



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

Memo No. NMC/STORE/ 3610

Dates: 02/09/2020

**E-TENDER NOTICE (NIT No: 2 / 20-21) 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	Blood Cell Separator(Apheresis Machine)	Blood Bank	01 pc	Rs. 30000.00

2)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Elisa Reader & Washer	Blood Bank	01 pc	Rs. 20000.00

3)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	TMT Machine	Cardiology	01 pc	Rs. 20000.00

4)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Intra Vascular Ultrasound with Integrated Fractional Flow Reserve (FFR) System	Cardiology	01 pc	Rs. 50000.00

5)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Rota Atherectomy System	Cardiology	01 pc	Rs. 50000.00

6)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Arthroscopic Equipments	Orthopedic	1 pc	Rs. 50000.00



7)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Nephroscope (7.5FR,12FR,18FR,19FR) with all accessories	Urology	Total 4 pcs (01 pc of each size )	Rs. 20000.00

8)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Thulium Yag Laser 150-200 Watts	Urology	01 pc	Rs. 50000.00

9)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Alken metallic PCNL dilator set with Alken needle and rod	Urology	02 pc	Rs. 20000.00

10)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	EP System	Cardiology	01 pc	Rs. 50000.00

11)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Portable bed side Echocardiography machine	Cardiology	1 pc	Rs. 50000.00

12)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	High Vacuum Suction Unit	ENT	1 pc	Rs. 10000.00

13)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Drilling Burr for Otology	ENT	1 pc	Rs. 10000.00

14)

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	Cool Cordless Surgical Head Light	Renal Transplant Unit	1 pc	Rs. 10000.00

15

Serial No	Name of equipment	Department	Quantity	Earnest Money
1	LED Headlight with Battery & AC/DC Power Supply	Renal Transplant Unit	2 pcs	Rs. 10000.00

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](http://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) **STATUTORY** 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.	
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](http://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.	07.09.2020, 4.00 P.M.
2	Documents download start date (Online)	07.09.2020, 4.00 P.M.
3	Date of hoisting of documents at Departmental Website ( <a href="http://www.wbhealth.gov.in">www.wbhealth.gov.in</a> )	07.09.2020, 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	10.09.2020, at 1.00 P.M
5	Bid Submission starting (On line)	10.09.2020 4.00 P.M. onwards
6	Bid Submission closing (On line)	03.10.2020 at 4 P.M.
7	Bid opening technical bid(online) (Bid A )	05.10.2020 at 4.00 P.M.
8	Date of uploading list for Technically Qualified Bidder (online)(Bid A)	06.10.2020 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.

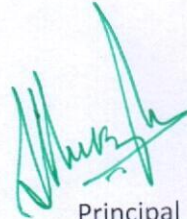


**24. Validity of Tender:**

- 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	Pl 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(if applicable)		
13	Certificate of country of origin		
14	Registration with Registrar of Companies		
15	Valid Manufacturing License(if applicable)		
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 liasoing, 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- 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



## Equipment Specifications for Blood Cell Separator-Apheresis Machine

### **1. Description of Function:**

Apheresis is a medical technology in which the blood of a donor or patient is passed through an Apheresis Machine that separates out one particular constituent and returns the remainder to the circulation.

### **2. Operational Requirements**

- a) Fully automatic, Microprocessor controlled with access operator control panel such as touch screen.
- b) Should perform both single and double access Aphaeresis.

### **3. Technical Specifications**

- a) In single needle procedure the equipment should continue to process the whole blood during the return cycle (Continuous flow procedure in single access) to reduce the procedure time and increase the efficiency.
- b) Should have auto elutriation separation technique to be able to collect platelets.
- c) True closed system disposable with pre-attached factory fitted ACD, normal saline, collection and storage bags and needles as required.
- d) Equipments should ensure all donor safely parameters before starting the procedure and all time during operation.
- e) Capable of collecting various single donor blood components including peripherals blood stems cells (MNC).
- f) Should be able to collect both single and double needle platelet aphaeresis along with concurrent plasma and / or RBC.
- g) Capable of dong prime with normal Saline and / or mixture of Normal Saline and ACD.
- h) In-built cuff pressures and prompts grip for donor comfort and adequate blood flow.
- i) PBSC (MNC) collection should be fully automatic.
- j) Facility to use platelets additive solution and / or normal Saline for re-suspension and storage fluid in place of plasma
- k) Advance help menu should be available at any time during alarm conditions.
- l) Lower extra corporeal volume, less than 200 to 250 ml in case of both single and double needle aphaeresis.



- m) Yield estimator to help decide yield, volume to be processed and suggested storage fluid and should have optical sensor at PRP line for online monitoring of component collection against the desired yield.
- n) Capable of downloading or printing full procedure report any time after procedure report any time after procedure.
- o) Capable to connect bar code reader if desired.
- p) Should have rechargeable battery to store data and restart in case of power failure.
- q) Continuous monitoring of collection to avoid any contamination through Interface detector.
- r) Inlet and return flow rates up to 100ml/min
- s) The separation of blood should be able to automatically maintain a constant hematocrit to improve collection efficiency and reduce contaminations.
- t) Compatible with sterile factory fitted disposables.

#### **4. System Configuration Accessories, spares and consumables**

- a) System as specified.
- b) 30 disposables should be provided with equipment.
- c) Blood Donor Couch (electrically operated)-01.
- d) All consumables required for installation and standardization of system to be given free of cost.

#### **5. Environmental factors**

- a) The unit shall be capable of being stored continuously in ambient temperature of 0 -50 deg C and relative humidity of 15-90%
- b) The unit shall be capable of operating continuously in ambient temperature of 10-40 deg C and relative humidity of 15-90%.

#### **6. Power Supply**

- a) Power input to be 220-240VAC, 50Hz fitted with Indian plug
- b) Suitable Servo controlled Stabilizer / CVT
- c) Suitable UPS with maintenance free batteries for minimum one-hour back-up should be supplied with the system.




## 7. Standards and Safety

- a) Should be FDA, CE, UL or BIS approved product
- b) Comprehensive warranty for 2 years and 5 years AMC after warranty
- c) Electrical safety conforms to standards for electrical safety IEC-60601 / IS-13450
- d) Manufacturer should be ISO certified for quality standards.
- e) Comprehensive training for lab staff and support services till familiarity with the system.

## 8. Documentation

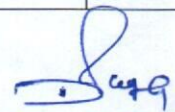
- a) Certificate of calibration and inspection from factory
- b) List of Equipments available for providing calibration and routine Preventive Maintenance Support as per manufacturer documentation in service / technical manual
- c) List of important spare parts and accessories with their part number and costing
- d) Log book with instructions for daily, weekly, monthly and quarterly maintenance checklist. The job description of the hospital technician and company service engineer should be clearly spelt out
- e) User / Technical / Maintenance manuals to be supplied in English.

  
17-06-2020  
**DR. DILIP KR. PANDA**  
**Director**  
**RBTC, BLOOD BANK**  
**N.R.S.M.C. & H.**



## TECHNICAL SPECIFICATION

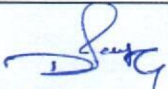
<b>ELISA READER &amp; WASHER</b>	
Parameter/ Feature	THRESHOLD LIMIT / RANGE
NO. OF WELLS RUN PER ASSAY (INCLUDING CONTROLS AND CALIBRATORS)	96
MINIMUM SAMPLES CAN BE RUN PER ASSAY (WITH CONTROLS AND CALIBRATORS)	1
ABSORBANCE Range	(0.0-4.0) or more
Wavelength of 6 Position filter wheel filters in nm	405- 690
READER ACCURACY in OD	± 0.010
READ TIME FOR SINGLE WAVELENGTH in Sec	≤10
READ TIME FOR DUAL WAVELENGTH in Sec	≤20
POWER SUPPLY	220 V±10% 50 HZ
Range of ELISA WASHER Volume of solution dispense PROGRAMABLE in µl	50-1000
WASHER ACCURACY well to well (NOT EXCEEDING) in µl	300 ±10%
WASHER PROCESSING TIME (350 µl x3 cycles x 8 port) in sec	180 or less
RESIDUAL VOLUME in µl	≤2
NO. OF PROGRAM	30 or more
POWER REQUIREMENT	230 V±10%; 50/60 Hz
Range of Soak Time (In Strip Mode) in Sec	0-10
Range of Soak Time (In Plate Mode) in Min	0-30
WORKING CONDITION HUMIDITY in %	0-95
WORKING CONDITION TEMPERATURE in ° C	(10 to 35) or more
<b>MUST HAVE SPECIFICATION</b>	
Parameter/ Feature	Yes/No
MACHINE IS COMPATIBLE WITH REAGENTS. AND KITS OF OTHER MANUFACTURER	
DETECTOR- Silicon Photodiode	

  
 28-08, 2020 **DR. DILIP KR. PANDA**  
 Director  
**RBTC, BLOOD BANK**  
**N.R.S.M.C. & H.**

①



MEASUREMENT MODE Monochromatic & Bi-chromatic	
LIGHT SOURCE - LED Lamp / Halogen	
KEYBOARD RUGGED , WATER PROOF , MEMBRANE TYPE	
ELISA WASHER : LIQUID CONTACT MATERIALS Glass, polypropylene, polyethylene, stainless steel, tygon, teflon, derlin & nylon	
SUPPLIED ACCESSORIES - COMPUTER AND PRINTER	
INTERFACE - RS-232 serial interface with computer	
READING MODE 6/12/24/48/96 WELL PLATES (ADJUSTABLE)	
USB 1.1/2.0	
VARIABLE SHAKING SPEED AND TIME	
WASHER WITH 8 / 12 WAY MANIFOLD CONFIGURATION	
ADAPT TO U, FLAT AND CURVED BOTTOM PLATES	
ALERT FOR WELL OVERFLOW AND WASTE BOTTLE	
<b>QUALITY STANDARD &amp; SAFETY CERTIFICATION</b>	
EUROPEAN CE IVD / US FDA	
<b>Note: In case the machine is offered with Halogen, free replacement of light source for next 10 years with free calibration at the time of changing of light source</b>	

  
 28-08-2020

**DR. DILIP KR. PANDA**  
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# Specification of TMT Machine.

Pages  
1 / 5

## Specification

DEDICA is an advanced stand-alone, Windows based Stress Test System. This system comprises of body level acquisition.

### Technical Specifications

#### 1. Environmental

Operating Temp : -5 °C to +50 °C  
Operating & Storage Humidity : 0 to 95 % non-condensing

#### 2. Power supply

Input : 230V AC +/- 10% @ 50Hz  
Power consumption : < 350 Watt

#### 3. Performance

Display : 1024 x 768 pixels, 17" TFT (Touch screen optional)  
Display area : 320 mm x 240 mm  
Language : English  
Alarm : Audio alarms for HR and ST level at pre-configured Values  
QRS Beep : On each QRS

#### 4. Acquisition

Frequency response : 0.05 Hz to 150 Hz with notch at 50Hz  
Filter : DSP  
Input impedance : 10 M ohm  
Time constant : > 3.2 sec  
A/D conversion : 12 bit  
Noise : < 20 $\mu$ V<sub>p-p</sub>  
Leakage current : < 10  $\mu$ A  
Patient isolation : Optical isolation.  
Gain : 5, 10 & 20 mm/mV selectable.  
CMRR : > 120 dB  
Sweep speed : 25.0 mm/S.  
Accuracy of HR : +/- 2 BPM.  
Sampling Frequency : 250 samples per second simultaneous  
Operation : User friendly keyboard, Touchscreen  
Other Models : STWin-Standard, STWin-Basic, STWin-Deluxe, All Models available with blue tooth facility  
Storage : 12 lead unaveraged ECG, 10 second Rhythm strips

Rev 3.0

①

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## Specification

of 12 leads, Medians after every 8 sec along with HR, BP and fiducial points, full disclosure of entire test

Leads-Off detection	: Yes
Protocols	: Pre-programmed protocol including BRUCE, MODIFIED BRUCE, NAUGHTON, MODIFIED BALKE and user editable protocols
Printouts	: Automatic and manual online printing with grid On/off facility. Print colour reports.

### 5. Treadmill

Power	: 230V, 50Hz, 15A
Power consumption	: 1.5KVA
Incline Range	: 0-22%
Dimension	: L X W - 2055X 750 mm
Walking Area	: 1440 X 500mm
Weight	: 100Kg
Patient Weight	: Up to 250kg
Belt Speed	: Smooth, 0-15Kmph
In-House manufacturing	: Yes

### Detailed features

#### 1. Acquisition display modes

##### a. 12 lead display

- i. Display 12 lead, 4 second ECG on First screen. Enlarged Medians next to each lead are displayed.
- ii. Configurable zoom factor for enlarged median: 2, 3, 4 times.
- iii. In exercise stage Basal Enlarged medians and current Medians are superimposed.
- iv. Facility to move superimposed medians.

##### b. 3 lead display

- i. 8 seconds display of 2 leads of ECG + 1 QRS detection Lead.
- ii. Facility to configure 3 leads to any of the 12 ECG leads
- iii. Display lead sets (I, II, III) OR (aVR, aVL, aVF) OR (V1, V2, V3) OR (V4, V5, V6)
- iv. An enlarged Exercise median of the minimum ST level lead with fiducial points marked is displayed. (The enlarged median can be any of the 12 leads in Manual Mode. In Automatic mode, the lead having maximum ST Depression is displayed by the system.)
- v. Along with enlarged median, basal median is displayed in exercise stage and peak exercise median is displayed in recovery for comparison
- vi. Printer status check message



## Specification

- c. **4 lead display**
- 8 seconds display of 3 leads of ECG + 1 QRS detection Lead.
  - Facility to configure 4 leads to any of the 12 ECG leads
  - ST Integral display
  - Enlarged median of the lead having minimum ST depression with fiducial points marked displayed along with basal or peak exercise median
- d. **Online display of following parameter in all display modes**
- Sweep speed
  - METS
  - Heart rate is updated every 4 seconds with symbol and Target heart rate with percentage of completion target heart rate.
  - BP in mmHg
  - ST measurement Mode (Manual / Auto)
  - Current ST Level and ST Slope of enlarged median
  - ECG gain with standardization pulse
  - Test and Phase duration in hh:mm format
  - Exercise protocol stage name
  - Detection of **Premature Ventricular Ectopic**
- e. **Online printouts**
- Facility to print selected online reports
- Linked Median report (12 linked medians with ST Levels of selected long lead)
  - 12 lead Raw ECG report
- f. **Automatic Reports**
- Facility to print selected stage reports automatically
- Linked Median report (12 linked medians with ST Levels 1 long lead)
  - 12 lead Unaveraged ECG report
  - 12 lead Raw ECG report
  - Rhythm report – 12 leads of 5 seconds or 6 leads of 10 seconds
  - Mixed Median report with one Median complex + 2.5 seconds ECG of each lead
  - Advanced mixed median report.
  - Extended Mixed Median Report - One Median complex + One Basal Median complex + 2.5 seconds ECG of each lead
  - Selected median report
- g. **Stage reports configuration includes**
- Reports at stage end
  - At set interval in 'EXERCISE' and 'RECOVERY' stage
  - Automatic 'PEAK EXERCISE' Linked Median printout
  - 6 leads of 10 seconds OR 12 leads of 5 seconds selection for Rhythm Report
  - Automatic 'PEAK EXERCISE' Linked Median printout (10 seconds after Exercise is stopped).
  - Grid On/Off
- h. **Acquisition settings**
- Facility to enter BP 50 seconds before end of each exercise stage
  - ECG sweep speed: 12.5, 25, 50 mm/sec
  - Relearn the median template
  - Facility to enter a stage comment in each phase
  - Change the QRS detection lead
  - Automatic/Manual detection of fiducial points (E, J, Post J)

Rev 3.0

3

*Ru*  
20/10/2020  
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## Specification

- vii. Hold/Release treadmill stage
- viii. QRS beep On/Off
- ix. NASAN filters ON/OFF

### 2. Review mode

- a. Review data of selected patient
- b. Grid/Graph/No grid option on all review screens
- c. Facility to edit HR and BP of any stage
- d. Facility to send reports through mail
- e. Facility to edit Patient Details
- f. 12 medians screen
- g. 12 medians are displayed with ST-level and ST-Integral
- h. Mixed Median report with one Median complex + 2.5 seconds ECG of each lead
- i. Facility to zoom median of selected lead and edit fiducial points
- j. Trends
- k. Trends of HR, BP, ST Level, ST Slope, J Amplitude, R-Wave amplitude, METs, PVC per minute & RPP
- l. 8, 16, 32, 48, 56 seconds resolution.
- m. View and print rhythm strips marked during acquisition. Facility to select 12 leads of 5 sec. OR 6 leads of 10 seconds for each printout
- n. View unaveraged ECG
- o. Superimpose medians of any 2 stages in different colours.
- p. Full wave disclosure of 1 minute of any lead
- q. Edit and print Summary Report using standard edit options

### 3. Reports

- a. 12 lead linked median (single / all stages)
- b. Mixed Median Report
- c. 6 lead Rhythm report of 10 seconds (single / all stages)
- d. 12 lead Unaveraged ECG report
- e. Extra Comments report
- f. Stage Report
- g. Brief Summary Report
- h. Trends Report (HR, BP, ST Levels / ST Slopes, J Amplitude of 3 configured leads, R-Wave amplitude, METs, PVC per minute & RPP
- i. Full wave disclosure of 1 minute of any lead
- j. Facility to print superimposed medians of any 2 stages in different colours
- k. Summary Report (Hospital Address and referring doctor designation to be printed in Summary reports)
- l. Advance Mixed Median Report
- m. ST-Levels & Slopes Table
- n. Extended Mixed Median Report
- o. Selected median report

### ❖ Configuration mode

- i. Hospital details
- ii. Referring Doctor list
- iii. Standard Summary report option
- iv. ST-Win system configuration
- v. Treadmill protocol
- vi. Available standard protocols
  - 1. BRUCE
  - 2. MODIFIED BRUCE
  - 3. NAUGHTON
  - 4. MODIFIED BALKE
- vii. Printing details configuration
- viii. System configuration

4

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## Specification

1. Speed in km/hr or m/s
2. TM speed at exercise stop (slow-0 km/hr, Fast-0 km/hr, 1.2 km/hr)
3. ST Level lead in Summary
4. Long lead in reports
5. Screen Display leads (3)
6. 3 Leads in Trend Report
7. Stage Report Leads
8. Treadmill Support: Compact, Treadstar, XP, Trackmaster
9. COM Port Selection for amplifier and for treadmill.
10. Median update time is configurable to 1 to 8 sec.

### ❖ Utilities

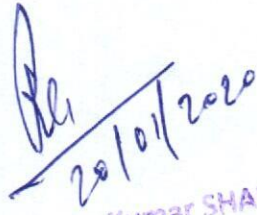
- a. Test Treadmill
- b. Test acquisition unit
- c. Calibrate TM Speed
- d. Calibrate TM Grade
- e. Delete printout from printer queue

### ❖ Hotkeys:

Following hotkeys are provided for fast and easy operation

- ON/OFF
- Change display (Select display mode: 3 or 4 or 12 lead mode)
- Relearn template
- Amplify QRS
- Print Raw ECG report
- Print Linked Median report
- QRS Beep ON / OFF
- Enlarge median
- Stop Test
- Treadmill - Speed ↑↓ and Grade ↑↓

\* Due to our continuous product improvement programme, features can be enhanced.

  
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## Technical Specification Intra Vascular Ultrasound With Integrated FFR System

- IVUS offer direct, accurate, real-time, tomographically –oriented 360 degree images not just of the vessel lumen, but of the vessel wall itself and any lesions it might contain. This enables clinicians to quantitatively characterize atherosclerotic plaque morphology, assess the extent of vascular remodelling or distortion, and also to calculate cross, section area available for blood flow.

Therefore it helps in the assessment of plaque morphology, total plaque volume, and degree of vascular remodelling or distortion and also to calculate cross, sectional luminal area.

- Latest Generation Intra Vascular Ultrasound System .
- Monitor-SVGA LCD Monitor-Minimum 19".
- Sterile field control option.
- Compatibility with 9 MHz ( for intra Cardiac), 15 MHz (for peripheral) and 40 MHz (for coronary) Catheters.
- Compatibility with Coronary, Peripheral and intra cardiac catheters.
- Automated lumen and vessel measurement with trace to aid in diagnosis and planning.
- Dynamic review .
- Long view and cross sectional imaging.
- Signal Rotating Transducer driven by a flexible driver cable.
- High storage capacity with removable hard disk and minimum of 25 cases storage.
- Archiving options: CD ROM, 16X DVD, Removable Hard Disk and Network.
- Maximum number of area measurements per cross section image for better imaging.
- Maximum number of distance measurements per cross section images for better imaging.
- Minimum 30 GB hard disk with an option of removable storage.
- DICOM storage & image formatting.
- Digital Frame Grabber.
- Data Entry: Touch Screen.
- Multiple image screen format.
- Automatic & manual measurement.
- Approval-International standards agency US FDA or Equivalent.
- Clinical support for training of staff.
- Technical back up for maintenance of machine

### ➤ FFR (Fractional Flow Reserve) Measurement System (Console) Specification for Integrated System.

- 1 Console to determine FFR with <sup>Bluetooth wireless</sup> sensor based ~~wire~~ able to assess Arterial Pressure through Cath Lab transducer system.
- 2 Should communicate with PC.
- 3 Should be compatible with printer.
- 4 Should be able to assess distal Pressure through device.
- 5 Display both real time pressure and mean pressure values.
- 6 Should give Graphical presentation of pressure waves.
- 7 Screen window should display real time FFR in both numerical and graphical form.
- 8 Should be able to measure pressure in a range of - 30 to 300 mm Hg
- 9 Should be operator friendly, guide steps to follow for procedure.
- 10 Should have a frequency response of 0-25Hz
- 11 Allows different beat settings in accordance with the cath lab system.
- 12 Should have memory to save and record the data

*[Signature]*


03/03/2020  
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03/03/2020  
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N. S. Medical College, Kolkata



➤ **Specification for FFR Guide Wire:**

1. Should be .014" guide wire
2. Should have Optical technology
3. Should preferably have hydrophilic coating at distal part and PTFE coating at proximal part.
4. Should have tip with dual coil technology
5. Should have shorter sensor housing less than 1.70 mm .
6. Should have a radio opaque tip.
7. Should have European CE & USFDA Approved (certificate to be provided).
8. Fast Plug and play procedure
9. Longer working length
10. Better Torque and pushability
11. Choice of Straight or Pre-shaped J-tip.
12. Compatible with Rapid exchange or over the wire Catheters.
13. In case of separate system for FFR, the option to be wall mounted, table mounted or desktop as per the need should be there

  
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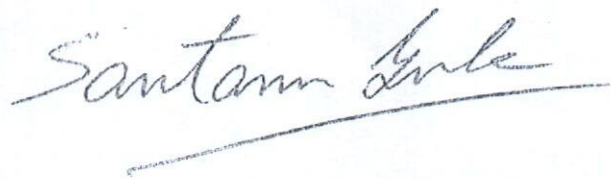


## Technical Specification for Rota Atherectomy System

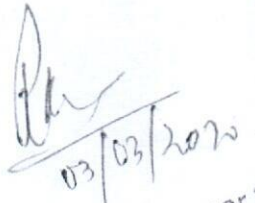
	<b>Description of Function:</b> Rotational Atherectomy System is required to remove calcific and very fibrotic plaque in the coronary arteries, not amenable to routine balloon angioplasty by abrading the atherosclerotic material, using a high speed rotating diamond particle coated burr.
2	<b>Operational Requirements:</b> 1. It should be a State of the art Rotational Atherectomy System & should be capable of performing atherectomy in the coronary arteries. 2. The equipment should have variable speed adjustment maximum speed of 200,000 rpm and be able to monitor the speed of the burr in real time
3	<b>Technical Specifications</b> 1. Console unit of Rotational Atherectomy capable of generating rotational high speed motion of the burr upto 200000rpm. 2. Ability to alter the speed of the burr rotation in real time 3. Ability to monitor the duration of therapy and speed of burr rotation using fiber optic light probe and displayed on a console. 4. Foot Pedals for controlling the console unit in different modes of operation. 5. The system should have all necessary connectors and cables which will attach to the Rotational atherectomy system and the Nitrogen system.
4	<b>Portability</b> 1. The unit should be compact and portable, weighing less than 15 kg. 2. Should be easily transportable with accessories in a compact form factor, easily detachable from its carry cart
5	<b>Environmental factors:</b> 1. The unit shall be capable of operating continuously in ambient temperature of 30 OC and relative humidity of 80%
6	<b>Power Supply:</b> 1. Power input to be 220-240VAC, 50Hz
7	<b>Standards, Safety and Training:</b> 1. Should be FDA or CE approved product



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# Specification of Arthroscopic Equipment

Page - 1

## **1. Full HD 3-Chip CMOS/4K Endoscopic camera control unit**

The system should be high definition, with progressive scan and CMOS/4K technology, 3-Chip- endoscopic video camera.

- It should have pure digital signal with high definition of 1920x1080p/ 4K resolution and progressive scan technology both on camera head and console.
- Should have 9 or more dedicated surgical speciality settings and customizable color and brightness settings for cross speciality usage of system.
- Should have an intuitive touch screen LCD/LED interface on CCU for ease of operation
- Function should be available – to improve visualization in the dark and posterior compartments of surgical field.
- Desaturation function- to decrease the saturation of longer wave length colors in the image to the level preferred by the surgeon.
- The system should have Optical/ Digital zoom to enhance the quality of image size and cross speciality standarization of the camera system, regardless of telescope used.
- the O/P's should be - atleast 2 DVI, RGBHV/VGA, S- Video, optimized for medical display on flat screen.

OR

2x display port 1.2 , 4x 3G – SDI, 2x DVI-D

- Classifications and approvals- it should comply with medical safety standards: FDA and medical EMC standard.

**USFDA AND CE APPROVED**



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**Dept. of Orthopaedic Surgery**  
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**Prof. & Head of the Dept.**  
**Dept. of Orthopaedic Surgery**  
**N.R.S.M.C.H., Kol-14**



## 2. Medical grade 26 inches / 31 inches / 32 inches full HD / 4K monitor - Qty -01


- It should have LED back lighting and LCD/LED colour flat panel to support high definition images and videos.
- Screen technology- IPS TFT/ IPS- PR and back light – white edge Lit LED.
- Resolution- 1920 x 1080p/ 3840 x 2160p.
- Wide screen and aspect ratio of 16:9.
- Contrast ratio 1400:1 or higher and luminance- 450cd/m<sup>2</sup>/ 4K.
- Should be light weight.
- Should produce 10bit color resolution.
- Should have multiple input and output options . Atleast 1DVI-1 port, 1 display port and 13G- SDI.
- Classifications and approvals- it should comply with medical safety standards: FDA and medical EMC standard.

## 3. HD telescopes with aspherical lens technology and infrared compatibility-Qty -01 each

Telescope should have aspherical rod lens technology for minimized optical distortions, better center of age resolutions and reduced fish-bowl effects. It should have triple tube medical grade stainless steel design and laser welded enclosures for increased quality and durability over standard scopes. The telescope should be fully autoclavable, ETO and plasma sterilizable. 4mm scopes should be C- mount video arthroscopes.

- 4mm – 30deg scope
- Cannula – 5.8mm. speed – lock cannula with 2 rotating stopcocks. Fast scope – cannula locking every time in every case. Perforated distal tips irrigation for even the most demanding shoulder. Cannula tips should Hoods Scope Lens, also protecting it from cutters, burs, and instruments.
- Obturator for 5.8 mm cannula. Trocar for 5.8 mm cannula.
- Classifications and approvals- it should comply with medical safety standards: FDA and medical EMC standard.

**USFDA AND CE APPROVED**



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#### 4. Video cart trolley- Qty-01

Trolley should be capable to mount above mentioned systems.

Should have moveable arm to mount monitor for easy height adjustment.

- Classifications and approvals- it should comply with medical safety standards:  
**ISO/CE Certified**

#### 5. Full HD 3-Chip CMOS/4K Endoscopic camera control unit

The system should be high definition, with progressive scan and CMOS/ 4K technology, 3-Chip- endoscopic video camera.

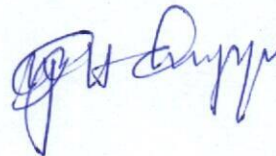
- It should have pure digital signal with high definition video of 1920x1080p/ 4K resolution and progressive scan technology both on camera head and console.
- Should have 9 or more dedicated surgical speciality settings and customizable color and brightness settings for cross specialty usage of system.
- Should have an intuitive touch screen LCD/LED interface on CCU for ease of operation
- Function should be available – to improve visualization in the dark and posterior compartments of surgical field.
- Desaturation function- to decrease the saturation of longer wave length colors in the image to the level preferred by the surgeon.
- The system should have Optical/ Digital zoom to enhance the quality of image size and cross speciality standardization of the camera system, regardless of telescope used.
- the O/P's should be - atleast 2 DVI, RGBHV/VGA, S- Video, optimized for medical display on flat screen.

OR

2x display port 1.2 , 4x 3G – SDI, 2x DVI-D

- Classifications and approvals- it should comply with medical safety standards:

**FDA and medical EMC standard.**



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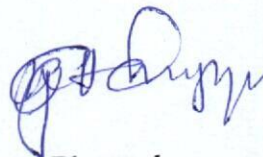
## 6. 400 watt LED light source with fiber optic cable- QTY 01

The light source system should be compatible with HD / 4K cameras to provided maximum illumination to get optimum brightness , sharpness, clarity for the images and videos. The system should generate optimum light with different wavelength such as standard white light, infrared and near infrared wavelength for enabling surgeons to view critical anatomies in different modes of the camera. This system should be supplied with one light source console and one fiber optic cable . also it should have:

- Light intensity adjustment: continuously adjustable from 0-100% manually.
- Should have standby mode which will reduce light output to a minimum , preventing the light cable from generating excessive heat.
- Control of the light source should be possible directly from the camera head as well as from intuitive capacitive LED touch screen on the light source.
- Should provide with a safe light fiber optic cable of 4.5 mm or more in diameter and 300cm or more in length and should be compatible for transmitting different wavelength light such as infrared , near infrared and standard white light that is needed for special imaging mode.
- Guaranteed light span: 30000 operating hours or more.
- Light output/ light flux : 18000 lumen
- Classifications and approvals- it should comply with medical safety standards: FDA and medical EMC standard.

## 7. Shaver System :-

- For use in a variety of surgical procedures, including orthopaedic, dental, ENT,neuro, spine, and endoscopic applications
- Powers small and large bone drills, saws and drivers; small and large joint shavers; ENT shavers; foot pedals; bone mill and irrigation.
- Three hand piece ports; runs two non-heavy duty hand pieces simultaneously
- Colored illumination rings, display matched drills and foot pedals for free and confident workflow.
- Two foot pedal ports; ability to assign two pedals to a single hand piece
- Integrated irrigation; one step insertion and removal
- Large icons and color touch screen with wide viewing angle



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Nephroscope with accessories

- **Mini PCNL set with accessories(one set)**
  - Nephroscope should have a size of not more than 12Fr
  - Wide angled straight forward telescope 6/12° with parallel or angled eyepiece with LUER –lock connection for inflow
  - Working channel should accommodate instruments upto 5 Fr
  - Scope should be supplied with proper fitting sheath.
  - 3 sheaths with one step dilator should be supplied of the following specifications 15/18, 16/19 , 21/24 Fr
  - 5 Fr alligator forceps double action jaw should be supplied 6 pieces.
  - Compatible metallic suction tube must be provided.
  - All instruments to be from the same manufacturer
  - All instruments to be EU-CE and USFDA approved
  
- **Standard Adult PCNL set (two sets)**
  - Nephroscope should have a size of 18 Fr with 22 Fr and 24Fr sheaths and another nephroscope of size 19Fr with 23 Fr sheath.
  - Wide angled straight forward telescope 6/12° with parallel or angled eyepiece with LUER –lock connection for inflow
  - Working channel should accommodate instruments upto 9Fr.
  - Telescoping dilator set consisting of set of 6 dilators size 9,12,15,18,21,24 with two rigid and two flexible guide-rods

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①



- Grasping forceps for large stones and stone fragments with fenestrated jaws and ring handle , double action jaws, length 38 cm – 2 nos
  - Grasping forceps for large stones and stone fragments with serrated jaws and ring handle , double action jaws, length 38 cm – 4 nos
  - Compatible metallic suction cannula
  - All instruments to be from the same manufacturer
  - All instruments to be EU-CE and USFDA approved
- **MIP percutaneous nephroscope ( one set)**
    - Instrument channel :7.5 Fr
    - Working channel :2Fr
    - Separate irrigation channel :3 Fr
    - Telescope : fiber optic system ,direction of view 6°, length 24 cm eyepiece angled
    - One step dilator with central channel for guidewire for use with 8.5/9.5 Fr operating sheaths
    - Operating sheaths 8.5/9.5 Fr working length 15 cm
    - Operating sheaths for supine position 8.5/9.5 Fr working length 18 cm
    - Applicator for sealant including sheath and rod for use with operating sheaths
    - Should also include the following:
      - Instrument port with sealing system and quick release lock
      - Seal for instrument ports package of 10 single use

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(2)



- LUER lock tube connector male tube diameter 9mm
  - LUER lock tube connector with stopcock dismantling
  - Insertion aid for guide wires
  - Wire tray
  - Cleaning adaptors for instrument ports
  - Multiport Bridge Cleaning adaptor for use with small LUER lock
- 
- All instruments to be from the same manufacturer
  - All instruments to be EU-CE and USFDA approved

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## Nephroscope accessories

- Bi-pronged forceps working length 550 and diameter 4 Fr ,micro mouse jaws , 360 rotatable and flushable – 3 nos
- Bi – pronged stone grasping forceps with alligator jaws 9Fr ,length 350 , 360 rotatable , flushable – 2 nos
- Tri-pronged forceps working length 550 and diameter 4 Fr -3
- Tri-pronged forceps for use with nephroscope 6 Fr semirigid, length 40cm -3 nos

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SL-7

**Specification of a High power Hybrid Thulium-YAG LASER for Urology Department (for both prostate and stone surgeries).**

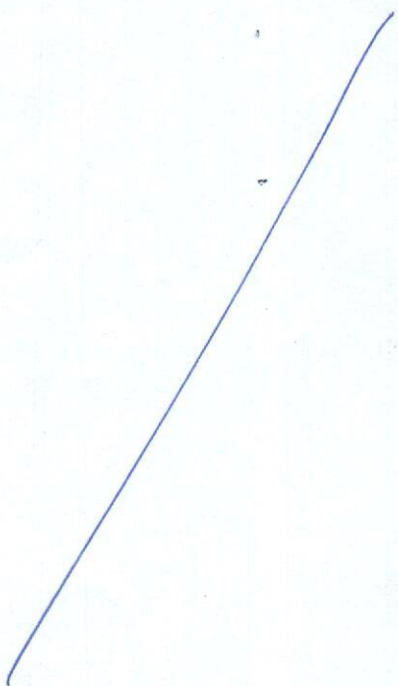
1. Should be based on Latest DPSS Thulium Technology.
  2. Should have 5 to 150 W power, adjustable in 1W steps.
  3. Should have Pulsed as well as Continuous modes for stone as well as Tissue.
  4. Should have Frequency of 10 to 300 Hz.
  5. Should have Peak pulse power of 1000W, adjustable.
  6. Should have user adjustable Variable pulse width from 100 to 4750 microseconds.
  7. Should have pulse energy >5J, adjustable.
  8. Should have aiming beam of 532nm (green), max. 3mW (adjustable).
  9. Should have touch screen control.
  10. Should be supplied with fibers of 200, 263, 365 and 550 micron (5 of each size).
  11. Should be supplied with matching stripper and cutter.
  12. Should be supplied with protection glasses/goggles.
  13. *Must be european CE or US FDA approved.*
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Japankumar Mandel



### Alken Metallic PCNL dilator set with Alken needle and rod

- Alken Metallic PCNL dilator set(9,12,15,18,21,24 Fr) with two rigid and two flexible guiderods - 1 set
- Alken dilatation cannula (inner and outer tube)-1



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**STANDARD SPECIFICATION:**

1. All the components should have FDA & CE certificate as the mark of quality Standard.
2. All the components of EP Lab: Recording System, Stimulator, RF Ablator and 3D Mapping should be from Single Principle/manufacturer.

**EP System with Stimulator & RF Generator**

**Recording System**

1. Should have a 12 -Body Surface ECG
2. Should have unipolar intra-cardiac channels minimum 60.
3. Should have a facility of Invasive pressure recording & display- 2 Channels
4. Should have a facility of off-line Software/Hardware system to "Review Data" - one installation outside
5. Must be supplied with compatible laser printer
6. Operating system should be preferably Windows 7.1b
7. HDD minimum 500 GB and 4GB RAM
8. Data storage in standard HDD, Patient data writable only DVD/CD
9. Ease of use with simple commands using one Keyboard
10. Must have a facility of real time beat by beat display
11. Should provide retro recording for minimum of 30 sec.
12. Continuous surface ECG visualization
13. Interconnection between the spare parts should be through fiber optic cables.
14. Facility of Split screen display for re-viewing & matching the EGMs.
15. View of real time & review data simultaneously
16. Selectable amount of data to be stored per patient
17. Computer based display of RF parameter
18. Amplifier with 32 bit sample conversation rate at 2KH or more.
19. Should have option of automatic export of screen page to power point slide
20. Adequate filtering for good signal quality
21. User configurable reporting format
22. Data transfer to Power Point, JPEG or similar format
23. Display of RF parameters graphically in the EP software
24. Aggregate report of RF delivery per case
25. Only one keyboard to control the complete system.
26. System should have at least three 23" Monitors.

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**Stimulator**

1. Must be preferably separate Digital Stimulator Integrated to the Amplifier
2. Should have a facility of 4 pacing channels with up to 6 extra stimulation option

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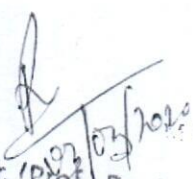
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- Should offer uninterrupted view of unlimited number EP catheters and 60 or more Catheter Electrodes in a three Dimensional Map.
- Must have the capability to record simultaneously minimum 60 or more Virtual Unipolar Electro-grams & display them as selected by user.
- Should store permanently at least 10 beats of patient data & have the facility to make a Map from stored ECG in the Review mode.
- Should have Respiration compensation facility by measuring actual change by impedance & modest patient movement should not affect the procedure.
- Should have the capability of creating Real time geometry from upto 20 electrodes on the catheter
- Should offer 1 TB Hard drive with separate partition of 400 GB of patient data storage.
- Should offer option of doing pediatric cases as well on the 3D system.
- Should offer feature of simultaneous Real time and review options.
- While doing complex fractionated electro-gram (CFE) mapping system should allow user to define data collection interval from 1-8 seconds.
- 3D system should be able to integrate with all the equipment in the cath lab including wide range of Recording system, Generators (including Cryo) .
- 3D System should have a minimum of 2 KHz sampling rate for best signal quality.
- Should be CE and USFDA approved as mark of quality standard.
- Should have advanced capability of displaying simultaneous two live maps- Voltage and time maps.
- Should display both Bipolar and Unipolar maps for enhanced visualization.

  
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- 3. Should have 9 preprogrammed protocol and 10 programmable protocol
- 4. Should have an option of Stimulator Touchscreen.
- 5. Stimulation protocols can be controlled through touchscreen, keyboard and mouse.

**Radiofrequency Ablator System**

- 1. RF Ablator should be of 100 Watt
- 2. Must be compatible with Thermister or Thermocouple catheters of all leading companies
- 4. Should have a memory features for ablation parameter storage & recall
- 6. Must have auto cutoff intelligence feature in RF ablator
- 7. Must have Temperature and Power control Mode available

**3D Electro-anatomical Mapping system**

Following general features should be available.

- Capable of 3D non-fluoroscopic mapping of arrhythmia facilitates radio frequency ablation.
- Electro anatomic 3D mapping should be based on location technique using electrical field current or magnetic field or both electrical and magnetic field.
- Platform based on PC computer
- The equipment should be State of Art with capability to create 3D map of multiple Arrhythmias.
- System should be based upon open Platform allowing the use of any make of regular EP catheters form multiple manufacturers for both 3D Mapping & Ablation.
- Intuitive Graphical representation of catheters & 60 or more shadows to identify previous position.
- System should offer both Contact & Advanced Non-Contact Mapping for multiple arrhythmias.
- Should have the capability of Single Beat Non-Contact Mapping to treat non-sustained arrhythmias & create Voltage Map from a SINGLE PVC beat.

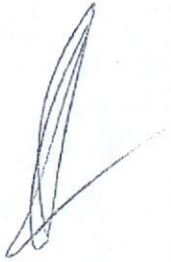
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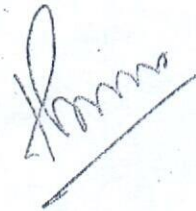
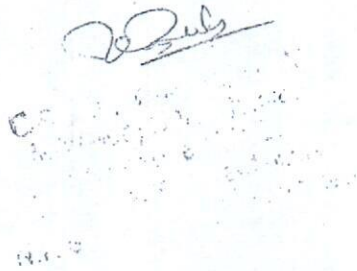
Dr. K. K. P.  
 PROFESSOR & H.O.D.  
 N.R. Singha Hospital



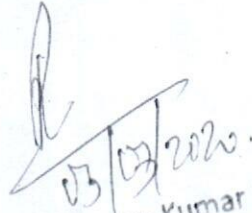
- Should be able to do faster high density mapping by allowing point collection from all electrodes of the catheter.
- The supplier should provide the saline flow irrigation pump (with options for both low and high flow rates) and integration to the RF ablator to facilitate irrigated ablation. It should be possible to switch between both low and high flow rates automatically (preferably) or manually..
- Should provide option of Automatic mapping of the defined area for faster mapping and marking points automatically.
- Should provide an optional quote for compatible Contact Force Technology.
- Supplier should provide 10 units of 3D accessories along with the machine for initial cases.



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### Technical specification For Portable Bed side ECHOCARDIOGRAPHY Machine.

A state of art fully digital, compact portable Colour Doppler Ultrasound machine (weight <5 kg) with pin-less transducer technology is required with following technical features

1. Unit should be able to give very high image quality with advance technologies like compound imaging for better cardiac contrast resolution, tissue differentiation and edge detection, equivalent to high end cart based systems. Please specify the technology.
2. System should be able to support speckle reduction imaging for better tissue differentiation and edge enhancement please specify the technology.
3. The system shall have the ability to enhance tissue margins and improve contrast resolution by reducing artifacts and improving visualization of texture patterns & needle tip within the image, please specify the technology.
4. System should have both online (Read) as well as offline(Write) zoom facility
5. Imaging modes of Real time 2D, Colour Doppler, Pulsed wave Doppler, Continuous wave Doppler, Power Doppler must be available on all cardiac transducers.
6. System must have fast start up to scanning in less than 30 seconds from off condition, for use in critical and emergency situations.
7. System should support transducer technologies like phased array, convex, linear, TEE etc.
8. Cine memory on all modes.
9. The system shall process a dynamic range that is at least 165db. The system must display at a maximum depth of 35 cm.
10. The system must have a dedicated cardiac calculation packages with PISA, TDI calculation packages, QP/QS, vascular calculations package.
11. The unit must be compact, portable and lightweight, weighing less then 5 kg.
12. Unit must be sturdy, resistant to breakage & damage on fall/ hit against the wall or hard surface for use in emergency situations.
13. Flat LCD/ TFT monitor of at least 10 inches with flicker free image.
14. Alphanumeric soft keys keyboard with easy access scans controls, facility to sanitize the system keyboard to avoid cross contamination.
15. The system must have the ability to function by AC/DC or battery power with the same degree of functionality, the battery life (run time) shall be at least 2 (Two) hours, this need to be demonstrated.
16. The system must have archive capability for storage and retrieval of images and clips.data.

  
 02/09/2020  
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- 17. Data Transfer facility should be available as standard, to transfer images etc. easily onto another system/computer etc.
- 18. The system shall support the all DICOM functionality, Storage, Print, and Work List, also ready to connect to PACS.
- 19. System should posses' software for Enhanced Needle Visualization to track the needle clearly at steep angles during the procedures while maintaining striking image quality of the target structures and the surrounding anatomy with simple On/Off functionality with convex and linear transducers.
- 20. WARRANTY: The unit and main transducers should be covered with comprehensive onsite warranty for five years commencing from the date of issue of installation certificate.
- 21. The equipment should be mountable on trolley & locking mechanism should be inbuilt into the trolley for safety & security of the system.
- 22. System should have both European CE and US FDA quality certification.

**Transducers to be supplied as standard**

- 1. 2-5 (+/-1) MHz multi-frequency broadband curved array transducer for general purpose, abdominal, deep nerve access applications
- 2. 6-13 (+/-1) MHz multi-frequency, broadband linear array transducer for vascular, nerve imaging with less than 40 mm size for vascular access, small parts, vascular, musculoskeletal applications. Higher frequency will be preferred.
- 3. 1-5 MHz ( $\pm 1$  MHz) multi-frequency broadband Phased array transducer for abdominal, Cardiac, Lung & OB applications with 21 mm size.
- 4. 8-4 MHz multi-frequency broadband Phased array transducer for pediatric abdominal, pediatric Cardiac, neonatal applications with 10 mm size.
- 5. Mobile cart with transducer holder and space for printer
- 6. Triple Transducer Connector with electronic switching facility to toggle between transducers.

**Optional Transducers to be supplied :**

- 1. 8-3 MHz Multi TEE for adult cardiology multiplane transesophageal 180 degree rotation of the imaging plane providing a 360 degree field of view.

*[Signature]*  
 13/03/2020  
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## **Specifications for High Vacuum Suction unit for ENT Surgery**

### **1. High Vacuum Suction Unit**

The Machine should offer quiet, low vibration operation, thus creating a pleasing environment for carrying out examinations and facilitating stress-free, concentrated work.

Should have:

- a) High suction capacity of 30 liters/minute
- b) Maintenance free cylinder and piston system
- c) Hydrophobic bacterial filter to protect the pump
- d) Easy to clean.
- e) Should be medical grade and European CE & USFDA certified

#### **Technical data:**

Suction capacity: 30 liters/minute

Vacuum: up to 85kPa, up to 640mmHg

Line voltage: 115VAC, 50/60Hz  
230VAC, 50/60 Hz

Dimensions: 345mm × 245mm × 282 mm (H×W×D)

Weight: Not More than 7Kg

Protection Class: Protection class I; BF; IPX I

**ALL THE ITEMS SHOULD BE FROM THE SAME COMPANY AND SHOULD BE USFDA European CE & USFDA APPROVED.**

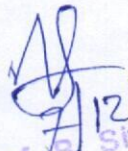
*NS*  
12/19,  
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KOL-14



### Specifications for Drilling Burr for Otology

1. **Tungsten Carbide Straight Shaft Burr**, stainless, size **0.6 - 7mm**, length 7 mm, set of 15.
2. **Diamond Straight Shaft Burr**, stainless, size **0.6 - 7mm**, length 7 mm, set of 15.
3. **Rapid Diamond Straight Shaft Burr**, stainless, with coarse diamond coating, size **2.3 -7mm**, length 7 mm, set of 9.

**ALL THE ITEMS SHOULD BE FROM THE SAME COMPANY AND SHOULD BE European CE & USFDA APPROVED.**

  
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# Cool Cordless Surgical Head Light

S.No	Specification
1	Should have LED Technology
2	Lamp life should be approximately 50,000 hours
3	Luminous intensity should range from 2,25,000 to 2,50,000 Lux. Should have a homogeneous uniform light.
4	Colour temperature : 4000 - 5500K
5	Should provide in depth illumination of the surgical field of 3-7" at 14" working distance
6	Should have adjustable aperture ranging from 3"-7"
7	Should be light weight ranging from 250-310g
8	Should have large adjustable illumination field of 3cm -7 cm
9	Headlight construction should be Rigid Plastic.
10	Headband should be plastic with adjustable removable foam pads.
11	Strap design ( Head Band) Should provide maximum wearing comfort.
12	Strap ( Head Band) should be replaceable.
13	Battery Dual Sync Circuit Technology
14	Battery Life after full charge should be minimum of 3-4 hrs
15	Battery warranty of minimum 1 year
16	Should have a compatible Four Bay battery digital desktop charger for mains.
17	Should have fast & easy battery change without powering off.
18	Integrated battery status indicators
19	Carry case with handle
20	Should be US FDA approved

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LED Headlight with Battery & AC/DC Power Supply

- 1) System should be High quality LED system along with Lithium Ion Batteries, Battery Holster, Battery Charger, Single Bay, AC/DC Power Kit
- 2) The colour temperature for unit should be between 4900kelvin- 5300 kelvin
- 3) Unit should deliver 25000+ hour of consistent bright light.
- 4) System should have smart fan technology and should have three position intensity setting Low, medium, high.
- 5) Unit should deliver 350+ Lumen/ 50,000Lux and should have iris for controlling spot size.
- 6) Unit should have spot size between 20mm-130mm and should be delivered along with two Lithium ion battery and system should give audible battery life notification.
- 7) The system should have minimum two year warranty and battery should have 1 year warranty.
- 8) Battery life should vary between 2 hour to 4 hours depending upon selected setting.
- 9) Full system should be supplied from one brand and should be US FDA approved which ensure best quality product.

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