

**OFFICE OF THE MEDICAL SUPERINTENDENT PMC HOSPITAL**  
**NAWABSHAH-SHAHEED BENAZIR ABAD**

NO: MS NWB/ 5853/55

DATED 7/3/2018.

To,


The Director,  
Information (Advertisement),  
Publication Department,  
95 / 96 Pakistan Secretariat,  
Karachi.

**SUBJECT: RELEASE OF GOVERNMENT ADVERTISEMENT IN LEADING NEWS PAPERS**

The tender notice along (seven copies) for supply of instruments/equipments and furniture for PMC HOSPITAL NAWABSHAH - BENAZIR ABAD for the year 2017-2018 are send herewith for publication in the tree leading news papers.

It is requested the attached tender notice may kindly be published in three news papers i.e daily Dawn, daily Jung and daily Kawish only under intimation to this office at your earliest.

The bill in duplicate may please be sent to this office payment

  
**MEDICAL SUPERINTENDENT  
PMC HOSPITAL  
NAWABSHAH-  
SHAHEED BENAZIR ABAD**

**C.C for information:-**

1. The Additional Secretary M&I Cell health department Sindh @ Karachi
2. The Director General health services Sindh @ Hyderabad

SPRA INWARD DIARY  
NO : 6759  
DATED 07-03-2018

**MEDICAL SUPERINTENDENT  
PMC HOSPITAL  
NAWABSHAH-  
SHAHEED BENAZIR ABAD**

**OFFICE OF THE MEDICAL SUPERINTENDENT PMC HOSPITAL**  
**NAWABSHAH-SHAHEED BENAZIR ABAD**

NO: - PMCH-5853/55 DATED 7/3/:2018.

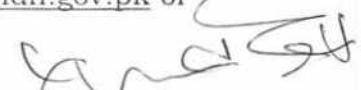
**TENDER NOTICE**

The Medical Superintendent PMC Hospital Nawab Shah-SHAHEED BENAZIR ABAD hereby invites sealed bid two envelop technical Bid/ financial bid from various manufacturers / importers / distributors for the supply of items mentioned below. A complete set of tender enquiry may be purchased from the office of the undersigned, PM&I Cell, health department, Sindh secretariat 3<sup>rd</sup> floor tughluk house Karachi and the Director General Health Services Sindh, Hyderabad on submission of written application upon cash payment of non-refundable fee mentioned in each tender enquiry. The bids must be delivered at opening date 26-03-2018 12:00 Noon, which will be opened publicly in the presence of the bidders or their authorized representative who wish to attend meeting on 26-03-2018 at 12:30 pm. The purchase committee / procurement agency reserve the right to accept / reject any/ all bids subject to the relevant provisions of SPPRA Rules 2010.

Descriptions	Date of opening	Cost of Tender
Machinery/ equipments and Instrument	26-03-2018	Rs. 2000
Furniture and Fixture	26-03-2018	Rs. 2000

**N.B.**

1. The tenders will be sold from date of publication to 24-03-2018
2. Bids must be quoted in CIF and DDP .
3. In case Government announces any public holiday then tender will be opened on next working day.
4. All rates should include Government taxes including GST if applicable.
5. This NIT can be download from website [www.sindh.gov.pk](http://www.sindh.gov.pk) or [www.sppra.gov.pk](http://www.sppra.gov.pk)

  
**MEDICAL SUPERINTENDENT**  
**PMC HOSPITAL**  
**NAWABSHAH-**  
**SHAHEED BENAZIR ABAD**

**OFFICE OF THE MEDICAL SUPERINTENDENT PMC HOSPITAL**  
**NAWABSHAH-SHAHEED BENAZIR ABAD**

NO: *Pmch5856*

DATED *7/31*:2018.


To,

The Director (A&F),  
Sindh Public Regulatory Authority,  
**KARACHI.**

**SUBJECT: SUBMISSION OF THE NIT ALONG WITH RELEVANT DOCUMENTS FOR LOADING ON SPPRA WEBSITE.**

It is submitted that the required / relevant documents of this office, (along with Softcopy) are submitted herewith for favor of your kind information and loading for hoisted on your official website.

Sr No.	Particular	Remarks
1.	Notice Inviting Tenders	Attached
2.	Bidding Documents	Attached
3.	Notification of Procurement Committee	Attached
4.	Notification of Compliant Redressal Committee	Attached
5.	Procurement Plan 2017-18	Attached

  
**MEDICAL SUPERINTENDENT  
PMC HOSPITAL  
NAWABSHAH-  
SHAHEED BENAZIR ABAD**



**GOVERNMENT OF SINDH  
HEALTH DEPARTMENT**

**NOTIFICATION**

No. SO(PM&I)2-1/2017-18/PM-06(PMCH): A Procurement Committee under Rules-7 of Sindh Public Procurement Rules 2010 (Amended 2017) is hereby constituted comprising the following procurement committee for purchases of Plant & Macinery for Peoples Medical College Hospital Nawabshah Shaheed Benazirabad during the financial year 2017-18.

01.	<b>Medical Superintendent,</b> P.M.C. Hospital Nawabshah Shaheed Benazirabad.	<b>Chairman</b>
02.	<b>Additional Medical Superintendent,</b> P.M.C. Hospital Nawabshah Shaheed Benazirabad.	Member
03.	<b>Representative of District Accounts Officer,</b> Shaheed Benazirabad.	Member

**TORs**

The TORs / Functions / Responsibilities of the Procurement committee in accordance with Rule-8 of SPP Rules 2010 shall be as under:

- Preparing bidding documents;
- Carrying out technical as well as financial evaluation of the bids;
- Preparing evaluation report as provided in Rule-45;
- Making recommendations for the award of contract to the competent authority;
- Perform any other function ancillary and incidental to the above.

**SECRETARY HEALTH**

No. SO(PM&I)2-1/2017-18/PM-06(PMCH):

Karachi, dated: 21<sup>st</sup> February, 2018

**C.C to:**

- The Managing Director, Sindh Public Procurement Regulatory Authority, Karachi.
- The Medical Superintendent, Peoples Medical College Hospital Nawabshah Shaheed Benazirabad with reference to his letter dated: 08.02.2018.
- The Chairman & all members of the Committee.
- The P.S. to Secretary Health.

  
(NAVEED AHMED SOOMRO)  
SECTION OFFICER (PM&I)



NO.HD(P&E) 3-2 (427)/2014  
GOVERNMENT OF SINDH  
HEALTH DEPARTMENT  
(Procurement, Monitoring and Inspection Cell)

**NOTIFICATION**

No. HD(P&E)3-2(427)/2014: In supersession to this department's notification of even number dated: 10-04-2017 and in pursuance of Rule 31 of the Sindh Public Procurement Rules, 2010, the Govt. of Sindh, Health Department, re-constituted Complaint Redressal Committee (CRC), comprising of the following officers for scrutinizing the complaints of aggrieved bidders against tender invited by Health Institutions / Hospitals / Programs / Projects in Sindh.

01	Secretary Health, Govt. of Sindh.	Chairman
02	Representative from Accountant General Sindh	Member
03	Independent expert from relevant field concerning (to be nominated by the Head of Procuring Agency)	Member
04	Deputy Secretary (PM&I)	Member Secretary
05	Deputy Secretary (General)	Member

**TORs**

- To scrutinize the complaints from the aggrieved bidders and decide the cases strictly in accordance with SPP Rules 2010.

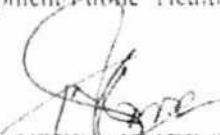
**SECRETARY HEALTH**

No. HD(P&E)3-2(427)/2014:

Karachi, dated: 31<sup>st</sup> May, 2017

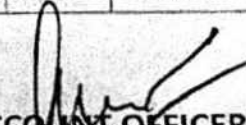
**C.C to:**

1. The Director General Health Services Sindh, Hyderabad.
2. The District Health Officers (All)
3. The Medical Superintendents (All)
4. The P.S. to Chief Secretary Sindh, Karachi.
5. The Managing Director, Sindh Public Procurement Regulatory Authority, Karachi.
6. The Special Secretary/Adl. Secretary (Admn/Development/Public Health) Health Department.
7. The Chairman & all members of the Committee.
8. The P.S. to Secretary Health.

  
(NAVEED AHMED SOOMRO)  
SECTION OFFICER (PM&I)

PMC HOSPITAL  
NAWABSHAH-SHAHEED BENAZIRABAD  
ANNUAL PROCUREMENT PLAN 2017-2018

S#	Description of Procurement	Quantity (Where applicable)	Estimated Unit Cost (Where applicable) (Million)	Funds allocated (Million)	Source of Funds (ADPs Non ADPs)	Proposed Procurement Method	Timing of Procurement				Remarks
							1 <sup>st</sup> Qtr	2 <sup>nd</sup> Qtr	3 <sup>rd</sup> Qtr	4 <sup>th</sup> Qtr	
1	Purchase of Machinery/Equipment/ Instrument Through NON-ADP	56 ITEMS	235.30 million	235.30 million	NON-ADP	Tender SPPRA 46(2)			February March	To be completed in 4 <sup>th</sup> quarter	
2	Purchase of Furniture and Fixture Through NON-ADP	19 ITEMS	3.00 million	3.00 million	NON-ADP	Tender SPPRA 46(2)			February March	To be completed in 4 <sup>th</sup> quarter	

  
 ACCOUNT OFFICER  
 PMC HOSPITAL  
 NAWABSHAH



**PEOPLES MEDICAL COLLEGE HOSPITAL NAWABSHAH-  
SHAHEED BENAZIRABAD**

**TENDER FOR PURCHASE OF FURNITURE AND FIXTURE  
TO BE INSTALLED AT PEOPLES MEDICAL COLLEGE  
HOSPITAL NAWABSHAH- SHAHEED BENAZIRABAD**

TENDER NO.

DUE ON: 26-03-2018

**INVITATION FOR BIDS**

1. Sealed bids are invited from eligible bidders for Supply of Furniture and Fixture etc against funds provided in the year 2017-2018.
2. Bidding will be conducted under **SPP Rule 2010 clause 46(2)** single stage two envelope bidding procedures of Sindh Public Procurement Rule 2010 (Amended 2017) specified in this document is open to all interested bidders.
3. Interested bidders may obtain further information from the office of the Undersigned or from PM&I Wing, Health Department, 3<sup>rd</sup> Floor, Tuglaq House, Sindh Secretariat Building No. 2, Kamal Atta Turk Road, Karachi, during the office hours.
4. A complete set of bidding documents may be purchased by interested bidders on the submission of a written application from Office of the Section Officer (PM&I), Health Department, 3<sup>rd</sup> Floor, Tuglaq House, Sindh Secretariat Building No. 2, Kamal Atta Turk Road, Karachi, against the tender fee of Rs.2,000/- in shape of Pay Order / Demand Draft in the name of Medical Superintendent, Peoples Medical College Hospital Nawabshah- Shaheed Benazirabad.
5. The bidders are required to submit their sealed tender documents / bids (on or before 26-03-2018 at 12:00 Noon. at the office of Medical Superintendent, Peoples Medical College Hospital Nawabshah- Shaheed Benazirabad. Bids will be opened in the presence of bidders authorized representatives who choose to attend at 12:30 p.m.



**Medical Superintendent,**  
Peoples Medical College  
Hospital Nawabshah-  
Shaheed Benazirabad



## Instructions to Bidders

- 1) The Bidder is expected to examine all instructions, forms, terms, and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or to submit a bid not substantially responsive to the bidding documents in every respect will be at the Bidder's risk and may result in the rejection of its bid.
- 2) Bid Security @ 2% of the total bid value of quoted items by the bidder in shape of pay Order / Demand Draft in favour of Medical Superintendent, Peoples Medical College Hospital Nawabshah-Shaheed Benazirabad. Bids shall remain open for 90 days from the date of opening. A bid valid for a shorter period shall be rejected as being non-responsive.
- 3) The bid prepared by the Bidder shall comprise the following mandatory documents to be eligible:
  - (a) Tender Purchase Receipt (*Original*)
  - (b) Bid Security (Copy)  
Note: Copy of the instrument with amount hidden in Technical Proposal envelope.
  - (c) General & Special Conditions of Contract  
(*Duly filled, Signed & Stamped by Bidder*)
  - (d) Schedule of Requirements & Technical Specifications  
(*Duly filled, Signed & Stamped by Bidder*)
  - (e) Undertaking
  - (f) Certificate
  - (g) Bidder's registration & membership (with a valid copy):
    - (i) Income Tax & GST Registration Certificate
    - (ii) Professional Tax Certificate (Sindh)
    - (iii) Chamber of Commerce & Industry Membership Certificate  
Additional for Private Limited companies
    - (iv) SECP Incorporation Certificate
  - (h) Bidder's Financial Status:
    - (i) Company Profile
    - (ii) Bank Account Maintenance Certificate
    - (iii) Bank Statement (*last two years*)  
(*Showing annual business turnover of  $\geq 10$  million rupees per year*)
    - (iv) Income Tax Return (*last two years*)
  - (i) Bidder's After Sale Services in Sindh:
    - (i) Service Workshop
    - (ii) Tools List
    - (iii) Qualified & Trained Personnel List (BE/BS/DAE)
  - (j) Original Equipment Manufacturer (OEM) or Brand quoted by the Bidder
    - (i) Brochure or Catalogue (*Original*)  
[Note: Photocopies, Photographs or Word document not acceptable.]
    - (ii) References of the brand/manufacturer (*local, preferably in Sindh*)
    - (iii) References of the brand/manufacturer (*international*)
    - (iv) Factory (Address, Size, Machinery & Workforce)  
[Note: It should prove sufficient production capacity at the facility.]  
For Manufacturer (Local) of Hospital Furniture
      - (v) ISO 9001 Certificate
      - (vi) Chamber of Commerce & Industry Membership Certificate
      - (vii) EOBI Registration Certificate
      - (viii) Social Security Registration CertificateFor Manufacturer (International) of Hospital Furniture

- (ix) ISO 9001 Certificate
  - (x) CE Certificate or other certification
- (k) Bid Form & Price Schedules (*duly filled, signed & stamped by Bidder*)  
[Note: Bid Form & Price Schedules should be enclosed inside Financial Proposal envelope.]
- 4) **SAMPLE(S) of the quoted items in bid shall be submitted within 48 hours from the date and time of tender opening. Technical Evaluation of the goods will be based on SAMPLe(S) provided by the bidder. Alternate model or item which has not been quoted by the bidder shall be not acceptable as SAMPLe against the quoted model in the bid.**
- 5) Goods must be quoted with all the standard accessories.
- 6) The Purchaser will evaluate and compare the bids on itemized basis OR on the basis of a group OR a combination of groups OR as total package.
- 7) Prices shall be quoted in Pakistani Rupees on DDP basis.
- 8) The bidders shall quote their prices inclusive of all duties / taxes / Octroi transportation etc, and all other expenses on free delivery to Consignee's end.
- 9) Price should be quoted both in figures and words, failing which the offer will be ignored.
- 10) The Purchaser reserves the right to appoint one of its committee members to visit and verify production facility in person to evaluate fabrication process, quality and capacity of the manufacturer. Furthermore, the member may also be asked to visit any public reference at which the manufacturer's products are installed for feedback (if required). All expenses are to be borne by the bidder in this regards.
- 11) The prices quoted by the Bidder shall be fixed during the performance of the contract and not subject to variation on any account. A bid submitted with an adjustable price or conditional will be treated as non-responsive and rejected.
- 12) The bidding procedure for this tender will be Single Stage - Two Envelope Procedure as follows;
- (a) The Bidder shall prepare bid comprise one single envelope containing separately financial proposal and technical proposal in original. Envelopes shall be marked as "**FINANCIAL PROPOSAL**" and "**TECHNICAL PROPOSAL**" in bold and legible letter to avoid confusion. The financial and technical bids, each consisting of the documents listed above.
  - (b) TECHNICAL PROPOSAL; the bidder must provide the original Data sheet and Technical brochure, Income Tax, Sales Tax, Sole Agency certificate and other documents; otherwise the bid will be ignored.
  - (c) FINANCIAL PROPOSAL; the bidder should provide bid security / earnest money at the rate of 2% of the quoted value. A photocopy of the same should be attached with Technical Proposal but its value must not be disclosed and this can be achieved by placing a piece of paper on the place where amount is mentioned.
  - (d) Procuring agency shall evaluate the technical proposal in a manner prescribed in advance, without reference to the price and reject any proposal which does not conform to the specified requirements;
  - (e) No amendments in the technical proposal shall be permitted during the technical evaluation;
  - (f) Financial proposals of technically qualified bids shall be opened publicly at a time, date and venue announced and communicated to the bidders in advance;
  - (g) Financial proposal of bids found technically non-responsive shall be returned un-opened to the respective bidders; and
  - (h) Bid found to be the lowest evaluated or best evaluated bid shall be accepted.

- 13) All pages of the bid, except for un-amended printed literature, shall be initialed by the bidder.
- 14) The bid shall contain no alterations, omissions, or additions, unless such corrections are initialed by the person or persons signing the bid.
- 15) Bids shall be submitted either by the manufacturer or its authorized distributor, if submitted by the manufacturer itself then bid of authorized distributor will be rejected.
- 16) Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price, which is obtained by multiplying the unit price and quantity, or between subtotals and the total price, the unit or subtotal price shall prevail, and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail. If the Bidder does not accept the correction of errors, its bid will be rejected.
- 17) The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of contract under the relevant provisions of SPPRA Rules 2010(amended 2017), without thereby incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Purchaser's action.
- 18) Prior to the expiration of the period of bid validity, the Purchaser will notify the successful Bidder through Advance acceptance. This will constitute the formation of the contract. Within seven (07) days after receipt of the Advance acceptance, the successful Bidder shall furnish the performance security @ 5% of the contracted amount and will sign the contract agreement.
- 19) Distributor once nominated by the manufacturer will be for the whole contract period and manufacturer cannot change its distributor during the year in any case.
- 20) In case of discrepancies between the Tender Notice and the Tender Documents, the Tender Documents shall take precedence.

Duly accepted by

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Sign & Stamp

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Bidder Name

## General & Special Conditions of Contract

- 1) The Procuring Agency is the Medical Superintendent, Peoples Medical College Hospital Nawabshah- Shaheed Benazirabad
- 2) The Bidder is: \_\_\_\_\_
- 3) The Contract shall be governed by and interpreted in accordance with laws of the Islamic Republic of Pakistan.
- 4) Stores are required in 90 days. The bidder may however give their short guaranteed delivery period by which the supply will be completed from the date of purchase order.
- 5) **The manufacturer should provide an undertaking that if his authorized contractor fails to carry out any assignment in total or in part, manufacturer will be responsible to carry out the same.**
- 6) Except as otherwise specifically provided in the Contract, the Contractor shall bear and pay all taxes, duties, levies and charges assessed on the Contractor.
- 7) The Contract Price shall be made to the Contractor as specified in the Contract Agreement, subject to the general principle / procedure of the Government of Sindh.
- 8) The term period of warranty / guarantee mean the period of twenty four (24) months from the date on which the Stores have been installed at Purchaser's site.
- 9) During the period of warranty / guarantee, the Contractor shall remedy, at his / her expense, all defects in design, materials, and workmanship that may develop or are revealed under normal use of the goods upon receiving written notice from the Purchaser.
- 10) The contractor shall provide guarantee for supply of accessories, kits and chemicals, consumables, films etc. for at least 05 years (if applicable).
- 11) The Contract shall be executed in accordance with the Contract Documents and procedures.
- 12) The Purchaser or its representative / Committee shall inspect the Furniture to confirm their conformity to the Contract specification. The inspection will be conducted at the premises of consignee after receipt of supply.
- 13) If the Contractor fails to attain Completion of the supply within the Time for Completion shall pay to the Purchaser liquidated damages at the rate of 0.2% per week of the Contract Price, or the relevant part thereof. The aggregate amount of such liquidated damages shall in no event exceed the amount of 10%. Once the "Maximum" is reached, the Purchaser may consider termination of the Contract.
- 14) The Contractor warrants that the supplied item or any part thereof shall be free from defects in the design, engineering, materials etc. In case of defect in any part at the time of supply it shall be replaced with new one instead of repair.
- 15) The purchaser, without prejudice to any other remedy for breach of contract by written notice of default sent to the supplier, may terminate this contract in whole or in part:
  - (a) If the supplier fails to deliver any or all of the contracted items within the period(s) specified in the Contract, or within any extension thereof granted by the Purchaser.
  - (b) If the Supplier fails to perform any other obligation(s) under the Contract.

- (c) If the supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
- 16) The bidder shall confirm the refund of cost difference if the same goods is/was supplied at lower rates to any other Govt./Semi Government institution or Armed Forces in the Province or outside in the same fiscal year.
- 17) The Purchaser reserves the right to increase/decrease or delete the quantities of goods etc. at the time of award of contract and also reserves the right to increase/ decrease the quantity of goods and services originally specified in the contract without any change in unit price or other terms and conditions of goods at any time during the contract period as per provision(s) of Sindh Public Procurement Rules, 2010 (amended 2017).
- 18) For alternate offer, bidder shall purchase separate tender receipt from the procuring agency. Original receipt has to be enclosed with the Technical Proposal of the bidder having alternate offer. All bids with alternate offers having no separate receipt (original) will be liable to reject.

Duly accepted by

\_\_\_\_\_  
Sign & Stamp

\_\_\_\_\_  
Bidder Name

## Bidder Evaluation Criteria

The following merit point system for weighing evaluation criteria will be applied for technical proposals.

S. No.	Parameter	Yes / No	Max Points	Points
<b>1</b>	<b>Conformity to the Technical Specifications</b>		<b>30</b>	
	a) Fully compliant with the required specifications		15	
	b) Compliant with minor deviation $\leq 5\%$ (subject to main function is not affected)		10	
	c) Sample approved		15	
<b>2</b>	<b>Warranty</b>		<b>5</b>	
	a) Warranty (period as required)		3	
	b) Warranty (period more than required)		5	
<b>3</b>	<b>Bidder's Legal Status, Certification &amp; Experience</b>		<b>12</b>	
	a) SECP Incorporation (1 point/year)		2	
	b) Chamber of Commerce & Industry Membership (1 point/year)		2	
	c) ISO 9001 Certified (1 point/year)		2	
	d) Purchase Orders with total value $\geq 5$ million rupees (2 point/order copy)		6	
<b>4</b>	<b>Bidder's Financial Status</b>		<b>8</b>	
	a) Bank Certificate		2	
	b) Bank Statement (last two years) (Showing annual business turnover of $\geq 10$ million rupees per year)		2	
	c) Income Tax Return (last two years) (Showing annual business turnover of $\geq 10$ million rupees per year)		2	
	d) Audited Financial Statement (last two years)		2	
<b>5</b>	<b>Bidder's After Sales Services in Sindh</b>		<b>5</b>	
	a) Service Workshop		2	
	b) Qualified & Trained Staff a. Should have at least two technician with Bio-Data b. Should have at least one technician trained by the principal		2	
	c) Tools & Spare Parts List		1	
<b>6</b>	<b>Hospital Furniture: Manufacturer / Brand</b>		<b>40</b>	
	a) Manufacturer's Authorization		2	
	b) Manufacturer's Website		4	
	c) Brochure or Catalogue ( <i>original</i> )		4	
	d) ISO 9001 Certificate ( <i>local manufacturer</i> )		2	
	e) CE Certificate ( <i>foreign manufacturer</i> )		2	
	f) Chamber of Commerce & Industry Membership ( <i>local manufacturer</i> )		2	
	g) EOBI Registration Certificate ( <i>local manufacturer</i> )		2	
	h) Social Security Registration Certificate ( <i>local manufacturer</i> )		2	
	i) References of OEM brand / model (i) Government / Semi-Government Teaching Hospital / Institute (ii) Armed Forces (iii) Charity Hospital / NGO (iv) Private Teaching Hospital / Institute (v) International Hospital / Institute		2 2 2 2 2	
	j) Factory ( <i>local manufacturer</i> ) (i) Size (2 points/5000 sq. ft. space) (ii) Tools (iii) Machinery (iv) Workforce		4 2 2 2	
<b>Total Points</b>			<b>100</b>	

Note:

- If a bidder fails to (a) obtain minimum 10 Marks, against the criteria "Conformity to the Purchaser's Specifications". (b) have valid Manufacturer's Authorization and, (c) submitted SAMPLE(S) on-time, his offer will not be considered for further evaluation and rejected.
- Bidders achieving minimum 70 marks will be considered only.

## Documents Checklist

Please review the following list of all possible documents to be enclosed with the Technical Proposal.

S. No.	Document Description	Yes / No	Page No.
<b>General Bid Documents:</b>			
1	Tender Purchase Receipt (Original)		
2	Bid Security (Pay Order / Bank Draft / Bank Guarantee)		
3	General & Special Conditions of Contract(Duly filled, Signed & Stamped by Bidder)		
4	Schedule of Requirements(Duly filled, Signed & Stamped by Bidder)		
5	Technical Specifications(Duly filled, Signed & Stamped by Bidder)		
6	Technical Proposal (on bidder's letterhead)		
<b>Bidder's Documents:</b>			
7	Manufacturer's Authorization ( <i>as per sample form</i> )		
8	Undertaking ( <i>as per sample form</i> )		
9	Certificate ( <i>as per sample form</i> )		
10	Income Tax & GST Registration Certificate		
11	Professional Tax Certificate (Sindh)		
12	SECP Incorporation Certificate ( <i>if applicable</i> )		
13	Company Profile		
14	Bank Certificate		
15	Bank Statement		
16	Audited Financial Statement (last year)		
17	Income Tax Return (last year)		
<b>Original Equipment Manufacturer (OEM) or Brand of Hospital Furniture:</b>			
18	Catalogue / Brochures (original)		
19	ISO 9001 / CE Certificate		
20	Chamber of Commerce & Industry Membership Certificate ( <i>local manufacturer</i> )		
21	EOBI Registration Certificate ( <i>local manufacturer</i> )		
22	Social Security Registration Certificate ( <i>local manufacturer</i> )		
23	References of the quoted brand/manufacturer ( <i>local</i> )		
24	References of the quoted brand/manufacturer ( <i>international</i> )		
<b>Additional Documents:</b>			

Note:

- Mandatory documents are mentioned in 'Instructions to Bidders'.
- All pages of the bid, except for un-amended printed literature, shall be initialed by the Bidder.

**Bidder's details for notice purposes:**

Bidder Name:	
Address:	
Tel No	
Fax No.	
Contact Person:	
Mobile No.	
Email Address:	





**ITEM NO. 01**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
	<b>Revolving Stool SS Top</b>	<b>Qty</b>	<b>12</b>
<p><b>Revolving Stool SS Top</b></p> <p><u>Specifications:</u></p> <ul style="list-style-type: none"> <li>- Revolving patient examination stool</li> <li>- Top made of moulded stainless steel sheet</li> <li>- Central 1¾" MS round pipe with screw mechanism</li> <li>- Legs made of 1" MS round pipe fitted together by ⅝" MS round pipe for stability and strength</li> <li>- Rubber boot on feet for floor grip</li> <li>- Electrostatic epoxy powder coated paint finish</li> <li>- Or Equivalent</li> </ul> <p><u>Certifications:</u></p> <p>ISO</p> <p><u>Make:</u></p> <p>Local Export Quality or Equivalent</p>			

**ITEM NO. 02**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
	<b>Ward Screen, 3 Folds</b>	<b>Qty</b>	<b>10</b>
<p><u>Specifications:</u></p> <ul style="list-style-type: none"> <li>- Dimensions: 96" x 61" (W x H)</li> <li>- Frame in three panels for screening patient properly</li> <li>- Made from 18SWG MS tubular pipe 1" diameter</li> <li>- Frames fixed together with ABS universal joints, easily movable</li> <li>- Polyester curtains fitted on steel pipe rods</li> <li>- Mobile on six imported 2" castors</li> <li>- Electrostatic epoxy powder coated steel finish</li> <li>- Or Equivalent</li> </ul> <p><u>Certifications:</u></p> <p>ISO</p> <p><u>Make:</u></p> <p>Local Export Quality or Equivalent</p>			

**ITEM NO. 03**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
	<b>Bed Side Cabinet</b>	<b>Qty</b>	<b>12</b>
<p><u>Specifications:</u></p> <ul style="list-style-type: none"> <li>- Cabinet made of 1mm thick Galvanized steel sheet</li> </ul>			

- Top of PVC material with three sides raised edges
- Drawer 3" depth having sheet inbuilt handle with full extension ball bearing railing
- Cabinet door having sheet inbuilt handle and magnetic strip with firm grip
- Recessed shelf, removable
- Mobile on four imported 2" twin castors
- Electrostatic epoxy powder coated finish
- Or Equivalent

Certifications:

ISO

Make:

Local Export Quality or Equivalent

**ITEM NO. 04**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>Over Bed Table</b>	<b>Qty</b>	<b>12</b>
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Specifications:

- Frame dimension 27" x 17"
- Stable frame made of 16SWG 1" x 2" MS tubular pipe
- Top of laminated melamine board 32" x 15" with sides dressed with PVC lining
- Telescopic height adjustment from 31" to 45" with tightening of screw knob
- Adjustable column of tubular stainless steel pipe
- Mobile on four imported 2" twin castors
- Electrostatic epoxy powder coated finish
- Or Equivalent

Certifications:

ISO

Make:

Local Export Quality or Equivalent

**ITEM NO. 05**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>Patient Attendant Bench</b>	<b>Qty</b>	<b>50</b>
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Specifications:

- Dimensions: 72" x 24" x 16"
- Structure made from 16SWG MS pipe
- Round MS pipe bows at both ends
- Upholstered with high quality 1" foam and rexene
- All legs base fitted with PVC plug for floor protection
- Electrostatic epoxy powder coated paint finish

- Or Equivalent

Certifications:

ISO

Make:

Local Export Quality or Equivalent

**ITEM NO. 06**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>Drip Stand SS</b>	<b>Qty</b>	<b>10</b>
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Specifications:

- Outer 16SWG stainless steel pipe
- Stainless steel telescopic inner rod
- Four Stainless steel hooks
- Spring loaded for drop safety
- Stainless Steel base mobile on 5 wheels
- Or Equivalent

Certifications:

ISO

Make:

Local Export Quality or Equivalent

**ITEM NO. 07**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>Hi-Low Stretcher Trolley</b>	<b>Qty</b>	<b>02</b>
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Specifications:

- Dimensions: 75" x 26"
- Frame made of 16SWG MS pipe
- Removable stretcher top with washable rexene cover and Velcro straps
- Removable pillow with stretcher top
- Height adjustment from 21: to 36" from floor using acme screw crank
- Rubber bumper on all sides for protection
- Utility basket in base trolley
- IV pole holder at diagonal end
- Patient safety side guards of stainless steel pipe which is slidable up and down
- Mobile on four 8" rubber castors (diagonal brakable)
- Electrostatic epoxy powder coated steel finish
- Or Equivalent

Accessories:

- 1) IV Transfusion Pole

2 hooks with inner chromed steel pipe  
 Height adjustment by tight screw  
 Outer MS pipe epoxy powder coated  
 Or Equivalent

Certifications:

ISO

Make:

Local Export Quality or Equivalent

**ITEM NO. 08**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>Wheel Chair Fixed</b>	<b>Qty</b>	<b>30</b>
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Specifications:

- Dimensions: 32" x 28" x 20"
- Main frame constructed from 16SWG MS round pipe
- Seat and back upholstered with foam & rexene
- Arm rest of plastic
- Rear wheel of 8" non-swivel type
- Front wheel of 5" swivel type
- Rubber bumpers on chair sides
- Holder for IV pole on one side
- Utility basket underneath
- Tilting paddles at back, push handle
- Foldable foot rest of round stainless steel pipe
- Electrostatic epoxy powder coated steel finish
- Or Equivalent

Certifications:

ISO

Make:

Local Export Quality or Equivalent

**ITEM NO. 09**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>Officer Table</b>	<b>Qty</b>	<b>12</b>
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Specifications:

- Sheesham wood frame with lamination top in heavy duty finish
- Three drawers on one side with handles, locks and sliding on imported rails in full extension
- High quality matt finish wood lacquer polish in light oak veneer shade
- Dimensions: L 42" x W 24" x H 26"

- Or Equivalent

Certifications:

ISO

Make:

Local Export Quality or Equivalent

**ITEM NO. 10**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>Revolving Chair</b>	<b>Qty</b>	<b>1</b>
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**Revolving Chair**

Specifications:

- Medium back with arm rests revolving chair
- Moulded P U Foam
- Seat: 20" x 18"
- Fabric upholstered seat & back cushions
- High quality gas spring lift for height adjustment
- Mobile on imported five legged wide nylon base with 2" twin castors
- Preferably Master or Chairister
- Or Equivalent

Certifications:

ISO

Make:

Local Export Quality or Equivalent

**ITEM NO. 11**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>Office Visitor Chair</b>	<b>Qty</b>	<b>28</b>
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Specifications:

- Made of high quality 'Talli' wood without cracks, knots and SAP wood
- Standard design with arm rests
- Back with three 3" strips
- Seat with Rexene or heavy duty fabric upholstery
- High quality matt finish wood lacquer polish in light oak veneer shade
- Dimensions: 22" x 20" x 36"
- Or Equivalent

Certifications:

ISO

Make:

Local Export Quality or Equivalent

**ITEM NO. 12**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
	<b>File Cabinet</b>	<b>Qty</b>	<b>10</b>
<p><u>Specifications:</u></p> <ul style="list-style-type: none"> <li>- Dimensions: 53" x 18"</li> <li>- Made of 20 SWG Galvanized steel sheet</li> <li>- Three drawer with full extension ball bearing railings</li> <li>- Single all drawer key-lock system</li> <li>- High quality textured finish DECO paint</li> <li>- Or Equivalent</li> </ul> <p><u>Certifications:</u></p> <p>ISO</p> <p><u>Make:</u></p> <p>Local Export Quality or Equivalent</p>			

**ITEM NO. 13**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
	<b>Steel Almirah</b>	<b>Qty</b>	<b>10</b>
<p><u>Specifications:</u></p> <ul style="list-style-type: none"> <li>- Dimensions: 72" x 36" x 18"</li> <li>- Made of 20 SWG Galvanized steel sheet</li> <li>- Four shelves of steel sheet</li> <li>- Double door with durable lock</li> <li>- High quality textured finish DECO paint</li> <li>- Or Equivalent</li> </ul> <p><u>Certifications:</u></p> <p>ISO</p> <p><u>Make:</u></p> <p>Local Export Quality or Equivalent</p>			

**ITEM NO. 14**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
	<b>Waiting Area Bench(Cold Rolled Steel)</b>	<b>Qty</b>	<b>100</b>
<p><u>Specifications:</u></p> <ul style="list-style-type: none"> <li>- Dimensions: 70" x 26" x 31"</li> <li>- Seat made of perforated cold-rolled steel sheet with powder coating finish</li> </ul>			

- Side frame, arms and legs of cold-rolled steel with surface chrome plating treatment
- Beam made of 3" x 1½" steel pipe, epoxy powder coated finish
- Or Equivalent

Certifications:

ISO

Make:

Local Export Quality or Equivalent

**ITEM NO. 15**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

		Qty	06
	<b>Examination Couch</b>		

Specifications:

- Dimensions: 72" x 24" x 28"
- Body frame made up of 16SWG 1¼" MS round pipe
- Welded base for stable operation
- Backrest adjustable, up 40° to 50° and down 10° to 15° with friction clutch lever
- Lying area in two parts upholstered with 2½" foam & rexene
- PVC boots on feet for grip and noiseless operation
- Electrostatic epoxy powder coated paint finish
- Or Equivalent

Certifications:

ISO

Make:

Local Export Quality or Equivalent

**ITEM NO. 16**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

		Qty	30
	<b>BED WITH MATTRESS</b>		

Specification:

- Dimensions: 78" x 36" x 22"
- Patient lying area in four sections
- Reinforced strips of 1mm thick MS sheet platform
- Bed frame made of 16SWG MS tubular pipe
- Back-rest and knee-rest adjustable by two individual screw cranks
- Crank handles to be latched under foot end
- ABS headboard and footboard with inbuilt handles
- Headboard and footboard, lockable & easily removable
- Holder for mattress at four positions on the bed

Hooks for urine bag and NG bag at each side of the bed  
 Holder sockets for IV pole at diagonal ends of the bed  
 Folding patient safety side rails (imported) with lock each side of the bed  
 Mobile on four imported 5" castors (European standard), two with swivel-type lock at diagonal end  
 Working load capacity: 125 Kg  
 Electrostatic epoxy powder coated finish  
 OR Equivalent  
**Accessories:**  
 1) MATTRESS WITH REXENE COVER  
 Dimensions: 78" x 36" x 4"  
 Foam mattress with Rexene cover fitted with zip  
 Manufacturer's warranty of 10 years or more  
 Preferably Master or Diamond  
Certifications:  
 ISO  
Make:  
 Local Export Quality or Equivalent

**ITEM NO. 17**

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
	SOFA SET	Qty	02
<b>Specification:</b> Frame made of seasoned 'Talli' wood Fabric or Rexene upholstered seat and back cushion Seat foam size of 22" x 22" x 4" Foam preferably of Master or Diamond OR Equivalent <u>Certifications:</u> ISO <u>Make:</u> Local Export Quality or Equivalent			

**ITEM NO. 18**

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
	CENTRAL TABLE SET	Qty	02
Sheesham wood frame with high gloss laminated board top High quality matt finish wood lacquer polish in light oak veneer shade OR Equivalent			



Certifications:

ISO

Make:

Local Export Quality or Equivalent

ITEM NO. 19

TECHNICAL SPECIFICATIONS

RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS

	FILE RACK	Qty	05
<p>Stable front frame structure made of 20G MS. Central locking system. Anti-Tilt mechanism. Each drawer shall be suitable for legal size files and documents. Each drawer shall have 2 steel adjustable divider for hanging files. Standard drawer loading capacity 30-40Kg. Exterior finished with hammer color. OR Equivalent <u>Certifications:</u> ISO <u>Make:</u> Local Export Quality or Equivalent</p>			



**PEOPLES MEDICAL COLLEGE HOSPITAL NAWABSHAH-  
SHAHEED BENAZIRABAD**


**TENDER FOR PURCHASE OF MACHINERY/EQUIPMENT AND  
INSTRUMENT TO BE INSTALLED AT PEOPLES MEDICAL  
COLLEGE HOSPITAL NAWABSHAH- SHAHEED BENAZIRABAD**

TENDER NO.

DUE ON: 26-03-2018

**INVITATION FOR BIDS**

1. Sealed bids are invited from eligible bidders for Supply of Machinery / Equipment/Instrument etc against funds provided in the year 2017-2018.
2. Bidding will be conducted under **SPP Rule 2010 clause 46(2)** single stage two envelope bidding procedures of Sindh Public Procurement Rule 2010 (Amended 2017) specified in this document is open to all interested bidders.
3. Interested bidders may obtain further information from the office of the Undersigned or from PM&I Wing, Health Department, 3<sup>rd</sup> Floor, Tuglaq House, Sindh Secretariat Building No. 2, Kamal Atta Turk Road, Karachi, during the office hours.
4. A complete set of bidding documents may be purchased by interested bidders on the submission of a written application from Office of the Section Officer (PM&I), Health Department, 3<sup>rd</sup> Floor, Tuglaq House, Sindh Secretariat Building No. 2, Kamal Atta Turk Road, Karachi, against the tender fee of Rs.2,000/- in shape of Pay Order / Demand Draft in the name of **Medical Superintendent, Peoples Medical College Hospital Nawabshah- Shaheed Benazirabad.**
5. The bidders are required to submit their sealed tender documents / bids (on or before 26-03-2018 at 12:00 Noon. at the office of **Medical Superintendent, Peoples Medical College Hospital Nawabshah- Shaheed Benazirabad.** Bids will be opened in the presence of bidders authorized representatives who choose to attend at 12:30 p.m.

  
**Medical Superintendent,  
Peoples Medical College  
Hospital Nawabshah-  
Shaheed Benazirabad**

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## 1) Eligibility Criteria for Bidders:

S. No.	Bidders Eligibility Factor	Requirement	Document Required
1	Registration with Income Tax	<b><u>Mandatory</u></b>	Attach Copy of Active NTN certificate
2	Registration with Sales-Tax	<b><u>Mandatory</u></b>	Attach Copy Active GST registration Certificate
3	Relevant Experience Minimum of 5 years	<b><u>Mandatory</u></b>	Attach copies of Supply Orders with relevant completion certificate or Inspection Report
4	Financial Capacity	<b><u>Mandatory</u></b> Annually turnover of PKR. 60 Million for the past 1 year From 1 <sup>st</sup> march 2017 to 28 <sup>th</sup> February 2018	Attach supporting Bank Certificate of Company's Bank Account And bank statement showing end turn over of 60 Million
5	Agreement with all the terms & conditions	<b><u>Mandatory</u></b> Must unconditionally agree with all the instructions, terms & conditions specified in the bidding documents & contract agreement	Signature & company seal on every page of the bidding document.
6	Delivery time	<b><u>Mandatory</u></b> Must agree to serve the Contract within the stipulated time period	Completion time must be clearly specified in the Technical Bid
7	WEBOC ID	<b><u>Mandatory</u></b>	For imported items company must have to provide copy of WEBOC ID or Submit Printed online page of ID

**NOTE: All above documents are mandatory and bidder failing to submit any of above document treated as non-serious bidder and lead to disqualify his bid and will not consider for further process.**

## 2) Firm/ Contractor Profile:

1. Name of Firm : \_\_\_\_\_  
2. Owner's full name & Complete Postal Address : \_\_\_\_\_

Owner's CNIC No																			
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3. Tel No: \_\_\_\_\_ 4. Email address: \_\_\_\_\_  
5. Fax No: \_\_\_\_\_ 6. Mobile No: \_\_\_\_\_  
7. Authorized Representative's name & designation: \_\_\_\_\_  
\_\_\_\_\_

### 8. Type of Business:

- (1) Sole Proprietorship  (2) Partnership   
(3) Corporation (Private Ltd.)  (4) Corporation (Public Ltd)

9. Income Tax Registration #: \_\_\_\_\_

10. Sales Tax Registration #: \_\_\_\_\_

11. Year of Establishment: \_\_\_\_\_

12. Work experience: (Please attach specimen i.e. similar Award of Contract)

a. \_\_\_\_\_

b. \_\_\_\_\_

c. \_\_\_\_\_

13. Approx. turn-over for the last three years: (In millions)

2015: Rs. \_\_\_\_\_ 2016: Rs. \_\_\_\_\_ 2017: Rs. \_\_\_\_\_

14. Certificates / Awards (if any, please attach)

Furthermore, I undertake that the information provided in this form is correct to the best of my knowledge & in the event of change; details will be provided as soon as possible

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

Signature \_\_\_\_\_ Date \_\_\_\_\_

## 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 75% marks would be considered for further process.

### EVALUATION CRITERIA (ELECTRO-MEDICAL EQUIPMENTS)

S/NO	13. ASSESSMENT PARAMETER	Marks
3.1	Availability of technical staff of the company / firm in reference to the product.	15
Following two companies shall be considered ascertain the availability / expertise of technical staff:		
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
iii)	Technical staffs academic qualification	05
M.Sc, BS Computer Sciences, BE Engineering from recognized institution shall be granted one additional mark. However, B. Tech shall not be considered for additional mark. M.Sc / Master degree holder from recognized institution shall be 2 additional marks.		
3.2	Manufacturer's local agent capacity for technical services with reference to the product.	15
A.	Repair workshop facility with the diagnostic tools and test equipment as submitted along with the quotation	03
B.	Physical size and facility of workshop attached photo.	03
C.	Test and diagnostic tools list.	02
D.	Service manual and other technical documentation list.	02
E.	Availability of service station at Hyderabad/Sukkur	05
3.3	FINANCIAL SOUNDNESS	12
A.	Income tax paid challan for last three years	06
B.	Balance sheet, audited for the last financial year	04
C.	OR Bank statement for last 3 years	02
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		
3.4	Overall reputation in reference to the product (cliental)	10
Overall reputation of the product shall be envisaged by following criteria:		
A.	References / certificates provided regarding performance of 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"	
3.5	General overall sale turnover of the organization	10
A.	60% or more sales proportion of medical equipment (quoted items)	10
B.	40% or more sales proportion of scientific equipment	08
3.6	International Sales and country of origin of quoted item	15
A.	Sale of product in two or more continents	15
B.	Sales of production in single continent	10
3.7	Product Certification	10
Certificate FDA /CE (MDD)/JIS		
A.	Any two certificates	10
B.	Any one certificate	08
3.8	Exclusive Agency Certificate , Attested by Embassy, & Chamber of Commerce from native Country of Manufacturer	08
A.	5 years or more for each products or	08
B.	3 years or more for each products	06
C.	Less than 3 years	04
3.9	Other	05
Submission of original brochures and required certificates as per tender terms and Conditions. 05		

### 3) Assessment Parameter:

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: \_\_\_\_\_



#### **4) Assessment Parameter:**

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)

#### **5) Assessment Parameter:**

##### **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: \_\_\_\_\_

#### **6) Assessment Parameter:**

##### **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: \_\_\_\_\_

### 7) Assessment Parameter:

Overall sale turnover of the Organization \_\_\_\_\_

For quoted Medical Equipment: \_\_\_\_\_

For other scientific equipment: \_\_\_\_\_

### 8) Assessment Parameter:

International sales and country of origin of quoted item

Tender Item No	Name of Quoted Equipment	Manufacturer's declaration mentioning name of continent where the equipments are soled	Country of Origin

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

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

### 9) Assessment Parameter;

Quality certificate of the quoted products

Tender Item No	Name of Equipment	Make	Model	Certificate (FD/CE (MDD)/JIS)

### 10) Assessment Parameter;

Details about Exclusive rights of the product represented in Pakistan:

Tender Item No	Name of Equipment	Manufacturer / Origin	Number of years for exclusive rights

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

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

## 11) Assessment Parameter:

Submission of  
documents: Original  
Brochure

Tender Item No	Name of Equipment	Manufacturer / Origin

Copy of NTN Certificate: \_\_\_\_\_

Copy of Sales Tax Certificate: \_\_\_\_\_

Copy of Professional Tax Certificate: \_\_\_\_\_

Copy of Chamber of Commerce Registration Certificate: \_\_\_\_\_

**Note:**

**Bidders can provide details information on extra sheets by separating them with the uses of annexure.**

Name: \_\_\_\_\_

Designation: \_\_\_\_\_

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

Name of Firm: \_\_\_\_\_

Stamp of Firm \_\_\_\_\_

## 12) Bidders Questionnaire for Bid

Evaluation Name of Firm: \_\_\_\_\_

Address: \_\_\_\_\_

Ph: \_\_\_\_\_ Fax: \_\_\_\_\_

Email: \_\_\_\_\_ Website \_\_\_\_\_

Details of Quoted Equipment:

Tender Item No	Name of Equipment	Model	Make	Country/Origin

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

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

### 13) TERMS AND CONDITIONS:

- 1 In this tender envelope procedure as per SPPRA 2014 rules will be followed i.e. Technical and financial proposal separately, i.e. single stage two envelope 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.
- 2 Initially envelope marked as "**TECHNICAL PROPOSAL**" shall be retained in the custody of the procuring agency without being opened.
- 3 Tenders must be filled in with blue or black ink in the column provided and on separated letter head duly signed.
- 4 The tenders must be free from erasing, cutting and overwriting. in case of erasing, cutting and overwriting, authorized person should initial it.
- 5 Conditional tenders will be ignored and will not be considered / entertained / accepted.
- 6 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.
- 7 Tender shall be accompanied by Earnest Money @ 2% of the value of stores quoted by them in form of call deposit / pay order/demand draft/Bank Guarantee in the name of Medical Superintendent PMC Hospital Nawabshah.
- 8 Original purchase receipt must be enclosed with the technical offer.
- 9 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.
- 10 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.
- 11 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.
- 12 The equipment to be imported comply/certificate at CE / FDA standards certificate should be attached along with the offer.
- 13 Bidder should submit a fresh bank certificate showing strong financial capability of firm.
- 14 Tendrer are required to furnish a detail of 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.
- 15 Tendrer shall purchase separate tender document and furnish purchase receipt for each alternate offer in case they intend submit alternate offer without separate purchase receipt (original) are supposed to be rejected.
- 16 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 which offer of both the manufacturer as well as other bidder shall be ignored.

- 17 Bid should remain valid for 90 days from the date of financial opening.
- 18 Price should be quoted for both "C.I.F and FOR" basis in Figure and words failing which the offer will be ignored. FOR offer should be inclusive of all duties/Taxes/Octroi/Transportation, etc. and all other expenses on free delivery to consignee end at Office of the Medical Superintendent PMC Hospital Nawabshah.
- 19 In case of purchase of C.I.F, the bidder will bear the charges of clearing agent. warehouse Rent, Airline D/O charges and all other charges including transportation to consignee 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.
- 20 Sole agent certificate for the quoted items from the Manufacturer must be attached by the bidder. Certificate should be valid for three years from the date of issue which should be verifiable by concerned authority.
- 21 03 years free service including warranty from the date of installation without parts. Additionally assurance for the availability of spare parts for at least 08-10 years may also be confirmed by the bidder.
- 22 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.
- 23 Free installation along with all accessories including labor charges/demonstration at consignee end must be borne by the bidder.
- 24 The supplier will be bound to train nominated technical personnel (inland/outland) to operate / repair and maintain the supplied equipment.
- 25 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 Government/Private |Teaching Hospitals/ repair certificate if any, of the similar quoted item from the end user should be attached along with the bid.
- 26 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.
- 27 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.
- 28 For the X-ray Equipments, bidders must submit a valid copy of Registration with PNRA (Pakistan Nuclear Regulatory Authority).
- 29 Store is required immediately. The tendered, may however give their short guaranteed delivery period by which the supply will be completed positively.
- 30 Choice to select /ignore any alternate offer shall rest with the purchaser.

- 31 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.
- 32 Procuring Agency is not bound to accept the lowest or any bid, which is otherwise sub standard and of low quality.
- 33 Under no circumstances the bidder shall provide used/repaired/refurbished or defected medical equipment. If such case happened then, the firm concerned will be black listed and earnest money/security deposit will be forfeited.
- 34 If the **uptime percentage** for the measurement period (04 months) shall fall short of 95% the following formula will be applied to determine additional days in the warranty / services contract period.
- |    |            |   |
|----|------------|---|
| a. | 100% - 95% | No Penalty  |
| b. | 95% - 90%  | The warranty period will be extended by 2.0 times the number of days as extra down time |
| c. | 90% - 80%  | The warranty period will be extended by 3.0 times the number of days as extra down time |
| d. | Below 80%  | The warranty period will be extended by 4.0 times the number of days as extra down time |
- 35 The firm will be bound to make arrangement for availability of qualified technical staff in hospital/site for prompt execution/coordination of after sale service.

**37 Redressal of grievances by the Procuring Agency**

- The procuring Agency shall constitute a committee comprising of odd number of persons, with proper powers and authorizations, to address the complaints of bidders that may occur prior to the entry into force of the procurement contract.
- Any bidder feeling aggrieved by any act of the procuring Agency after the submission of his bid may lodge a written complaint concerning his grievances not later than fifteen days after the announcement of the bid evolution report under Rule 35.
- The committee shall investigate and decide upon the complaint within fifteen days of the receipt of the complaint
- Mere fact lodging of a complaint shall not warrant suspension of the procurement process
- Any bidder not satisfied with the decision of the committee of the procuring Agency may lodge an appeal in the relevant court of jurisdiction.



**14) 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.

**15) NOTIFICATION OF AWARD/ADVANCE CONTRACT:**

16.1 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.

16.2 The notification of award will constitute the formation of the contract.

**16) AWARD OF CONTRACT & 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.

**17) PERFORMANCE OF SECURITY.**

The successful tendered will have to deposit with the purchase security depots as under in shape of call deposit / bank guarantee at the rate of 3% of the value of the contract.

**18) TERM OF PAYMENT:**

19.1 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.

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

**19) FEE FOR AWARD OF CONTRACT:**

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

**20) UNDERTAKING**

21.1 That I/We agree whether our tender accepted for total, partial 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.

21.2 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.

21.3 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.

21.4

**CERTIFICATE**

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

Signature of Tendered: \_\_\_\_\_

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

Address: \_\_\_\_\_

## 21) 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, 2017.

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

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

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

## 22) BID SECURITY FORM

Whereas, [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]

## 23) 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).

## 24) 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 for 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] \_\_\_\_\_

## 25) 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 be included by the bidder in its bid.

## 26) Tender Price Assessment and Tax liability

### i. Tender Price Assessment Mechanism

- Initially, Eligibility of Bidders as required under the heading "Letter of invitation for Bids" shall be assessed by the "PROCUREMENT COMMITTEE" during the Technical evaluation in the following manner:

<b>FORMAT FOR ASSESMENT OF BIDDERS ELIGIBILITY</b>				
<b>Bidders Eligibility Factor</b>	<b>Requirement</b>	<b>Bidder 1</b>	<b>Bidder 2</b>	<b>Bidder 3</b>
		YES / NO	YES / NO	YES / NO
Registration with Income Tax	Copy of NTN attached?			
Registration with Sales-Tax	Copy of GSTRN attached?			
Relevant Experience	<b>For Self-experienced / Old Firms:</b> 3 Nos. of Supply Orders with relevant completion certificate or Inspection Report of successfully completed similar assignments in past 3 year/s attached?			
	<b>For In-experienced / New Firms:</b> Signed & stamped copy of MoU / JV or Agreement of support, with a Firm fulfilling the above mentioned criteria duly attested by Notary Public attached?			
Financial Capacity	Bank Certificate of Company's Bank Account certifying annual turn-over of PKR. 3.00 million for the past 3 years attached?			
Agreement with all the terms & conditions	Signature & company seal at the end of bidding document affixed.			
Delivery time	Quoted completion time within the stipulated time period?			

- Firm must score "YES" in all requirements of the eligibility criteria to be categorized as Eligible. "NO" to any requirement of the eligibility criteria, by any bidder shall render the Firm as Ineligible.
- Upon completion of assessment of Bidders eligibility, Technical Proposals of Eligible Firms, shall further be technically evaluated by the "TECHNICAL COMMITTEE OR THE TECHNICAL MEMBER OR THE PROCUREMENT COMMITTEE ITSELF." (if the required items are not technically complex) in the following format:



**FORMAT FOR TECHNICAL EVALUATION OF BIDS**

Technical Requirement/s	Eligible Bidder 1		Eligible Bidder 2		Eligible Bidder 3	
	Fulfill Requirement YES / NO	Reason	Fulfill Requirement YES / NO	Reason	Fulfill Requirement YES / NO	Reason
Requirement 1						
Requirement 2						
Requirement 3						
Requirement 4						
Requirement 5						

4. All Bid/s not fulfilling the technical requirements shall be declared as Non-Responsive. The remaining / Responsive Bids shall further be financially evaluated in the following manner:




5. Bid/s found to be financially lowest among the Responsive Bids shall be recommended for the award of contract.

**(ii) Terms and Conditions of contract agreement:**

1. Completion time may be clearly specified. Where completion time shall mean; time consumed in delivery of the ordered items to the respective District.
2. Maximum delivery time for the order is 45 days from the date of Supply Order (bids quoting greater lead times are likely to be rejected).
  - a. **Delivery Time:** The firm should agree to complete the supply within 30 days for local and 90 days for imported items from the date of award of contract .
  - b. **Service Agreement:** The firm who successfully qualify in any items is legally bound with us to give two years (2) repair and maintenance service agreement with our organization of each item which delivered to our hospital.
  - c. **Quantity:** Quantity may be increased or decreased as per hospital requirement.
3. In case of late delivery, the supplier may be blacklisted and late delivery penalty shall be imposed at the rate of 0.1% (of the value of items delivered late) per day, up to a maximum of 10% of the Contract Value (As specified in the Contract).
4. The Consignment, as per the Supply Order, must be accompanied by the authorized representative (technical) at the time of delivery at respective DHO offices.
5. Quantity may vary as per requirement of procuring agency upto 10% of the quantities as specified in the data sheet of the assignment.
6. Work may be split among multiple bidders depending upon the financial and technical criteria (including the lead time) of each item OR awarded to the bidder having lowest total cost of all items mentioned in data sheet.
7. Provision of partial payment does not exist in this Tender; payment shall be made within one month from the date of successful inspection.
8. Payment release is subject to satisfactory inspection by the joint team comprising of:
  - i. The Purchase Committee notified by the Government of Sindh.
  - ii. Authorized representative of the Vendor (To be clearly specified in the Tender Documents).
9. The firm will supply items after the inspection of the Committee.

- 10.** For clarification of contents of bidding documents shall be submitted in written at least five calendar days prior to the date of opening of bid.
- 11.** Bid Security of unsuccessful bidders shall be released within thirty (30) days of declaration of their bids as non-responsive.
- 12.** Bid Security of successful bidders shall be retained for two (02) months after successful inspection of supplied items by the committee.
- 13.** The bidder shall be responsible to provide services/ replacement/ repair needed during the warranty period.

## **27) Instructions for Bidders/ Suppliers**

1. The bid must be submitted in original tender documents obtained from the **office of the Medical Superintendent , PMC Hospital Nawab Shah** by submitting challan receipt of Rs.2000/- and the challan receipt is to be submitted with tender documents.
2. The bidder must quote the specification and rates of all items mentioned in data sheet, otherwise will be considered as non-responsive.
3. The bidder must quote the rate of each item separately and should be valid up to 30.06.2018.
4. The tender must be submitted on the printed pad of the company in sealed cover and the original receipt of tender fee must be attached with the bidding documents.
5. The bidder shall submit all documents relevant to the “**eligibility criteria for bidder and Technical evaluation criteria**” mentioned above.
6. Firm/ company/ supplier blacklisted by any government department are not eligible to participated in the bid.
7. The committee before placing the purchase order reserves the right:
  - i. To scrap the enquiry
  - ii. To increase or decrease the quantity
  - iii. To drop any item
8. The offer shall remain open for acceptance for the period of (45) days from the date of opening of tender.
9. The contractor cannot sublet or assign the whole or any part of the contract to any other company/ firm/ person.
10. The contractor shall obtain all the information pertaining to contract before submitting the tender; otherwise no reason will be acceded.
11. Only one authorized representative is allowed to attend the bid opening meeting.

## **28) Terms of reference and technical specifications**

1. SPPR: Sindh Public Procurement Rules, 2014
2. SPPRA Act (Sindh Public Procurement Regulatory Authority)
3. Technical specification as per the Data Sheet developed by the Procurement Committee.

## **29) Tax Liability**

1. Complete Tax liability is to be borne by the Vendor
2. Quoted prices shall be inclusive of all applicable Taxes, be filled item-wise as per the afore-mentioned format and may not be applied to the sub-total of the package.
3. In-case of any Tax exemptions, exemption certificate from the concerned Tax Office / Regional Tax Office pertaining particularly to this case may be provided; otherwise taxes shall be deducted as per Government of Sindh Rules.

## **30) Currency & Bid Validity**

1. Tenders must be quoted in Pakistani Rupees (PKR).
2. Validity of the bid would be 90 days from the date of Tender opening

## 31) AFFIDAVIT

I solemnly undertake that:

- a) Having read understood and made myself aware of all the Terms & Conditions mentioned in this bidding documents and the Rules, Regulations & Policies of the government of Sindh, governing the procurement of financial matters, **AGREE, ACCEPT & UNDERTAKE TO ABIDE BY THE SAME.**
- b) The information provided in this form in correct to the best of my knowledge & in the event of change detail will be provided as soon as possible.

Dated \_\_\_\_\_

Authorized Signature of Bidder with Seal and Stamp

Full Name of the Firm \_\_\_\_\_

NTN No \_\_\_\_\_

GST No \_\_\_\_\_

Contact No \_\_\_\_\_

To be attested by 1<sup>st</sup> Class Magistrate or Oath Commissioner





## ITEM NO. 01

## TECHNICAL SPECIFICATIONS

## RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS

	ECG Machine 6 channel	Qty	10
<ul style="list-style-type: none"> <li>• One time record : 3/6/12 channels</li> <li>• Width of record : 112mm</li> <li>• Outside USB printer : printout A4 (210x297)</li> <li>• Record speed : 5/10/25/50 mm/s</li> <li>• Sensitivity : 2,5/5/10/20 mm/mV</li> <li>• Digital filtration of disturbances : 25,35,50,60 Hz</li> <li>• Display : 5,7" graphic, color TFT 320x240</li> <li>• Analysis and interpretation : HES compliant with EN 60601-2-51</li> <li>• Internal memory : &gt;300 tests</li> <li>• Alphanumeric keyboard</li> <li>• Detection of stimulator impulses (pacemaker)</li> <li>• Automatic regulation of isoelectric line</li> <li>• Constant measurement of heart action (HR)</li> <li>• Acoustic signalization of detected stimulations</li> <li>• Paper easy-load</li> <li>• Record of test copy on PENDRIVE, in standard EN1064 (ECG-SCP)</li> <li>• Signalization of wrong connection with particular electrodes</li> <li>• Available versions in national languages</li> <li>• CMMR : &gt;100dB</li> <li>• Sampling Frequency : 1000 Hz</li> <li>• Converter : 12bit</li> <li>• Resolution : 0,25uV/bit</li> <li>• Input impedance : &gt;10 MΩ</li> <li>• Dynamic range : 10mVpp</li> <li>• Frequency band : 0,05-150 Hz</li> <li>• Leads : 12 standard/ Cabrera</li> <li>• Input channels : floating, protected from impulse defibrillating CF</li> <li>• Power : 90-240V, 50/60Hz</li> <li>• Inside rechargeable battery: Li-ion 7,2V; 2200mAh Li-ion</li> <li>• Power consumption : &lt;30VA</li> <li>• Dimensions: 260W x52H x220D mm</li> <li>• Weight : &lt; 1,8 Kg</li> <li>• Fulfilled standards : EN 60601-1, EN 60601-1-2, EN 60601-2-25,</li> <li>• EN 60601-2-51</li> </ul>			

- Safety : protection type CF (EN60601-1) Class I
- Class / Group : Class A / Group 1 (CISPR-11)
- Operating environmental conditions :
  - Temperature +10 to +40 °C
  - Relative humidity 25 to 95% (non-condensing)
- Patient cable
- Electrodes set
- Gel flacon - Paper roll
- Power cable
- User manual
- PC software for data management
- Carryng case

OR EQUIVALENT

FDA/CE/JIS APPROVED  
USA/EUROPE/JAPAN/UK

ITEM NO. 02

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
	BEDSIDE PATIENT MONITOR	Qty	50
<p><b>SIZE AND WEIGHT</b> Size 366mm X 330mm X 162mm Weight 5 kg</p> <p><b>DISPLAY</b> 15" Color TOUCH TFT-LCD Resolution 1024 X 768 pixels or higher</p> <p><b>POWER SUPPLY</b> Power Voltage AC 100-240V 50/60Hz Power Input ≤ 85VA Fuse: T1.6AL/250V, Φ5X20 ( mm ) Safety class: Category I</p> <p><b>BATTERY</b> Type: rechargeable Lithium battery Charge time: ≤ 6 hours Operating time under normal use and full charge: ≥ 120 minutes</p> <p><b>THERMAL RECORD ( OPTION )</b> Method: thermal dot array</p>			

Paper width: 50mm ( 1.97 in )  
Paper Speed: 12.5/25/50 ( mm/sec )  
Traces Maximum: 3 tracks

#### **SYSTEM OUTPUT**

Ethernet Network standard RJ45 socket  
RF Wireless LAN: 433MHz, 10mW ( option )  
Nurse call output  
Defibrillation Output: Option  
Video Output: Option

#### **ALARM**

Three Level: Low, medium and high  
Indication: Auditory and visual  
Setup: Default and custom  
Silence: All alarms can be silenced  
Volume: 45~85 dB measured at 1 meter

#### **TREND**

Store & review 168 hours trend data and trend maps  
Parameter option: HR, SpO2, NIBP, PR, Resp, CO2, Temp1,  
Temp2, AA, N2O, O2, IBP1, IBP2, ST, C.I..  
Cycle intervals of trend storage 1min, 2min, 3min, 4min, 5min,  
10min, 15min, 20min, 25min, 30min.

#### **STORE & REVIEWING**

ECG: 30 minutes one important lead's ECG waveform  
Alarm: 1800 groups Alarm events reviewing  
NIBP: 1000 groups NIBP measurement  
Arrhythmia: 128 groups data ( 8 seconds ECG waveform )  
Power-off storage: 72 hours trend data & 1 ECG wave form ( option )

#### **ENVIRONMENT**

Working temperature: 0~+40°C  
Transportation and storage temperature: 20~+55°C  
Relative humidity: Working ≤ 85%  
Transportation and storage ≤93%  
Atmospheric pressure: Working 860~1060 hPa  
Transportation and storage 500~1060 hPa

#### **STANDARD CONFIGURATION:**

ECG, HR, RESP, NIBP, SpO2, PR, 2-TEMP, Lithium Battery

#### **OPTION:**

2-IBP, Recorder, EtCO2 ( side stream, main stream ), Anesthetic Gas, Nellcor  
SpO2, ICG, SD memory card

#### **ECG**

Mode: 5-leads (standard); 3-leads

Lead selection: I, II, III, aVR, aVL, aVF, V1~V6 ( option )

Gain: AUTO, 0.25x, 0.5x, 1.0x, 2.0x, 4.0x

Insulation Breakdown Voltage 4000VAC 50/60Hz

Sweep speed 12.5mm/s, 25mm/s, 50mm/s

HR Range: 10~350 bpm

HR Accuracy  $\pm 1\%$  or  $\pm 1$  bpm, whichever is greater

#### **ST SEGMENT**

Measurement Range – 2.0mV~2.0mV

Resolution 0.01mV

#### **RESP**

Method: Impedance variation between RA-LL ( R-F )

Measurement Range: 0~150 rpm

Accuracy:  $\pm 2$  rpm

Gain: x1, x2, x4

Sweep speed 6.25mm/s, 12.5mm/s, 25mm/s

#### **TEMP**

Measurement Range: 0~50.0°C

Unit: Celsius (°C), Fahrenheit (°F)

Accuracy:  $\pm 0.1^\circ\text{C}$  ( exclusive of probe )

Connecting cable: Compatible with YSI-400

SpO2

Measurement Range 0~100%

Accuracy 70~100%,  $\pm 2\%$

0~69%, unspecified

PR Range 25~250 bpm

PR Accuracy  $\pm 1\%$  or  $\pm 1$  bpm, whichever is greater

#### **NIBP**

Technique: Automatic oscillometry

Range: Adult: 10~270 mmHg

Child: 10~235 mmHg

Neonate: 10~135 mmHg

Accuracy: Static  $\pm 2\%$  or  $\pm 3$  mmHg, whichever is greater

Unit: mmHg, kPa

Pulse rate range: 40~240 bpm

Intervals for AUTO measurement: 1,2,3,4,5,10,15,20,30,45,60,90  
minutes 2,4,8 hours

#### **IBP ( OPTION )**

Channel: 2

Measurement Range: -50~ +300 mmHg

Unit: mmHg, kPa

Accuracy:  $\pm 2$ mmHg or 2%, whichever is greater

**EtCO<sub>2</sub> ( OPTION, Sidestream, LoFlo )**

Range 0~19.7% ( 0 ~ 150 mmHg )

Unit: %, mmHg, kPa

Respiration Rate Range 2~150 bpm

OR EQUIVALENT

FDA/CE/JIS APPROVED

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**ITEM NO. 03**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	BLOOD GAS ANALYZER	Qty	01
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Display: 5.4" LCD-display, illuminated, 15-lines, 30 characters

- Measured Parameters: pCO<sub>2</sub> , pO<sub>2</sub> , K<sup>+</sup> , Na<sup>+</sup> , Li<sup>+</sup> , Cl<sup>-</sup> , Ca<sup>++</sup>, pH, Glu, Lac, tHb, barometric pressure
- Calculated Parameters: HCO<sub>3</sub><sup>-A</sup>, HCO<sub>3</sub><sup>-S</sup>, BE, BE<sub>ecf</sub> (SBE), TCO<sub>2</sub> , BB, O<sub>2</sub> sat, O<sub>2</sub> CT, P<sub>50</sub>, AaDO<sub>2</sub> , Hct, H<sup>+</sup> , AGAP, SHUNT, Acid-Base Status
- Throughput: Up to 80 tests/hour depending on configuration
- Sampling Method: Aspiration system adapted for both capillary and syringes, cleaned with Rinse Solution automatically
- Sample Volume: 50-200  $\mu$ l depending on measured parameters
- Sample Types: Whole Blood, Arterial Blood, Urine, Serum, Plasma, Respiration Gas
- Calibration: 2-Point calibration in standard and economy modes suited to your working hours.
- Measurement Temperature of Electrodes and Sensors: Electrodes and Sensor temperature automatically adjusted to 37.0°C  $\pm$  0.2 during measurements.
- Data Capacity: 2 GB SD Card, 32000 measurements and QC data sets

OR EQUIVALENT

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**ITEM NO. 04**

**TECHNICAL SPECIFICATIONS**

RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
	BIPAP VENTILATOR	Qty	02
<p>Environmental operating Temperature from 5 °C to 35 °C or more and storage temperature capacity from -20 °C to °C or more and non-condensing capability.</p> <ul style="list-style-type: none"> <li>- Standard physical dimension.</li> <li>- Atmospheric pressure from 101 to 77 kPa or more.</li> <li>- General requirements for safety of Medical and electrical equipment.</li> <li>- Electromagnetic compatibility RTCA / DO -160F</li> <li>- Protection against electric shock type BF</li> <li>- Auto pressure accuracy Bi-level I Bi-level pressure.</li> <li>- With Full Face Mask, software CD, Data storage and review facility and more</li> <li>- Modes should be CPAP, Spontaneous, Spontaneous/Timed, Timed, Pressure Control with average volume assured pressure support feature.</li> <li>- Features of average volume assured pressure support to automatically adapt to disease progression and changing patient needs on desire.</li> <li>- Displayed parameters like Patient pressure, leak, tidal volume, minute ventilation, and respiratory rate.</li> <li>- Patient alarms like Patient Disconnection, Apnea, Low Minute Ventilation, Low Tidal Volume - option for Heated Humidification.</li> <li>- Inspiratory time 0.5 to 3.0 seconds</li> <li>- IPAP 4 to 30 cmH2O</li> <li>- EPAP 4 to 25 cmH2O</li> <li>- Target tidal volume 200 - 1500 ml</li> <li>- Breath rate 0 - 30 bpm</li> </ul> <p>OR EQUIVALENT</p> <p>FDA/CE/JIS APPROVED USA/EUROPE/JAPAN/UK</p>			

**ITEM NO. 05**

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
	DEFIBRILATOR	Qty	10
<p>Defibrillator with Monitor/Recorder Biphasic 200J</p> <ul style="list-style-type: none"> <li>- Biphasic transthoracic (external) defibrillator with display of 5.5" screen or more.</li> <li>- Synchronized output with ECG</li> </ul>			

- Manual and AED Mode.
- Control of energy charges / delivering on main panel and apex paddle.
- Charging indicators
- The energy range should be adjustable for peds and adults up to 200J or more.
- Charging time for full energy should be less than 7 sec.
- Display of heart rate, ECG through paddles and lead I,II& III patient cables.
- Built-in recorder for printing of full summery of standard 50mm paper.
- Alarm for high and low heart rate, low battery warring.
- Built in rechargeable battery with charges for more than 100 shocks
- Auto test/self-check
- External pediatric and adult paddles.
- ECG cable
- AC 220V/50Hz operated

OR EQUIVALENT

FDA/CE/JIS APPROVED  
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ITEM NO. 06

TECHNICAL SPECIFICATIONS

RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS

	INFUSION PUMP	Qty	30
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**Display:** 4.3" LCD TFT touch screen, 10 levels display brightness contrast  
**Infusion mode:** 7 modes available: ml/h, body weight, drip, loading dose, ramp, sequence and relay mode  
**Micro mode:** 100 ml to 1200ml programmable  
**Infusion rate range:** 0.01 – 1200 ml/h with min. increment 0.01 ml/h  
**System Accuracy:**  $\geq 1\text{ml/h}, \pm 5\%$   
**KVO Rate:** 0.01 - 5.00ml/h, default value is 1 ml/h  
**Minimum flow rate increment:** 0.01ml/h  
**Bolus:** Manual bolus and programmable bolus, anti-bolus support  
**Bolus volume:** Minimum 0.1ml, max 50ml  
**VTBI (volume to be infused):** 0-9999ml, minimum step is 0.01ml  
**Total Volume Infused:** 0.01-9999.99ml, minimum step is 0.01ml  
**Time Range:** 1min-99hrs59min  
**Purge:** 1200 ml/h  
**Air detection:** 7 levels, sensitivity 20 $\mu\text{l}$   
**Occlusion levels:** 12 levels, upstream and downstream occlusion

**History records:** More than 5000 records

**Other functions:** Nurse call, RS232, data export

**Interface:** Mini USB

**Dimensions:** 234(W)\*99(D)\*120(H) mm

**Weight:** 1.8kg

**Power Supply**

**AC power supply:** AC 110/240V, 50/60 Hz

**Input power:** 50 VA

**DC power supply:** DC 15V lithium battery

**Specification:** 11.1V 2600mAh

**Charging time:** 5h (under OFF state)

**Working time:** ≥9h (after completely charging the new battery, when the environment temperature is 25°C and flow rate is 25ml/h, the constantly working time)

**Alarm**

**Visual and audible alarms information:** VTBI near end, VTBI infused, Pressure high, Check upstream, Battery nearly empty, Battery empty, No battery inserted, No power supply, Reminder alarm, Standby time expired, KVO finished, Drop sensor connection, Drop error, Air bubble, Door Open

**Environment**

**Operating:** temperature: 5-40° C

**humidity:** 20-90%, non-condensable

**atmospheric pressure:** 86-106kPa

**Transport & Storage:** temperature: -20-60° C

**humidity:** 10-95%, non-condensable

**atmospheric pressure:** 50-106kPa

**Optionals**

IrDA, WIFI, drop sensor, docking station and intravenous central station.

OR EQUIVALENT

FDA/CE/JIS APPROVED

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**ITEM NO. 07**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	SYRINGE PUMP	Qty	20
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**Specification:**

**Display:** 4.3" TFT color touch screen

**Infusion mode:** 7 modes available (ml/h, body weight, TIVA, loading dose, ramp up/down, sequence and relay mode)

**Micro mode:** 100 ml/h – 1200 ml/h, programmable

**Infusion rate range:** 0.01 – 1500 ml/h depending on syringe size with min increment 0.01 ml/h

**Compatible syringes:** 5ml, 10ml, 20ml, 30ml , 50/60ml

**System accuracy:**  $\geq 1$ ml/h,  $\pm 2\%$

**Infusion rate:** Syringe size 5ml: (0.01-100) ml/h; 10ml: (0.01-200) ml/h; 20ml: (0.01-400) ml/h; 30ml: (0.01-600) ml/h; 50ml: (0.01-1500)ml/h

**Bolus rate:** Syringe size 5ml: (0.1-100) ml/h; 10ml: (0.1-200) ml/h; 20ml: (0.1-400) ml/h; 30ml: (0.1-600) ml/h; 50ml: (0.1-1500)ml/h

**Purge rate:** Syringe size 5ml: 100 ml/h; 10ml: 200 ml/h; 20ml: 400 ml/h; 30ml: 600 ml/h; 50ml: 1500 ml/h

**KVO rate:** 0.01-5.00ml/h default value is 1 ml/h

**Micro mode settings range:** Syringe size 5ml: (100-100) ml/h; 10ml:(100-200) ml/h; 20ml: (100-400) ml/h; 30ml: (100-600) ml/h; 50ml: (100-1500)ml/h

**Minimum flow rate increment:** 0.01ml/h

**Bolus:** Manual bolus and programmable bolus, anti-bolus support

**Bolus Volume:** Syringe size 5ml: Minimum 0.1ml, max 5ml; 10ml: Minimum 0.1ml, max 10ml; 20ml: Minimum 0.1ml, max 20ml; 30ml: Minimum 0.1ml, max 30ml; 50ml: Minimum 0.1ml, max 50ml

**VTBI:** 0-9999ml, minimum step is 0.01ml

**Total Volume Infused:** 0.01-9999.99ml, minimum step is 0.01ml

**Time Range:** 1min-99hrs59min

**Purge:** 100-1500 ml/h depending on syringe size

**Occlusion levels:** 12 levels

**History records:** More than 5000 records

**Other functions:** Nurse call, RS232, data export

**Interface:** Mini USB

**Dimensions:** 394(W)\*90(D)\*123(H) mm

**Weight:** 1,7kg

**Power Supply**

**AC power supply:** 100-240V 50/60Hz

**Input power:** 50VA

**DC power supply:** DC 15V lithium battery

**Battery Specifications:** Model: DC 203

**Specification:** 11.1V 2600mAh

**Charging time:** 5h under OFF state

**Working time:**  $\geq 12$ h (after completely charging the new battery, when the environment temperature is 25°C and flow rate is 5ml/h, the constantly

working time)

**Alarm**

**Alarm information:** VTBI near end, Syringe near empty, VTBI infused, syringe empty, pressure high, battery nearly empty, battery empty, no battery inserted, no power supply, check syringe, reminder alarm, Standby time expired, KVO finished

**Environment**

**Operating:** temperature: 5-40° C  
humidity: 20-90%, non-condensable  
atmospheric pressure: 86-106kPa

**Transport & Storage:** temperature: -20-60° C  
humidity: 10-95%, non-condensable  
atmospheric pressure: 50-106kPa

**Optionals**

IrDA, WIFI, drop sensor, docking station and intravenous central station.

OR EQUIVALENT

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**ITEM NO. 08**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>CENTRAL MONITORING STATION</b>	<b>Qty</b>	<b>02</b>
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**Features**

Central Monitoring System is kind of intelligent central multi-bed and multi-physiological parameter monitoring system, connected by network with beside units, suitable for performing continuous monitoring of several patients in CCU and ICU wards simultaneously.

Large storage capacity

96 hours holographic ECG waveform storage and Replay

240 hours trend graph review

1.000 alarm record

30.000 patient historical data

Alarm data saves all physiological parameters and waveforms

12 seconds before and after the alarm

Strong printing function

Support various kinds of printers

Can print case reports at any time so as to timely master the patient's info

Copy screen print for single bed, with 13 channels of waveform at most

Data review print including the trend graph review, trend list replay, ECG review and alarm incident review

Easy and convenient operation

Large font screen

Provide indication of probe detachment

Provide detailed notes to facilitate operation

Can record, search and classify the abnormal ECG events

Bi-directional communication with bedside unit

Central Unit able to remotely control the bedside unit to measure BP

Technical specifications

In accordance with IEC60601 standard

Power supply: AC 100-120 / 200-240V, 50/60 Hz

Minimum system requirements

Intel Pentium IV 2.4GHz CPU or above

256MB RAM or above

Windows 2000+SP4 or Windows XP + SP2 system

80GB Hard disk or above

40X CD-ROM or above

17" TFT, Resolution: 1280 x 1024, 75Hz (4:3) non-interlaced scanning

Computer configuration could be defined and updated

Network management

Wire connect:

- TCP/IP protocol

- 10/100 Base-T Ethernet

- Connected to PG M7000 / PG M9000 / PG M9500 / PGM60 / PGM80

- Connected bedside unit number: up to 66 bedside monitors

- Connection can use the available network system of the

Hospital

Wireless connect:

- Working frequency band is 433.92MHz

- The reliable clear view distance indoor is 30 meters in semi diameter, with relay station reaches above 1000 meters

- Can collect and display several physiological parameters and

Show 3 waveforms measured by bedside unit

- Connected bedside unit number: up to 16 bedside monitors

Performance

Waveform: ECG (I, II, III, aVR, aVL, aVF, V1-V6) RESP, Co2,

IBP1, IBP2, SpO2  
 Parameter: HR,RR, NIBP, IBP, SpO2, PR, TEMP, CO2 (EtCO2, FiCO2), Anesthetic Gas (O2, N2O, 5AA)  
 Sweep speed: 12.5mm/s, 25mm/s, 50mm/s user-adjustable  
 View bed: Up to 66 waveforms for 32 bedside monitors (dual-screen display)  
 Possible to select required beds and automatically align the screen windows  
 All waveform presentation for one patient  
 Oxy CRG display  
 7-leads or 12-leads ECG waveform display  
 Waveform frozen  
 Remote Monitor Control  
 Bi-directional communication  
 Central Unit able to remotely control the bedside unit to measure BP  
 Alarm  
 Alarm limits can be set up for all parameters  
 Sound and indicator light alarms are provide for exceeding the limit of: HR / RESP / SPO2 / PULSE / BP / TEMP / Co2  
 Alarm waveform saves all the physiological parameters and Waveforms before and after the alarm  
 Arrhythmia alarm  
 Support input and output alarm data  
 Review information  
 96 hours holographic ECG waveform storage and replay  
 240 hours trend data storage and replay for each bedside unit  
 1.000 records of alarm messages storage and replay for each bedside unit  
 30.000 history patient monitoring information  
 Calculations  
 Drug calculation and titration table  
 17 types of arrhythmia analysis  
 OR EQUIVALENT  
 FDA/CE/JIS APPROVED  
 USA/EUROPE/JAPAN/UK

ITEM NO. 09

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
	O.T TABLE FOR GYNE AND UROLOGY	Qty	08
Radiolucent tabletop. Built-in X-ray Cassette Channels			

Table length 2100mm  
 Table width 500 mm or more with rails.  
 Table Height (min) 690 mm to (max) 1040 mm  
 Lateral tilt - 20 / +20 degree or more  
 Trendelenburg-25/+25° maximum from horizontal  
 Reverse Trendelenburg 25° maximum from horizontal  
 Back rest adjustment up 80°/+12° max  
 Leg plate adjustment up 10°/100°/100° maximum.  
 Flex / Reflex 192°/100°  
 Sliding Table Top Upto310mm  
 Auto Leveling  
 Spread of split leg plates 90 degree.  
 Manual Head plate adjustment -90 / +90 degree.  
 Patient Weight capacity 200kg or more.  
 Central Break  
 Kidney Bridge 120mm height  
 Manual Over Ride  
 Complete with : Anesthesia Screen, Arm Boards ,lithotomy pole, drain pen, Basic Straps ,  
 Safety Clark Sockets  
 Complete High Quality S.S Base  
 Battery backup Up to 4Hrs

OR EQUIVALENT

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**ITEM NO. 10**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>O.T LIGHT- DOUBLE DOOM SURGICAL LIGHT WITH          BATTERY + CAMERA + MONITOR &amp; 1 CAMERA          SYSTEM WITH COMPLETE INSTALLATION</b>	<b>Qty</b>	<b>08</b>
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**Note : OT LIGHT & CAMERA SYSTEM SHOULD BE QUOTED SEPARATELY ( external video stream through WIFI or Wiring installation from OT )**

**LIGHT -1**

- Dimension Cupola: 700mm
- Light Intensity : 160,000 LUX at 1 meter

**LIGHT -2**

- Dimension Cupola: 500mm
- Light Intensity : 90,000 LUX at 1 meter
  - Color Temp: Adjustable from 3500 to 5000K
  - Color rendering Index:  $\geq 93$
  - Diameter of light spot: 120-350 MM

- Illumination Depth: 700-1500 MM
- LED Service Life: 50000 Hours
- Control Via LCD
- Battery Backup:  $\geq 2$  Hours

#### **CAMERA:**

- Resolution:  $\geq 200$  Megapixel 920 x 1080
- Communication Mode: RS232
- Communication Protocol: HITACHI/SONY/VISCA or Equivalent
- Connector: LVCMOS-36PFPC
- Compatibility: 110/LVDS/30P
- Sensor Type: 1/2.9" CMOS
- Scan Mode: Progressive Scan
- Day and night system: Color/Black and white/Automatic
- Minimum Illumination: Color 0.1 Lux, Black and white: 0.01LUX
- Exposure Mode : A/M
- White Balance: Automatic/Indoor/Manual
- Focus Mode: A/M
- Gain Control: A/M
- Picture Effect: Automatic/Color/Black and white/Negative

#### **Electronic Amplification**

- Back Light Compensation: On/OFF

#### **Image Freeze:**

- Mirroring Function: Support (Horizontal Mirror + Vertical Mirror)
- Image Rollovers: Support

#### **Generic Specification:**

- Dimension: 56(W) x 56 (H) x 110 (L) MM
- Work Temperature And Humidity: -10C ~ 50C, 10% RH ~ 60%
- Storage Temperature and Humidity: -20C ~ 60C, 10%RH ~ 80%RH
- Synchronization Mode: Inter-Sync
- Video Output: Digital Signal
- SNR:  $\geq 50$ DB (AGC OFF)

#### **LENS**

- IRCUT : IRCUT Double Filter Automatic Switching
- Automatic Diaphragm: Support
- Optical Lenses : 10X, F=5MM

- Field Angle : H: 47 (W) ~ 5.3 (T), V : 35.6 (W) ~ 3.96 (T)

**Blank Screen:**

- Wide Dynamic : D-WDR
- DNR : 2D-DNR
- Electronic Shutter : 1/30S~1/10,000S
- Control Ratio : Adjustable
- Anti-Fog Function : Support
- Marginal : Support

**LCD Monitor**

- Screen Size :  $\geq 20.5''$
- Display Area : 475.2mm (W) x 267.3mm(H)
- Max Resolution : 1920 x 1080
- Display Color : 16.7 M
- Pixel Pitch : 0.2475 (H) x .2475 (V)
- Luminance : 300 cd / m<sup>2</sup>
- Viewing Angle : 85/85/75/65
- Response Time :  $\leq 9MS$
- Field Frequency : 50Hz, 60Hz, 70Hz

OR EQUIVALENT

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**ITEM NO. 11**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	PORTABLE OT LIGHT	Qty	05
Diameter of Cupola	500mm		
Light Intensity	$\geq 80,000$ LUX at 1 Meter		
Color Temp	Adjustable from 3500 to 5000 K		
Color Rendering Index	$\geq 93$		
Diameter of light spot	120-350 mm		
Illumination depth	70-1500 mm		
LED Service Life	50000 hours		
With battery backup			

OR EQUIVALENT

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ITEM NO. 12

TECHNICAL SPECIFICATIONS

RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS

	LAPROSCOPE COMPLETE SET	Qty	01
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**FULL HD Laparoscopy system with medical units**

Full HD Telescope Diameter 10mm, Length 330mm, ViewAngle 0

- Degree Fiber optic light transmission incorporated
- Type: Autoclavable

Full HD CMOS camera system with latest sensor technology for brilliant

- image display with user preset configurations
- Full HD image quality: (1920x1080p)
- Colour System : PAL/NTSC
- Aspect Ratio : 16:09

**SPECIAL FEATURES:**

Predefine display setting according to the surgical specialty and also Easy operation of camera functions via integrated control buttons in the camera head

**Video Output:**

- DVI-D Signal (2)
- S-Video signal to 4-pin Mini DIN socket (2x)
- RGB signal to D-sub socket
- HD-SDI signal to BNC socket

**Control:** Controllable button on camera head for light source and other valuable function.

**Full HD CMOS camera with zoom coupler**

- HD camera head, HD Camera Head max. resolution 1920 x 1080 pixel Progressive Scan, 50/60 Hz, with 2 freely programable
- Camera Head buttons, with integrated Parfocal-Zoom focal
- length f = 13 - 32mm For use with color system PAL and NTSC

**26" HD Flat Screen Monitor, Desktop**

- Color System: PAL/NTSC
- Aspect ratio: 16:09
- Resolution max: 1920 x 1200, Progressive Scan
- Composite: S-Video RGB, DVI and VGA Input
- Brightness: 300cd/m<sup>2</sup>
- Contrast: 700:01
- Max Vewing Angle: 178° Vertical

**Video input:** - Composite signal to BNC socket



- S-video signal to 4-pin Mini DIN socket

#### **MONITOR STAND FOR LCD HD MONITOR**

**LED light source, with integrated measurement system for light cable**

transmission measurement, push to stand by and rotation knob

**Electronic insufflator 40 Liter** with integrated gas preheating device and max flow upto 40 litre/minute

Reusable silicon tube

CO2-FILTER STER 25 UNITS

**FULL HD Fiber Optic Light Cable, size 4.8 mm, length 250 cm, heat-resistant**

**Endo Trolley Imported - Wide**

**Trocar, size 10 mm, color code: green, Consisting of:**

- Pyramidal Obturator, Length 110mm
- Special trocar Body
- Trocar shaft
- FLAP VALVE F/1012.5&15MM TROC

**Trocar, size 5.5 mm, Consisting of:**

- Pyramidal Obturator, Length 110mm
- Complete trocar
- FLAP VALVE F/2.55.57MM TROCARS

**Veress Insufflations Needle 12cm**

Reduction Sleeve

( 10/5mm) length 165mm

**Atraumatic Alligator Forceps , rotating, with** connector pin for unipolar coagulation, size 5 mm, length 33 cm, Single action jaws, **Consisting of:**

Forcep insert

Outer Tube, insulated

Plastic Handle, ratchet & non ratchet

**Universal grasper and dissecting forceps**

connector pin for unipolar coagulation, size 5 mm, length 35cm, Double action jaws,

**Adtec fixation & Dissecting Forceps 2x4 teeth, rotating, with**

connector pin for unipolar coagulation, size 5 mm, length 35cm, Single action jaws,

**Maryland Dissecting Forceps, rotating, with**

connector pin for unipolar coagulation, size 5 mm, length 35cm, double action jaws,

**Consisting of:**

Forcep insert

Outer Tube, insulated

Plastic Handle, without ratchet

**Medium Metzenbaum scissor, Bladdes Curved, rotating , with**

connector pin for unipolar coagulation, size 5 mm, length 35cm,

Single action jaws,
<b>Consisting of:</b>
Forcep insert
Outer Tube, insulated
Plastic Handle, Without Ratchet
<b>Adtec bullet fixation &amp; grasping Forceps, rotating, with</b>
connector pin for unipolar coagulation, size 5 mm, length 35cm,
Single action jaws,
<b>Consisting of:</b>
Forcep insert
Outer Tube, insulated
Plastic Handle, universal
<b>Laparoscopy L-hook electrode with modular shaft</b>
Diameter 5mm length 340mm
Consists Of:
<b>Handle for Electrode</b>
<b>J- Hook Electrodes</b>
<b>L- Hook Electrodes</b>
<b>HF High frequency cable</b>
<b>Suction &amp; irrigation tube, 2 way stopcock, 5mm, 31cm</b>
<b>CLIP APPLICATOR LOCAL PROVIDED ( FOC)</b>

**ITEM NO. 13**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>AUTOCLAVE B CLASS</b>	<b>Qty</b>	<b>05</b>
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Smart with multi safety protection Functions  
 Built-in printer  
 24Litre7. Six-procedure and Automatic process  
 Integrated Self-contained Steam Generator (Better Steam Infusion)  
 Six-procedure and Automatic process  
 Intelligent Vacuum Drying  
 Double water pumps  
 Double condensers  
 Double fans,  
 Detachable Rear Panel

OR EQUIVALENT

FDA/CE/JIS APPROVED  
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**ITEM NO. 14**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
	<b>PEADS CYSTOSCOPE WITH BRIDGE</b>	<b>Qty</b>	<b>01</b>
<p>Tele- scope 0° and 30 degree, autoclavable, fiber optic light transmission incorporated                      Cystoscope - Urethroscope Sheath, 9.5 Fr., working length 14 cm, with 4 Fr. working channel,                      with Obturator .                      Cystoscope - Urethroscope Sheath 11 Fr., working length 14 cm, with working channel 5 Fr.,                      with Obturator .                      Grasping Forceps double action jaws, flexible, 3 Fr., length 28 cm                      Biopsy Forceps, 3 Fr., double action jaws, flexible, length 28 cm                      Coagulating Electrode, 3 Fr., unipolar, length 53 cm                      Needle Electrode, 3 Fr., unipolar, length 53 cm                      With all standard accessories.</p>			
<p>OR EQUIVALENT</p> <p>FDA/CE/JIS APPROVED                      USA/EUROPE/JAPAN/UK</p>			

**ITEM NO. 15**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
	<b>PEAD RESECTOSCOPE COMPLETE SET</b>	<b>Qty</b>	<b>01</b>
<p>Tele- scope 0°, autoclavable, fiber optic light transmission incorporated,                      Resectoscope Sheath with Lock , including connecting tube for inflow, 11 Fr. and obturator                      Working Element.                      Cutting Loop angled                      Telescope Bridge with 1 lockable instrument channel                      With all standard accessories.</p>			
<p>OR EQUIVALENT</p> <p>FDA/CE/JIS APPROVED                      USA/EUROPE/JAPAN/UK</p>			

**ITEM NO. 16**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
	<b>ADULT RESECTOSCOPE</b>	<b>Qty</b>	<b>01</b>
<p>Working Element Motion by means of a finger grip (active resection). In rest position the                      electrode is outside the sheath.                      Resectoscope Sheath, including connecting tubes for in- and outflow(continuous irrigation),26</p>			

Fr., oblique beak, rotatable working element with ceramic insulation.  
 Standard-Obturator for use with sheaths 24/26Fr.,  
 ELLIKE vacuator  
 Cutting Loops.  
 High Frequency Cord, with 4 mm plug, length 300cm, tray (same manufacturer)  
**Telescope 30deg 4mm**  
 Telescope 30°, enlarged view, diameter 4 mm, length 30cm, autoclavable, fiber optic light transmission incorporated

OR EQUIVALENT

FDA/CE/JIS APPROVED  
 USA/EUROPE/JAPAN/UK

**ITEM NO. 17**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	PULSE OXIMETER	Qty	05
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Portable 5-8" touch screen TFT display  
 - 2 trace waveform  
 - SpO2% Range: 0 ~ 100%  
 - Pulse Rate Range: 30-250 bpm  
 - Alarm  
 - Red light LED wavelength SpO2 Probe  
 - Battery backup for three hours or more.  
 - Complete with leads and infant accessories  
 - Local trolley with basket.

OR EQUIVALENT

FDA/CE/JIS APPROVED  
 USA/EUROPE/JAPAN/UK

**ITEM NO. 18**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	SUCTION MACHINE HEAVY DUTY	Qty	40
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Two 2500 ml Autoclavable PC collection jar with over  
 Flow valve system  
 5 caster stand with brakes  
 Antibacterial and hydrophobic filter

1 Vacuum indicator (kPa and bar)  
 1 Vacuum regulator  
 Silicone autoclavable tubes

Motor Oiless and maintenance-free piston pump

Power Feeding 230V-50 Hz

ISO 10079-1 Classification HIGH VACUUM / HIGH FLOW

Max free air flow rate 40 l/min

Max Vacuum (adjustable) -0.80 Bar -80 kPa -600 mmHg

Noise Level 61,5 dB

Power consumption 110 VA

Fuse 1 x F 4 A 250 V

Duty cycle Non-stop operation

Weight 6,5 Kg

Size 32x99x30 cm

OR EQUIVALENT

FDA/CE/JIS APPROVED  
 USA/EUROPE/JAPAN/UK

ITEM NO. 19

TECHNICAL SPECIFICATIONS

RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS

	PC BASED ETT MACHINE	Qty	01
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STRESS System Windows® based

- Automatic control of treadmill and ergometers
- Leads view in 3, 4, 6 or 12 leads screen formats
- Storage of all data in the hard drive, allowing access to the original test results at any time for future review or printing
- Arrhythmia detection
- Calculation of average ECG complexes on regular intervals and their superimposition on a reference ECG complex, which highlights ST changes in details
- ST measurements on 12 leads
- Adjustable ST measurement point

- ST, STj, STj+60, STj+80, Heart Rate, Mets, Pressure and ST/HR trends
- Heart frequency dependent ST measurement and analysis
- Automatic storage of rhythm strips at steps changing or manually throughout the test
- Alarms: ST alarm on 12 leads, Heart Rate, pressure and double product
- On line 12 channels average heart cycle configuration
- Blood Pressure entrance and display of trend
- External module for automatic NIBP measurement (optional)
- Preprogrammed protocols, included Bruce, Modified Bruce, Balke, Ellestad
- Modify or add unlimited customized protocols for treadmill or pharmacological stress test reports and print out
- Print out format in 12 leads, 6+6 leads, and 6+6 leads+AVG including average, trend graphs, tabular reports and overview, using A4 color laser printer
- Review full report online immediately after completing the test
- Real time ECG print-out
- Set up analysis, protocols, printing format and final report customizable
- Digital filters LP, HP, antidrift and notch of high quality for the careful recording without artefacts
- Transmission of traces and reports by email or network sharing
- Direct PDF printing for report storage and viewing
- Email ECG results directly from the PC system
- Automatic calculation of Harvard Step Test

#### MyECG Amplifier

MyECG Amplifier module is a lightweight, portable device that connects your PC to your patient.

Version:

- SMART ECG (USB)
- Isolated preamplifier in accordance with CEI 62-5 (IEC 601-1) and CEI 62-15 (IEC 62D)
- Input impedance > 50 Mohms
- Defibrillator protection
- 12 leads acquisition with 512 sampling rate.
- CMRR > 100 dB
- Frequency 0.05 - 150 Hz
- Standard patient cable with 10 wires.
- Powered by USB port
- Dimensions: 144x94x20 mm.
- Weight: 150 gr
- SMART ECG Plus (Bluetooth)
- Safety Standard in accordance with IEC II/CF

- Input impedance > 50 Mohms
- Defibrillator protection
- 12 leads acquisition with 512 sampling rate.
- CMRR > 100 dB
- Standard patient cable with 10 wires.
- 10m Bluetooth distance
- Powered by 2\* AAA battery
- Dimensions: 126mm×68mm×24mm
- Weight: 120 gr

**Minimum PC**

- Operation system: Windows XP
- CPU: Pentium IV
- RAM: 1 GB
- HDD: 500 GB
- Interface: USB port free

OR EQUIVALENT

FDA/CE/JIS APPROVED  
USA/EUROPE/JAPAN/UK

**ITEM NO. 20**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	NEBULIZER MACHINE	Qty	10
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Ultrasonic energy for uniform and highly dense 1-5 microns.  
 More than 96% of 0.3 micron or larger air borne dust particles is effectively shut out with the air filter to provide purified air for aerosol nebulization. Medication cup with replaceable diaphragm.  
 Easily detachable fan cover and pneumo clean (Air filter).  
 Made of highly resistant sterilize able resin.  
 Stand with solution bottle for safety.  
 Nebulizing rate: 4 ml/min or greater.  
 Mist particle size: Approx 1-5 microns.  
 Nebulizing time setting: 1-30 min & continuous  
 Medication cup capacity: 150 ml.  
 Accessories:  
 Tray set for nebulizer with tray track and pole mount fitting.

OR EQUIVALENT

FDA/CE/JIS APPROVED  
USA/EUROPE/JAPAN/UK

**ITEM NO. 21**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>CTG MACHINE</b>	<b>Qty</b>	<b>05</b>
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Large high resolution color TFT foldable screen 8.4" or more  
Advanced SpO2 module with equivalent performance  
Large storage capacity  
Basic parameters: FHR, TOCO, AFM, MHR, NIBP, SPO2  
Real time measurement and identification  
Provide convenience and reliability during antepartum.  
12 hours CTG storage, fast review and print  
Unique design for cable of transducers to avoid intertwinning  
Alarm system: time-over alarm, non-paper alarm, out of range FHR alarm  
Automatically adjustable many kinds of 110mm thermal paper with different specifications  
Wire or wireless connect to central monitoring system  
Low acoustic power, safer to the fetus  
Options:  
Twins FHR measurement

OR EQUIVALENT

FDA/CE/JIS APPROVED  
USA/EUROPE/JAPAN/UK

**ITEM NO. 22**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>ANGIOGRAPHY MACHINE &amp; ALL ACCESSORIES FOR LAB &amp; MACHINE INSTALLATION</b>	<b>Qty</b>	<b>01</b>
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Clinical Purpose Angiography or arteriography is a medical imaging technique used to visualize the inside, or lumen, of blood vessels and organs of the body, with particular interest in the arteries, veins, and the heart chambers.

**TECHNICAL SPECIFICATIONS:**

A fully digital flat panel single plane cardiac Angiography/ cardiac catheterization system dedicated for diagnosis and interventional cardiac procedures.



### **POSITIONING ARM:**

The system should be ceiling mounted  
Real time display of rotation angulations.  
Geometry : C-arm/ G-arm  
ROA/LAO +/- 120° or More  
Cranial / Caudal: min. +/- 45°  
Rotation speed: 50° /Sec or more in LAO/RAO  
Isocentric Height: Variable /Fixed.  
Auto positioning: Programmable auto positioning of selected.  
Angulations, (30 or more) Programmable Positions.)  
The control panel can be mounted at any side of the patient table.  
All the rotational / Angles should be digital displayed next to the.  
Ceiling mounted 55 Inch or more LCD/LED monitor.  
Motorized/Manual Parking / rotation of the positioning arm.

### **DIGITAL FLAT PANEL:**

Single Plane C-Arm /G-Arm  
Image matrix of 1024x1024 x 16 bit or more.  
Standard cardiology size with three formats.  
Built in temperature stabilizer.

### **DIGITAL FLAT PANEL DETECTOR 12 x 12 Inch**

Integrated Collision protection feature.  
All other standard accessories according to this digital flat panel.  
Dose management with fluoro filters range of 0.1/0.2mm to 0.9/1.0 mm Cu  
Pixel size of 200 um or better  
Removable grid for pediatric application  
DQE: 77% Or more.

### **PATIENT SUPPORT/ TABLE:**

Motorized height adjustable catheterization dedicated table allowing precise imaging during operation.  
Longitudinal stroke: 1000-1500 mm  
Lateral stroke 100-300 mm  
CPR in any table position  
All Table side movement controls.  
Table top should be of such construction in material and durability to accept patients weight of not less than 200Kg plus 100 kg for resuscitation.  
Table dimensions should be able to accommodate patients of all ages.  
Table top should have large metal free over hand for unobstructed image coverage.  
complete accessories should be provided including arm holder,  
hand grip, arm support and arm rest and positioning aids.

Left / right table pivoting: +/- 90 degree.

#### **X-RAYS GENERATOR:**

Microprocessor based high frequency using fiber optic for data communication between each imaging system.

Dedicated X-Rays generator of 100KW

Radiographic rating minimum 1000mA

Serial filming exposures with shortest exposure of 1mS, with automatic KV and mA control for optimum image quality.

The system should have capability of digital radiography and fluoroscopy.

Should have capability of doing digital pulsed fluoroscopy 10/12.5/15 and 25/30 frames per second.

Automatic KV mA & pulse width regulations.

#### **DIGITAL IMAGING AND ACQUISITION / FLUOROSCOPY:**

Digital System. Acquisition, storage and display in 1024x1024 x12 bit or more at 12.5/15 and 25/30 FPS and 512 x 512 at 60 Fps for pediatric work.

Parallel processing capability / multitasking facility

Real time filtering and road map function.

Magnetic disk capacity for storage of 75,000 images in 1024 x 1024 x 12 bit or more on the magnetic disk of main console.

Minimum scene length to be 10 seconds in 1024 matrix.

Digital Pulsed fluoroscopy with 12.5/15 and 25/30 PLS in 1024x1024 x 10 bit or more including cardiac mode.

Images to be stored on the retrieved from archive disk for possible manipulation and quantification using available software packages.

Digital Subtraction Angiography Package

#### **X-RAYS TUBE:**

Minimum of 3 years un conditional warranty on the x-ray tube by the original manufacturer.  
(To be confirmed by the manufacturer)

Triple Focus with at least 3.0MHU or better anode heat storage.

large Capacity to enable continuous heat dissipation during serial exposure.

Triple focal rotating anode.

Focus 0.4/0.6 and 1.0mm or similar.

Dose management with auto adjustment fluoro filters.

Tube must be rotating anode bearing less liquid metal technology tube.

X-ray tube power should be same as generator power i.e 100KW.

#### **MONITORING SYSTEM:**

Flat screen LCD/LED 55 Inch of 3840 x 2160 / 8 Mega Pixel

Monitors should be ceiling mounted in the operation room with the ceiling suspension system.

Two monitors for live images and road mapping in the Examination room 18 inch or larger

LCD/LED as back up.

Two monitors for live images and road mapping in the control room 18 inch or larger LCD/LED. All the monitors will be of Medical Graded, complied with international standards for medical Monitors.

**CONTROL:**

All the controls of digital imaging system, inch, post processing & quantifications (QCA)analysis shall be in the control room with replay / display of auditorium room image should be available in the examination room.

**RECORDING / ARCHIVING & COMMUNICATION SYSTEM:**

Recording/ archiving system should be DICOM-3 compatible. They digital images should be stored as backup on CD, DVD

**DICOM (Send / store, commitment, retrieve / query)**

Ethernet connection to connect with other terminals.

Integrated intercom system.

DICOM (send/storage, commitment, retrieve/query)

Ethernet connection to connect with other terminals.

Integrated Intercom system.

Capable to connect with Laser printer for image filming.

Option to connect with other equipments like CT Angio, MR etc for viewing and case study.

**SOFTWARE/HARDWARE PACKAGES:**

Complete Analysis package for the following cardiac applications.

Dynamic pre and post PTCA / Valvotomy comparison with one image live and other reference.

Automatic loop replay after acquisition or fluoroscopy.

Dynamic real time pan / zoom.

Dynamic real time digital imaging processing like edge enhancement or gamma correction, noise reduction (spatial filtration)

They bidders should quote their licensed software with part number in their Principals offer.

Simultaneous display of fluoroscopy and reference images, not only as static images but as dynamic loop.

Rotational Angiography with C-Arm rotation of 50o/sec or more.

Online image density (gray scale ) correction

Facility to review previous studies in the examination room from the patients old CD.

All controls of digital imaging system incl. Post-processing shall be in the examination as well as control room.

Automatic positioning of the C-arm corresponding to reference image.

Store fluoro facility to store fluoroscopy.

Stent visualization system latest version by the company.

**SURGICAL SHADOW LESS LIGHT:**

Ceiling suspended/Floor mounted, For Angiographic and related surgical procedures.

**RADIATION PROTECTION:**

4Nos. Lead Apron.

2Nos. Thyroid shields.

2Nos. Pb Goggles.

**PHYSIOLOGICAL HEMODYNAMIC MONITORING SYSTEM:**

Multichannel (14 channels or more) to record at least 2 channels IBP, Cardiac output with thermo dilution method, Surface ECG in any configuration and simultaneous 12 lead ECG, NIBP and SpO2 measurement.

Digital display of all the parameters like IBP, Heart rate, cardiac output parameter. It should be possible to store the waveforms on the hard disk of the physiological recording system.

The hemodynamic system should be from the original manufacturer/Joint venture manufacturer of the angiography system.

**ACCESSORIES:**

Pulse oximeter probes (QTY-02)

02 x invasive blood pressure reusable transducer with 100 disposable transducer domes.

Disposable transducers (100 Nos.)

Complete 12 lead ECG Cable

NIBP (cuffs of different sizes)

Cardiac output (01 Nos.)

Holder for mounting the IBP transducer alongside the patient table.

Color monitors 18 inch OR more LCD/ LED inside the control room.

DVD /CD writer for archiving of study data and wave from stored on hard disk.

Facility for freezing the homodynamic data and simultaneous recovery of recent data/ compare stored data with current waveform.

Laser black & white printer (HP, Lexmark, Xerox, Canon) network ready.

**QUALITY AND SAFETY STANDARDS FOR ANGIOGRAPHY MACHINE:**

FDA 510K and CE(MDD)

**RENOVATION WORKS:**

Site renovation cost like civil, electrical (AC's included) and other necessary works required in the angiography suits will be included in the bid amount and also the responsibility of the bidder.

Lead glass window size 5x3 square feet meter or more Pb equivalent 2.0mm or better.

**OTHER ALLIED ACCESSORIES:** (All below given equipment should be from the USA, Europe and Japan origin)

120 KVA or more true on line sine wave Double conversion UPS for whole system with a

minimum back up time of 10 minutes including room lights, microprocessor based IGBT technology. Display and alarms of parameters. Three phase line voltage of 220 50Hz with all necessary standard parts including batteries.

Programmable contrast media injector with 50 disposable syringes. (Medrad-bayer, Angiomat or Medtrone).

**POWER REQUIRMENT:**

Three phase with line voltage of 220V. 50 Hz.

**WARRANTY:**

3-years unconditional comprehensive warranty from the manufacturer and local vendor's warranty will not be acceptable.

COUNTRY OF ORIGIN AND MANUFACTURE: USA/EUROPE /JAPAN ONLY.

CERTIFICATIONS: FDA 510K, CE, MHLW (ALL THREE CERTIFICATIONS ARE REQUIRED)

NOTE: Any other advanced options should be quoted in optional which may be purchased if required. These will not form the basis of acceptance or rejection of bid.

OR EQUIVALENT

FDA/CE/JIS APPROVED

USA/EUROPE/JAPAN/UK

**ITEM NO. 23**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>ECHOCARDIOGRAPHY MACHINE DOPPLER WITH TWO PROBE (INCLUDING PEDIATRIC)</b>	<b>Qty</b>	<b>01</b>
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TOP OF THE LINE 192-PHYSICAL CHANNELS AND MORE THAN 1,500,000 RECEIVING / PROCESSING CHANNELS ECHOCARDIOGRAPHY SYSTEM WITH FULLY DIGITAL BEAM FORMER HAVING 2D / M-MODE, DOPPLER FACILITIES, AND 2D SPECKLE TRACKING (PW, CW, HPRF, & COLOR FLOW IMAGING) WITH A HIGH RESOLUTION IMAGING DOPPLER SIGNAL QUALITY, FOR CARDIAC AND VASCULAR STUDIES AND HAVING CAPABILITY OF HANDLE MULTIFREQUENCY PROBES FROM 2 – 18 MHZ.

**1) B-MODE SPECIFICATION :**

- A) SECTOR SCAN ANGLE VARIABLE IN FOUR STEPS.
- B) VIEWING DEPTH: 40CM OR MORE.
- C) FRAME RATE: 1080 F/SEC OR MORE.
- D) BUILT IN CINE LOOP WITH ABILITY TO VARY REVERSE AND SLOW MOTION OF DISPLAY; INTERNAL CINE MEMORY: 900MB OR MORE.
- E) REAL TIME AND FREEZE IMAGE MAGNIFICATION AT LEAST 20X OR MORE WITH

PANNING FOR REAL, FREEZE AND MEMORIZED IMAGES.

**2) M-MODE SPECIFICATION :**

- A) MAGNIFICATION: X2 OR MORE.
- B) SWEEP SPEED: SLOW, MEDIUM, FAST.
- C) COLOR DISPLAY OF M-MODE.

**3) D-MODE SPECIFICATION :**

- A) PULSE-WAVE DOPPLER MEASURABLE VELOCITY RANGE : 0.3 TO 50 KHZ
- B) HPRF DOPPLER.
- C) CONTINUOUS-WAVE DOPPLER :
  - MEASURABLE VELOCITY RANGE: 1.4 TO 50 KHZ
  - MUST HAVE DOPPLER BEAM STEERING AND BI-DIRECTIONAL STEREO-AUDIO.
- D) COLORIZED SPECTRUM DISPLAY.
- E) MAXIMUM DETECTABLE VELOCITY RANGE;  
PWD= 1800CM OR MORE, CWD= 2100CM OR MORE
- F) LOWEST DETECTABLE VELOCITY RANGE; 0.03 CM/s FOR PWD AND 3.2 cm/s FORCWD
- G) SAMPLE VOLUME 1-20MM

**4) COLOR DOPPLER MODE SPECIFICATIONS :**

- BOTH CW AND PW DOPPLER MUST BE CONTINUOUS STEERABLE IN THE COLOR BLOOD FLOW IMAGING MODE IN REAL TIME.
- 2D IMAGE WITH COLOR, CW AND PW DOPPLER.
- WINDOWS BASED SYSTEM FOR EASY USAGE WITH PROGRAMMABLE CONTROL PANEL KEYS.
- TISSUE HARMONIC IMAGING WITH 3-4 THI OR MORE FREQUENCY.
- POWER DOPPLER.
- TRIPLEX MODE FOR SIMULTANEOUS DISPLAY OF COLOR B/M AND D-MODE DISPLAYS.
- 300 dB SYSTEM DYNAMIC RANGE OR MORE.
- INDEPENDENT STEERING OF COLOR BOX AND LINEAR BEAM  $\pm 30$ .

**5) MEASUREMENT PACKAGE :**

TO PROVIDE COMPREHENSIVE SOFTWARE PACKAGE FOR MEASUREMENT OF DISTANCE, CIRCUMFERENCE, AREA, TIME DEPTH, VELOCITY, FREQUENCY, HEART RATE, VOLUMMES, E.F., F.S., CARDIAC OUTPUT, PRESSURE GRADIENTS.

**6) SYSTEM COMPLETE WITH FOLLOWING FACILITIES AND ACCESSORIES:**

- 21 INCHES OR MORE HIGH DEFINITION LCD COLOR MONITOR WITH RESOLUTION 1600 X 900.
- 4-ACTIVE TRANSDUCER CONNECTOR MINIMUM FOR TRANSTHURASIC.
- DVD/CD DRIVE FOR IMAGE STORAGE TO BE BUILT-IN TO THE SYSTEM.
- 705GB OR MORE HARD DISK DRIVE TO BE BUILT-IN TO THE SYSTEM.
- TOUCH COMMAND SCREEN CONTROL 10-INCHES OR MORE.

- DICOM MEDIA STORAGE.

**7) STANDARD PROBES :**

- 2 TO 4 MHZ MULTIFREQUENCY PHASED ARRAY SECTOR PROBE WITH 3-THI FREQUENCIES FOR ADULTS.
- 4 TO 6MHz MULTIFREQUENCY PHASED ARRAY SECTOR PROBE WITH 3-THI FREQUENCY FOR PEDIATRICS.
- 5 TO 18 MHZ MULTIFREQUENCY LINEAR PROBE WITH 3-THI FREQUENCY FOR B, M, B/M, PW AND COLOR MODES.

8) TISSUE DOPPLER IMAGING MODE WITH PULSE WAVE TDI.

9) TISSUE HARMONIC IMAGING WITHOUT CONTRAST WITH THREE HARMONIC FREQUENCIES.

10) TISSUE HARMONIC IMAGING TO ENHANCE EFFECTIVE WIDE BAND FREQUENCY RANGE TO PROVIDE SIMULTANEOUSLY SPATIAL RESOLUTION, CONTRAST RESOLUTION AND INCREASED PENETRATION USING TWO TRANSMISSION PULSES AT DIFFERENT FREQUENCIES SIMULTANEOUSLY AND RECEPTION AT HARMONIC AS WELL AS DIFFERENTIAL COMPONENT.

11) AUTO IMAGE OPTIMIZATION/QUICK SCAN IMAGING FOR AUTOMATIC STC / GAIN AND DOPPLER SPECTRUM ADJUSTMENT WITH OPTIMAL IMAGE QUALITY BY USING ONE TOUCH OPERATION.

12) COLOR B-FLOW / DYNAMIC FLOW IMAGING / MICRO CPA / E-FLOW WITH DOPPLER SPECTRUM.

13) TRAPEZOID IMAGING.

14) SONO CT/COMPOUND/APLIPURE IMAGING FOR BOTH FREQUENCY COMPOUNDING AND SPATIAL COMPOUNDING IN B/W AND COLOR MODE.

15) TISSUE ENHANCEMENT /PRECISION IMAGING TO ENHANCE B-MODE IMAGING, DETAILED IN LAYERS AND BOUNDARIES AND SHARPENED OUTLINES OF THE LESIONS AND REDUCE CLUTTERING.

16) MYOCARDIAL PERFORMANCE INDEX FOR THE ASSESSMENT OF BOTH DIASTOLIC AND SYSTOLIC CARDIAC FUNCTIONS, FOR CHILDREN CONGENITAL HEART DISEASE.

17) STRESS ECHO SYSTEM.

18) TISSUE STRAIN IMAGING WITH 2D STRAIN AND 2D DISPLACEMENT BASED ON 2D SPECKLE TRACKING , TDI WITH PULSE WAVE TDI, STRAIN RATE, RATE OF CHANGE WITH TIME AS GRAPH, RADIAL STRAIN, TRANSVERSE, 2D LONGITUDINAL, AND CIRCUMFERENCE STRAIN, , CALCULATION ALL SHOULD BE PROVIDED, SPECKLE TRACKING IN 2D IMAGING FOR CRT. 2D

SPECKLE TRACKING WITH 6 SEGMENTAL STRAIN, RADIAL STRAIN TO EVALUATE MUSCLE THICKING OF HEART FOR DYSSYNCHRONY HEART MUSCLES ALONGWITH POLAR MAP AND GRAPHIC DISPLAY.

- 19) CONTRAST HARMONIC IMAGING
- 20) 3 D WALL MOTION TRACKING
- 21) OFF LINE WORKSTATION FOR REVIEW.
- 22) B/W THERMAL PRINTER.
- 23) COMPATIBLE UPS

**MUST QUOTE THE FOLLOWING PROBES SEPARATELY:**

- MULTI-FREQUENCY TEE PROBE FOR ADULT STUDIES.
- MULTI-FREQUENCY TEE PROBE FOR PEADS STUDIES.
- 5-9 MHz MULTI-FREQUENCY SECTOR PROBE FOR NEONATES
- SHEAR WAVE ELASTOGRAPHY
- FUSION IMAGING OF CT / MRI 3D VOLUME DATA TO SYNCHRONIZE WITH ULTRASOUND IMAGING. COMPLETE WITH HARDWARE /NEEDLE NAVIGATION WITH TRACKING SYSTEM & SOFTWARE UPGRADABLE.

OR EQUIVALENT

FDA/CE/JIS APPROVED  
USA/EUROPE/JAPAN/UK

**ITEM NO. 24**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>ICU BEDS ELECTRIC</b>	<b>Qty</b>	<b>10</b>
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**04-Motorized Electric Bed,**

Should have positions (Back Raise, Knee Raise, Hi-Low Adjustment, Trendelenburg, Reverse Trendelenburg and Cardiac Chair Position) with X-ray radiolucent backrest

**Movements:**

- **Stress saver raise**  
(Back raise to reduce stress on patient's body)
- Back Raise 0-70°



- Knee raise 0-25°
- Hi-low adjustment from 350mm to 700mm (Mattress base)
- Trendelenburg/Reverse Trendelenburg position 0  $\pm$ 12°,
- **One button cardiac chair position**

**Controls:**

- Should have Integrated (Built in side-rail) or separate handheld Controller to perform the various bed positions.

**CPR Function:**

- **Should have both electric CPR function and Manual CPR function.**

**Battery:**

- Should have Battery with low battery indicator. (Optional)

**Side Rails:**

- Should have side rail meeting safety standard of IEC 60601-2-52.
- Should Have **Anti-tampering Lock feature.**(Prevents patient from falling over when patient is attempting to lower the side rail by himself while laying on bed)
- Should have Flexi Grip (grip on siderail to help patient to stand up more easier)
- Should be slide down with **Gas Spring shock absorber**

**Mattress Base:**

- **Made of steel**
- Seamless smooth surface for easy and quick cleaning.

**Low Bed Height:**

- **Should have lowest bed height to 350 mm.** (Allows patient to place his heels firmly on the floor)
- **Should have Bed height light indicator.** (To indicate its lowest height position)

**Angle Indicator:**

- Should have angle indicator for back section at both sides. (The 30 degree marked out to assist in ventilator-associated Pneumonia and for other medical assistance)

**Head/Foot Board:**

- Should be secured to prevent accidental removal.

**Roller Bumpers:**

- Roller bumpers at each corner of bed.

#### IV Pole:

- Should have four adjustable hooks with height adjustment.
- Should have facility to place the IV pole on each side of bed for urine and drainage bags etc.

#### Locking System:

- Should have total lock system with central pedal, and with see-saw pedal and three positions of "Free", "Lock" and "Steer".

#### Castor:

- Should have 125 mm single wheel castor

#### Bed Dimensions should be:

- Bed Length 2200mm without extension.
- Bed Width 990mm
- Total height 755 mm to 1105 mm
- Mattress Base Height 350 mm to 700 mm

#### Mattress:

- Size: W: 860mm L: 2000mm
- Mattress Cover should be:
  - \* MRSA anti-bacterial treated.
  - \* Water proof surface and Flame retardant.
  - \* Material: Cover Polyester/padding urethane foam.
- \* Mattress must be manufactured by same company manufacturing beds.

Safe working load 230 KG.

#### Additional Accessories:

##### **Bedside Table (Over Bed Table):**

- Height Adjustment through Gas Spring
- Castor: 40mm dia x 4pcs

##### **Bedside Cabinet:**

- Pull out table included 40mm dia castor x 4pcs
- Dimensions: (W) 445mm x (D) 460mm x (H) 780mm
- Body power coated steel
- Table & Cabinet top & Drawer: ABS Plastic

#### **Iv Pole**

All Optional items must be manufactured by same manufacture.

**Certification:**

- Should be at least one certification from CE / MOHLW / FDA

OR EQUIVALENT

FDA/CE/JIS APPROVED  
USA/EUROPE/JAPAN/UK

ITEM NO. 25

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	THERAPEUTIC HYSTEROSCOPE	Qty	0
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**Specs**

Telescope 300

Size 4mm

With working channel for semirigid 5 Fr. Operating instruments,

With suction and irrigation valves for single or continuous-flow usage

Long handle

**OUTER SHEETH**

2 x suction and irrigation valve

Monobloc adapter

Sealing cap, "Endoscopic set"

For working channel package of 10

2 x valve seat adaptor

Assembly Aid

**TELEPACK Specs**

All in one unit allows performance of high quality output

15" screen monitor with LED backlit similar to XENON technology

Six USB Ports

1 SD card slot

Direct print output

Color system PAL/NTSC

Power supply 100-220VAC

USB silicon keyboard with touchpad

USB flash drive 32gb

**Additional Accessories quote separately**

OR EQUIVALENT

FDA/CE/JIS APPROVED

USA/EUROPE/JAPAN/UK

**ITEM NO. 26**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
	<b>ELECTRIC CAUTRY MACHINE</b>	<b>Qty</b>	<b>05</b>
<p>Efficacious for; verruca, corns, tumors, hemangioma, popillomas, furunculous, epitheliums, kurtosis, cancroids.</p> <p>Adjustable needles</p> <p>Foot switch</p> <p>Needle holder</p> <p>Depilation needle</p> <p>Fulguration needle</p> <p>Coagulation needle</p> <p>Output: Average 50W</p> <p>Discharging Mechanism: Spark-gap</p> <p>Frequency: High-frequency of 1.5~2.3 MC</p> <p>OR EQUIVALENT</p> <p>FDA/CE/JIS APPROVED</p> <p>USA/EUROPE/JAPAN/UK</p>			

**ITEM NO. 27**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
	<b>FLUOROSCOPE C ARM SYSTEM</b>	<b>Qty</b>	<b>01</b>
<p><b><u>Xray Generator</u></b></p> <ul style="list-style-type: none"> <li>➤ Out Put Power 12 KW or more</li> <li>➤ Inverter frequency Up to 40 kHz</li> <li>➤ Automatic brightness control system</li> <li>➤ KV range (radiography &amp; Flourscopy) 40 to 120 kV 1-kV steps</li> <li>➤ MA range (radiographic) 20 mA, 120 mA</li> <li>➤ mAs range: Up to 250 mAs</li> <li>➤ Fluoroscopy :</li> <li>➤ Continuations mode: 0.2-5mA</li> <li>➤ Boost mA: 0.5-10mA</li> <li>➤</li> </ul> <p><b><u>X-ray Tube</u></b></p> <ul style="list-style-type: none"> <li>➤ Rotating Anode</li> <li>➤ Maximum X-ray tube voltage kV 125 kV</li> <li>➤ Focal spot 0.3/0.6 or better</li> <li>➤ Anode heat storage capacity not less than 300 kHU</li> <li>➤ Target angle 10°</li> </ul>			

**C-arm**

- SID 90 Cm or better
- Orbital rotation should have 90°/45°
- Horizontal travel 20 cm or more
- Vertical travel 45 cm or more
- Swinging ±12° or better
- C-arm rotation ±200° or better
- DICOM Send to PACS (DICOM 3.0) and CD-BURN and DICOM CINE to be provided
- LIH Image Rotation 100 Frame or better
- Image study Store 30000 or more
- Should be able to perform Digital subtraction angiography with road map facility
- Frame rate 1 to 30 frames/s or more
- Output: DICOM
- Anatomical programming
- Image Intensifier (I.I.)
- Input field size: 215/160/120 mm or similar
- Central resolution: 50 lp/cm or better
- Laser Guide
- Cassette Holder

**X-ray Grid**

- Grid : 103line/inch or better
- TV Camera
- Resolution: 1024 X 1024 or more
- A/D-Conversion: 14 bit or more
- Should be able to LIH Image rotation
- Image inversion should have both direction Horizontal and Vertical

**LCD Monitor**

- Screen size: 19" diagonal
- Pixels: 1280 x 1024
- Units to be mounted on the cart
- Two LCD monitors

Lead Apron Qty 06

OR EQUIVALENT

FDA/CE/JIS APPROVED

USA/EUROPE/JAPAN/UK

**ITEM NO. 28**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>SPIROMETER</b>	<b>Qty</b>	<b>01</b>
Flow/volume sensor Bi-directional turbine			
Temperature sensor semiconductor (0-45°C)			
Method of detection Infra-red interruption			

Maximum volume measured 10 L  
 Flow rate +/- 16 L/s  
 Volume accuracy +/- 3% or 50 mL  
 Flow accuracy +/- 5% or 200 mL/s  
 Dynamic resistance at 12 L/s <0.5 cmH2O/L/s

**OXIMETER SPECIFICATION**

Method of detection Red and infra-red light absorption  
 Measuring range of %SpO2 0 – 99% (with 1% increments)  
 Resolution of SpO2 1%  
 Accuracy of %SpO2 +/- 2% between 70-99% SpO2  
 Number of beats for calculating the median SpO2 % 8 beats  
 Pulse rate measuring range 18 – 300 BPM  
 Resolution of pulse rate 1 BPM  
 Pulse rate accuracy +/- 2 BPM or 2% of highest value  
 Interval for calculating median pulse rate 8 seconds  
 Signal quality 0 - 8 display segments

OR EQUIVALENT

FDA/CE/JIS APPROVED  
 USA/EUROPE/JAPAN/UK

**ITEM NO. 29**

<b>TECHNICAL SPECIFICATIONS</b>			
<b>RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS</b>			
	<b>ULTRASOUND MACHINE</b>	<b>Qty</b>	<b>01</b>
<p>General Specification</p> <p>Main Applications: general applications, abdomen, OB, GYN, peripheral vessel, small part, musculoskeletal system, urology, rectal, vaginal, pediatrics, cardiac and interventional ultrasound applications, support quantitative analysis.</p> <p>Monitor: LCD 19" high resolution non-interlaced monitor, special for medical imaging, support up and down, left and right rotation, LCD 10.4" touchscreen (optional 15" monitor)</p> <p>Probe Connectors: 4, all activated, automatic recognition.</p> <p>Power: AC 220V±10%, 50Hz±1Hz</p> <p>Mean Features</p> <p>Beam Processing: full-digital Beam Former, more than 1536 digital processing channels, Continuous Dynamic Focus, Real-time Dynamic Aperture, Dynamic</p>			

Beam Apodization, Dynamic filtering.

Gray Scale: Imaging Digital Two-dimensional Gray Scale Imaging Unit

Spectral: Digital Spectral Doppler Display and Analytic Unit

Color Doppler Imaging: Digital Color Doppler Imaging Unit, including CFM, CDE, Dir. CDE, pulsed Wave Doppler, Continuous Wave Doppler.

Doppler Measurement: manual, automatic, quantitative, semi-quantitative calculation, automatic and real-time Doppler spectral envelop.

2D Deflection: left/right deflection imaging (linear probe), deflection angle:  $-20^{\circ}$   $+20^{\circ}$ , multi-level adjustable.

Real-time Contrast of imaging of 2D and color Doppler: real-time contrast and observation of two dimensional image and color doppler image.

Harmonic Imaging: Digital Harmonic Imaging, Turning (one button optimizing) &TDI.

Duplex & Triplex Imaging Panoramic Trapezoid: support.

Wide View Imaging: support.

Integration of three-dimensional imaging: support 3D and 4D.

Probe Specifications

Probes:

Convex (2.0/6.0 MHz)

Linear (6.5/16.0 MHz)

Endocavity (4.0/8.0 MHz)

Phased Array (2.0/6.0 MHz)

Micro-convex

Electronic 4D probe

Probe Characters: Super Broadband Multi-frequency Probe

Biopsy Guide: support

2D image parameters

2D Working Frequency: broadband frequency conversion point  $\geq 5$ .

Frequency Range: 2.0MHz - 16.0 Mhz. 2D working frequency can be displayed by figure and adjusted separately.

Display Mode: B, B/B, 4B, B/M, M mode in real-time and freeze state.

Gray Scale: 256.

Resolution: lateral resolution  $\leq 1$  mm, axial resolution  $\leq 1$  mm, (under 3.5MHz, depth  $\geq 80$ mm circumstance).

Dynamic Range: 160db, 40db~160db is visible and adjustable.

THI: 6 groups THI (two each on convex probe, linear probe and phased array probe)

Scan Line Control of M type: M mode scanning line capable of rotating  $360^{\circ}$  around any point on the scanning line.

Gain Adjustment: B/M, B/D can be adjusted separately.

TGC: 8 bands

Zoom: real-time partial magnification, position removable, 10 times magnification, 16 levels adjustable. Max. Display Depth  $\geq 30\text{cm}$ .

#### Spectral Doppler

Mode: PW, CW/TDI

Blood Flow Rate: PWD: Max. Measurable velocity  $\geq 8\text{m/s}$ , CWD: Max.

Measurable velocity  $\geq 8\text{m/s}$ , Min. Measurable Velocity  $\leq 2\text{mm/s}$  (Non-noise signal).

Display Mode: B/D, M/D, D, B/CFM/D

Sampling Width: 1mm - 25mm

Display Control: reverse display (left/right, up/down), Baseline adjustable up and down, D Extension, B/D Extension, partial magnification.

#### Color Doppler

Display Mode: speed, Energy, Speed+Direction, B/CFM B/CFM/PW

B/CFM/M B/CFM/CW

Display Angle:  $\geq 85^\circ$

Frame Rate: detectable depth 24cm, full angle, Max 200frame/s

Display Control: baseline adjustable in 16 levels, B/CFM contrast.

#### Others

Cineloop: Image retrieval, cineloop playback  $\geq 1536$  frames, playback time  $\geq 100\text{s}$ .

RTDT: Real-time dynamic transfer of images and videos.

SVVR: Super volume video recording up to 1 hr.

Archiving and Record: Management System  $\geq 250\text{GHDD}$ , DVD-RW, USB Disk storage, Built-in ultrasound workstation system (create, store, modify, inquire and print the patient report., which also has expert thesaurus, report templates, etc. Display, store and play image or cine.

Bodymark:  $\geq 95$  types, with probe location

Acoustic Power:  $\geq 32$  levels adjustable

Interface: different languages (English, French), Hospital Name, Patient ID, Name, Gender, Age, Date, Time, Probe Model, Probe Frequency, Focus, Gain, Depth.

Data Communication: DICOM3.0, Dual USB2.0, DVD-RW

Signal Input and output: AV, S-video, RGB, USB digital signal, VGA, ECG, RS-232. Support PAL, NTSC video standard. Support nearly all printers, including laser printer, digital video printer, analog video printer.

Software: powerful Measurement Software Package, Integrated Ultrasound Workstation, Specialized Software for 3D/4D.

OR EQUIVALENT

FDA/CE/JIS APPROVED

USA/EUROPE/JAPAN/UK



ITEM NO. 30

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
	VENTILATORS FOR INTENSIVE CARE UNIT	Qty	06
<p>a) ICU Ventilator for Medical ICU with advance servo controlled.</p> <p>b) Suitable for Adult and Pediatric patients.</p> <p>c) Invasive and non-invasive technology.</p> <p>d) 12 inch or more touch screen display with internal turbine system</p> <p>e) Turbine life should not be less than 10,000 hours.</p> <p>f) Battery backup support for 120 minutes or more.</p> <p>g) Should have real time monitoring.</p> <p>h) Modes of Ventilation: Assisted Control Mandatory Ventilation (CMV).</p> <p>i) Synchronized Intermittent Mandatory Ventilation (SIMV)</p> <p>j) Spontaneous Ventilation.</p> <p>k) Body Weight Calculator for set the tidal volume and other ventilator parameters.</p> <p>l) Volume-controlled.</p> <p>m) Pressure-controlled.</p> <p>n) Volume Targeted Pressure-controlled</p> <p>o) Dual Level PEEP (SPAP)</p> <p>p) Auto Control</p> <p>q) Apnea back-up ventilation.</p> <p>r) Active Exhalation Valve</p> <p>s) Automatic Leak Compensation (up to 60 Lpm or more).</p> <p>t) Auto set alarm feature up to 1000 or more Event log.</p> <p>u) Tidal volume: 5 ~ 2000 ml or better.</p> <p>v) Respiratory rate: 1 ~ 120 bpm or better.</p> <p>w) Pressure control: 10 ~ 80 cmH<sub>2</sub>O or better.</p> <p>x) Pressure support: 0 ~ 80 cmH<sub>2</sub>O or better.</p> <p>y) Peak flow: 1 ~ 120 lpm or better.</p> <p>z) Inspiratory Time: 0.2 ~ 8 sec or better.</p> <p>aa) Oxygen concentration: 21 ~ 100%</p> <p>bb) Display parameter: Delivered oxygen concentrations 21 - 100%.</p> <p>cc) Trend Data up to 72 hours or more</p> <p>dd) More than 35 monitoring parameters.</p> <p>ee) Real Time Graphics, Volume vs Time, Pressure vs Time, Flow vs Time, Flow Volume Loops, Pressure Volume Loops.</p> <p>ff) Humidification Selection (HME, Humidifier, and None)</p> <p>gg) To be supplied with all standard accessories.</p> <p>Must be FDA 510k Approved and CE Certified.</p>			

OR EQUIVALENT

FDA AND CE/JIS APPROVED  
USA/EUROPE/JAPAN/UK

**ITEM NO. 31**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>B/W ULTRASOUND MACHINE</b>	<b>Qty</b>	<b>01</b>
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Full digital HCU B/W system.  
b) Display: 12" or more anti-grade LCD monitor.  
c) Unique user-friendly design.  
d) Two active transducer connectors or more.  
e) View of practical and stable capabilities.  
f) Support all application usage, which could satisfy various daily diagnoses, such as abdominal, OB/GYN, small parts and so on.  
g) THI technology with Five Variable Frequency.  
h) Intuitive operation with M-Tuning one-key image optimization.  
i) Clip-board function for quick patient image capture and review.  
j) Application fields: General practice, OB/GYN, Vascular, Urology, Anesthesia, Emergency, ICU, Physiotherapy, MSK, Pediatric, etc.  
k) Full patient database Solutions: DVD, USB storage, PDF report, AVI/JPEG, DICOM3.0, etc.  
l) Battery: Built-in high capacity Li-ion battery.  
m) Power supply: 100-220 VAC, 50-60Hz.  
n) Convex Probe: Frequency: 2.0MHz to 6.0 MHz or better.  
o) Certifications: FDA 510(k) and CE  
OR EQUIVALENT  
FDA/CE/JIS APPROVED  
USA/EUROPE/JAPAN/UK

**ITEM NO. 32**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>LAPTOP COLOR DOPPLER ULTRASOUND MACHINE</b>	<b>Qty</b>	<b>01</b>
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LAPTOP COLOR DOPPLER ULTRASOUND  
a) 15" or more high resolution LED.  
b) Ergonomic design with anti-glare, 180 degree opening angle screen.  
c) One Button automatic image optimization  
d) Large image display region  
e) Anti-reflective screen and auto brightness adjustment

- f) User-defined Operations
- g) Compact design and light weight 6 kg or less.
- h) Standard Connection Interface: DICOM 3.0, 2 USB ports, HDMI S-Video and Extender port.
- i) Built-in Battery for 1.5 hours of scanning or better.
- j) Wi-Fi and Bluetooth wireless connection
- k) 1 Active Probe connector.
- l) Quick boot up: 25s or less.
- m) Enhanced accuracy due to high sensitive Doppler detection for low flow vessels.
- n) Needle enhancement feature for easy nerve blocking procedures.
- o) Multi-beam probe for optimized needle visualization without losing the target nerves and vessels.
- p) New generation digital front-end technology.
- q) Frequency Compound Imaging.
- r) Spatial Compound Imaging.
- s) Speckle reduction image processing technology.
- t) Tissue Harmonic Imaging (THI, PIHI).
- u) High Pulse Repetition Frequency.
- v) B-Mode Panoramic imaging.
- w) Auto calculation (Auto Trace)
- x) Tissue Doppler Imaging
- y) Anatomical M Mode
- z) B-Mode and Color-Mode dual live
- aa) Triplex or Simultaneous mode
- bb) B Mode Panoramic
- cc) Power Doppler Imaging.
- dd) Storage media: 500 GB or better standard image storage capacity.
- ee) Application fields: Abdomen, Vascular, Cardiology, Gynecological/Obstetrical, Urology, Musculoskeletal, Interventional ultrasound, Small parts, Anesthesiology, Pediatrics etc.
- ff) Modes: B mode, Color mode, PW mode, CW mode, TDI mode, THI mode, DPI mode, DDPI mode, IMT measurement, TEI index, Spectral Doppler auto-trace, Color flow volume measurement, Multi-beam processing technology, Speckle/Noise reduction function.
- gg) Linear Probe 3MHz to 15 MHz or better.
- hh) Convex Probe 1MHz to 7 MHz or better.
- ii) Certifications: FDA 510(k) and CE

OR EQUIVALENT

FDA/CE/JIS APPROVED  
USA/EUROPE/JAPAN/UK

ITEM NO. 33

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
	RADIOGRAPHY SYSTEM WITH DR	Qty	01
<p>1. System combination</p> <p>a) 50 kW or more High frequency X-Ray Generator.</p> <p>b) 4 ways floating top table with fixed height</p> <p>c) Floor mounted tube column stand</p> <p>d) Manual collimator</p> <p>e) 200KHU X-ray tube</p> <p>f) Wall chest bucky stand</p> <p>g) Pair of HT cables 10m or more.</p> <p>h) Flat Panel Detector for Table Bucky</p> <p>i) Flat Panel Detector for Chest Bucky</p> <p>A. X-Ray Generator</p> <p>a) High frequency, microprocessor control x-ray generator</p> <p>b) Frequency 20KHz or more.</p> <p>c) Radiographic kVp 40~150kVp with in one kV step.</p> <p>d) Radiographic mA 10~600Ma or better.</p> <p>e) mAs range: 0.5~500mAs</p> <p>f) Exposure time: 1 ms ~ 6s or more.</p> <p>g) kVp and mAs selection. 3 point kVp, mA &amp; time selection.</p> <p>h) 400 or more Anatomical program.</p> <p>i) Three phase, 380-400V x-ray generator.</p> <p>B. 4 Ways Floating Top Table</p> <p>a) Electromagnetic brakes</p> <p>b) Longitudinal travel of table top: 900mm or more Lateral/transverse travel of table top: 220mm or more.</p> <p>c) Longitudinal travel of bucky: 510mm or more</p> <p>d) Moving grid</p> <p>e) Grid ratio 40 l/sec, 12:1</p> <p>C. Floor Mounted Tube Column Stand</p> <p>a) Tube support balancing System with counterweights and Electromagnetic brakes.</p> <p>b) Control panel with push button to control vertical, longitudinal and transverse travel.</p> <p>c) Rotation of tube – collimator assembly +/-180°</p> <p>d) Longitudinal travel 1450mm or more</p> <p>e) Vertical travel : 400-1900mm</p> <p>f) Lateral/transverse travel 300mm or better</p> <p>D. Manual Collimator</p> <p>a) Multi leaf Manual collimator.</p>			

b) LED light indicator for alignment with bucky.

E. X-Ray Tube

- a) Dual focus x-ray tube
- b) Small focus 0.6mm
- c) Large focus 1.2mm
- d) Rotating anode
- e) Maximum tube voltage 150kVP

f) Anode heat storage capacity 200KHU

F. Wall Chest Bucky Stand

- a) Chest bucky stand with the cassettes formats maximum up to 35x43cm
- b) Vertical travel 1500mm or better.
- c) Moving grid: 12:1 ratio.

G. Pair of HT Cables 10m or more.

H. Flat Panel Detector (2 nos.)

- a) Flat Panel Detector, 43x43
- b) Cesium Iodide (CsI) with amorphous silicon
- c) Pixel Pitch: 148 $\mu$ m or better
- d) Active Pixels: 2648 (v) x 2984 (h) or better
- e) Detective Quantum Efficiency (DQE): more than 70%
- f) A/D Conversion: 14 bits

I. Complete with workstation and viewing software

- a) Processor : Intel i5-4590 or equivalent
- b) Memory : 4GB or more
- c) Hard Drive : 500GB or more
- d) Adapter Card, Ethernet card
- e) Complete with Color monitor 21" or more, mouse, key board,
- f) DICOM compliance: DICOM 3.0
- g) DICOM work list from HIS/RIS
- h) DICOM sent, DICOM image print

J. Software:

- a) Input patient data : Selection of exam, study , procedure , patient ID,
- b) Setting of x-ray exposures
- c) Image processing software
- d) Software for digital radiographic image in DICOM format:
- e) Improve image contract
- f) Adjust dynamic range
- g) Reduce the noise

OR EQUIVALENT

FDA/CE/JIS APPROVED

USA/EUROPE/JAPAN/UK

ITEM NO. 34

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
	FLUOROSCOPY / RADIOGRAPHY MACHINE 800MA	Qty	01
<p>Three phase 380 volts complete set with all standard accessories for its installation and commissioning</p> <p>Generator Specification</p> <p>a) Microprocessor controlled generator with touch screen.</p> <p>b) Output Power: 80 kW or more</p> <p>c) anatomical protocols preset 500 or more with programmable parameters</p> <p>Radiography parameters:</p> <p>a) kV range should be from 40 to 150 kV @ 1 kV step.</p> <p>b) Tube Current range should be 10 to 800 mA or more</p> <p>c) Exposure Time should be from 1 ms to 10 s or better.</p> <p>d) mAs range should be from 0.1 to 500 mAs</p> <p>Fluoroscopy parameters:</p> <p>a) kV range should be from 40 to 120 kV @ 1 kV step.</p> <p>b) Continues mA range should be from 0.5 to 5 mA (low dose) and up to 8 mA (higher dose) with auto fluro.</p> <p>c) Timer: 5 mins</p> <p>Remote Controlled Table</p> <p>Remote controlled table should be three components:</p> <p>a) The remote controlled with flat tabletop to facilitate patient transfer, with integrated secondary control console for the table movements and collimator light control</p> <p>b) The control cabinet of the table.</p> <p>c) The main control console with all functions of the table.</p> <p>Patient support</p> <p>a) Flat tabletop of 240 x 80 cm (66 cm radio-transparency) with rails for accessories.</p> <p>b) Large width of the tabletop for convenient patient transfer and easy centering for bariatric patient.</p> <p>c) Motorized lateral movements of +/- 15 cm at 4 cm /s</p> <p>d) Longitudinal movement of table top: +/-50cm at 4cm/s</p> <p>e) Tilting of + 90° / - 15°</p> <p>f) Tilting speed: 4°/sec.</p> <p>g) Anti-collision safety set by internal computer</p> <p>h) Footstand for control console</p> <p>i) Motorized longitudinal movements of 140 cm at 10 cm /s</p> <p>j) Total patient coverage of 180 cm or more</p> <p>k) Cassettes size should be from 18 x 24 cm to 35 x 43 cm</p> <p>l) Automatic format detection 1 – 2 – 3 – 4 division</p> <p>m) Moving carbon grid R 12/1 focus at 125 cm</p>			

n) Image Intensifier allowed of 9", 12" or 16"

o) Change fluorography: 1.5 s

Column support

a) Light beam should be halogen bulb 100W.

b) In automatic mode, collimator is controlled by the cassette size or the selected Image Intensifier size.

c) In manual mode, collimator is controlled from the main control console with the proportional joysticks or at the collimator front panel.

d) Tube rotation manual of  $\pm 180^\circ$  electromechanical brake with mechanical stop every  $90^\circ$

e) Angulations motorized of  $\pm 40^\circ$  ( $\pm 0.5^\circ$ ) all along the table, for specific projections.

Main control console (Table):

a) Touch key controls and joysticks with information displayed in integrated LCD screen, Prep/x-ray switched integrated.

b) Controls located and grouped per function: numeric keypad, control of the TV chain, tomography, motorized position, reset position. The numeric keypad from 5 to 8, it allows to select the cassette support speed (fast to slow).

c) Joysticks control the SID, tube/column angulations, table tilting in continuous mode with soft start and soft stop functions included. Tube/Column- cassette support movement, lateral movement of the tabletop and collimator shutters have proportional joysticks.

Image Intensifier

a) Nominal entrance field size : 230 mm

b) Nominal output field size : 20 mm

c) Output windows thickness : 3.6 mm

d) Entrance windows material : Cesium

e) Output windows material : Phosphor (P 20)

f) Useful entrance field size : 9 inch; 6 inch; 4.5 inch

g) DQE at 59.5 kV (IEC standard) : 65%; 65%; 65%

h) Conversion factor ( $\text{cd.m}^{-2} / \text{mR.s}^{-1}$ ) : 240; 120; 60

CCD Camera

a) Matrix: 752 x 582 pixels

b) Standard scanning: Interline (progressive interlace), 625 lines, 100 Hz

c) Bandwidth: 20 MHz

d) Signal/noise ratio: 55 dB

e) Gamma correction, recursive filters for noise reduction (factors 0, 2, 4, 8, 16), automatic video compensation, electronically circular blanking, horizontal and vertical inversion, last image hold (LIH).

Color LCD Monitor 2 nos.

a) Diagonal size: 19"

b) Optimum resolution: 1,280 x 1,024 pixels

c) Contrast: 550: 1

d) Brightness: 700  $\text{cd} / \text{m}^2$

- e) Maximum bandwidth: 135 MHz
  - f) Vertical frequency from 50 to 85 Hz
  - g) Horizontal frequency from 30 to 92 kHz
  - h) Trolley for Monitors
- X-Ray Tube Specification
- a) Nominal focal spots values : 0.6 and 1.2 mm
  - b) Anode diameter : 74 mm
  - c) Anode material : Rhenium - Tungsten – Molybdenum
  - d) Anode angle : 12°
  - e) Inherent filtration : 0.9 mm
  - f) Anode heat storage capacity : 400 kHU
  - g) Nominal high voltage : 150 kilovolts
  - h) Cable length : 14 m
  - i) High speed Starter : 9000 rpm

OR EQUIVALENT

FDA/CE/JIS APPROVED  
USA/EUROPE/JAPAN/UK

**ITEM NO. 35**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	X-RAY RADIOGRAPHY SYSTEM	Qty	01
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1. System combination
  - a) 50 kW or more High frequency X-Ray Generator.
  - b) 4 ways floating top table with fixed height
  - c) Floor mounted tube column stand
  - d) Manual collimator
  - e) 200KHU X-ray tube
  - f) Wall chest bucky stand
  - g) Pair of HT cables 10m or more.
- A. X-Ray Generator
  - a) High frequency, microprocessor control x-ray generator
  - b) Frequency 20KHz or more.
  - c) Radiographic kVP 40~150 kVP with in one kV step.
  - d) Radiographic mA 10~600 mA or better.
  - e) mAs range: 0.5~500 mAs
  - f) Exposure time: 1 ms ~ 6s or more.
  - g) kVp and mAs selection. 3 point kVp, mA & time selection.



- h) 400 or more Anatomical program.
  - i) Three phase, 380-400V x-ray generator.
  - B. 4 Ways Floating Top Table
    - a) Electromagnetic brakes
    - b) Longitudinal travel of table top: 900mm or more Lateral/transverse travel of table top: 220mm or more.
    - c) Longitudinal travel of bucky: 510mm or more
    - d) Moving grid
    - e) Grid ratio 40 I/sec, 12:1
  - C. Floor Mounted Tube Column Stand
    - a) Tube support balancing System with counterweights and Electromagnetic brakes.
    - b) Control panel with push button to control vertical, longitudinal and transverse travel.
    - c) Rotation of tube – collimator assembly +/-180°
    - d) Longitudinal travel 1450mm or more
    - e) Vertical travel : 400-1900mm
    - f) Lateral/transverse travel 300mm or better
  - D. Manual Collimator
    - a) Multi leaf Manual collimator.
    - b) LED light indicator for alignment with bucky.
  - E. X-Ray Tube
    - a) Dual focus x-ray tube
    - b) Small focus 0.6mm
    - c) Large focus 1.2mm
    - d) Rotating anode
    - e) Maximum tube voltage 150kVP
    - f) Anode heat storage capacity 200KHU
  - F. Wall Chest Bucky Stand
    - a) Chest bucky stand with the cassettes formats maximum up to 35x43cm
    - b) Vertical travel 1500mm or better.
    - c) Moving grid: 12:1 ratio.
  - G. Pair of HT Cables 10m or more.
- OR EQUIVALENT  
 FDA/CE/JIS APPROVED  
 USA/EUROPE/JAPAN/UK

**ITEM NO. 36**

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
	EEG Polygraphic Machine	Qty	01
<b><u>Patient and Data Management</u></b>			
<ul style="list-style-type: none"> <li>• Management of reported and unreported examinations for different users.</li> </ul>			

- Data base with patient and examination related information.
- Archive inspector (automatic invitation for archiving).
- Automatic archiving of reported examinations on selectable data volumes.
- Backup for programs and data bases.
- Interface for Practice and Hospital Management Systems (HL7).

#### **EEG/Polygraphy Recording Software**

- EEG and Polygraphy 32 channels.
- Straightforward operating by picture symbols (mouse) or PC keyboard
- Optical, graphical and numerical presentation of impedance measurement, can be operated also at the headbox
- Measurement of impedance at any time, storing of all measured impedance values
- Multi-Window technology for simultaneous recording/reviewing
- Network wide presentation of a running record (on-line review)
- Definition of 20 event markers and an unlimited number of comments
- Possibility of infliction of a WAVE file to each marker
- Automatic marking of photic stimulation (programmable)
- Automatic marking of hyperventilation (programmable)
- Input of print marker for subsequent EEG printout
- Automatic stop of recording after a defined recording time and transmission of a network message
- Programmable Macro for EEG recording
- Input of channel-specific comments
- Design and presentation of an unlimited number of EEG montages
- On-line setting of all recording parameters

#### **EEG/Polygraphy Review Software**

- Unitary for EEG, digital videometry and long-term EEG
- Straightforward operating by picture symbols (mouse) or PC keyboard
- Design and presentation of an unlimited number of EEG montages and presentation parameters
- Automatic switching of montages according to the recording montage
- Searching for markers, events, notes and time
- Input, shifting and editing of markers
- Automatic paging with variable speed, scroll function
- Presentation of date, time, start time and recording length
- Integrated customized and macro-supported report template
- Simultaneous paging in different records
- Synchronous real time scrolling or paging of video EEG's, high speed or picture wise
- Editable color of EEG and polygraphy traces
- Automatic EEG measuring function for amplitude and dominant frequency
- Zoom of EEG segments including measuring function for amplitude, frequency and time
- Dynamic amplitude mapping of selectable EEG segments
- Frequency analysis of selectable EEG segments
- Frequency mapping of selectable EEG segments and frequency bands

- Export for all numerical analysis results for extended statistical processing
- Import/Export function for different EEG formats.
- Export function for selectable EEG's including viewer software for EEG presentation and reviewing on each PC
- Storing of all analysis segments for subsequent comparisons or re-analysis
- Editor for long-term and video EEG's and storing of edited EEG and video clips.
- Printout of selectable EEG segments, analysis segments and analysis results
- Integration of foreign analysis software by means of EDF data transfer

### **EEG HEADBOX**

- Dynamic range: 0.5  $\mu$ V – 1 mV.
- Polygraphic channels (EOG, ECG, RESP, EMG, POS, MIC).
- Dynamic range polygraphic channels 0.8  $\mu$ V - 1.57 mV.
- Input impedance: > 20 MW.
- CMRR: > 100 dB.
- Noise: < 2  $\mu$ V pp.
- Lower cutoff frequency 0.2 Hz.
- Upper cutoff frequency 300 Hz.
- Sampling rate 2048/channel.
- Sampling resolution 16 Bit (ADC).
- Transmission rate (selectable) 128, 256, 512 Samples/s.
- Transmission sensitivity (selectable) 30.5 nV/Bit (128 Samples), 61nV/Bit (256 Samples).
- Transmission protocol TCP/IP, optically decoupled LAN adapter.
- Transmission velocity 10 Mbit.
- Power consumption < 1 W.
- Integrated impedance measurement with LED display.
- Mobile stand for EEG headbox.

### **LED PHOTIC STIMULATOR**

Power supply: 12 V Power

Consumption: 50 VA

Trigger input Optic, 1 ms, TTL optional

Max. flash frequency: 60 Hz

Controlled by EEG recording software

User-defined stimulation programs Unlimited number of programs

Start/Pause/Stop of stimulation by function key

### **EEG video**

- Digital videometry monitoring.
- Video: Digital synchronized recording (MPEG 1, 2 or 4 format) with zoom function during evaluation.
- Camera: Daylight (color) or night camera (b/w) with integrated IR light, auto zoom, pant/tilt, remote control, mic, audio amplifier.

**WORKSTATION**

EEG/polygraphy recording, reviewing, archiving and data backup.

**Hardware**

- Processor Min. 2 GHz or more
- 1 GB SD-RAM or more
- Hard Disk 160 GB or more
- Graphic board Onboard
- Monitor 23" TFT or more
- Network adapter transmission rate onboard, TP/B, 10/100 Mbit
- Backup drive DVD/CD RW
- OS WINDOWS 7 or better.
- Keyboard, Mouse, Mousepad and Laser Printer.

**ACCESSORIES:-**

- 20 x EEG Gold Cup Electrode.
- 2 x Ear electrodes with cable.
- 2 x ECG electrodes with cable.
- 1 x Original Mobile Trolley.

OR EQUIVALENT

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**ITEM NO. 37**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>EMG MACHINE</b>	<b>Qty</b>	<b>01</b>
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**EMG / NCS / EP:**

- Pre-configured machine with accessories kit.
- PC based system with Windows operating system and inbuilt patient centric database.
- Latest EMG/NCS/EP acquisition and review software.
- Both predefined and user configurable test protocols.
- Flexible report generation.
- Software guidance for electrode positioning.
- Storage to EMG with full acquisition resolution.
- Archival recorded exams/reports CD/DVD.
- Printing of reports on heavy duty laser printer.
- Ether LAN connectivity.
- Export of the report into PDF

### **NERVE CONDUCTION STUDY**

Motor Nerve Conduction Study  
Sensory Nerve Conduction Study  
Repetitive Stimulation  
F-wave  
H Reflex  
Blink Reflex  
Single Muscle Fiber Test

### **SOMATOSENSORY EVOKED POTENTIAL**

SEP (Somatosensory Evoked Potential)  
SSEP (Short Latency SEP)

### **VISUAL EVOKED POTENTIALS**

Stimulation type: Checkerboard, pattern flash, onset/offset, Picture stimulation, visual P300)  
Pattern: Checkerboard, vertical and horizontal stripes, pictures; variable size  
Stimulation field: Full, half, quarter field  
Fixation point: different fixation points, colored bitmaps, variable position  
Pattern color: black white, 16 grey steps  
Monitor: 17" TFT monitor  
LED goggle: left, right, both eyes stimulation

### **AUDITORY EVOKED POTENTIALS**

Stimulation type: Klick, Klick-Klack, Tone pips of all relevant frequencies  
Stimulation frequency: manual, 1 - 100/s in dependence of the examination  
Sound pressure: 0 - 124 dB SPL, in 1 db steps  
Stimulation duration: 50  $\mu$ s – 1 ms; in 50  $\mu$ s steps  
Stimulation polarity: Condensation, rarefaction, alternating  
Overlapping: White noise with adjustable intensity  
Parameter setting: With keyboard, mouse and remote control.

### **ELECTRICAL STIMULATOR:**

Numbers: 1 integrated electrical stimulator.  
Stimulation current: 0 – 100 mA; in 1 mA steps  
Stimulation duration: 50  $\mu$ s – 1 ms; in 50  $\mu$ s steps  
Stimulation type: Single, Double, Train  
Stimulation frequency: manual, 0.1 - 100/s in dependence of the examination program  
Parameter setting: Keyboard, Mouse and Remote Control.  
Display: Display of stimulation current, stimulation puls width and stimulation type on screen

### **AMPLIFIER**

No. of channels : 4  
Power requirement : 220V, 50Hz, and 22watt or better

Input impedance	: >100 MOhm
CMRR	: >100dB
AC interference Notch filter	: 50 or 60 Hz
Noise level	: <1 uV or better
Low-frequency limit	: <8mHz
High-frequency limit	: 20kHz
Skin electrode contact impedance check	: 2, 5, 10, 20, 50 kΩ.
A/D converter	: 24 bits or better
Constant Current Electrical Stimulator	: Stim Current, 0- 100mA
Stim Voltage	: 400V
Stim Duration	: 50us – 1ms
Stim types	: single, pair, train

#### **AMPLIFIER:**

Sampling rate	: 50 kHz/channel
ADC	: 24 bit
Resolution	: 10 nV/d
Channel	: 4
Max. Input voltage	: 25 mV
Noise	: < 1 μV pp @ 2 Hz–10 kHz, shorted input
Input impedance	: > 110 MOhm
CMRR	: > 110 dB
Lower cutoff frequency	: 0.02 Hz - 1000 Hz in 15 steps 0.02, 0.05, 0.1, 0.2, 0.5, 1, 2, 5, 10, 20, 50, 100, 200, 500, 1000 Hz); 6 dB/Oktave
Upper cutoff frequency	: 20 Hz - 15 kHz in 11 steps (20, 50, 100, 200, 500 Hz, 1, 2, 3, 5, 10, 15 kHz); 6 dB/Oktave
Notch filter	: 50/60 Hz.
Temperature measurement	: 20-40 °C, with temperature probe.
Impedance measurement	: 0-100 kOhm @ 10 Hz in 0,1 kOhm steps

#### **STANDARD ACCESSORIES:**

Concentric needles electrode 20mm.  
 Concentric needles electrode 50mm.  
 Bi-polar needle electrode.  
 Extension cable for concentric needle electrode.  
 Extension cable for bi-polar needle electrode.  
 NCS extension cable.  
 NCS disposable electrode.  
 Ground electrode.  
 Finger electrode.  
 Surface stimulation electrode.  
 Headphones for Auditory Stimulation  
 Conductive paste.  
 Abrasive cream.  
 Heavy Duty HP Laser Printer

1KVA or Compatible Online UPS  
 21 inch Color LCD.  
 Original Trolley with Isolation Transformer.

OR EQUIVALENT

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**ITEM NO. 38**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	<b>DOPPLER ULTRASOUND MACHINE WITH THREE PROBE</b>	<b>Qty</b>	<b>01</b>
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**1. Design & Features**

- a) Trolley based Ultrasound color Doppler Machine
- b) 15" or more LCD/TFT Screen
- c) Four active probe sockets or more
- d) Standard connection ports:4 USB Ports, S-Video connection port, Video In/Out ports, VGA connection port, ECG leads port, Footswitch port
- e) 500GB or better Hard disk, CD/DVD ROM for data retrieval/transfer.
- f) Complete DICOM 3.0 compatibility.
- g) In built ECG Module as standard.
- h) Convex probe 2MHz to 6MHz or better
- i) Linear probe 5MHz to 12MHz or better
- j) TVS probe 5MHz to 13MHz or better
- k) Dynamic Range: 60dB – 300dB or better
- l) Scanning Depth: 25.9cm or better.
- m) Frame Rate in B-Mode: 800 fps or more.
- n) Cine memory: 1000 frames or more.

**2. Standard Imaging Modes**

- a) Tissue Harmonic Imaging Mode.
- b) High Pulse Repetition Frequency technology.
- c) Multi-beam processing technology.
- d) M Mode and Anatomical M Mode.
- e) Auto Trace for PW Spectrum calculations.
- f) Frequency Compound Imaging.
- g) Advanced speckle and artifacts reduction technology.
- h) Advanced compression Elastography.
- i) Advanced 3D imaging.
- j) Biopsy guidance with multiple angle selection.
- k) B Mode, 2B Mode, 4B Mode.
- l) Color Flow Mode.
- m) Power Doppler Mode.
- n) Pulsed Wave Doppler.
- o) Continuous Wave Doppler.

**3. Measurement and Review software:**

- a) Basic B mode, Basic M mode, Basic spectral Doppler (PW) mode, Color flow volume, Cardiology package, Vascular package, Pediatrics package, Urology package, MSK package, Abdomen package, Small parts package,
- b) Patient data management system.
- c) Review software for stored images and information of patients for reporting, printing and analyzing for later.

OR EQUIVALENT

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**ITEM NO. 39**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

**VIDEO LARYNGOSCOPE**

**Qty**

**01**

Specifications:

- LCD display
- Wide-angle view
- Video-out capability
- LED light
- Atraumatic tip
- Re-chargeable battery
- Complete Accessories

OR EQUIVALENT

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**ITEM NO. 40**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

**OPERATING MICROSCOPE FOR OPHTHALMOLOGY**

**Qty**

**01**

- Motorized zoom type (zoom ratio 1:5)
- Objective Lens F=200mm
- Eyepieces: 10x (high-eyepoint& wide field)
- Binoculars: Tilttable binocular tubes F=170mm
- Total magnifications: 4.1x to 20.4x
- Real fields of view: 49 to 9.8mm dia.
- Focusing stroke: 30mm
- X-Y movement stroke:  $\pm 25$ mm in each direction (with centering function)
- Light source: LED
- Field of illumination: 55mm dia.



- Illumination control: 9 steps
- Filters: Heat-absorbing, Blue correction filter, Yellow filter, Retinal protection

OR EQUIVALENT

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ITEM NO. 41

TECHNICAL SPECIFICATIONS

RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS

	<b>BLOOD BANK REFRIGERATOR</b>	<b>Qty</b>	<b>01</b>
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- Blood Bank Refrigerator, Cabinet Type and Upright
- 5 Drawers
- Cooling Type: Forced air cooling
- Defrost Mode: Auto
- Refrigerant: CFC-Free
- Noise Level: 43 dB
- Temperature Range: 4±1 °C
- Controller: Microprocessor
- Display: LED
- Capacity: 358L / 12.7 Cu.Ft
- Storage Capacity: 200 (450ml blood bags)
- High/Low Temperature
- Remote Alarm
- Power Failure
- Sensor Error
- Low Battery
- Door Ajar
- Caster
- Foot
- Test Hole
- Temperature Recorder
- Power Supply: 220-240V/50Hz
- Power: 460W
- Electrical Current: 3 A
- Net Weight(approx): 158Kg
- Gross Weight(approx): 174Kg
- Interior Dimensions: 620 x 470 x 1200mm
- Exterior Dimensions: 720 x 690 x 1730mm

OR EQUIVALENT

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## ITEM NO. 42

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
	ANAESTHESIA MACHINE WITH VENTILATOR	Qty	
	<p>-Standard/Cascade flow tubes.</p> <p>-Cascade flow tubes with electronic flow display providing numeric representation of gas flow</p> <p>-Virtual flow display (VFD) numeric and graphic</p> <p>-Virtual flow display also provides touch screen control of back lighting</p> <p>-O<sub>2</sub> Gas (O<sub>2</sub> / N<sub>2</sub>O / Air) with ventilator Comprising of:- Gas (Oxygen / N<sub>2</sub>O / Air) Two Vaporisers Mounting O<sub>2</sub> Gas Rotameter (O<sub>2</sub> + N<sub>2</sub>O + Air) Mechanical Anti – Hypoxic Device. Non – inter changeable pipeline inlets Pipeline &amp; Cylinder gauges for O<sub>2</sub> + N<sub>2</sub>O+ Air along with hoses. Pin Index cylinder yokes. Gas Outlet and O<sub>2</sub> flush control. O<sub>2</sub> Auxiliary O<sub>2</sub> power outlets. Lockable castors. Monitors Shelf. Impact resistant &amp; easy to clean frame. Stainless steel work surface. Absorber support arm. O<sub>2</sub> Gas flowmeter for O<sub>2</sub> + N<sub>2</sub>O + Air. Sigma Delta Sevoflurane Vaporizer. Flow and Temperature compensated (Service Free) Base lockable 6" Drawer unit. Main power outlet 220 / 240 Vac (IEC X 4) Writing Shelf / Platform. Sharp holder. High suction Controller with receiver jar of Ltrs complete with connections and fittings. SPA Carbon Dioxide Absorber with Bag Vent and By Pass complete with detachable The system must have built in heater to control moisturizer Electronic Anesthesia Ventilator MODEL NO: AVS 15 Inch Large Colour Touch Screen Anesthesia Ventilator With Built – in Oxygen Monitor, Ultra – accurate Spirometry With advance Ventilation (SIMV,SMMV and PSV) Combines sophistication and ease of use, Volume and Pressure Ventilation plus SMMV,SIMV,PSV and PEEP Single / dual waveform display High quality , multi-option product with flexible specification Integrated Oxygen Monitor and spirometry</p>		

Inverse I:E Ratio capability  
 Electronic PEEP  
 Autoclavable Latex free bellows  
 Oxygen or Air drive gas  
 Battery Back up  
 Magills Breathing Circuit  
 Must have HIS capability (Hospital Information System)  
 Tidal Volume from 5ml to 1600ml.  
 Should have 30 minute battery backup

OR EQUIVALENT

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**ITEM NO. 43**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

**LARYNGOSCOPE**

**Qty**

**01**

Incorporates fiber optic technology for better brightness and less distortion.  
 High-quality stainless steel combined with consistent fine metal craft for better performance, safety and ease of use.  
 Heat-free blade reduces risk of skin or tissue burn.  
 Macintosh (curved) blades sizes 0 to 4  
 Handle sizes: Large, medium

OR EQUIVALENT

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**ITEM NO. 44**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

**CAPNOGRAPH SIDESTREAM**

**Qty**

**06**

Portable 5" touch screen TFT display  
 2 trace waveform  
 Unit must be capable for measurement of ETCO2 for neonatal, pediatric and adult patient.  
 Method of sampling : side stream or main stream  
 Sampling rate should be 100Hz or better  
 Unit complete with  
 Sample Line  
 Filter

T Adaptor  
 Nasal cannula  
 Adult Airway Adapter 10 nos.  
 Neonatal Airway Adapter 10 nos.  
 Trolley  
 OR EQUIVALENT

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**ITEM NO. 45**

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
	BINOCULAR MICROSCOPE	Qty	01
Slide type Binocular head with 45° inclined and 360° rotation. Wide-field eyepiece 18 and 13mm paired. Quadruple nose piece with built in click stopper .DIN achromatic objectives. Built-in mechanical stage 140mm x 140mm, moving range 50mm x 75mm, with specimen holder controlled by coaxial knobs at low position. Focusable condenser and diaphragm iris m filters and fileter holder. Built-in electrical illuminator with LED, High illumination (60000 hours life). Coaxial focusing system with built in tension adjustment and focus stopper.  OR EQUIVALENT  FDA/CE/JIS APPROVED USA/EUROPE/JAPAN/UK			

**ITEM NO. 46**

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
	CENTRIFUGE MACHINE	Qty	02
Bench Top Centrifuge Machine 5000 RPM Brushless motor. Noiseless and vibration free. Relative centrifugal force (RCF) not less than 3,000 x g Digital control of Timing up to 60min. Digital microprocessor controlled. Digital display of speed, timing.  Automatic imbalance indication with safety			

shut off.

Rotor Imbalance detection.

Lid safety interlock.

Rotor, 24 tube holders capacity.

ABS housing resistant against shock & chemicals.

Accessories: two sets of 12 mm x 75mm and 12mm x 100mm tube holders for each tube size.

Foil Key Board, 10 acceleration & deceleration rates.

OR EQUIVALENT

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**ITEM NO. 47**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

	HOT AIR OVEN	Qty	01
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Capacity : 34L.

Microprocessor Control system with LED display.

Temp control: PID.

Digital Temp setting .

Digital Temp readout.

Air convection: Forced convection by fan.

Temp uniformity  $\pm 2.0^{\circ}\text{C}$  at  $55^{\circ}\text{C}$  .

Temp stability  $\pm 0.5^{\circ}\text{C}$  at  $37^{\circ}\text{C}$ .

Temp:  $5^{\circ}\text{C}$  above ambient to  $300^{\circ}\text{C}$ .

Over-temp alarm & shutout : Yes,  $4^{\circ}\text{C}$  to the set point.

Timer : Digital, 99 hr. 59min. + HOLD.

Temperature range : Digital, 99 hr. 59min.

HOLD Standard accessory : 2 S/S mesh shelves, adjustable

Adjustable Ventilation Slide.

OR EQUIVALENT

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ITEM NO. 48

TECHNICAL SPECIFICATIONS

RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS

	DENTAL UNIT WITH ALL ACCESSORIES	Qty	03
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**Whip Arm or Hanging Hose Dentist Element**

Whip arm and hanging hose versions should be available with 5 instruments and built-in X-ray viewer. The whip arm option comes with removable silicone handle for easy sterilization and trays on top or below.

**Control Panel Smart Electronics**

Store up to 8 instrument settings for each rotary instrument or scalar, safety instruments interlock function and regular turbine maintenance reminder.

**LED Light**

Sensor-operated LED Light with intensity up to 30,000 Lux, 3 axes of movement and removable silicone handle should be available with designed a shadow-limiting reflector and passive cooling.

**Integrated LCD Display**

Optional integrated LCD Display should be available for immediate diagnosis of patient. from 17" and 22" Dental Monitor for diagnosis easily shareable with patient.

**Treatment Comfort**

Featuring smooth synchronized movement of the backrest and seat and 2D or 3D head rest movement for optimal treatment comfort. 11 colors and seamless or soft upholstery styles and pillow for children or small patients.

**Adjustable Assistant Arm**

Standard pivoting or pro pantographic assistant arm to choose from that can be equipped with 3 to 5 instruments. Pivoting arm has cup-filling and bowl-rinsing buttons while the pro arm with assistant element control panel. Champion pro assistant arm with mechanical or pneumatic brake system and safety anti-collision switch.

**Swiveling Cuspidor Bowl and Water Unit**

Ceramic cuspidor bowl swiveling towards the patient for comfortable access. Water unit rotate more than 90° clockwise for easy reach during treatments, maintenance and cleaning.

**Proportional Foot control**

two foot control styles with different functionalities to reflect individual needs and preferred work position.

**Technical specifications**

Max. power input at 230V/50Hz	400 VA
Input pressure of air	from 0,45 to 0,8 MPa
Input pressure of water	from 0,3 to 0,6 MPa
Max. loading capacity of the tray table	1,5 kg

OR EQUIVALENT

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ITEM NO. 49

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
	ENDOSCOPE UNIT FOR UPPER AND LOWER G.I	Qty	01
<p>Endoscope unit for upper &amp; lower GI &amp; sigmoid scopes</p> <p>Full high definition upper and lower and sigmoid scope video</p> <p>Endoscopy complete system</p> <p>High definition gastrointestinal video scope</p> <p>Waterproof one-touch connector, high performance HDTV compatible, close focus, slim design , NBI system facility compatible)</p> <p>Field of view 140°</p> <p>Direction of view Forward viewing</p> <p>Depth of field 2 to 100 mm</p> <p>Outer diameter 9.2 mm</p> <p>Working length 1030mm</p> <p>Total working length 1350mm</p> <p>Angulation range up 210°, down 90°, right 100°, left 100°</p> <p>Inner diameter 2.8mm</p> <p>Minimum visible distance 3.0 mm</p> <p>High frequency cauterization treatment available</p> <p>High definition color video scope</p> <p>Waterproof one-touch connector, high performance HDTV compatible, closer focus, water jet, NBI system facility compatible)</p> <p>Variable stiffness</p> <p>Field of view 140°</p> <p>Direction of view Forward viewing</p> <p>Depth of field: 2 to 100 mm</p> <p>Outer diameter 12.8 mm</p> <p>Working length 1680mm</p> <p>Total working length 2005mm</p> <p>Angulation range up 180°, down 180°, right 160°, left 160°</p> <p>Inner diameter 3.7mm</p> <p>Minimum visible distance 5.0 mm</p> <p>High frequency cauterization treatment</p> <p>High definition sigmoidoscope video scope</p> <p>Waterproof one-touch connector, high performance HDTV compatible, closer focus, water jet, NBI system facility compatible)</p>			



Variable stiffness

Field of view 140°

Direction of view forward viewing

Depth of field 2 to 100 mm

Outer diameter 12.8 mm

Working length 13500mm

Total working length 1655mm

Angulation range up 180°, down 180°, right 160°, left 160°

Inner diameter 3.7mm

Minimum visible distance 5.0 mm

High - frequency cauterization treatment

Video scope system

Combination of HDTV and NBI with and LED light Source

Power supply voltage 100-240 V AC

Frequency 50/60 Hz

Rated input 200VA

Ratio 16:9 and 16:10 output

Analog HDTV signal output either RGB ( 1080 /601: NTSC)/ 1080/501: PAL) or YPbpr 1080 /601: NTSC) /1080/501: PAL) output selectable

Analog SDTV signal output VBS composite( 480 /601: NTSC)/ 576/501: PAL) or Y/C 480 /601: NTSC) /576/501: PAL) , and RGB 480 /601: NTSC) /576/501: PAL); Simultaneous outputs

Digital signal output HD-SDI (SMTPE 292M) SD-SDI (SMPTE 259M) DV, And DVI ( WUXGA, 1080p or SXGA)

White balance adjustment

Standard color chart output

Color tone adjustment

Contract :N(normal): Normal image, H(high), L(low), Noise reduction, Iris

Image enhancement setting

Switching of enhancement modes

Images size selection, freeze, pre-freeze, NBI Observation, reset to default, remote control

Patient data record

Portable memory and internal buffer

DVR, video printer, image filing system

Displaying the image formation

Patient data registration

Recording format: FF, JPEG, (1/5), JPEG 1/10

Number of recording: TIFF: approx..227 image, JPEG (1/5): approx.: 1024 images, images

JPEG (1/10): Approx.2048 image

Flushing pump for color video scope

Maintenance unit with leakage tester for endoscopy  
 Suction machine for endoscope  
 Video trolley with anti-castor and keyboard drawer  
 Monitor high definition LCD medical Grade colour monitor 21" HDTV compatible

OR EQUIVALENT

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ITEM NO. 50

TECHNICAL SPECIFICATIONS

RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS

	COLPOSCOPE	Qty	01
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Beyond The Colposcope A Multi-Task Gyne-Imaging Center

**Specifications**

Operating Environment

Air Temperature 10 – 40°C (50 – 104°F)  
 Humidity 30 – 85 %  
 Air Pressure 700 – 1060 hPa  
 (0.7 – 1.1 kg/cm<sup>2</sup>, 10.2 – 15.4 psia)

Size

Dimensions 600 mm dia. (Pedestal Base) x 1400 mm (Overall Height)

Eyepiece

Magnification 10X  
 Field Number 22  
 Diopter Adjustment -5 – +5 m-1

Zooming

Drive System Manual drive by knob rotation  
 Zoom Ratio 1:06

Focusing

Focus System Adjustable focal length  
 Drive System Manual drive by knob rotation  
 Focus Adjustment Range 220 – 350 mm

Illumination

System Light guide

Filter	Detachable green filter
<u>Magnifications</u>	WD220: 3.7 – 23.4X WD300: 3.0 – 18.8X WD350: 2.7 – 16.9X
<u>Field Of View</u>	WD220: 58.5 – 9.3 mm WD300: 73.1 – 11.6 mm WD350: 82.4 – 13.1 mm
<u>Floor stand</u>	
Support System	Floorstand
Balancing System	Pantographic arm balancing using spring.
Balance Adjustment Range	4.0 – 7.0 kg
Balance Adjustment	Handle adjusted
Binocular Tube Tilt	10 degrees upward and 30 degrees downward relative to the horizontal observation optical axis.
Vertical Arm Movement Range	300 mm
Arm Rotation Range	270°
<u>Photography/</u>	
TV Camera	Connectable using a TV camera adapter (optional)
<u>Cinematography</u>	
Digital Camera	Connectable using a digital camera adapter (optional)

**STANDARD SET OF ACCESSORIES**

Zoom Microscope Body	Zoom Microscope Body
Balance Arm	Balance Arm
Horizontal Arm	Horizontal Arm
Stand	Stand
Floorstand Base	Floorstand Base
Small Tray	Small Tray
Light Guide	Light Guide
Halogen Light Source 150W	Halogen Light Source 150W

**Video System**

Acompact and well-balanced high-resolution video system with high compatibility.

**Power Supply**

Voltage	100 to 240v AC
Frequency	50/60 Hz: within Hz
Dimensions	(WxHxD) 295x69x376mm:312x80x410mm at maximum
Size	Weight4.9kg

**Classification (medical electrical equipment)**

Degree of Protection against electric shock of applied part TYPE BF applied part. Where no classification mark appears, the device is a TYPE BF applied part

**Observation**

- Analog signal output VBS Composite 2, Y/C: 1 (NTSC for 100 to 240 V models  
VBS Composite 2, Y/C :1 (PAL for 100 to 240 V models  
Digital output DVI: 1
- White Balance Adjustment White balance adjustable is possible using the white balance button the front panel
- Standard color chart output When the camera head is disconnected, a color bar chart can be display
- Brightness adjustable Brightness can be adjustable two modes (HI or LO)

**LED Light Source**

Powerful Illumination with Advanced LED Technology  
 \* Higher brightness compared to conventional halogen light sources.  
 \* Constant light intensity over lifetime  
 \* Low maintenance costs: No bulb changes required for at least 2,000 hours of operation.

- \* Computer Recording System for Digital Documentation **01 Unit**
- \* CPU, LCD Monitor, Color Laser Printer, Key board, Mouse, Capture Card for still and moving imaging.
- Local Video Trolley with anticaster and keyboard drawer **01 Unit**

OR EQUIVALENT

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**ITEM NO. 51**

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
	Qty		
<b>TRANSPORT VENTILATOR</b>	<b>04</b>		
<p><b><u>Adult / Pediatric:</u></b>                      VCV Assisted/Controlled                      PCV Assisted/Controlled                      PSV/CPAP                      PRVC                      SIMV (VCV) + PSV</p>			

SIMV (PCV) + PSV  
Biphasic Pressure (APRV+PSV)  
NIV (Leakage compensation in all ventilator modes)

**Ventilation Backup:**

VCV

PCV

**Neonatal:**

PCV Assisted/Controlled

PSV/CPAP

SIMV (PCV) + PSV

Continuous Flow

Nasal CPAP

**Ventilation Backup:**

PCV

**Initial Setup:**

Patient Selection

Gender Selection

Height Selection

Automatic Theoretical Weight Calculation

Ventilation Level per mL/kg

Artificial Airway Type

Humidification Type

Circuit Compliance Measurement

Last Patient Function

**Operational Visualization:**

Selection of the monitored

Ventilation variables

Battery Charge Indicator

Pressure Bargraph

**Customizable selection of up to 5 simultaneous graphics (Adult and Pediatric):**

Pressure/Time

Flow/Time

Volume/Time

Volume/Pressure Loop

Flow/Volume Loop

Pressure/Flow Loop

Plethysmography

ETCO<sub>2</sub>/Time

**Customizable selection of up to 2 simultaneous graphics (Neonatal):**

Pressure/Time

Flow/Time

Pressure/Flow Loop

Plethysmography

ETCO<sub>2</sub>/Time

**Monitored Parameters:**

Peak Pressure

Plateau Pressure

Mean Pressure

Base Pressure (PEEP)  
Peak Inspiratory Flow  
Peak Expiratory Flow  
Expiratory Tidal Volume  
Minute Volume  
Respiratory Frequency

I:E

Ti/Ttot

Inspiratory Time

Expiratory Time

Tendency Graphics

Alarms Log

**Lung Mechanics:**

Inspiratory Resistance

Expiratory Resistance

Dynamic Compliance

Static Compliance

AutoPEEP

**Optionals:**

Heart Rate

Plethysmography

Inspired CO<sub>2</sub>

SpO<sub>2</sub>/FiO<sub>2</sub>

ETCO<sub>2</sub>

SpO<sub>2</sub>

FiO<sub>2</sub>

**Programmable Parameters:**

FiO<sub>2</sub>

-50% up to 100%

Flow

Waveform:

Square

Sinusoidal

Ascending

100%

Descending

-Descending 50%

Rise Time

Inspiratory Time

Respiratory Frequency

Tidal Volume

Minute Volume

Expiratory Sensibility

Controlled Pressure

Support Pressure

PEEP

Sensibility:

-Pressure/Flow

Apnea Time

Inspiratory Pause

Sigh

**Auxiliary Functions:**

Oxygen 100%

Manual Inspiratory Trigger

Graphics Freeze

**Programmable:**

Max. Respiratory Frequency

Max. Exhaled Minute Volume

Min. Exhaled Minute Volume

Max. Exhaled Tidal Volume

Min. Exhaled Tidal Volume

Maximum Pressure

Minimum Pressure

Apnea

PEEP

**Automatic:**

Low Battery

Power Failure

Low O<sub>2</sub> Pressure

Interrupted Cycle

Inverted I:E Rati

OR EQUIVALENT

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**ITEM NO. 52**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

		Qty	
	<b>CARDIAC MONITORS</b>		<b>20</b>

**SMART CABLE MODULE CABLE TECHNOLOGY:**

For monitoring of patients Vital Signs.

**Operating Features and Characteristics:**

Non fade TFT color display

Electro-surgical interference suppression/protection

Defibrillator protection

Freeze and cascade facility

Waveform: 14 or more.

Waveform trace speed: 25 to 50 mm/sec

Screen Size: min. 12" or more TFT/LCD color Touch Screen display

Inspiratory Pause

Sigh

**Auxiliary Functions:**

Oxygen 100%

Manual Inspiratory Trigger

Graphics Freeze

**Programmable:**

Max. Respiratory Frequency

Max. Exhaled Minute Volume

Min. Exhaled Minute Volume

Max. Exhaled Tidal Volume

Min. Exhaled Tidal Volume

Maximum Pressure

Minimum Pressure

Apnea

PEEP

**Automatic:**

Low Battery

Power Failure

Low O<sub>2</sub> Pressure

Interrupted Cycle

Inverted I:E Rati

OR EQUIVALENT

FDA/CE/JIS APPROVED

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**ITEM NO. 52**

**TECHNICAL SPECIFICATIONS**

**RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS**

		Qty	20
	<b>CARDIAC MONITORS</b>		

**SMART CABLE MODULE CABLE TECHNOLOGY:**

For monitoring of patients Vital Signs.

**Operating Features and Characteristics:**

Non fade TFT color display

Electro-surgical interference suppression/protection

Defibrillator protection

Freeze and cascade facility

Waveform: 14 or more.

Waveform trace speed: 25 to 50 mm/sec

Screen Size: min. 12" or more TFT/LCD color Touch Screen display



**PARAMETERS:**

- **ECG:**  
Numeric: heart rate  
Waveform: 10 Wave forms minimum, real time and freeze ECG trace.  
12 Lead ECG Interpretation with 10 Lead ECG Electrode.
- **Non-Invasive Blood Pressure (NIBP):**  
Method: Oscillometric principle  
Numeric: Systolic, diastolic and mean pressures  
Selectable auto inflate interval settings  
Rising cuff / continuous pressure display
- **Temperature:**  
Numeric: Temperature selectable in °C / °F
- **Pulse Oximetry:**  
Numeric: 0-100% oxygen saturation measuring range.  
Waveform: plethysmograph pulse with pulse strength indication.  
Motion Tolerance Technology.  
Spo2 Technology should be from the original/same manufacturer.
- **Arrhythmia Analysis:**  
Arrhythmia analysis and ST analysis.  
Minimum 22 or more arrhythmia items in standard.
- **Respiration:**  
Breathe rate display and alarms.  
Sweep speed; 12.5 to 50 mm/sec.
- **Other Features:**  
Trend Data; 72 hours trend graphical and tabular.
- **Alarms:**  
High & low (settable) on all parameters  
Visual and audible indication of alarms.  
Apnea time 5-40s.
- **HL7 GATEWAY CONNECTIVITY:**  
•
- **Operating Requirements:**  
AC 220V/50hz  
Built-in rechargeable battery for at least 1-2 hours AC power failure at full parameter.

OFFERD MONITORS SHOULD HAVE CAPABILITY TO MEASURE ETCO2 MAIN STREAM, DUAL IBP, Cardiac Output Invasive and noninvasive, BIS, MULTIGAS UNIT, EEG (Upto 8 Channel) etc.

TO BE QUOTED AS OPTIONAL:

- A. DUAL IBP
- B. BIS MONITORING (BISPECTRAL INDEX MONITORING)

All allied accessories should be from original/same manufacturer.

OR EQUIVALENT

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**ITEM NO. 01**

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
		Qty	
OR EQUIVALENT			
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**ITEM NO. 01**

TECHNICAL SPECIFICATIONS			
RECOMMENDED MINIMUM TECHNICAL SPECIFICATIONS			
		Qty	
OR EQUIVALENT			
FDA/CE/JIS APPROVED USA/EUROPE/JAPAN/UK			