b>  Type of Battery: Ni-MH  Voltage: 9.6V, ±5%.  Operation Time: Approx. 1.5 hours with Full Charged Battery.</p> <p><b>ENVIRONMENT:</b>  Operating Temperature: 10o to 40oC.  Storage Temperature: -20 to 65 oC, -15 to 55 oC for recording paper.</p> <p><b>SYSTEM COMPOSITION:</b>  Main Unit BSM-3562K.  - Accessory Kit Y212A.  - Battery (X075).  - Multisite SPO2 Probe P225G for Adult, Paeds &amp; Neonatal.  - Temperature probe, 401J, catheter for Adult P240B.  - Temperature probe, 402J for Child P241B.  - Temperature probe, 409J, disk type P242D.  - NIBP Cuff Small S943A, 05cm.  - NIBP Cuff Medium S943B, 07cm.</p> <p><b>Accessory Kit Content Y212A:</b>  - ECG Connection Cord K922.  - ECG Electrode lead for 3 electrode K911.  - NIBP Hose S902.  - NIBP Cuff 13cm S944B.  - SPO2 connection Cord K931.</p> <p><b>OPTIONAL:</b>  - CO2 sensor kit, TG-900P, P903  Airway adapter, YG-101T, 50 pcs/set, R801  - Recorder WS-371P.</p> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
76	<p><b><u>5 PART DIFFERENTIAL HEMATOLOGY ANALYZER</u></b></p> <p>Fully automated 5 Part differential hematology analyzer based on flow Cytometry, Light scattering and Peroxidase staining technology. Instrument should offer automatic start-up, shut down and sample analysis.  Five discrete analysis modes CBC, CBC+ DIFF, CBC + Retic, CBC+Retic+Diff &amp; Retic only.  33 or more parameters i.e. WBC, RBC, HGB, HCT, MCV, MCH, MCHC, CHCM, RDW, HDW, CH, CHDW, PLT, MPV,PDW, PCT, % RETIC, # RETIC , MCVr, CHCMr, RDWr, HDWr, CHr, CHDWr., Asolute &amp; % values for NEUT, LYMPH, MONO,EOS, BASO, LUC, morphology results (user definable) like WBC : Left Shift , Atypical Lymph , Immature Granulocytes  RBC: NRBC, ANISO,MICRO,MACRO, RBC Ghosts.  Has the capability to perform veterinary application with minimum of 21 pre programmed species &amp; 30 programmable slots.  With Auto Sampler with capacity of 150 sample tubes at a given time. A single sample rack should be able to cater different tube sizes.  High throughput of 120 samples per hour or more in CBC and CBC / Diff. mode &amp; 74 samples per hour or more in Retics mode.</p>	01				

Has multi-channel analysis for better resolution & reproducibility's lik Dual differential **count** for WBC  
 Platelets – Should have Dual angle Light Scatter  
 RBC – Should have light Scatter  
 HGB – Should have photometric and direct cellular measurement  
 Retics – Should have on board, light scatter (fluorescent dye) for Reticulocytes.  
 Has lot detection facility.  
 On-board reagents facility with maximum of upto 7 reagents onboard and automatic reagent inventory management .  
 Especial capability of cross checking of parameter such as WBC, MCHC, Hb.  
 Extensive linearity as  
 WBC - 0.02- 400 x 10<sup>3</sup> /ul  
 RBC - 0 - 7.0 x 10<sup>6</sup> / ul  
 PLT - 5 - 3500 x 10<sup>3</sup> / ul  
 HGB - 0- 22.5 g/dl  
 RETIC – 0.2- 24.5%  
 Free of tubing & pinch valves ensuring low maintenance requirement.  
 Has FDA approved capability of running CSF fluids.  
 Carryover of < or = to 1 % for all parameters.  
 Sample volume required in all modes is 175ul.  
 Dead volume required < 300 ul.  
 capable of reporting unique additional parameters such as CHR-reticulocytes HGB measurement to aid in anemia treatment .  
 Extensive QC features  
 3D Bar & SDI Graphs  
 LJ plot available  
 Table Format  
 Delta checks available for cumulative review  
 Option for online QC also available  
 Patient moving average  
 QC File Management  
 ILQC Programme  
 Remote QC

Has comprehensive Data management such as

User friendly Windows 2000 based software  
 Network integration possible with lab information system  
 Database storage capacity of 10,000 records including graphics

**Accessories Along :**

**ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT**

Product Name	Qty
10313419 Advia 2120 analyzer	1
10329339 Advia Centaur Xp	1
Advia AutoSlide	1
ADVIA 2120/120 CONNECTOR	2

NON ADVIA 120 KIT CONNECTOR	2					
ANNUAL MAINT INSTRUMENT	4					
CENTAUR XP LAB AUTO INTE	1					
ADVIA 120 LABCELL INTER	2					
CENTAUR INTERFACE KIT	1					
ADVIA 1650/2400 RISER	1					
KIT INTERFACE ADVIA 1650	1					
RISER SKIRTING KIT CENTAUR	1					
DUAL ADVIA HEMATOLOGY INTERFACE	1					
Advia 2120 analyzer	1					
ADVIA 1800 MODULE ASSY ENGLISH	1					

77	<b><u>AUTOMATION EXPANDS TO MICROBIOLOGY</u></b>			01				
	Enhance productivity.							
	Increase flexibility.							
	Improve quality							
	<b>System Features and Benefits Comparison</b>							
	Ability to process multiple container types and ESwabs, as well as streak bi-plates	WASP	PREVI Isola					BD/Kiestra InoqulA
	Ability to auto-inoculate enrichment broths	<input type="checkbox"/>	<input type="checkbox"/>					<input type="checkbox"/>
	Automatic gram stain slide preparation							<input type="checkbox"/>
	Customizable streak patterns to meet specific needs and preferences							<input type="checkbox"/>
	Reusable streaking tools to reduce consumables cost and hazardous waste							
Familiar methodology and tools for planting and streaking to eliminate plate reading retraining			<input type="checkbox"/>					
Standard vortex step prior to planting and streaking to prevent sample sedimentation								
Integrated spinner to reduce contamination when processing stool samples								
PRDecap and recap specimen container without user intervention to increase productivity			<input type="checkbox"/>					
<b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b>								
<b><u>A REVOLUTIONARY ADDITION TO SIEMENS MICROBIOLOGY PORTFOLIO — THE ESWAB DESIGNED TO INTEGRATE PERFECTLY WITH THE WASP SPECIMEN PROCESSOR</u></b>								
The ESwab is the only patented liquid-based multipurpose collection and transport system that maintains viability of aerobic, anaerobic, and fastidious bacteria. It is a truly open platform suitable for automation, gram stains, and traditional culture, just to name a few.								
<b>Simplify, Streamline, and Save with the ESwab</b>								

	<p>Entire specimen moves from swab to liquid phase within seconds  Each collection kit provides up to 10 identical 100 µL aliquots allowing for multiple tests from the same specimen  Multiple swab SKUs are replaced by standardizing with one convenient product  Unique cap design makes it an ideal platform for automation  Testing capabilities are expanded to gram stain, PCR, rapid antigen tests, and more  Bacteria is supported for up to 48 hours at room and refrigerator temperature*  * Performance of the ESwab has been validated in multiple studies adhering to protocols as outlined in the Quality Control of Microbiological Transport Systems, guidance document.  <i>Neisseria gonorrhoeae</i> survival is at 24  ESwab's unique cap design allows the applicator stick to securely attach to the cap so the swab can be conveniently removed and manipulated using the cap as a handle  <u>Accessories Along</u></p> <table border="1" data-bbox="129 547 1279 710"> <thead> <tr> <th data-bbox="129 547 1193 582">Product Name</th> <th data-bbox="1193 547 1279 582">Qty</th> </tr> </thead> <tbody> <tr> <td data-bbox="129 582 1193 614"><b>MICROBIOLOGY LAB AUTOMATION</b></td> <td data-bbox="1193 582 1279 614"></td> </tr> <tr> <td data-bbox="129 614 1193 646">AUTOMATIC INCUBATOR (1 CO2 and 1 AIR) WITH PLATES IMAGING STATION</td> <td data-bbox="1193 614 1279 646">2</td> </tr> <tr> <td data-bbox="129 646 1193 678">CONVEYOR BELT tracking system connecting WASP to Incubators</td> <td data-bbox="1193 646 1279 678">1</td> </tr> <tr> <td data-bbox="129 678 1193 710">PLATE STACKERS (complete with plate lifter, motor , one canister)</td> <td data-bbox="1193 678 1279 710">6</td> </tr> </tbody> </table> <p><b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>	Product Name	Qty	<b>MICROBIOLOGY LAB AUTOMATION</b>		AUTOMATIC INCUBATOR (1 CO2 and 1 AIR) WITH PLATES IMAGING STATION	2	CONVEYOR BELT tracking system connecting WASP to Incubators	1	PLATE STACKERS (complete with plate lifter, motor , one canister)	6					
Product Name	Qty															
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78	<b>LED PANEL LIGHT 2X2</b>															
79	<b>ALMONIUM PARTITION WITH 8MM GLASS POWDER COATED ALMONIUM</b>															
80	<b>ALMONIUM WINDOWS / DOORS DIFFERENT SIZES</b>															
81	<b>SUPPLY OF ALMONIUM FALSE CEALING ALONG WITH ALL STANDARD ACCESSORIES</b>															
82	<b>HP COLOR LASERJET PROFESSIONAL CP5225 PRINTER SERIES</b>	05														
83	<b>HP Color LaserJet Pro MFP M177fw</b>	05														
84	<b>HP LASERJET PRO P1102 PRINTER</b>	02														
85	<b>APPLE MACBOOK AIR 13" TECH SPECS</b>	05														
86	<b>Computers Server</b>	02														
87	<p><b><u>BLACK &amp; WHITE LASER MULTIFUNCTION COPIERS</u></b>  <b>FE ATURES D1120 D1150 D1170 D1180</b>  <b>COPIER SPECIFICATIONS</b>  <b>Duplex Copy</b> Yes, Auto matic (1 to 2, 2 to 1, 2 to 2) Yes, Auto matic (1 to 2, 2 to 1, 2 to 2) Yes, Auto matic (1 to 2, 2 to 1, 2 to 2)  Yes, Auto matic (1 to 2, 2 to 1, 2 to 2)  <b>Copy Type</b> Monochrome Laser Monochrome Laser Monochrome Laser Monochrome Laser  <b>Copy Speed</b> Up to 30 cpm (letter) Up to 30 cpm (letter) Up to 30 cpm (letter) Up to 30 cpm (letter)  <b>Copy Resolution</b> Up to 600 x 600 dpi; 1200 x 600 dpi quality Up to 600 x 600 dpi; 1200 x 600 dpi quality Up to 600 x 600 dpi;  1200 x 600 dpi quality Up to 600 x 600 dpi; 1200 x 600 dpi quality  <b>Halftones</b> 256 levels 256 levels 256 levels 256 levels</p>	02														

<p><b>Warm-up Time</b> Approx. 16 seconds from Power On Approx. 16 seconds from Power On Approx. 16 seconds from Power On  Approx. 16 seconds from Power On</p> <p><b>First Copy Time</b> Approx. 8 seconds Approx. 8 seconds Approx. 8 seconds Approx. 8 seconds</p> <p><b>Standard Paper Source(s)</b> 500-sheet cassette; 50-sheet multipurpose tray 500-sheet cassette; 50-sheet multipurpose tray 500-sheet cassette; 50-sheet multipurpose tray 500-sheet cassette; 50-sheet multipurpose tray</p> <p><b>Optional Cassette</b> Optional 500-sheet cassette Optional 500-sheet cassette Optional 500-sheet cassette Optional 500-sheet cassette</p> <p><b>Paper Weight</b> 16 to 32 lb. (cassette);  16 to 51 lb. (multipurpose tray)  16 to 32 lb. (cassette);  16 to 51 lb. (multipurpose tray)  16 to 32 lb. (cassette);  16 to 51 lb. (multipurpose tray)  16 to 32 lb. (cassette);  16 to 51 lb. (multipurpose tray)</p> <p><b>Paper Output</b> 150 sheets (face down) 150 sheets (face down) 150 sheets (face down) 150 sheets (face down)</p> <p><b>Reduction/Enlargement</b> 50%, 64%, 78%, 129%, 200% 50%, 64%, 78%, 129%, 200% 50%, 64%, 78%, 129%, 200% 50%, 64%, 78%, 129%, 200%</p> <p><b>Zoom</b> 50-200% in 1% increments 50-200% in 1% increments 50-200% in 1% increments 50-200% in 1% increments</p> <p><b>Document Feeder</b> 50-sheet1 50-sheet1 50-sheet1 50-sheet1</p> <p><b>Copy Size</b> Platen: Up to 8.5" x 14"; ADF: Up to 8.5" x 14" Platen: Up to 8.5" x 14"; ADF: Up to 8.5" x 14" Platen: Up to 8.5" x 14"; ADF: Up to 8.5" x 14" Platen: Up to 8.5" x 14"; ADF: Up to 8.5" x 14"</p> <p><b>Copy Features</b> Memory Sort, Toner Saver Mode, 2 on 1, I.D. Card Copy  Memory Sort, Toner Saver Mode, 2 on 1, I.D. Card Copy  Memory Sort, Toner Saver Mode, 2 on 1, I.D. Card Copy  Memory Sort, Toner Saver Mode, 2 on 1, I.D. Card Copy</p> <p><b>Copy Memory</b> 128MB (shared) 128MB (shared) 128MB (shared) 128MB (shared)</p> <p><b>PRINTER SPECIFICATIONS</b></p> <p><b>Duplex Print</b> Yes (letter) Yes (letter) Yes (letter) Yes (letter)</p> <p><b>Printer Type</b> Monochrome Laser Monochrome Laser Monochrome Laser Monochrome Laser</p> <p><b>Print Speed</b> Up to 30 ppm (letter) Up to 30 ppm (letter) Up to 30 ppm (letter) Up to 30 ppm (letter)</p> <p><b>Print Resolution</b> Up to 600 x 600 dpi; 1200 x 600 dpi quality Up to 600 x 600 dpi; 1200 x 600 dpi quality Up to 600 x 600 dpi; 1200 x 600 dpi quality</p> <p><b>Printer Language</b> Canon UFR II LT (Host-based) Canon UFR II LT (Host-based) Canon UFR II LT (Host-based) PCL 5e/6, Canon UFR II LT (Host-based)</p> <p><b>Print Memory</b> 128MB (shared) 128MB (shared) 128MB (shared) 128MB (shared)</p> <p><b>System Memory (on board)</b> 128MB (shared) 128MB (shared) 128MB (shared) 128MB (shared)</p> <p><b>FAX/PC FAX SPECIFICATIONS</b></p> <p><b>Duplex Fax</b> Yes (transmission, reception) Yes (transmission, reception) Yes (transmission, reception)</p> <p><b>Modem Speed</b> Up to 33.6 Kbps (Super G3) Up to 33.6 Kbps (Super G3) Up to 33.6 Kbps (Super G3)</p>					
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<p><b>Fax Resolution</b> Up to 406 x 391 dpi (super fine) Up to 406 x 391 dpi (super fine) Up to 406 x 391 dpi (super fine)  <b>Memory Capacity</b> Up to 512 pages2 Up to 512 pages2 Up to 512 pages2  <b>Speed Dials</b> 20 one-touch speed dials/201 coded dials 20 one-touch speed dials/201 coded dials 20 one-touch speed dials/201 coded dials  <b>Receive Modes</b> Fax Only, Manual, Answering, DRPD, Fax/Tel Auto Switch  Fax Only, Manual, Answering, DRPD, Fax/Tel Auto Switch  Fax Only, Manual, Answering, DRPD, Fax/Tel Auto Switch  <b>Fax Features</b> Remote RX, Delayed TX, Dual Access, Polling RX Remote RX, Delayed TX, Dual Access, Polling RX Remote RX, Delayed TX, Dual Access, Polling RX  <b>Memory Backup</b> Standard, 15 minutes Standard, 15 minutes Standard, 15 minutes  <b>PC Fax</b> Sending only Sending only Sending only  <b>SCANNER SPECIFICATIONS</b>  <b>Duplex Scan</b> Yes Yes Yes Yes  <b>Scan Type</b> Color Contact Image Sensor (CIS) Color Contact Image Sensor (CIS) Color Contact Image Sensor (CIS) Color Contact Image Sensor (CIS)  <b>Scan Resolution</b> Up to 600 x 600 dpi (optical);  Up to 9600 x 9600 dpi (interpolated)  Up to 600 x 600 dpi (optical);  Up to 9600 x 9600 dpi (interpolated)  Up to 600 x 600 dpi (optical);  Up to 9600 x 9600 dpi (interpolated)  Up to 600 x 600 dpi (optical);  Up to 9600 x 9600 dpi (interpolated)  <b>Color Depth</b> 24-bit 24-bit 24-bit 24-bit  <b>Document Size</b> Platen: Up to 8.5" x 14"; ADF: Up to 8.5" x 14" Platen: Up to 8.5" x 14"; ADF: Up to 8.5" x 14" Platen: Up to 8.5" x 14"; ADF: Up to 8.5" x 14" Platen: Up to 8.5" x 14"; ADF: Up to 8.5" x 14"  <b>Compatibility</b> TWAIN, WIA TWAIN, WIA TWAIN, WIA TWAIN, WIA  <b>Output File Formats</b> JPEG, PDF, TIFF, BMP JPEG, PDF, TIFF, BMP JPEG, PDF, TIFF, BMP JPEG, PDF, TIFF, BMP  <b>SPECIFICATIONS</b>  <b>Scan to E-mail</b> Yes Yes  <b>Other Protocols</b> Scan to SMB Scan to SMB  <b>Output File Formats</b> JPEG, Hi-compression PDF, PDF, TIFF JPEG, Hi-compression PDF, PDF, TIFF  <b>INTERFACE/SOFTWARE</b>  <b>Standard Interface(s)</b> USB 2.0 Hi-Speed3 USB 2.0 Hi-Speed3 USB 2.0 Hi-Speed3 USB 2.0 Hi-Speed3  <b>Network Interface</b> 10/100 Base T 10/100 Base T 10/100 Base T 10/100 Base T  <b>USB Functions</b> Print/Scan Print/PC Fax/Scan Print/PC Fax/Scan Print/PC Fax/Scan  <b>Network Functions</b> Print Print/PC Fax Print/PC Fax Print/PC Fax  <b>Network Protocol</b> TCP/IP TCP/IP TCP/IP TCP/IP  <b>Bundled Software</b> Canon drivers for Windows®, ScanSoft® OmniPage®SE (OCR), NewSoft® Presto! PageManager</p>					
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	<p>Canon drivers for Windows®, ScanSoft® OmniPage®SE (OCR), NewSoft® Presto! PageManager  Canon drivers for Windows®, ScanSoft® OmniPage®SE (OCR), NewSoft® Presto! PageManager  Canon drivers for Windows®, ScanSoft® OmniPage®SE (OCR), NewSoft® Presto! PageManager  <b>OS Compatibility</b>  USB: Windows Vista, XP, 2000 Network: Server 2008, Windows Vista, Server 2003, XP, 2000  <i>Drivers available for download from www.cusa.canon.com</i>  USB: Windows Vista, XP, 2000 Network: Server 2008, Windows Vista, Server 2003, XP, 2000  <i>Drivers available for download from www.cusa.canon.com</i>  USB: Windows Vista, XP, 2000 Network: Server 2008, Windows Vista, Server 2003, XP, 2000  <i>Drivers available for download from www.cusa.canon.com</i>  USB: Windows Vista, XP, 2000 Network: Server 2008, Windows Vista, Server 2003, XP, 2000  <i>Drivers available for download from www.cusa.canon.com</i>  <b>SPECIFICATIONS</b>  <b>Dimensions</b> 17.7" (W) x 18.6" (D) x 18.3" (H) 17.7" (W) x 18.6" (D) x 18.3" (H) 17.7" (W) x 18.6" (D) x 18.3" (H) 17.7" (W) x 18.6" (D) x 18.3" (H)  <b>Weight (with Cartridge)</b> Approx. 48.5 lbs Approx. 48.5 lbs Approx. 48.5 lbs Approx. 48.5 lbs  <b>Warranty</b> 1 year limited warranty<sup>4</sup> (Extended Warranty available) 1 year limited warranty<sup>4</sup> (Extended Warranty available) 1 year limited warranty<sup>4</sup> (Extended Warranty available) 1 year limited warranty<sup>4</sup> (Extended Warranty available)  <b>Power Consumption</b> 1090W (Max), 3W (Energy Saver Mode) 1090W (Max), 3W (Energy Saver Mode) 1090W (Max), 3W (Energy Saver Mode) 1090W (Max), 3W (Energy Saver Mode)  <b>Replacement Consumable</b> Canon Cartridge 120 (Starter Cartridge included) Canon Cartridge 120 (Starter Cartridge included) Canon Cartridge 120 (Starter Cartridge included) Canon Cartridge 120 (Starter Cartridge included)  <b>Cartridge Type</b> Single Cartridge System Single Cartridge System Single Cartridge System Single Cartridge System  <b>Cartridge 120</b> Yields approx. 5,000 pages based on ISO/IEC Standard Yields approx. 5,000 pages based on ISO/IEC Standard Yields approx. 5,000 pages based on ISO/IEC Standard Yields approx. 5,000 pages based on ISO/IEC Standard  <b>Duty Cycle</b> Up to 20,000 pages per month Up to 20,000 pages per month Up to 20,000 pages per month Up to 20,000 pages per month   1 Based on 20 lb. paper 2 Based on ITU-T #1 Chart (standard mode) 3 USB 2.0 Hi-Speed requires Windows Vista, Windows XP, 2000. 4</p>					
88	<p><b>HP PRO 3500 MICROTOWER BUSINESS PC</b>  <b>Operating system</b> <b>Pre-installed</b> (availability varies by region):  Genuine Windows® 7 Ultimate (32-bit)*  Genuine Windows® 7 Ultimate (64-bit)*  Genuine Windows® 7 Professional (32-bit)*  Genuine Windows® 7 Professional (64-bit)*  Genuine Windows® 7 Home Premium (32-bit)*  Genuine Windows® 7 Home Premium (64-bit)*</p>	20				

	<p>Genuine Windows® 7 Home Basic (64-bit)*  Genuine Windows® 7 Starter (32-bit)*  FreeDOS  FreeLnx</p> <p><b>Processors 1</b> Intel® 3rd Generation Core™ i5 and i7, Intel® 2nd Generation Core™ i3, i5 and i7, Intel® Pentium®, Intel® Celeron®</p> <p><b>Chipset</b> Intel® H61 Express</p> <p><b>Memory4</b> Non-ECC, DDR3 1600 MHz SDRAM UDIMM; (2) DIMM slots enabling up to 8GB</p> <p><b>Internal storage2</b> Up to 2TB hard disk drive</p> <p><b>Removable storage9</b> SATA DVD-ROM drive, SATA SuperMulti DVD Writer Drive3, HP 6-in-1 Media Card Reader</p> <p><b>Drive bays</b> External: (1) 5.25”  Internal: (1) 3.5”</p> <p><b>Expansion slots</b> (1) PCIe x16, (3) PCIe x1, (1) Mini PCIe</p> <p><b>Graphics</b> Integrated Intel® HD Graphics: Basic, 2000, 2500, 3000, 4000 (depends on processor). AMD and NVIDIA discrete graphics solutions also available.</p> <p><b>Audio</b> HD Audio with Realtek ALC656 , microphone and headphone front ports, audio line-out and line-in rear ports</p> <p><b>Communications</b> Ethernet (RJ-45): Realtek RTL8171E Gigabit Ethernet Controller, HP Wireless 802.11 b/g/n Minicard (optional)</p> <p><b>Ports and connectors</b> Front: (2) USB 2.0, microphone, headphone  Rear: (4) USB 2.0, (1) audio in, (1) audio out, (1) VGA, (1) DVI-D, (1) RJ-45</p> <p><b>Input devices</b> HP USB Value Keyboard, HP USB Optical Mouse</p> <p><b>Power</b> 300W Power Supply, Active PFC or 300W regular; 100-200 VAC Rated Voltage Range</p> <p><b>Security</b> HP Business PC Security Lock Kit (optional), HP Keyed Cable Lock Kit (optional)</p> <p><b>Software</b> Microsoft® Office Starter 2010 Preloaded: reduced-functionality Word and Excel® only, with advertising. No PowerPoint® or Outlook®. Buy Office 2010 to use the full-featured software.** HP Protect Tools Security Suite SMB5</p> <p><b>Dimensions (W x D x H)</b> 6.50 x 15.31 x 14.49 in 16.5 x 38.9 x 36.8 cm</p>					
89	<p><b><u>HP PROBOOK 430 G2 NOTEBOOK PC</u></b>  <b>Available Operating System</b> Windows 8.1 Pro 64 1  Windows 8.1 64 1  Windows 7 Professional 64 (available through downgrade rights from Windows 8.1 Pro 64) 2  Windows 7 Professional 64 1  FreeDos 2.0</p> <p><b>Available Processors</b> Intel® Core™ i7 processor; Intel® Core™ i5 processor; Intel® Core™ i3 processor; Intel® Celeron® processor 4</p> <p><b>Chipset</b> Chipset is integrated with processor</p> <p><b>Maximum Memory</b> 16 GB 1600 MHz DDR3L SDRAM  Celeron processors will run at 1333 MHz</p> <p><b>Memory Slots</b> 2 SODIMM</p>	20				



<p><b>Internal Storage</b> up to 500 GB SATA (7200 rpm) 7 320 GB up to 1 TB SATA (5400 rpm) 7 up to 128 GB SSD 7</p> <p><b>Optical Drive</b> Optional external</p> <p><b>Display</b> 13.3" diagonal HD anti-glare LED-backlit (1366 x 768); 13.3" diagonal HD shatter, scratch, and smudge resistant LED-backlit touch screen (1366 x 768) 10,11</p> <p><b>Available Graphics</b> Integrated: Intel HD Graphics 4400 (Intel i3, i5, and i7 Dual-Core configurations); Intel HD Graphics (Intel Celeron configurations)</p> <p><b>Audio</b> HD audio with DTS Sound+; 2 integrated stereo speakers; Dual array microphones (for models configured with camera); Headphone and microphone combo jack</p> <p><b>Wireless Technologies</b> Realtek 802.11b/g/n (1x1); Ralink 802.11b/g/n (1x1) and Bluetooth® 4.0 Combo; Intel Dual Band Wireless-AC 3160 802.11a/b/g/n/ac (1x1) WiFi and Bluetooth® 4.0 Combo; Intel Dual Band Wireless-AC 7260AN 802.11a/b/g/n/ac (2x2) WiFi and Bluetooth® 4.0 Combo; Broadcom 802.11a/b/g/n (2x2) and Bluetooth® 4.0 Combo 8,9,28</p> <p><b>Communications</b> Realtek Ethernet (10/100/1000)</p> <p><b>Expansion Slots</b> 1 multi-format digital media reader (supports SD, SDHC, SDXC)</p> <p><b>Ports and Connectors</b> 2 USB 3.0; 1 USB 2.0 (power port); 1 HDMI; 1 headphone/microphone combo; 1 AC power; 1 RJ-45; 1 VGA</p> <p><b>Input Device</b> Full-sized, spill resistant keyboard; Full-sized, spill resistant backlit keyboard (optional); 10; Touchpad with gestures support, on/off button, two-way scroll, taps and gestures enabled, and finger zoom (pinch)</p> <p><b>Camera</b> 720p HD webcam (select models) 11</p> <p><b>Available Software</b> Buy Office; HP Client Security Manager; HP Drive Encryption; HP Device Access Manager; Absolute Persistence; HP Computrace; HP File Sanitizer; HP Connection Manager; HP GPS and Location; HP Mobile Connect; HP Wireless Hotspot; HP Roaming Alert; HP PageLift; HP ePrint; HP Hotkey Support; HP 3D Driveguard; HP Wireless Button Driver; HP Recovery Disc Creator; HP Support Assistant; CyberLink PowerDVD; CyberLink YouCam BE; PDF Complete; Foxit PhantomPDF Express; Microsoft Security Essentials; Bing Search; Skype ready 12,13,14,15,16,17,18,19,20,21,22,25,26</p> <p><b>Security Management</b> Standard: HP Client Security, Microsoft Defender (models with Windows 8), Drive Encryption, HP BIOS Protection, Security lock slot, TPM 1.2 Embedded Security Chip; Optional: Intel® Identity Protection, HP Fingerprint reader 23,26,27</p> <p><b>Power</b> 65 W EM Smart AC adapter; 45 W Smart AC adapter; 45 W Smart AC adapter 2-prong (Japan only); 40 W Smart AC adapter (EMEA only) 4-cell, 44 WHr Li-ion; 4-cell, 40 WHr Long Life Li-ion</p> <p><b>Dimensions</b> 12.83 x 9.19 x 0.79 to 0.83 in (front to rear) (non-touch); 12.83 x 9.21 x 0.84 to 0.89 in (front to rear) (touch) 32.6 x 23.35 x 2 to 2.1 cm (front to rear) (non-touch); 32.6 x 23.4 x 2.13 to 2.25 cm (front to rear) (touch)</p> <p><b>Weight</b> Starting at 3.31 lb</p>					
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	<p>Starting at 1.5 kg  (Lowest weight configuration. Weight will vary by configuration. See QuickSpecs.)  <b>Environmental</b> Low halogen 24  <b>Energy Efficiency Compliance</b> ENERGY STAR® qualified configurations available</p>					
90	<b><u>FAX MACHINE</u></b>	02				
91	<b>HP LASERJET P2055DN PRINTER</b>	02				
92	<p><b>SLIM LED TV 75"/65"/60"/ 55"/50"/46" (SAMSUNG)</b>  <b>PICTURE QUALITY</b> - Full HD 1080p- Micro Dimming - Clear Motion Rate 480  <b>SMART TV 2.0</b> - Dual Core Processor - Smart Hub - Full Web Browser - S-Recommendation  <b>SMART INTERACTION 2.0</b> - Motion Control Ready (limited gesture)* - Voice Control  <b>SMART CONNECTIVITY</b> - AllShare™ - Samsung Smart View (Clone View Only)  <b>2D AND 3D IN FULL HD</b>  <b>SLIM DESIGN</b>  <b>CONNECTIONS</b> - 4 HDMI® Connections - 3 USB Connections - Wi-Fi® Built-in - 1 Component in - 1 Shared Composite in (AV)  <b>AUDIO</b> - Dolby® Digital Plus, Dolby® Pulse - DTS Premium Sound   5.1™ decoding with DTS Studio Sound™processing  <b>INCLUDES</b> - Smart Touch Remote Control - 2 pairs of 3D Active Glasses (SSG-5100GB)</p>	10				

93	<b>Data &amp; Voice System</b>									
	Supply ,Pulling & Fluke testing of Data or Voice cables in PVC Pipe Including labeling at both ends as per drawings.									
1	CAT-5E Cable for Voice /Data from communication rode to work Station etc complete 50 Nodes 1700/Per Node	100		P/Node						
2	CAT-5E UTP Cable in 20/25 mm dia PVC Pipe Voice	200		Mtr						
3	CAT-6 UTP Cable in 20/25 mm dia PVC Pipe Data	200		Mtr						
4	Supply ,Installation & Termination of face plates comprising as follows ,Make: 3M	200		Nos						
5	RJ -45 CAT-6 I/O	50		Nos						
6	RJ -11 CAT-6 I/O	50		Nos						
7	Supply ,Installation & Termination of 24 ports RJ-45 Cat -5E ITP Patch Panel complete with all accessories : 3M/ Cisco	5		Nos						
8	Supply & Laying 36 Core PVC/PWA Copper Cable I/C Pipe ,"dia sigle mode 50 UGC Optical Fieber	50		Mtr						
9	Supply ,Installation & termination of 24 Port RJ-45 Cat-6 UTP Patch Panel Complete with all accessories .Make: 3M/ Cisco	5		Nos						
10	Supply ,Installation & termination of 24 Port RJ-45 Cat-6 UTP Patch GIGA Speed Switch ,Complete with all accessories .Make: 3M/Cisco	5		Nos						
11	Wifi Heavy Duty Router 2T2R 300 M	2		Nos						
12	Supply ,Installation of 18 U rack ,mad of 1.5 mm sheet steel,powder coated ,complete with cable management ,troughs,labels,cable holder ,cable guid and teo exhaust fans. A cable extention lead with 4 x 13 A sockets is tobe provided & Installed .The job include all fixing & mounting accessories complete in all respect:Local	5		Nos						
	1Supply ,Installation ,testign & commissioning of Supply and fix Cable Lux 95 mm to 300 mm	100		each						
2	Cable terminal 6 dia to 1 dia	4		each						
3	Provinding and fixing of 4 in one coloured Fax/Printer/Photo copier /Scanner (HP)	1		each						
4	Porviding /Fixing of star switch Auto on /off	4		each						
5	scanner (HP) Colour Networking Bilten			each						
6	Provding & fixing of UPS 10 Kva Servo Motar Single Phase	1		each						
7	Provding & fixing of UPS 100 Kva Servo Motar SPhase	1		each						
8	Provding & fixing of UPS 150 Kva Servo Motar	1		each						

9	Providing & fixing of UPS 200 Kva Servo Motor	1		each					
10	S/Fixing core I.7 Computer Complete all accessories HP			each					
94	<p><b>C.C.T.V System</b>  Supply &amp; Installation of High-resolution WCR Camera  Image Pick-up Device 1/3" Vertical double density interline  color COD total pixels 811(H) x 494 (V) Scanning Frequency  Horizontal: 15.734KHz/Vertical: 59.94Hz Horizontal Resolution  Color 560TV line (Min 1/B/W 7001V line mint Day &amp; Night Color  / BW / Auto selectable (CR fitter Change) Min illumination  0 2Lux@F1 2 (Color mode) 0 1 Lux@F1 2 (B/W mode)  0 0001Lux@F1 2 (Sens up mode)  Back Light compensation Nor / BLC / Off selectable  OSD Multi-language support  Digital Zoom On / Off (2X – 10X)  SSNR – On / Off selectable (Level adjustable)  Lens Mount C/Cs-mount (Easy focus type)</p>	1 JOB		P/job					
95	<p><b>2. Supply &amp; Installation of High Resolution 10X Vandal Proof Dome Camera  Image Pick-up Device ¼ Super HAD CCD</b>   Total Pixels 795(H) x 596(V)  Effective Pixels: 752(H) x 582 (V)   Scanning Frequency: Horizontal: 15.734KHz (H) / 59.94Hz (V)  Horizontal Resolution: Color: 500TV lines (Color) 570TV lines (B/W)   Day &amp; Night: Auto 1, Auto2. Color, B/W (ICR)  Min illumination: 0.7Lux @F1 8 (Color mode)   0 02 Lux@F1 8 (B/W mode)  0 005Lux (Sens up mode)   Back Light compensation Low/Middle/High/ Off selectable OSD   Digital Zoom On/Off (2X – 10X)  Focus Auto / Manual / One push selectable  Ins Control Auto/ Manual selectable  Lens Mount C/CS-mount (Easy focus type)</p>	2		Each					
96	<p><b>Supply &amp; installation of High Resolution Day &amp; Night Mini Dome Camera</b>  Image Pick-up Device 1/3" Super HAD COD</p>	2		Each					

	<p>Total Pixels 795(H) x 596(V)  Effective Pixels 752(H) x 582(V)  Scanning Frequency Horizontal 15,734KHz(H) /59.94Hz (V)  Horizontal Resolution 530TV line</p> <p>Day &amp; Night On/auto selectable (Electrical)  Min illumination 0.3Lux@F1.2 (Normal color mode)</p> <p>0.002Lux@F1.2 (Sens up mode)  Gain control Off/Low/Middle /High selectable  SSNR OFF/ Low / Middle / High selectable (Noise control) OSD Built-in.</p>								
97	<p><b>Supply &amp; Installation of Varifocal Lens F4 Manual/Dc Type Auto Ins.</b>  Varifocal 3.5- 8mm</p> <p>Excellent low light performance  Extremely simple Installation and adjustment High quality, compact design</p>	3		Each					
98	<p><b>Supply &amp; Installation of Low Light, WRD, 30X PTZ Speed Dome Camera</b>  Image Pick-up Device: 1/4" Vertical double density interline CCD Total Pixels 795(H) x 596(V)  Effective Pixels 752(1-I) x 582 (V)  Horizontal Resolution: Color 520 TV lines (Min) / B/W: 570TV lines ((Min)  Day &amp; Night: Color /BW / Auto selectable  <u>Min illumination: 0.4Lux@F1.6 (Normal color mode)</u>  Gain control: Off/ Low / Middle / High selectable  White Balance: ATW / AWC /Manual selectable ( 18000K- 10.500°K)  Electronic Sutter Speed: Auto / Manual selectable (1/60 – 1/1120,000)  SSNR Off/ Low /Middle /High selectable  OSD: Built-in  Motion Detection On/ Off selectable  Rotation Angle I Speed Pan. 360 / Pan 240° sec</p>	1		Each					
99	<p><b>Supply &amp; Installation of Digital Video Recorder</b>  16 Channel 480fps(N) real-time video recording</p> <p>Power full CMS support as standard  16 Channel audio recording, Various search modes  Built-in DVD Writer, Max , 3 multi-monitor</p>	1		Each					
100	<p><b>Supply &amp; Installation of Controller for Speed Dome camera Connector 9 Port</b>  Connector 9 Port  LCD Display: 20 x 4 Character LCD  PTZ Control Joystick (3-Axis twist zoom)Control Quantity Max 255</p>	1							

	Remote Control: Rs-485/Rs-422									
101	<b>Supply &amp; Installation High Resolution Bracket Mount Camera</b> Image Pick-up Device 1/3" IT CCD Total Pixels: 795 (H) x 596 (V) Effective Pixels: 752(H) x 582 (V) Horizontal Resolution: 530TV lines <u>Min illumination 0.3Lux@F1.2 (Normal color mode)</u> Gain control: Off / Low / Middle / High / Off selectable White Balance: ATW (1800K – 10,500' K) Electronic Sutter Speed Auto/Manual selectable (1/60- 1/120,000) SSNR Off/ Low / Middle / High selectable OSD Built-in Motion Detection On/ Off selectable Iris Control DC / Video	2		Each						
102	<b>Supply &amp; Installation Housing for Speed Dome Camera</b> Operating Temperature -20 c- 50' C Housing Outdoor ALDC 12 Ring Decoration ALDC 12 Dome Cover Poly Carbonate Antivibration / Waterproof: IP 67	2		Each						
103	<b>SUPPLY &amp; INSTALLATION OF WEATHER PROOF HOUSING FOR FIXED CAMERA</b> Construction Extruded Aluminum Fabricated Aluminum Frame Poly carbonate window Movable Top and Lock	2		Each						
104	<b>SUPPLY &amp; INSTALLATION OF 40" COLOR LCD</b> High Definition LCD WXGA Display Pixel Plus for better Details and Clarity 3D comb filter separates colors for a razor –sharp image Virtual Dolby Surround for a Cinema Audio experience RF Remote Control View PC content HDMI for full digital High Defination Hanging Bracket	2		Each						
105	<b>SUPPLY &amp; INSTALLATION OF 32" COLOR MONITOR LCD</b> High Definition LCD WXGA Display Pixel Plus for better Details and Clarity 3D comb filter separates colors for a razor –sharp image Virtual Dolby Surround for a Cinema Audio experience RF Remote Control View PC content HDMI for full digital High Defination Hanging Bracket	1		Each						

106	<b>Supply &amp; Installation of 1.5KVA UPS</b> 1.5 KVA UPS with two batteries Built in isolation transformer Built in Surge Protection	1		Each					
107	<b>Supply &amp; installation of 1.5 KVA Servomotor Type Stabilizer</b> 1.5 KVA Stabilizer with Built in Servomotor	1		Each					
108	<b>Supplying &amp; Fixing Design, Built &amp; Setup Commands &amp; Control</b> Roomo Solid Wooden Structure	1 Job		P/Job					
	<b>Cinema Scope Type Curve</b> Front Formica Finish 8 Space for 21' CCTV Monitor 2 Space for 40' LCD TV Screen Internal Space for 1 UPS One Door for Troubleshooting & Maintenance 1 Space for DVR								

109	<b>TPM PULSE GENERATOR SINGLE CHANNEL</b>	2				
110	<b>INSTRUMENT TRAY</b>	20				
111	<b>SPONGE HOLDER</b>	20				
112	<b>ARTERY FORCEPS</b>	20				
113	<b>SCISSORS</b>	20				
114	<b>KIDNEY BOWEL</b>	40				
115	<b>ROUND BOWL</b>	40				
116	<b>NEEDLE HOLDERS 11NO.</b>	20				
117	<b>DRIP STAND</b>	20				
118	<b>CRASH CHART</b>	2				
119	<b>OT TROLLIES</b>	2				
120	<b>PATIENT STRETCHER</b>	10				

121	<b>WHEEL CHAIRS</b>		20				
122	<b>PHYSIOTHERAPY ITEMS</b>						
	1. MULTI EXERCISE COUCH WITH SHOULDER PULLY	01					
	2. WAX BATH THERAPY COMPLETE SET	01					
	3. WALL SHOULDER PULLY	04 SETS					
	4. COMBI 200L ELECTRODES	08PAIR					
	5. PARALLEL BAR COMPLETE SET LENGTH 14FEET, HEIGHT 3 ½ FEET	01					
	6. DL2 MACHINE (ELECTRICAL MUSCLE SIMULATOR)	02					
	7. CPM MACHINE FOR ELBOW +KNEE	02					
	8. MEDICINE BALLS SMALL/MEDIUM/LARGE .....	02 EACH					
	9. WRIST RETATOR COMPLETE COMPLETE SET WITH TABLE .....	01					
	10. HOT AND COLD PACKS MEDIUM/ LARGE	04 EACH					
	11. ELECTRICAL HEATING PACK MEDIUM / LARGE	02 EACH					
	12. STATIC EXERCISE CYCLE WITH METER READER	01					
	13. MIRROR FOR WALKING TRAINING HEIGHT 6FEET LENGTH 2½ IN PARELAL BAR	02					
<b>123</b>	<b>ENDO INSTRUMENTS</b>						
	1. URS 6.7.5 FR WITH FORCEPS	(01)					
	2. URS 8FR WITH FORCEPS	(01)					
	3. MINISCOPE 10.5 FR PEADS SIZE WITH FORCEPS	(01)					
	4. MINISCOPE PEADS SIZE 9.5FR	(01)					
	5. PCNL LITHOCLAST FORCEPS SMALL SIZE	(01)					
	6. CAMERA HEAD NEW	(01)					
	7. PEADS SEAT 9.5FR + 11FR	(01)					
	8. UROTHRO DIALETER SET PEADS SIZE	(02)					
	9. PEINAL CAMPS	(02)SET					
	10. ELLIK	(02)SET					
	11. CATHETER ENDEURER	SIZE 16 FR					
124	<b>HEMODIALYSIS MACHINE</b> Large Vertical Display 10.4 inch LCD Touch Screen Automatic Power Back-up UPS System Hot Water Disinfection System <b>Profiling</b> Ultra-Filtration , Conductivity , Blood Flow Heparin Infusion		10				



	<p>Bicarbonate Kt/V Monitor Heat Exchanger Digital Display of Parameters with Graph Real Time Monitoring of Dialysate Flow on LCD Screen by Flow Diagram Alarm Display with History Selection of Three Types of Dialysis Solution Arterial / Venous Chamber Level Adjustment Maintenance Window to monitor the Operation of Each Function Blood Volume Monitor Blood Pressure Monitoring System Data Communication Output Connection Bi-Cart System Chamber Level Adjustment Sodium Chloride Infusion Profile Hemo-Diafiltration Endo Toxin Cut Filter Assembly ETRF <b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b></p>					
125	<p><b><u>UNINTERRUPTIBLE POWER SUPPLY SYSTEMS OF 200KVA /250KVA &amp; 300KVA, TRANSFORMER BASED</u></b></p> <p><b>1. General</b> This specification covers the design, supply, delivery, installation, testing and commissioning of a continuous duty, 3-phase, four-wire Uninterruptible Power Supply system complete with maintenance-free sealed battery. The Uninterruptible Power Supply system, hereafter referred to as the UPS system, shall operate in conjunction with the existing power distribution system. In the event of an emergency it shall be able to supply independently clean and regulated uninterruptible power for computer equipment and other critical loads. UPS topology shall be VFI-Voltage and Frequency Independent (according to IEC 62040-3), with automatic and maintenance bypass.</p> <p>The UPS system shall have provisions for all necessary interface connections and ancillary items such that it can be easily and economically expanded at a future time with minimum disruption for increased capacity or to provide a fully redundant system. The UPS system and all associated equipment and components shall be manufactured in accordance with the EN / IEC 62040 standards. The UPS shall be fully assembled, manufactured, wired and tested at the European Manufacturing Plant in this regard witness testing &amp; certificate of origin would be required from the OEM The UPS manufacturer must be ISO 9001 certified and must have a consolidate experience in design, manufacture, servicing and testing of UPS systems.</p> <p><b>2. Tender submission requirement</b> The tender submission shall be in sufficient detail to show compliance to the specification and shall include a full set of descriptive and technical literature on the equipment and system proposed.</p> <p>The following drawings and information are to be submitted with the proposal:</p> <ol style="list-style-type: none"> <li>Technical Data sheets</li> <li>Product description or detailed description of the UPS functionalities</li> <li>Product dimensions and weights</li> </ol>	01 each				

- d) Heat dissipation of each unit.
- e) Functional relationship of various equipment
- f) Layout plan of control panel, alarm panel, mimic diagram.

**3. Applicable standards**

The equipment herein described as well as all the materials it comprised will be realized and approved in compliance with the latest editions of the codes and applicable standards.

CE conformity

The UPS shall be designed in conformity with European Council directives:

- 2004 / 108 / EC
- 2006 / 95 / EC
- 93 / 68 EC

concerning to electromagnetic compatibility (EMC) and safety of electrical equipment.

Safety standards

- IEC 62040-1-1 General and safety requirements for UPS used in operator access area.
- IEC 60950-1 Safety of information equipment including electrical business equipment

Electromagnetic compatibility (EMC)

- IEC 62040-2 EMC Requirements.

Performance

- IEC 62040-3 Method of specifying the performance and test requirements.

**4. Environmental conditions**

The UPS system shall be capable of withstanding any combination of the following environment conditions in which it must operate, without mechanical or electrical damage or degradation of operating characteristics:

- Ambient temperature: 0 to 40 degrees °C
- Relative Humidity: up to 95% (non-condensing)
- Altitude up to 1000 m a.s.l. without de-rating

Audible noise generated by the UPS system under any condition of normal operation shall not exceed the sound pressure level indicated in the “UPS technical data”, measured at a height of 1 metre and at 1 metre from the nearest UPS cabinet surface.

**4 System description**

The UPS shall be able to operate in the following conditions:

**On-line mode** - During normal operation, the UPS system shall be used to provide precise regulated and transient-free power to the computer equipment loads. The mains supply provides power to the rectifier/charger. The rectifier/charger shall provide regulated DC power to support the inverter and simultaneously maintain the battery in a fully charged condition. The inverter shall convert the DC power into regulated AC power for the load.

**Battery mode** - Upon failure of the mains supply, input power for the inverter shall automatically be supplied from the directly connected battery. When the mains is restored or the standby generator set supply is ready, input power for the inverter and for recharging the battery shall automatically be supplied from the rectifier/charger. If the input does not return, the UPS shall automatically shut itself down in an

<p>orderly manner when the discharge limit of the battery is reached.</p> <p><b>Bypass mode</b> - Upon the failure of static inverter, the no-break static transfer switch shall be activated automatically to isolate the faulty inverter and at the same time maintain a continuous supply to the system load. The automatic transfer mode shall also operate in the event of system overloading or if irregular or undesirable output for the load is detected. In this case, the system shall automatically return to the original mode of operation if the disturbance is cleared.</p> <p><b>Manual Bypass mode</b> - If the UPS system needs to be isolated for testing or removed from service for maintenance, the maintenance bypass shall transfer the loads from inverter to the mains without interruption and vice versa.</p> <p><b>Power Conditioner mode</b> - If the battery only must be taken out of service for maintenance, it will be disconnected from the rectifier/charger and inverter by means of an isolator. The UPS shall continue to function and meet all the performance criteria specified herein except for the protection time requirement.</p> <p><b>eBoost mode</b> - If selected and purchased by the end-user the no break static transfer switch will supply the load continuously in order to obtain a high efficiency. In case the bypass supply voltage is out of limits the UPS shall transfer back to inverter within 2 ms. this mode can be scheduled by the end-user. During eBoost Mode the UPS shall provide mains filtering and load power factor correction. Applicable to systems of power rating 160kVA and above.</p> <p><b>ECO mode</b> - If selected by the end-user the no break static transfer switch will supply the load continuously in order to obtain a high efficiency. In case the bypass supply voltage is out limits the UPS shall transfer back to inverter within 2 ms. This mode can be scheduled by the end-user. During ECO Mode the UPS shall provide mains filtering and load power factor correction.</p> <p><b>5 UPS design</b></p> <p>The equipment shall be realized in a solid self-support structure built with steel profiles and sheets.</p> <p>Equipment will be accessible by front, through hinged doors with level lock and key. It could be installed against a wall; therefore if it requires back access for installation, operating and/or maintenance, this will be clearly specified by bidder in his offer.</p> <p>Forced air-cooling shall be provided to ensure that all components are operated within specifications with air entry in the front and exit in the top.</p> <p>The equipment shall be provided by proper ventilation and cooling, so that all its components operate within the normal operating temperature range.</p> <p>Adequate space for termination shall be provided for incoming and outgoing cables. The cables for interconnecting the UPS and battery cubicles shall be supplied from bottom side of the cabinet.</p> <p>In case top entry cables are required, it could be provided by an additional cabinet.</p> <p>The equipment shall be designed to allow easy access to its parts, testing points and terminals, so that verification and maintenance can be made without removing assembly parts.</p> <p>UPS operations shall be performed from the UPS front side.</p> <p>All serviceable parts shall be accessible from front and top of the UPS cabinet.</p> <p>The UPS could be installed against a wall.</p> <p>The equipment shall meet the requirements of protection class IP 20.</p> <p><b>6 Rectifier/charger</b></p> <p><b>General</b> - The rectifier/charger must consist of an IGBT fully controlled bridge, which converts the 3-phase utility voltage into a controlled and regulated DC voltage, in order to supply power to the inverter, and to simultaneously charge the battery.</p> <p><b>Capacity</b> - The rectifier/charger shall have sufficient capacity to support a fully loaded inverter and at the same time maintain the battery in a fully charged condition.</p> <p>If the battery is fully discharged, the rectifier/charger shall recharge the battery to 90% of its fully charged condition preferably within 5 hours and at the same time supplying full load current to the system. Otherwise the UPS supplier shall specify the charging time required.</p> <p><b>Power walk-in</b> - The rectifier/charger must contain a timed walk-in circuit to limit the inrush current. The allowable initial inrush surge and</p>					
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<p>the walk-in time should be adjustable and not exceed 30 sec.</p> <p>Sequential power walk-in - a sequential walk-in of every single rectifier/charger shall be automatically executed in case of the start up of a parallel system in order to limit the inrush current to the value of one single system.</p> <p>Current and Voltage Limit - The rectifier/charger output current and voltage shall be limited to the battery supplier's recommendation.</p> <p><b>7 Inverter</b></p> <p>General - The conversion of DC to AC must be accomplished by power transistors of the IGBT type controlled with a SVM (Space Vector Modulation) strategy.</p> <p>Failure of any components or power stage shall not interrupt the AC output instead it shall disconnect itself from the configuration while transferring the load to the static transfer switch and then activate an alarm.</p> <p>Standard Control Battery - A control battery shall be provided to furnish logic power which is independent of the inverter input or output power. The battery shall provide the power required to operate the inverter logic until the load is transferred to the alternate source and the inverter is shut down in an orderly manner in the event of a failure of the logic solid- state power supply. In addition, the battery shall provide power to the alarm system to maintain event records after a UPS failure and shutdown.</p> <p>Output - The inverter output wave form shall be controlled by microprocessor-based software (software generated sine wave) to ensure that the voltage THD is being limited especially for non-linear loads.</p> <p>The inverter shall be equipped with an inverter output isolation transformer, integrated in the UPS enclosure. The inverter isolation transformer shall be a zig-zag transformer (Dz0) with zero phase-shift between the primary and secondary side. Transformer less UPS systems with a separate isolation transformer at the output are not acceptable.</p> <p>The wave form shall be fed through a filter circuit and protected by fast fuses.</p> <p>The inverter shall be able to handle short-circuit conditions without any damage.</p> <p>Neutral - The neutral of the inverter output shall be electrically isolated from the grounded UPS system chassis. The neutral shall be sized for a current of 2 times the nominal phase current.</p> <p>Frequency Control - The output frequency of the inverter shall be controlled by an oscillator that can be operated as a free running unit or in synchronised operation with a separate AC source or the future redundant inverter.</p> <p>If the external synchronising source deviates from the pre-set frequency by + 1% or 4% (selectable), the oscillator shall automatically revert to free-running, and the microprocessor controlled accuracy shall be + 0.1%.</p> <p>Capacitor Discharge - Output filter capacitors and DC capacitors shall be provided with a quick discharging circuit which shall automatically discharge the capacitors to safe value within 5 minutes after the shutting down of the inverter.</p> <p>The Inverter shall be able to supply any type of loads, linear and non-linear.</p> <p>The inverters shall be able to supply inductive and capacitive loads up to power factor 0.9 capacitive without any de-rating in power supplied.</p> <p><b>8 Static bypass switch</b></p> <p>The electronic bypass switch shall consist of a pair of microprocessor controlled thyristors, used to provide an uninterruptible transfer of the load to the utility in case of overload or UPS malfunctioning conditions.</p> <p>The electronic bypass switch shall be able to operate in continuous way. In addition the static transfer switch shall support 200% overload for 5 minutes and a short circuit capability of <math>&gt;45 \times I_n</math> for 10 milliseconds (non repetitive).</p> <p>The electronic bypass switch shall return the load automatically to the UPS when the malfunction or overload is cleared.</p> <p>Automatic retransfer delay time back to inverter from bypass after a transfer from inverter to bypass shall be 10 seconds.</p> <p>The number of automatic transfer/re-transfer from bypass to inverter when the status of the inverter logic signals an alarm conditions, shall be selectable.</p> <p>The electronic bypass switch shall be able to be activated manually by a switch/push button to affect the transfer. The switching time from inverter to reserve and vice-versa shall be of no-break when synchronised.</p> <p>According to standard IEC 62040-1 the electronic bypass shall be equipped by back-feed protection contactor, to protect UPS input mains from dangerous (electroshock) operating conditions.</p>					
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<p>The contactor shall be integral part of the UPS and installed inside UPS cabinet.</p> <p><b>9 Maintenance bypass</b>  On each UPS a maintenance bypass shall be provided, based on a pair of manually operated load switches which allow the electrical isolation of the UPS from the load, while still supplying the load with power directly from the utility.  Maintenance bypass shall guarantee safe maintenance operations on UPS parts by service engineer.</p> <p><b>10 Battery / battery test</b>  A battery shall provide the UPS system with a stored energy source.  The battery shall be designed for standby power service.  Battery capacity Ah or W/cell shall be sufficient to support the inverter for the required autonomy time, with the inverter operating at full rated load.  Tenderer shall submit full technical data of the battery offered under the tender and shall provide calculation to show the number of cells required and their capabilities which shall match the load requirement and the charging characteristics of the UPS requirement being offered.  Expected battery lifetime shall be indicated in the tender documentation.  Tenderer shall specify the recommended voltage per cell for float charging and recharging at 25 degrees C (or at recommended operating temperature) and the relative required recharging current.  The battery shall be mounted on shelves/cabinet: dimensions and weight shall be part of the tender documentation.  The UPS system shall be able to provide battery test in manual or automatic way (pre-selectable by date and time of day).  If a battery fault is detected, an alarm to advise the operator about the faulty conditions shall be performed.</p> <p><b>11 Interface</b>  Control panel shall be provided on the front side, consisting of a backlit graphic display (LCD) and related command keys.  Control panel will provide measurements, monitoring and control of all the functions</p> <p><b>Events</b> - as a minimum the following UPS status and event list, with relative data and time, shall be provided:</p> <ul style="list-style-type: none"> <li>- Rectifier: rectifier ON, rectifier OFF, mains rectifier OK</li> <li>- Battery: start battery test, end battery test, no conditions for battery test</li> <li>- Inverter: inverter ON, inverter OFF, inverter cannot be switched ON/OFF,</li> <li>- Bypass: mains bypass OK, bypass locked, bypass free, bypass power insufficient</li> <li>- Load: load on inverter, load on bypass, load-OFF, overload condition, multiple load transfer</li> </ul> <p><b>Alarms</b> - a common audible alarm and the respective indicating LED's shall be initiated when any of the following conditions are present:</p> <ul style="list-style-type: none"> <li>- UPS: load off for overload; battery low and over-temperature conditions; inverter and mains not synchronised; UPS overload.</li> <li>- Rectifier: mains out of tolerance; control logic failure.</li> <li>- Battery: low voltage; high voltage; earth fault; contactor closing or opening failure</li> <li>- Inverter: fuse failure; contactor closing or opening failure; voltage out of tolerance; output power insufficient; overload.</li> <li>- Bypass: mains out of tolerance; contactor closing or opening failure</li> <li>- Load: overload; load locked on inverter; load locked on bypass</li> </ul> <p>The list of alarms, with relative data and time, shall be provided.</p> <p><b>Measurements</b> - as a minimum the following measurements shall be provided:</p> <ul style="list-style-type: none"> <li>- UPS: inverter and mains synchronised/not synchronised, input circuit breakers open/closed, maintenance bypass ON/OFF,</li> <li>- Rectifier: input voltage, input frequency, number of rectifier mains failure</li> <li>- Battery: autonomy time, voltage, temperature, charge/discharge current in A</li> <li>- Inverter: output voltage, output frequency, inverter temperature, operating hours</li> <li>- Bypass: input voltage (Ph-N), input frequency, number of bypass mains failure</li> <li>- Load: load level in % (each phase), load current/phase in A, Load power in kVA/kW</li> </ul>					
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<p>The UPS, through the control panel, shall be able to store up to 256 alarms or events with date and time.</p> <p><b>12 Parallel operation (if required)</b>  The UPS system could be extended with more UPS in parallel to increase system reliability or to increase total power system.  The transformation of the UPS from single to parallel shall be realized in easy way, without any main modification on the existing UPS components layout.  Parallel UPS shall have same characteristics and performances as for UPS in single configurations (efficiency, dynamic characteristics, output voltage distortion, etc).  Only systems fully respecting the conditions of the technical term "redundant", meaning the system has no single point of failure, (including no master-slave relationships or common parallel electronic) with proven installations.  The tenderer has to provide sufficient technical details to explain the redundant-parallel configuration.  12.1 Only systems with decentralized bypass and redundant communication bus between units are accepted.</p> <p><b>13 Communication</b>  In a standard version the UPS shall be equipped with a customer interface card which provide:  <b>6 output dry contact</b> available on terminal blocks (NO/NC), these contacts shall be programmable out of 24 different alarms or events directly from the keyboard mounted on the front panel of the UPS  <b>Input Connections</b> for customer provided signals must be available for "generator on" (reduces battery charging current during mains failures, lock or unlock bypass and synchronization) and "emergency power off" (to shutdown UPS and load in the event of an emergency).  <b>RS232 port</b> for the following purposes:  - Serial communication for advanced remote monitoring communication via PC.  - Serial printer connection.  - Modem connection.</p> <p><b>Maintenance</b>  The tenderer shall be responsible for the maintenance of the system after expiry of the warranty period. In the tender submission, the tenderer shall include a maintenance agreement for the subsequent maintenance of the system for consideration by the end-user.  The agreement shall include a fixed sum proposed for five years to perform regular testing and up-keeping of the system.  The tenderer shall submit a checklist on the activities to be carried out for the system regular maintenance.  The tenderer shall provide evidence and undertake that round the clock on-call service is available to attend to system failure.</p> <p><b>14 Testing and commissioning</b>  14.1 The UPS shall be tested at manufacturing side.  The UPS commissioning shall be executed by qualified service engineers, which perform the UPS pre-commissioning check, the parameters calibrations according to installation requirements and the start-up.</p> <p><b>15 Options</b>  If required, the tendered shall be able to supply the following options, as integration of the UPS:  <b>Input isolation transformer</b> for galvanic separation of UPS from mains/utility supply to improve noise immunity but primarily as a safety device to prevent back-feed of DC voltage onto the mains.  <b>Top entry cables</b>, cabinet to connect input mains, load and battery cables coming from UPS top-side  <b>Surge suppressors</b>, to provide UPS input protection against surges coming from input mains  <b>Parallel output cabinet</b> with centralized manual bypass</p> <p><b>16 Options for communications and monitoring</b>  <b>Remote Signalling System</b> consists of a remote mimic panel with LED indicators and audible alarm.</p> <p><b>Remote Monitoring Solution</b> allows remote monitoring and diagnostic of UPS of different capacity, different configurations and at different locations by different communication technologies (Modem, SNMP, GPRS).</p>					
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The system shall also allow the manufacturer or it's nearest regional service centre to gain access to the UPS installed at the user's premises for remote on-line diagnostic.

**SNMP card** - It shall be possible to connect the UPS to a TCP/IP network using SNMP (simple network management protocol) using the international standard UPS MIB. The card shall have available the DNS (Domain Name Service), integrated email client and NTP (network Time Protocol) functionality as also the log possibility of all events and alarms. The SNMP card shall also work on the MODBUS protocol , either through RS485 or TCP/IP

**UPS Data Protection Software** - The UPS have available data protection software compatible with Windows2000/NT/XP, UNIX, Novell, OS/2 and other common operating systems. The software shall be able to protect several hundred servers connected to one UPS system.

**Internet Information and Alarm transmitting** - The UPS shall be able to communicate relevant data and alarms via the Internet to multiple addresses as E-mail, FAX and SMS. The UPS values need to be accessible over a protected web interface (https) and visualized graphically.

Item	Description	Required			
<b>1</b>	<b>General</b>				
1.1	Manufacturer name and location				
1.2	Manufacturer Plant Location				
1.3	UPS model / type				
1.4	UPS topology according to IEC62040-3	VFI - SS - 111			
1.5	UPS power rating	200-250 & 300	KVA		KVA
1.6	Dimensions (WxDxH)		mm		mm
1.7	Weight				
1.8	Protection degrees (IEC 60529)	IP20			
1.9	Color	RAL .....		RAL .....	
1.10	Continuous operating temperature	0 - 40	°C		°C
1.11	Operating relative temperature	up to 95	%		%
1.12	Cable entry	Bottom at front			
1.13	Efficiency at 100% load inn VFI/eBoost Mode (guarantee value)	93.7 / 98.4	%		%
1.14	Efficiency at 75% load VFI/eBoost Mode (guarantee value)	94.3 / 98.3	%		%
1.15	Installation	Against a wall			
1.16	Normal UPS operation	front access			
1.17	Maintenance and service activities	front and top			
1.18	Applicable standard	EN/IEC			
1.19	Applicable standard – safety	EN/IEC 62040-1			
1.20	Applicable standard – EMC	EN/IEC 62040-2			
<b>2</b>	<b>Parallel operation</b>				
2.1	Parallel operation for redundancy or capacity	up to 6 units in parallel			
2.2	UPS parallel bypass	Decentralized			
2.3	Current share between units	<5	%		%

Item	Description	Required			
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<b>3</b>	<b>UPS input characteristics</b>					
3.1	Input voltage	3x380/400/415	V		V	
3.2	Input voltage range	340 – 460	V		V	
3.3	Input frequency	50/60 + 10%	Hz		Hz	
3.4	UPS input current harmonic distortion	<2 at 100% load <3% at partial loads	%			
3.5	Input power factor	0.99				
3.6	Power walk-in	Yes				
3.7	Output DC voltage ripple	<1	%		%	
3.8	Output DC current ripple	Max 5% battery capacity	%		%	
<b>4</b>	<b>UPS output characteristics</b>					
4.2	UPS output nominal power	200-250 & 300	KVA		KVA	
4.3	UPS output active power at pf=0.9	190-225 & 270	KW		KW	
4.4	Output power factor - inductive load(without UPS power de-rating)	0.9 lagging				
4.5	Output power factor - capacitive load (without UPS power de-rating)	0.9 leading				
4.6	Output voltage	3 x 380 / 400 / 415 + N	V		V	
4.7	Output frequency	50 / 60	Hz		Hz	
4.8	Output voltage - static	± 1	%		%	
4.9	Output voltage – dynamic load step 0 - 100 - 0 %	± 3	%		%	
4.10	Output voltage – dynamic load step 0 - 50 - 0 %	± 2	%		%	
4.11	Voltage recovery time to + 1%	< 5	ms		ms	
4.12	Output voltage distortion THD100% linear load	< 1.5	%		%	
4.13	Output voltage distortion THD 100% non-linear load (EN/IEC62040)	< 3	%		%	
4.14	Overload capability	125% 10 min 150% 1 min				
4.14	Short circuit characteristics	2.2*In for 200 ms				
<b>Item</b>	<b>Description</b>	<b>Required</b>		<b>Offer</b>		<b>Remarks</b>
<b>5</b>	<b>UPS static bypass switch</b>					
5.1	Bypass input mains	Separated/common with rectifier				
5.2	Voltage limits for inverter/bypass load transfer	+ 10	%			



	5.3	Overload capability	200%*In for 5 min >30*In for 10 ms non repetitive								
	5.4	Electromechanic contactor for back-fed protection integrated in UPS cabinet	Yes								
	<b>6</b>	<b>UPS manual bypass</b>									
	6.1	Maintenance manual bypass for service activities	Integrated inside UPS cabinet								
	<b>7</b>	<b>Battery</b>									
	7.1	Battery type									
	7.2	Battery model / type									
	7.3	Autonomy at 100% load	10 Minutes	min			min				
	7.4	Floating voltage		V dc			V dc				
	7.5	Boost charging voltage		V dc			V dc				
	7.6	Number of battery blocks									
	7.7	Number of parallel strings									
	7.8	Battery cabinet/rack dimensions WxDxH		mm			mm				
	7.9	Weight		kg			kg				
	<b>8</b>	<b>UPS interfacing</b>									
	8.1	Input contacts	6 NO/NC contacts								
	8.2	Generator contact	yes								
	8.3	Emergency power -off	yes								
	8.4	RS 232	yes								
	<b>9</b>	<b>Options</b>									
	9.1	Input isolation transformer									
	9.2	Top entry cables									
	9.3	Surge suppressors									
	9.4	Parallel output cabinet									
	<b>ORIGIN: UK/USA/EUROPE/JAPAN OR EQUIVALENT</b>										
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