



Government of West Bengal
Office of the Principal
Nil Ratan Sircar Medical College
Kolkata – 700014; Phone: 033-2286-0033
Website: www.nrsmc.edu.in; e-mail: principalnrsmc@gmail.com

Memo No. NMC/STORE/ 369

Date: 21.01.2020

**E-TENDER NOTICE (NIT No: 76 / 2019-20) FOR PURCHASE AND INSTALLATION OF
EQUIPMENTS FOR DIFFERENT DEPARTMENT OF
NIL RATAN SIRCAR MEDICAL COLLEGE, KOLKATA - 700014.
(Through Pre-qualification)
(Submission of Bid through NIC e- tender portal)**

The Principal, Nil Ratan Sircar Medical College, Kolkata – 700014, is going for e-Tender on behalf of the Health & Family Welfare Department, Government of West Bengal for obtaining the rate of equipment as per list from bonafide Manufacturer/Direct Importer/Authorized Distributors. Necessary earnest money to be submitted for participation in the Tender is appended in the table below. Exemption of EMD is applicable to agencies having valid, item specific certificate issued by appropriate authority of Govt. of West Bengal.

1)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	800 mA X-ray Machine	Radiology	01 pc	Rs. 20000.00

2)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	APC, Cryo	Chest	01 pc	Rs. 20000.00

3)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Video Bronchoscope	Chest	01 pc	Rs. 20000.00

4)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Cardiac Biomarker Test System	Cardiology	1 pc	Rs. 20000.00

5)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	High end Endoscopic Equipment along with high end electro-surgical unit	Gastroenterology Unit	1 pc	Rs. 30000.00

6)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Laparoscopic/Endoscopic Full HD Camera with accessories	Urology	2 pc	Rs. 30000.00

7)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Flexible Ureterorenoscope (Distal Tip 8-9F)	Urology	1 pc	Rs. 20000.00

8)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Semirigid Uretero-Renoscope 4.5-6 F with all accessories	Urology	1 pc	Rs. 10000.00

9)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Bi-PAP	Chest and different Department	10 pc	Rs. 20000.00

10)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Multipara Monitor	Different Department	10 pc	Rs. 20000.00

All bidders must complete their technical demonstration of their quoted items within ten (10) days from the date of opening of technical bid to the concern Department.

1. General Instructions:

In the event of e-filing, intending bidder may download the tender documents free of cost from the website: <http://wbtenders.gov.in> directly with the help of Digital Signature Certificate or from the Health & Family Welfare Department's website www.wbhealth.gov.in.

2. Submission of Bids:

Both Technical Bid and Financial Bid are to be submitted concurrently duly digitally signed, in the website <http://wbtenders.gov.in>. All papers must be submitted in English language.

3. Time Schedules:

The time schedule for obtaining the bid documents, pre bid meetings, registration with the tendering authorities, the submission of bids and other documents etc. will be as per the list provided in clause no 23 as given below. Bidder are instructed to wait for uploading any corrigendum arising during pre bid meeting, before submitting their bid online

4. Eligibility for Quoting:

Only Manufacturers/direct Importers/Authorized Distributors are eligible for quoting. The price is to be quoted in Indian Rupees including cost of insurance, packing, forwarding, freight charges, clearing charges and installation of the new instrument and exclusive of GST and other taxes which are to be quoted separately in the BOQ. Agency commission is not permissible.

5. Submission of Tender:

The tender is to be submitted in Two Bid System (Technical Bid or Bid A & Financial Bid or Bid B).

(A) Technical Bid or Bid A:

“BID A”: PART I

File containing Technical Bid only - single file with multiple scanned pages containing Statutory and My documents separately.

(a) **STATUTARY** Cover containing the following documents:

(SINGLE FILE MULTIPLE PAGE SCANNED)

Essential Requirements of the Tendering Firm for participation” shall contain all papers related to the essential requirements of the Renderer for participation in the tender viz.

Sl. No.		Page no
1	Duly filled in CHECK LIST in the prescribed format. Page number of documents must be mentioned in the check list before uploading the same.	
2	Application in the prescribed format given in Annexure I	
3	Authorization letter of signatory from Company in Annexure II	
4	Copy of agreement between the manufacturer and the Distributor in Annexure III	
5	No conviction certificate in the form of an Affidavit as per Annexure-IV	
6	A Proof of submission of applicable END	

(b) **NON STATUTORY/MY DOCUMENTS** Cover Containing the following documents:

Essential Requirements of the Tendering Firm for participation” shall contain all papers related to the essential requirements of the Renderer for participation in the tender viz.

Sl. No.	Category	Sub Category	Sub Category Description	Page No
A	Certificates	A1. Certificates	PAN Card of the authorized signatory	
			Professional Tax Registration certificate	
			PUC in respect of the manufacturing unit	
			GST Registration certificate	
B.	COMPANY DETAILS	B1. COMPANY DETAILS 1	Certificate of country of origin	
			Registration with Registrar of Companies	
			Trade License in the name of participating firm	
C.	CREDENTIAL	C1: CREDENTIAL 1	Manufacturing License with validity	
			Import License with validity (for importers)	
		C2 : CREDENTIAL 2	Manufacturer's guarantee(in case of Distributors and Direct Importer, to be obtained from manufacturer)	
			A declaration in respect of existence of a fully equipped service centre in or around Kolkata in respect of the relevant item.	
			List of purchaser in Govt. Institutions of repute, for last two years	

D.	FINANCIAL INFO	PAYMENT CERTIFICATE 1	Income Tax Returns submitted for the last three years
		Audited P/L & BALANCE SHEET	P/L & Balance sheet of the last three years

BID A": PART II

Technical specifications of Instrument (in PDF/Excel format. Must mention Make, Model, exact features of the offered item against each point given in the specification chart). Improper filling &/or suppression of facts/false statement will lead to disqualification and penalty in the form of permanent black listing.

(B) Financial Bid B

COVER "B": Separate file containing financial document only.

(a) Financial Bid: BOQ in INR (in excel sheet)

The folder marked as "Financial Bid" shall contain ALL INCLUSIVE PRICE in INR only and should include base price along with the cost of allied works and services which are to be undertaken (like installation, commissioning of equipment or PC etc.), cost of insurance, packaging, forwarding, delivery charges, clearing charges of the new instrument to be purchased. **GST and any other applicable tax. should be quoted separately. Five years CAMC rate should also be quoted separately** in the template for Bill of Quantities (BOQ). However, the L1 will be determined on base price plus admissible taxes only. GST quoted will be directly remitted to Government account as per existing norms of Finance Department.

The tenderers are required to submit the hard copies of Cover A (Transaction document of EMD , General Documents and Technical Specifications) as per schedule described in the time line vide clause 23, preferably by **speed post/ courier**, to the office of the Principal, NRS Medical College, Kolkata. Submission of hard copy of Cover A to the office of the Principal, Nil Ratan Sircar Medical College, Kolkata, is for reference only while examining the technical bid on line and will not be treated as substitute for on line submission. **Submission of hard copy of Bid B is totally prohibited.**

6. Evaluation of Tender:

During tender evaluation process, "Bid A" will be opened first. Those tenderers who would qualify the Statutory & Non-Statutory requirements on the basis of technical and commercial documents will be identified and "Bid B" i.e. financial bid of only those qualified bidders will be opened. Verification of hard copies of the audited balance sheet and Profit & Loss Accounts of the Tenderers for the last three years will be made if deemed necessary before opening the Financial Bid (Bid B) of the technically qualified bidders. If found suitable on the basis of above pre-qualification, the tenderer quoting the lowest rate, will be considered as successful.

7. Earnest Money:

The earnest money of the tenderer is liable to be forfeited if the tenderer withdraws his tender as a whole or for any particular item or items at any stage after opening of the tender or fails/refuses to enter into written agreement for any or all of the items of his accepted bid within the time specified when requested to do so or fails to furnish Performance Bank Guarantee within the stipulated time.

EMD should be deposited online in the Pooling Account of Government of West Bengal maintained at ICICI Bank, RN Mukherjee Road Branch in the manner as prescribed in Government Order no. 3975-F(Y) dated 28/07/2016. (Order copy is available at the site-www.wbfin.nic.in) Hard copy of Bid A should reach the office on or before the stipulated date as mentioned in clause 23.

8. Rate:

The price is to be quoted in INR only including cost of insurance, entry tax, packaging, forwarding, delivery charges, clearing charges and installation of the new instrument. The basic rate should be furnished inclusive of Transportation Cost, Insurance, Testing Charges, Incidental Charges etc. but excluding GST and any other applicable taxes etc. which should be quoted separately in the template for Bill of Quantities (BOQ).

9. Order & Supply:

The tendering authority has the liberty to ask for **performance demonstration** of any item during any stage of the tender process, before placing order for supply. In case of dissatisfaction, the authority will have the right to disapprove the offer of L1 bidder and go for the next bidder. Orders for supply of the approved products will be placed with the successful tenderers after execution of agreements and such supply shall have to be made in such installments as may be fixed or spread over the period to be specified in the supply orders to be made in pursuance of the agreements. The equipment is to be transported in such packaging so as to avoid damage to primary package of manufacturer. The successful tenderer will have to supply within the specified time schedule that had been assured at the time of selection as supplier.

The tendering authority will be at liberty to enhance the quantity of the item tendered up to 40% of the original required quantity. Bidder will have to consider the same while bidding as supply of the enhanced quantity will be mandatory as the original one.

10. Withdrawal /Cancellation & Purchase Policy of Tendering Authority:

The tendering authority reserves the right to withdraw any item from the tender at any stage. The selection of such item, if already made in favour of any tenderer, shall be treated as cancelled. The tendering authority reserves the right to reject or accept any tender or part thereof at any stage or to split any tender without assigning any reason. Withdrawal of tender or any revision after submission of tender by the tenderer will not be allowed.

Purchase will, however be made following the existing purchase policy of the Govt. of West Bengal and its amendment(s) made from time to time. The purchase policy of the State Government as provided in the West Bengal Financial Rules, the policy of price preference in particular incorporated under Notification No. 10500-F dated 19.11.04, 5400-F(Y) Dated 25/06/2012 and subsequent relevant orders should be observed in considering the tenders.

11. Important Instruction with regard to Submission of Tender:

The rate should be quoted in Indian Rupees for a particular brand or model (model no. of the offered item only must be mentioned in the appropriate column of the 'Tender Form'. Alternative offer will not be accepted). The tender shall be cancelled for the quotation of item without its brand name, model, model no. etc. Detail information regarding the manufacturer and the item quoted in the 'Tender Form' should be furnished.

12. Spare Parts:

The Bidder will undertake that supplies of necessary maintenance equipment and spare parts will be made available for all items/equipment and the complete system for at least five years on a continuing basis. However, this does not relieve the supplier of any warranty obligations under the contract.

13. Guarantee / Warranty Period:

i) The machine/Instrument should be covered by free on-site comprehensive Warranty for one year after successful installation. The tenderers must quote for 5 (Five) years' comprehensive on-site AMC of entire system (including all spares & labour) after the date of completion of free warranty period. The CAMC charges for 5 years to be quoted in the BOQ, will however be determined on extant Govt. rules in this regard.

ii.) All faults appearing and their rectification shall be periodically advised to the institute, the period being not more than two weeks.

iii.) Any lacuna or lacunae noticed in the functioning of the installation as a result of any design or other feature shall be rectified by the supplier free of cost within 72 hours of call log.

14. After Sales Services and Maintenance Contract:

After sales service must be provided by the supplier, during and after warranty period of the equipment. Selected vendor will remain liable to attract penalty for violation of machine downtime as per agreement. The selected vendor or his authorized servicemen has to attend the machine within 72 hours of Call Log. It is desirable to have a fully equipped service centre in or around Kolkata.

15. Delivery, Installation and Commissioning

i. Delivery of the goods at the purchaser's premises shall be completed by the Supplier in accordance with the terms specified by the purchaser.

ii. The installation, testing and commissioning of the proposed system shall be completed in accordance with the order.

iii. All items are to be delivered within six weeks from the date of placement of order.

iv. In case of distributor, the firm should be direct distributor of manufacturing unit. **Sub distributor authorization by distributor will not be accepted at all.**

16. Penalty Clauses:

PENALTY FOR FORMATION OF CARTEL OR FURNISHING OF FRAUDULENT/ MISLEADING DOCUMENTS: If during the tender process or at any stage during the validity of the tender period, it is found that a tenderer(s) has formed a cartel in what so ever form or name to fix up the rates or suppliers to the detriment of the fairness of the tender process, penal measures shall be initiated. Similar penal measures shall also be initiated against those tenderers who have submitted false/ misleading/ fraudulent documents or made incorrect declarations. The penal measure will be forfeiture of Earnest Money, forfeiture of Performance Bank Guarantee if enlisted as a supplier in addition to any other legal action against the firm.

17. Appeal:

Appeal against the decision of the Principal, Nil Ratan Sircar Medical College, Kolkata and then to impose such a penalty will lie with Tender Selection Committee. Review against the decision of the Tender Selection Committee (TSC) will lie with Health & F.W. Dept. of the Govt. of W.B. The Special Secretary/Secretary/Principal Secretary will be the appellate authority within the Department of Health & Family Welfare, Government of West Bengal. Before imposing any penalty as per clauses 20, 21 and 22 the concerned supplier may appeal to the authority citing the proper reasons for non- imposing the penalty as stated.

18. Agreement:

On a tender being accepted, intimation of acceptance will be forwarded to the tenderer by Principal, Nil Ratan Sircar Medical College, Kolkata. After communication of the same, the tenderer will have to execute agreement in the prescribed form with the Principal, Nil Ratan Sircar Medical College, Kolkata. In case any direct purchasing unit wishes to go for a separate agreement, the head of the purchasing

unit must get written permission to that effect from his controlling authority. This present document and the tender forms filled in by the tenderer or copies thereof in so far as they are not inconsistent with these terms & conditions will be incorporated as part of the agreement. Such agreement will be binding on the tenderer.

19. Validity Period of Agreement:

The contract period will be for a period 01 (one) years from the date of finalization of tender **which can be extended for a further period of 6 months if Tender Selection Committee feels necessary.**

20. Performance Bank Guarantee:

The performance bank guarantee will be mandatory for all suppliers and will not be waived in any case. The successful tenderers shall be required to furnish the 'Performance Bank Guarantee' from any Nationalized/Scheduled Bank acceptable to Govt. of West Bengal for One year @ 10% of quoted base rate per item for which the tenderer has been selected as supplier. The performance bank guarantee will have to be renewed after completion of Free Warranty period, for additional 5 (Five) years under the paid CAMC period before transfer of the CAMC amount to bidder's account. Mentioning of West Bengal Government Pooling Account for Performance Bank Guarantee No. 000605030134 IFS Code ICIC0000006 MICR 70229002 at ICICI Bank, RN Mukherjee Road Branch, Kolkata on the body of Performance Bank Guarantee is made mandatory vide Finance Department GO No. 2691-F(Y) dated 02/05/2017.

21. Inspection: Before submitting the tender, the intending tenderers should thoroughly get acquainted themselves with the proposed supply and installation by local inspection of site and take into consideration the site condition and other criterion for effecting smooth supply. No claim whatsoever will be entertained afterwards.

22. Payment Terms:

Payment will be made electronically by Govt. of West Bengal approved system after execution of due supply and successful installation as ordered, subject to :

i. Submission of Performance Bank Guarantee in terms of Clause 20 and subject to penalty clause in terms of Clauses 16.

ii. Supply of the materials as per specification as provided in the tender documents and the catalogue. Supply of the materials must be made within the stipulated period as specified in the work orders.

iii. On being selected, the successful vendors will have to submit one application to the Principal, Nil Ratan Sircar Medical College, Kolkata stating the name of the payee/recipient, Bank account no with IFS code of the payee/recipient for making e-payment. Payment will only be released after satisfactory installation and verification of following items-

1. Supplier's invoice in original
2. Challan and installation certificate
- 3 Any other thing of importance on the discretion of College Authorities

23. Dates & Information:

S. No	Items	Dates
1	Date of uploading of N.I.T. Documents (online) from this end.	27.01.2020, 4.00 P.M.
2	Documents download start date (Online)	27.01.2020, 4.00 P.M.
3	Date of hoisting of documents at Departmental Website (www.wbhealth.gov.in)	27.01.2020, 4.00 P.M.
4	Date of Pre Bid Meeting and workshop with the intending bidders at the office of the Principal of NRS Medical College	03.02.2020, at 1.00 P.M
5	Bid Submission starting (On line)	03.02.2020 4.00 P.M. onwards
6	Bid Submission closing (On line)	18.02.2020 at 4 P.M.
7	Bid opening technical bid(online) (Bid A)	20.02.2020 at 4.00 P.M.
8	Date of uploading list for Technically Qualified Bidder (online)(Bid A)	22.02.2020 10 A.M. onwards.
9	Date & for opening of Financial Proposal (Bid B) (Online)	To be declared later
10	Date of uploading of list of bidders along with the approved rate	To be declared later.

Principal, Nil Ratan Sircar Medical College, Kolkata, reserves the right to change the above schedule in case of any exigencies after putting up a notice in the departmental website and Notice Board of N R S Medical College, Kolkata.

24. Validity of Tender:

- i. The tender will remain valid up to 1 (one) year from the date of finalization of tender **which can be extended for a period of 6 months**. Any objection raised by any bidder in this respect will not be entertained. No informal tenderer will be entertained in the bid further.
- ii. During the scrutiny, if it comes to the notice of tender inviting authority that the credential or any other paper found incorrect/ manufactured/ fabricated, that bidder would not be allowed to participate in the tender and that application will be out rightly rejected without any prejudice.
- iii. Prospective bidders must take training from authorized agencies before submission of their bids.
- iv. The Tender Selection Committee reserves the right to cancel the N.I.T. due to unavoidable circumstances and no claim in this respect will be entertained.

25. NO- CONVICTION CERTIFICATE:

No conviction certificate in the form of An Affidavit is to be submitted in the prescribed Pro-forma as Annexure-IV attached herewith from Notary Public/ Judicial Magistrate/Executive Magistrate.



Principal
NRS Medical College
Kolkata-14

CHECK LIST (MUST BE PROPERLY FILLED)

NOTE: For Non applicability for some documents please mention "NA" in the check list. Must be mention page number in the check list.

S. No	Item	PI put tick or NA	Page No.
1	Application submitted in Annexure I		
2	Annexure II (Authorization letter of signatory from the Company)		
3	Annexure III (Copy of agreement between the Manufacturer and the Direct Importer/Distributor)		
4	No conviction certificate in the form of an Affidavit as per Annexure-IV.		
5	Income Tax Returns submitted for the last three Assessment years		
6	GST Registration certificate(not provisional)		
7	PAN Card of the organization and authorized signatory.		
8	Manufacturer's guarantee (in case of Distributors and Direct Importer, to be obtained from manufacturer)		
9	Audited P/L & Balance sheet of last three years		
10	Technical specifications of Instrument (in PDF/Excel format. Must mention Make, Model, exact features of the offered item against each point given in the specification chart).		
11	Trade License in the name of participating firm		
12	PUC in respect of the manufacturing unit		
13	Certificate of country of origin		
14	Registration with Registrar of Companies		
15	Valid Manufacturing License		
16+	Import License with validity (for importers)		
17	List of purchaser in Govt. Institutions of repute, for last two years		
18	A declaration in respect of existence of a fully equipped service centre in or around Kolkata in respect of the relevant item.		
19	A Proof of submission of applicable END		

ANNEXURE-I

APPLICATION FORMAT

(To be furnished in the Company's official letter pad with full address and contact no etc)
To The Principal, Nil Ratan Sircar Medical College, Kolkata-700014.

Sub: Tender No.-----Dt.------(Name of the Item -1)-----2)-----
-----3)-----4)-----

----) for purchase and installation of equipment for department of, Nil Ratan Sircar Medical College, Kolkata-700014.

Ref:-

Sir,

Having examined the pre-qualification & other documents published in the N.I.T, I /we hereby submit all the necessary information and relevant documents for evaluation:

1. That the application is made by me / us on behalf of.....
In the capacity of.....duly authorized to submit the offer. The authorization letter from the Company is attached in Annexure II.
2. We accept the terms and conditions as laid down in the NIT mentioned above and declare that we shall abide by it for throughout the tender period and its extensions, if any.
3. We are offering rate for the following item /items and assured supply to the Health & Family Welfare Department, Government of West Bengal as per Table-1 (Instrument Specification)
4. a. We propose that the order and bill should be raised in our name.
For liasing, we have appointed M/S having its office at (Address, contact no and e mail address) as C&F agent /Liasoner /Contact person/..... Others (strike out whichever is not applicable) as per clause of the NIT
b. The agreement between ourselves and the distributor/C&F/Liasoner & other documents as prescribed is attached in annexure III
5. In the event of being selected, supply will be made within the stipulated period excepting the condition which is beyond our control.
6. We understand that:
(a) Tender Selection Committee/ H&FW Dept can amend the scope & value of the contract bid under this project.
(b) Tender Selection Committee/ H&FW Dept reserves the right to reject any application without assigning any reason.

Date :-

Signature of applicant including title
and capacity in which application is made.

Contact details -

Mobile:

E mail ID:

Annexure II

Authorization letter in favour of the applicant (other than Managing Director/ Proprietor) –
from the competent authority.

FORMAT

(To be furnished in the Company's official letter pad with full address and contact no, E mail
Address etc)

(TO WHOM IT MAY CONCERN)

This is to certify that Mr./Mrs.(Name),
an employee of this Organisation as (Official
Designation) is hereby authorized to submit tender online , Vide NIT
No....., Dated..... on behalf of the Organisation.

Signature of the
competent authority with Seal

.....

(Signature of the Authorized Person)

Signature of Mr./Mrs.
.....is hereby attested.

Annexure- III

- a. Copy of agreement between the Manufacturer and the Direct Importer/Distributor in Annexure -III

ANNEXURE-IV
Draft Affidavit Proforma

I, Sri/Smt.
The Managing Director/Proprietor (etc.) of the Firm.
..... (Name of the firm)
At (address).....
P.O... ..
P.S.....Dist.....
do hereby solemnly affirm and declare as follows:

- a. That I am not under conviction of any offence making myself liable to be disqualified to supply of Surgical Equipments/Instruments etc. to any Govt. or Govt. undertaking Organization /Institution in the State of West Bengal or other State or States.
- b. My Firm has not been blacklisted at present as a whole or for any item/ items as quoted in this tender by any Govt. or Govt. undertaking Organization /Institution in the State of West Bengal or other State or States in India.
- c. That no case is pending against me or against my Firm in any criminal court of law in connection with the supply of Surgical/hospital equipment/Instruments to the Govt. or Govt. undertaking Organization / Institution in the State of West Bengal or other State or States (If any case is pending, pl state the details).
- d. *That, I declare that the item or items quoted by me confirms the specification given in the NIT document or higher standard relating to the specification is provided.*
- e. The duly authenticated Technical Data Sheet is uploaded conforming to the prescribed standard.
- f. That, I also declare that if any information subsequently found incorrect or false will it automatically render the tender submitted by me cancelled and make me liable for penal/legal action as per law of the country.
- g. That I do further affirm that the statements made by me in this tender are true to the best of my knowledge and belief and all the documents attached are genuine & correct.

Deponent



SPECIFICATIONS OF 800mA HIGH FREQUENCY X-RAY MACHINE WITH IITV

High frequency X-Ray machine suitable for general radiography & Fluoroscopy applications.

X-RAY GENERATOR:

- High Frequency X-Ray Generator having frequency of 40 KHz or more should be provided.
- Power output of generator should be of 65 KW.
- KV Range should be:
 - Radiographic KV range: 40 to 150KV in 1 KV/Step
 - Fluoroscopic KV range: 40 to 120 KV in 1 KV Step.
- mA output (Rad.): 800mA.
- mA output (Flr.): up to 3mA.
- Exposure time (Rad.): 1msec to 5sec.
- mAs output (Rad.): 1 to 200mAs.

CONTROL:

Attractive and ergonomically designed control panel with total soft touch switches for various operations. having following functions & indications.

- Machine ON/OFF switch
- Digital display of KV and mAs.
- KV and mAs increase and decrease switches.
- Ready and x-ray on switch with indicators
- Bucky selection switch.
- Stand by and exposure release switch.
- Self diagnostic program with indicators for:-
 - Earth fault error
 - KV error,
 - Filament error
 - Tube Head thermal overload.
- X-Ray on indicator.
- Incoming voltage indicator.
- Anatomical programming up to 216 pre-programmed functions in which automatic selection of Technical Factors is done according to the Body part Selection.

A 2-Step hand switch with dual action for exposure release with retractable cord is provided for taking images from a safer distance.

X-RAY TUBE:

- Two Nos. Dual focus Rotating Anode X-Ray tube thermally protected.
- Anode heat storage capacity of tube should be more than 295 KHU.
- Two Pairs of H.V. Cable with 6 meter or more length.
- Two Nos. Collimators should be provided, One Manual for overcouch and one motorized for under couch operation.

TUBE STAND:

- Floor to Ceiling Stand with Counter Balanced Tube Head (Rotatable ± 180 Degree), 360 Degree Rotatable; mounted on Floor Ceiling Rails for convenient movements is provided.

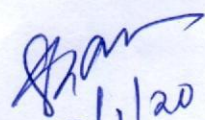

 22/1/20
 PROF. & HEAD OF THE DEPT.
 DEPT. OF RADIO DIAGNOSIS
 N.R.S.M.C. & H., Kol-14

TABLE:

- All Position Motorized Table having Motorized Bucky should be provided. The table should move from
 - 12degree Trendlenburg position to 90 degree vertical with Automatic stop at Horizontal, Vertical & Trendlenburg Position.
- Motorized bucky consisting of bucky grid of size 17 1/4" x 18 7/8" ratio 8:1, 85 Lines/inch. Spot Film Device (Semi Automatic) capable of doing all routine Spot Filming (4 on 1, 2 on 1, 1 on 1) for use with 8" x 10", 10" x 12", 14" x 14" cassettes should be provided. Grid Size 15" x 15", Ratio 6:1, 103 lines per inch.
- Table Accessories like Stray radiation lead rubber flap, Stainless steel cassette tray Compression band, handgrips, Footrest & footstep should be provided.

IITV SYSTEM:

- 9" triple field Image Intensifier should be provided.
- 9" I.I mounted directly on SFD with Motorized Up/Down movement. Soft touch control panel on SFD should be provided to control fluoro KVP.
- High Resolution Compact CCD Camera should be provided. Pixels of camera should be 750(H) X 500(V) or more.
- 01 No. 17" TFT Monitor along with a trolley.

MEMORY SYSTEM should include the following features:

Digital Image Processing-IQ System consists of the following functions:-

Standard features detail

- Dedicated PC based Image acquisition software with Image storage capacity of > 10,000 Frames.
- Operating Modes
 - o Fluoroscopy
 - o Boost Flouro/ Cine

Pre-Processing Features

- Pulse fluoroscopy facility with Frame rate of 12fps for Fluoro & cine modes.
- Cine loops storage up to 630frames (Multiple cine Loops storage).
- Option entering for of Patient ID, Data type, operator & Location.
- Last Image Hold facility
- Frame averaging (recursive) for smoothing of images real time up to 256 frames
- Histogram view.
- 75 Temporary image storage for quick review.
- Circular blanking.

Post processing features.

- Image reversal-Left to Right & Top to Bottom
- Image rotation Clock wise & antic clock wise up to 3600 (In 150 steps)
- Window width (WW) & Window level (WL) adjustment for brightness & contrast.
- Image Zoom with pan
- Image Invert / Negative Image
- Image sharpening
- Tile/ mosaic/Thumbnail view for multiple image display i.e. 1x1, 2x2, 3x3, 4x4, 5x5, 6x6, 7x7, 8x8.
- Automatic storage of Cine loops.
- Quick Review of already stored images & Cine loops
- Frame by frame review of Cine loops
- Copy to 2nd monitor (In case of Two monitors)

Handwritten signature
22/1/20
PROF. & HEAD OF THE DEPT.
DEPT. OF RAD. DIAGNOSIS
N.R.S.M.C. & H., Kol-14

Text & Annotation

- Addition of text markers
- Addition of pointer
- Removal option of all text from the image.

Measurements Features

- Length / Distance measurement
- Area measurement
- Angle measurement

Connectivity & storage Features

- Storage of Images on CD/DVD.
- LAN connectivity to transfer the image to another system.

VERTICAL BUCKY STAND:

- Vertical Bucky Stand with oscillating Grid of Ratio 8:1, 85 lines / inch is provided.
- The Bucky moves up & down & is equipped with a stainless steel cassette tray.
- The stand is floor-mounted type & can accommodate cassettes up to 14" X 17". The Bucky is tilted in 6 steps of 15 degree Angle each for various Radiographs.
- VBS should have provision for without grid exposure.

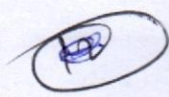
POWER REQUIREMENT: The unit is operable on 3 Phase, 400Volts AC 50Hz.
Line Regulation $\pm 10\%$.

STANDARD ACCESSORIES : A Servo Voltage Stabilizer of suitable rating for complete Unit.

Other Requirements:

- The company should be ISO and EN-ISO certified.
- The unit should be approved by AERB.
- The unit should be European CE Certified from Notified body.
- The company should have a local Service center.
- The company should have proven track record in Govt. sector.

Sham
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Technical Specifications for ~~Pulmonary Vascular~~ APC, Cryo.

1. The unit must be suitable to perform endobronchial and transbronchial lung biopsies, recanalization & devitalization.
2. The accessories & consumables should be of same offered Original Equipment Manufacturer.
3. The Cryo System should be, US-FDA & European Certificate marked in accordance with the medical devices directive (93/42/EEC), EN 60601 - 1 type CF & Class I Equipment and Electromagnetic Compatibility Certificate & ISO Certificate.
4. The offered Cryo System should have a monochrome display and activation should be controlled via footswitch.
5. The unit must achieve the minimum freezing temperature within 5 seconds with reproducible freeze performance from the first time the probe is used through the last.
6. The unit should have a plug and play operation which sets the appropriate parameters for every probe.
7. The unit should have the provision to provide all the probe related information on the display i.e length, item number, etc.
8. The unit should be mounted on an original mobile cart with wire basket & CO₂ Cylinder compatible with CO₂ gas as coolant provided with connection pipe for gas exhaust.
9. The unit should be able to show the gas pressure of the connected CO₂ cylinder
10. The offered Cryo System should be flow controlled for operating gas pressure between 45 – 65 bar.
11. The unit should have feature to count the reprocessing cycle of the instrument.
12. The Offered System should have Effect settings up to 2 depending on the type of instruments.
13. The unit should be able to store upto 10 configurable programs.
14. The offered System should work on Frequency of 50/60Hz with a line current of 0.4-0.8 Amp.
15. The offered System should of dimension of 410x130x370mm & of weight 6.7 kg.
16. The offered Cryo System should be supplied along with reusable flexible Probe, size of 2.4mm diameter x length 900 mm, 1.9mm diameter x length 900mm, 1.9mm diameter x length 1150 mm
17. The probes should be recommended for low temperature sterilization i.e autoclavable max tempt upto 134degrees.
18. The unit should be compatible with integrated RF Electro Surgical Unit for electrosurgical Cut & Coag modes for optimum effect of HF surgery & Argon plasma coagulation unit for haemostasis & devitalization of tissues with non-contact technology for coagulation.
- 19 The Argon Plasma Coagulation system (APC) should be compatible with Electro Surgical unit.
- 20 APC unit should be plug & play with digital instrument recognition.
- 21 All settings should be controlled by the ESU.
- 22 It should have Adjustable Argon flow rate from 0.1 litre/min to 8 litre/min in steps of 0.1 lit/min with automatic regulation of selected flow rate.
- 23 It should have automatic monitoring of flow rate and Argon supply with Argon 4.8 type gas (99.998% pure)
- 24 Initial pressure should be 5+(-)2 bar . Max final pressure should be 2+(-) 0.4 bar
- 25 Flushing duration should be of 3 seconds.
- 26 Argon unit should be compatible of accommodating 01 additional socket if required.
- 27 Should give visual display of Argon gas bottle content and should give Acoustic alarm when bottle content reaches a minimum.
- 28 It should have facility to connect with central gas supply.
- 29 It should have facility for activation of unit by foot pedal of the Electro surgical unit.
- 30 It should have the following modes- Precise APC, Pulsed APC and Forced APC.
- 31 It should have 3 types of disposable probes- Axial beam, Side fire beam and circumferential probes with filter integrated optimized for different procedures

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- 32 The APC should be supplied with one argon cylinder of 3 L (Indian make) along with pressure reducer sensor
- 33 Modular Electrosurgery unit with monopolar and bipolar outputs.
- 34 Max cutting power should be 200 watts at 500 ohm
- 35 Max coagulation power should be upto 200 watts with frequency 350 kHz
- 36 Safety system should be NESSY
- 37 Should have facility to store user settings.
- 38 Should have TFT display.
- 39 It should have facilities for assignment of the footswitch, the display makes it possible to assign both the pedal of footswitch or even just one footswitch pedal to the output socket of choice
- 40 Should have various cutting and coagulation modes in Monopolar and Bipolar.
- 41 Unit should meet IEC-60601-2-2 (or equivalent standards) for General Requirements of Safety for Electromagnetic Compatibility.
- 42 Power consumption in standby mode should be max 40 watts.
- 43 Power frequency should be 50 / 60 Hz with max line current at 8 A.
- 44 100% washable double pedal Footswitch (IP-X8 certification to be produced)
- 45 Both Argon plasma unit & electrosurgical unit should be USFDA & CE certified.
- 46 The equipment should have the following safety features:
 - *The unit should monitor the neutral/patient electrode with alarm for improper contact to prevent burns.
 - *It should automatically monitor output error in equipment.
 - *The unit should have facility for trouble shooting and block power output in case of any fault

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Broncho Videoscope

Field of View:	120 to 130 Deg
Direction of View:	0 Deg (Forward Viewing)
Depth of Field:	2 to 100mm
Outer Diameter (Distal End):	5.8 to 6.0 Deg
Range of Distal End Bending:	Up 180 Deg, Down 130Deg
Working Length:	580 to 600mm
Total Length:	800 to 870mm
Instrument Channel Inner Diameter:	2.8mm
Minimum Visible distance:	2 to 3mm from distal End

Should be laser compatibility and electro cautery

VIDEO SYSTEM CENTRE CUM LED LIGHT SOURCE

Video Signal Output:	Y/C, RGB, VBS Composite and XGA signal, HD-SDI & DVI Output simultaneous output is possible
White Balance Adjustment:	Automatic White Balance Facility
Color Tone Adjustment:	"R" control : +/- 7 Steps "B" Control +/- 7steps
IRIS Mode Selection:	Average/Peak
Image Enhancement setting:	NBI/BLI/OE-iscan

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Technical Specification Cardiac Biomarker Test System.

1. The machine should be portable and point of care rapid test system.
2. The machine should reliably and accurately assess Myoglobin, CK-MB, Trop I, BNP, NT-proBNP and D-Dimer in the bedside.
3. It should provide the results quickly and easily after pressing a single button.
4. It should give quantitative results.
5. Quantitative results should be displayed clearly in a TFT Screen (minimum 4X4 inch) and in built in thermal printer, the printed in a strip of paper in easy to read numbers.
6. Test result should come with respective units of measurements and displayed as POSITIVE or NEGATIVE to eliminate interpretation time delay
7. Required sample volume should be minimum (≤ 1 ml) and if specialized syringe / device is required to aspirate blood sample from the patients for the test, it should come with the test strip.
8. Time taken from adding the blood sample to the test strip to the result printing should not be more than ten minutes.
9. The machine should not require any essentials other than the test strip.
10. It should have the required software for sending data to a local computer.
11. Should run on AC/DC power supply and battery. The battery should run for at least one hour. Should have inbuilt stabilizer if required.
12. Should have a minimum memory capacity 500 – 750 test result with date and time.
13. Should have an operating temperature ranging form 18 – 30 °C.
14. Initial machines should be supplied with at least 100 test strips.
15. The system should be US FDA approved or European CE marked
16. System should have essential log book and user manual in English
17. Spare parts and services should be made available in Kolkata.
18. Cost per Strip/ Cartridge should be quoted separately.


25/08/19.

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Specification for Endoscopic Ultrasonography

(1) Digital Video Processor with Xenon Light source

Fully digital system : combination of Digital Signal Processing, high resolution CCD Chips and the latest digital video processors.

Illumination with a high-performance Xenon light source and digital brightness control.

Easy and intuitive data management for rapid storage and management of patient and user data.

Digital Video Processing for the most common applications.

Technical Data

Light Source : 100 W Xenon

Colour Temperature : $\approx 6500\text{K}$

Brightness control : Automatic/ manual

System : average/peak

Colour Correction : red/blue

Contour enhancement : Minimum 4 steps

Data management : Minimum 30 patients / 50 users

Outputs : 1 x RGB, 2x Y/C (S-VHS), 1 x Composite (FBAS)

approx 1 (e)

(2) Video Color CCD Ultrasound Gastroscope Longitudinal

Specifications

Field of View : Forward oblique (45°)

Angle of View ($^\circ$) : 120

Depth of Field (mm) : 4 - 100

Tip Deflection ($^\circ$) Up / Dn : 130 / 130

Rt / Lt : 120 / 120

o Rigid Distal Width (mm) Probe : 12.5X12.3

Optic : 14.35

o Insertion Tube Width (mm) : 12.8

o Minimum Instrument Channel Width (mm) : 3.8

Working Length (mm) : 1250

Total Length (mm) : 1560

Acoustic Frequency (MHz) : 5 - 10

Scan Direction : Longitudinal

Scan System : Convex

Scan Angle ($^\circ$) : 120

Scan Mode : B Mode / Color Doppler

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3) Color Medica Grade Monitor

(4) Trolley for Endoscopy System

(5) Ultrasound Scanner Diagnostic System :

Operation System : Windows XP

Basic process channel : 10240

Scan mode : Linear, Sector, Convex, 360° Radial, Trapezoidal Display (Linear probe only)

Multi-beam processing is possible

Ultrasound transmitting / receiving unit

Digital Scan Converter unit

Compound Technology : HI Com, standard, Convex, Linear (Available on color mode)

e-Com is effective to reduce speckle noise and extract tissue borders.

High image quality can be achieved. Can be used not only on linear probes,

but also on convex probes. Additionally, can be used in color mode similarly to B/W mode.

Improving image quality by structural extraction and emphatic tissue. (Adaptive Filter) : HI REZ, Convex, Linear, Sector)

THI (Tissue Harmonic Imaging) : Advanced dTHI filter method / WPI (Wideband Pulse Inversion)

WPI (Wideband Pulse Inversion) enables to get high-quality images keeping high resolution.

Real-time biplane : Possible

B/M, B/D Display Method : up & Down / right & left (up & down ratio : 3 steps)

Omni directional M-mode : Standard (Sector, Convex)

Zoom (scan mode) : HI Zoom - high image quality by sound optimization

Zoom (after freeze) : possible

Gain adjustment after freeze : Possible (B.M, Doppler)

M Mode Navigation : possible

Automatic image quality optimization : HI Support (B. Doppler) (possible to optimize image quality at one touch of a button)

TDI (Tissue Doppler imaging) function, Pulsed Doppler unit

Color flow mapping unit

Tissue elastography possible

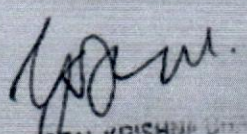
Power Angio/Doppler

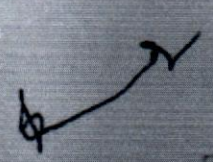
Automatic IMT (Intima media thickness) measurement.

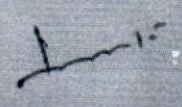
Cine Memory

B-Mode : Max 19,000 frames

M-Mode / Doppler : 300 sec (average)


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Dr. ... Prof. ...
Department of ...
Calcutta Medical College

Digital Image Recording

Image storage Media : Built-in: HDD, FDD, CD-RW, DVD+RW, DVD-RAM, USB

External: DICOM server, PC direct

Still image recording in HDD : B/W: Approx. 72,000 images, Color: Approx. 24,000 images

Real-time motion image recording : Real-time digital memory, Capable to play back in a main unit.

Possible to search images

Probe Port : 3 Probes

Monitor : 17" LCD

Power consumption : Below 1500VA

(6) Video Color CCD Ultrasound Gastroscope Radial

Specifications

Field of View : Forward

Angle of View (°) : 140°

Depth of Field (mm) : 4 - 100

Tip Deflection (°) Up/Dn : 130°/60°

Rt/Lt : 60°/60°

Ø Rigid Distal Width (mm) Probe : 12.6

Optic : 12.0

Ø Insertion Tube Width (mm) : 12.1

Ø Minimum Instrument Channel Width (mm) : 2.4

Working Length (mm) : 1250

Total Length (mm) : 1560


Acoustic Frequency (MHz) : 5 - 10

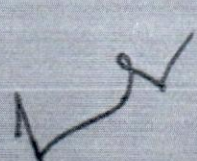
Scan Direction : Latitudinal

Scan System : Radial

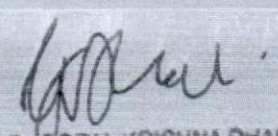
Scan Angle (°) : 360

Scan Mode : B Mode / Color Doppler


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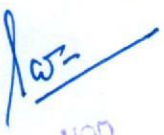


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Specification for high end/advanced electrosurgical unit:

- The electro surgical generator should be a 400 Watt touch screen display with 15 digital signal processors working in parallel.
- Unit should facilitate functions of monopolar, bipolar & vessel sealer with in-built regulated power supply adapter for underwater bipolar resection.
- Unit should have a Stepguide suggesting appropriate setting configurations for every instrument and application.
- The system should make 25 million measurements / sec for enhanced tissue effect and should measure tissue impedance through power peak system.
- The system should have Wi-Fi communication interface facility to access, change and save the settings
- System should have wifi compatibility for future OR integration.
- System should have remode function to allow user to access 6 sub programmes directly from the sterile field.
- The system should have four multifunction sockets which can be replaced anytime upon requirement.
- Unit should have the facility to store 1800 programs or applications.
- Unit should have the facility to show the active instruments on the screen display.
- The generator should have an inbuilt feature of accessory assignment.
- Supply frequency should be in the range of 50 -60 Hz.
- Power consumption at Max HF power should be 550 watts with max pulse power consumption of 1600 watts.
- The generator should work on a supply voltage of 100 – 120 VAC & 220 – 240 VAC
- Power consumption in standby mode should be less than 30W.
- Each socket should support the Autostart function for bipolar instruments.
- Unit should have high cut mode for monopolar TUR-P or TUR-B.
- Unit should have Soft Coagulation mode with quick start function for any open, endoscopic or laparoscopic application
- Unit should have PreciseSect mode for optimized dissection in open or laparoscopic cases
- Should have a special Coagulation mode called "Thermoseal" with auto start function for highly vascularized tissue bundles and vessels upto 7mm diameter and min. burst 360mmHg burst pressure.
- Unit should have an AutoCut bipolar mode to facilitate bipolar cutting instruments.
- The unit should have high cut bipolar to facilitate bipolar resectoscopes for bipolar TUR-P or TUR-B cases.
- Unit should have Dry cut & Swift Coagulation mode for optimized dissection in open, laparoscopic and advanced endoscopic cases like POEM, ESD,STER.
- The unit should have Endo cut I/Endo cut Q modes for endoscopic procedures.
- The generator should be compatible with Argon plasma coagulation unit having forced APC, pulsed APC and precise APC modes for surgical as well as endoscopic procedures.


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- The generator should also be compatible with hydro jet to facilitate use of unique hybrid technology instruments for surgical as well as endoscopic procedures,
- Unit must be compatible with Intelligent smoke evacuation module, suction module and irrigation module from OEM.
- The footswitches should be 100% waterproof (IPX8) and washable in surgical washers.
- The unit should have provision to use fully reusable bipolar instruments (both lap and open) including vessel sealing instruments from the same OEM.
- Unit should support Nussy as a neutral electrode.
- The system should have neonatal function with alarm to prevent high current output(above 300mA) when using small patient plate for infants
- The system should automatically alert the user of any errors/malfunctioning through clear audio visual signal.
- The system should also store the data of any errors or malfunctioning.
- The system should have automatic monitoring of the patient plate and should measure & display the tissue impedance, it should automatically stop current in case the connection drops beyond the safe point.
- Unit should be FDA & CE approved.

Following accessories to be supplied:

- Reusable hand pencil with facility for swapping between programs 5 ps
- Disposable Electrosurgical pencil with 2 buttons 100 ps
- Reusable Thermo fusion hand instrument for open surgeries (for vasculatures up to 7mm) 2 ps
- Reusable thermo fusion hand instrument for Laparoscopic surgeries (for vasculatures up to 7mm) 2 ps
- 5mm bowel shaped sealing and cutting hand instrument with maximum of 1.1 mm thermal spread 2 ps
- Footswitch with facility for swapping between programs
- Reusable Bipolar premium forceps 1
- Patient plate disposable with equipotential ring 100
- Argon assisted cutting instrument for open & Laparoscopy surgery 1each
- Workstation trolley
- Monopolar Cable for Minimal Invasive Instruments
- Bipolar cable for forceps


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(F)

1. Specification for FHD endovision system

High definition camera:

The system should consist of one camera control unit or console and one camera head.

Camera should be CMOS/CCD.

Resolution should be 1920 x 1080 pixels.

Device control from camera head.

18 mm Coupler with single handed focusing design.

Camera should have possibilities to SIM required for oncological procedure.

Image format should be 16:9/16:10.

Camera should have inbuilt recording facility both images and videos, recording should be in flash drive and videos can be recorded in full HD format.

LED light source:

LED light source watt 175-300.

Life time of should be more than 30000 hours.

Should be supplied with fibreoptic cable.

Power supply of 100-240 V, 50/60 Hz.

Colour temperature should be 5500 K and above.

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25/1/2020

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HD resolution Medical grade monitor

Should be HD medical grade of 24 inch or more.

Should have a resolution of 1920 x1080 pixels.

Inputs: DVI , SDI,VGA, S video, composite.

Full Endovision system should be supplied with instrument trolley.

Standards and safety

Should be US- FDA and EU-CE approved product .

Must have service centre in Kolkata.

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4. FLEXIBLE URETERORENOSCOPE WITH ACCESSORIES

- Working length 67 cm or more.
- Outer diameter 7 to 7.5 Fr.
- Instrument channel 3 to 4 Fr.
- Should have ceramic lining at distal end of working channel.
- Should be supplied with grasping & biopsy forceps.
- Should be supplied with leakage tester with bulb manometer including cleansing brush, luer adaptor.
- Should be supplied with waterproof tray fully immersible for cleaning and disinfection.

Accessories:

- Access sheath 9.5/11 – 30 cm (1nos), 45 cm (1nos)
- N-gage nitinol forceps-1 nos 1.7 -3 Fr 115 cm
- N-circle nitinol forceps- 1 nos 1.7 – 3 Fr 115 cm
- Tipless basket – 1 nos
- N- trap nitinol forceps - 1 nos

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29/1/2020

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5. SEMIRIGID URETERO-RENOSCOPE 4.5 -6 Fr WITH ALL ACCESSORIES.

12⁰ and 4.5/6 Fr one step, conical, length 43cm.

Should be autoclavable.

Should be angled eyepiece, fibre optic light transmission incorporated,

Should have 2 lateral irrigation ports and 1 working channel of 3 Fr.

Should be supplied with tray cleaning and sterilization and storage.

Should be provided with path finder.

Accessories:

Double action jaws, 3 Fr rigid , length 60 cm – 2 pcs.

Triprong jaws, 3Fr , rigid ,length 60 cm – 2 pcs.

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20/1/2020

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Specification of Bi-PAP

1. Mode: CPAP, S, ST, T
2. Pressure: EPAP - 4-30 CM H₂O
IPAP - 4-30 CM H₂O
CPAP - 4-20CM H₂O
3. Ramp Time: 0-40 min
4. Max Ramp - 0-60 min
5. Ti Min - 0.1s- T_{imax}
6. T_{imax} - 0.3 sec- 3.0 sec
7. Breath Rate: 0-30 bpm
8. Display - Min 2.5 inch. LCD Screen with blood O₂ Saturation and Pulse rate display
9. Battery Backup - Preferably

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(2)

Specification for Multipara Monitor

1. Patient monitor system should be advanced modular type and capable of monitoring adult, pediatric & Neonatal patients.
2. Monitor should have ^{12" & above screen} TFT/LCD display with full touch screen user interface ^{with connectivity to slave display}
3. Should be capable of display ^{10 or more} or more waveforms.
4. Monitor must be capable of simultaneously monitoring the following parameters which should present as standard: ECG, NIBP, SpO₂, Respiration, Dual IBP, Dual temperatures and EtCO₂ (mainstream)
5. Should be upgradeable to Invasive Blood pressure (upto 4 simultaneously), Invasive Cardiac output, EEG - 4 channel or r BIS.
6. ECG should have capability for 3, 5 and / or 10 lead monitoring and should have built in arrhythmia monitoring on all leads.
7. Inbuilt ST segment analysis and arrhythmia detection for all the leads should be possible
8. Should be upgradeable facility to non-invasive continuous cardiac output.
9. Hemodynamic and drug dose calculations should be available.
10. Arrhythmia should be grouped based on classifications - and should show no of arrhythmias occurred with ECG waveform.
11. Should have SpO₂ technology that works well in low perfusion.
12. Should display perfusion index (PI %) from SpO₂ as an indication of pulse strength at the site.
13. Monitor should have facility to take blood pressure measurement automatically in case of blood pressure change in between periodic measurements of blood pressure.
14. Monitor should have facility to measure dynamic preload parameter such as Pulse pressure or Systolic pressure variation.
15. Machine must have facility for alarm escalation in case nursing staff miss the alarm.
16. Must have minimum 72 hours review data including graphical & tabular trends
17. Must be able to store & display the 72 hours beat by beat waveforms for 4 or more select parameter by the user.
18. Monitor must have Hemodynamic Graphs to view hemodynamics parameters based on startling principle and protocol view to monitor patient's hemodynamics condition
19. Monitor should have mainstream EtCO₂ sensor, which should be lightweight and small can be use on both intubated and non-intubated patients.
20. Monitor shall provide the capability to interact with alarms at remote bedside monitor other bedside on the patient monitoring network.
21. Monitor shall provide the capability to receive and display real-time waveforms, alarm alarm limit status (ON/OFF) must be indicated on-screen for each parameter and actual alarm settings must be displayed on-screen when alarms are on.
22. Waveform color changing should be user configurable.
23. Monitor shall permit the optional ability to receive and display information from other devices such as ventilators & other standalone devices.

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Specification of Multipara Monitor

25. All modules should be compatible with all monitors quoted.
26. Monitor must have inbuilt rechargeable battery with minimum backup of 60 minutes or more.
27. Bed to bed communication between the monitors should be possible without a central station.
28. Patient monitoring network shall use standard TCP/IP protocol and be capable of residing on hospital's network infra-structure.
29. ~~Should be compatible with HIS and should be HL7 compliant.~~ *Amend*
30. Monitor should provide remote viewing of real time waveforms through internet (Price to quoted optional).
31. The equipment should be CE ~~and~~ *and* US FDA Approved.
32. Should be supplied with following accessories.
 - I. ECG / respiration: 5 lead ECG cable set -01
 - II. NIBP: Adult & Pediatric - 01 each
 - III. SpO2 Sensor: Adult sensor - 01 each
 - IV. IBP connection cable -02 each
 - V. IBP disposable transducer - 05
 - VI. Temperature: Skin and rectal probes 01 each
 - VII. Mainstream EtCO2 - 01
 - VIII. Airway adapter: Intubate and non-intubate - 05 each
 - IX. ~~4 inbuilt~~ *4 inbuilt printer*
33. Price to quoted as option -
Invasive Blood Pressure (2 more), Cardiac output, Continuous cardiac output (non-invasive/ minimal invasive method), EEG facility - 4 channel or more, BIS

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15.9.18
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