

**U.T. Administration of Daman and Diu,
O/O Medical Superintendent,
Government Hospital, Daman**

Tender Notice No. GHD/DMN/E-TENDER/ 2014-2015/1605

Date: 18.09.2014

RE-INVITE E-TENDER (ON LINE) NOTICE

The Medical Superintendent, Government Hospital, Daman on behalf of President of India, invites tenders for following items through on line on [http: Daman.nprocure.com](http://Daman.nprocure.com) from the manufacturer/Authorized Dealers/suppliers having valid License. The tender notice also available on www.daman.nic.in.

| Sr. No. | Description Items | Estimated cost | EMD (in the form of FDR | Tender fees (Non Refundable) |
|---------|--|----------------|-------------------------|------------------------------|
| 1 | Supply/Installation/Fixing/Commissioning of 4(four) No. of Modular Operation Theatre & Medical Gas Pipe Line System(MGPS) with Anesthesia gases scavenging system for 4(four numbers of Modular Operation Theatre, VIP Room, Recovery Room in the OT Block established on the ground floor of the hospital at Govt. Hospital(Marwad), Daman. | Rs.4,55,00,000 | Rs.13,65,000/- | Rs. 5000/- |

Interested bidders should visit to see the project site & works to project site within any working day & hours.

Bid document downloading Start Date : Dt.18.09.2014

Pre-Bid meeting

a. Date & Time

: Dt.26.09.2014 10.00 am

b. Venue

**: Conference Hall
Director Medical & Health
Services, PHC, Moti Daman**

Technical Presentation

: Dt.26.09.2014 15.00 hrs

Bid document downloading End Date

: Dt.08.10.2014 14.30 Hrs.

Last Date & Time for Physical Tender Documents Submission

: Dt.08.10.2014 14.00 Hrs

Last Date of submission of Online Rates

: Dt.08.10.2014 15.30 Hrs.

Preliminary Stage Bid Opening Date(if possible)

: Dt.08.10.2014 16.00 Hrs.

Technical Stage Bid Opening Date (if possible)

: Dt.08.10.2014 16.30 Hrs.

Commercial/Financial Stage Bid Opening Date(if possible)

: Dt.08.10.2014 16.30 Hrs.

Validity of Tender till

: 31.03.2015

The bidder may download the tender online form, But the same properly filled Tender Form should be submitted after paying INR 5000/- only by D.D. to department at the time of site inspection and filling information's of Tender Bidder Information Form.

The company representative should come along with carrying their valid authority letters for submission of the same at site, duly authorized by their respective company managements, and should notify the department by signing on Tender Bidder Form duly available thereof, Without signing on Tender Bidder Information Form or submitting their respective company authorization letter their bid will not be consider.

On line opening of price Bid: on Dt.08.10.2014 by 16.30 hours (If possible)

Bidders have to submit price bid in Electronic format only on www.nprocure.com till the last date and time for submission. Price bid in physical format shall not be accepted in any case.

Submission of tender fees in the form of DD, EMD in the form of FDR and other supporting documents i.e. copy of valid license from competent authority, copy of VAT/ST Registration and copy of PAN/TAN of income Tax etc, and terms and condition duly signed in hard copy to the undersigned by RPAD/Speed post/by hand on or before 07.10.2014 up to 12.00 pm hours, however, Tender Inviting authority shall not be responsible for any postal delay.

The tender inviting authority reserves the right to accept or reject any or all the tenders without assigning any reasons thereof.

| |
|--|
| Bidder shall have to post their queries on E-mail address: ghddmn@gmail.com on or before dated 25.09.2014 upto 12.00hours. |
| In case bidder needs any clarification or if training required for participating in online tender, they can contact the following office. (n) Code Solution-A Division, GNFC Ltd” 403,GNFC Info Tower, Bodakdev, Ahmedabad- 380054, Gujarat (India) <u>E-Mail ID : nprocure @ncode.in</u> Fax +917926857321 |
| Website:www.nprocure.com |

**(Dr.Sunil P.Amonkar)
Medical Superintendent
Govt. Hospital, Daman**

**U.T. ADMINISTRATION OF DAMAN & DIU
O/O THE MEDICAL SUPERINDENDENT,
GOVERNMENT HOSPITAL,
DAMAN**

SUPPLY/ INSTALLATION/ FIXING/ COMMISIONING OF 4(FOUR) NO.OF MODULAR OPERATION THEATRES, AND MEDICAL GAS PIPE LINE SYSTEM WITH ANESTHESIA GASES SCAVENGING SYSTEM FOR 4 (FOUR) NUMBERS OF MODULAR OPERATION THEATRE, VIP ROOM, RECOVERY ROOM IN THE OT BLOCK ESTABLISHED ON THE GROUND FLOOR OF THE GOVERNMENT HOSPITAL, DAMAN.

LAST DATE OF SALE OF TENDER DOCUMENTS: dt.08.10.2014 by 14.30 hours

LAST DATE OF ONLINE UPLOADING OF TENDER : dt.08.10.2014 by 14.30 hours

PHYSICAL SUBMISSION DATE OF TENDER DOCUMENTS: dt. 08.10.2014 by 14.30 hours

DATE OF TECHNICAL BID DOCUMENTS OPENING: (If Possible): dt. 08.10.2014 by 16.30 hours

DATE OF PRICE BID OPENING: (If Possible) : dt. 08.10.2014 by 16.30 hours

Brief Details about project

SUPPLY/ INSTALLATION/ FIXING/ COMMISSIONING OF 4(FOUR) NO.OF MODULAR OPERATION THEATRES, AND MEDICAL GAS PIPE LINE SYSTEM WITH ANESTHESIA GASES SCAVENGING SYSTEM FOR 4 (FOUR) NUMBERS OF MODULAR OPERATION THEATRE, VIP ROOM, RECOVERY ROOM IN THE OT BLOCK ESTABLISHED ON THE GROUND FLOOR OF THE GOVERNMENT HOSPITAL, DAMAN.

Government Hospital at Nani Daman, was started in the year pre-liberation time (before 1962) with a minimum OPD services and Indoor facility. This hospital later on equipped with enhanced OPD & Indoor Patient facilities, whereas most of the departments are equipped with modern technology & equipments. The hospital has a group of dedicated doctors, medical and paramedical staff. The Hospital consists of following facilities.

- The Hospital is having 135 bed IPD facility.
- The Hospital is having 12 bed facilities in ICU, The ICU is equipped with ventilators, Defibrillator and Multipara Monitor etc.
- Patients of CVA, AGE, IHD, RHD, Diabetic, Fever, Poisoning, Snakebite, TB, Tetanus, Rabies, Meningitis and any other epidemic or communicable diseases are treated. The IPD of hospital is having below described departments to take care of different diseases.

| | | | |
|-------------------------|---------------|---------------|-------------------|
| Medicine | Pediatric | Dental | Public Health |
| Surgical | Radiology | Physiotherapy | Dietetic |
| Orthopedic | Neonatology | Dermatology | STD & ICTC Clinic |
| Obstetrics & Gynecology | Ophthalmology | Psychiatry | |

As ideally required, the Hospital is having a dedicated Male Surgical & Female Surgical ward just opposite to the Operation Complex, around approximately 100 Surgeries are carried out in a month. The Hospital is having 6 Bedded Recovery Room with centralized Medical Gas Pipeline system.

Description of available Facilities

| | |
|-----------------------------------|-----------------------|
| Year of Establishment | : pre-liberation time |
| Number of Departments | : 15 |
| Number of ICU or equal department | : 12 |
| Number of Operation Theatres | : 04 |

| | |
|---|-------|
| Operation Theatres available for surgeries (Yes / No.) | : Yes |
| Number of Administration Staff | : 06 |
| Number of Nursing/Clinical Staff | : 40 |
| Number of Doctors | : 15 |
| Number of Surgeon Available | : 10 |
| Number of Anesthetists Available | : 03 |
| Number of OT Staff/Technicians Available | : 20 |
| Total Numbers of beds available in IPD | : 135 |
| OPD Facility present (Yes / No) | : Yes |
| Major Equipments at Emergency Services are available (Yes/No) | : Yes |

Reason of renovation of existing Operation Theatres:-

Presently the existing facilities of Govt. Hospital, Daman(Operation Theatres and Medical Gas Pipeline System) are based on conventional technology & standards prior used in Hospitals, hence need to be equipped with modern technologies which are imbibe by modern super specialty hospitals all over the world in current era. The conventional structure can't deliver the expected positive results since the latest equipments need to be incorporated in the same. The Government of India itself constitutes a regulatory body with the name of National Accreditation Board for Hospitals & Healthcare Providers- "NABH", "NABH" itself recommends to implement modern technology in medical grade MGPS(Medical Gas Pipeline System) and Operation Theatres equipped duly equipped with modern healthcare technology & related equipment's, the same imposed statutory need of minimal health hazards of SSI(Surgical site Infections). The Modern Technology benefits all stake holders. Patients are the biggest beneficiary. The Modular OT system results in high quality of care and patient safety. The patients get services by credential medical facilities available for treatments. Patient safety & satisfaction is regularly evaluated.

Implementation of modern state of art MGPS(Medical Gas Pipeline System) and Modular Operation Theatre stimulates continuous improvement. It enables the hospital in demonstrating commitment to quality patient care. It raises community confidence in the health services provided by the health care organization. It also provides opportunity to healthcare unit to benchmark with the best. Finally, Operation Theatre and MGPS equipped with modern technology provides an objective system of empanelment by insurance and other third parties.

Scope of Work

Medical Superintendent, Government Hospital(Marwad), Nani Daman, India, has invited this Tender for **SUPPLY/ INSTALLATION/ FIXING/ COMMISSIONING OF 4(FOUR) NO.OF MODULAR OPERATION THEATRES, AND MEDICAL GAS PIPE LINE SYSTEM WITH ANESTHESIA GASES SCAVENGING SYSTEM FOR 4 (FOUR) NUMBERS OF MODULAR OPERATION THEATRE, VIP ROOM, RECOVERY ROOM IN THE OT BLOCK ESTABLISHED ON THE GROUND FLOOR OF THE GOVERNMENT HOSPITAL, DAMAN.**

Interested Vendors are mandatorily required to submit all the required documents(except Financial/Price Bid & AMC/CMC Price, as both of these should be submit online only) complete in all respects with one original copy, one authenticated copy along with one soft copy in MS Word/MS Excel on a CD duly attached with tender document.

Project Name: SUPPLY/ INSTALLATION/ FIXING/ COMMISSIONING OF 4(FOUR) NO.OF MODULAR OPERATION THEATRES, AND MEDICAL GAS PIPE LINE SYSTEM WITH ANESTHESIA GASES SCAVENGING SYSTEM FOR 4 (FOUR) NUMBERS OF MODULAR OPERATION THEATRE, VIP ROOM, RECOVERY ROOM IN THE OT BLOCK ESTABLISHED ON THE GROUND FLOOR OF THE GOVERNMENT HOSPITAL, DAMAN.

A)

- 1) ESTIMATED COST : Rs 4,55,00,000/- only (Rupees:- Four Crore Fifty Five lakhs only)
- 2) EMD/SECURITY DEPOSIT MONEY(FDR/Demand Draft) from any of the Commercial Banks in an acceptable form payable at DAMAN) for the period of One years from the date of installation: Rs.13,65,000/- only in favor of “Medical Superintendent Government Hospital”
- 3) The successful tenderer/bidder will have to pay within 10 days from the date of demand, an amount equal to 5% of the total value of articles, which may be ordered, as the amount of security deposit. Non receipt of Security Deposit within stipulated time will result in automatic cancellation of the order for supply without any intimation. However in case if any articles are received for which the Security Deposit may not have been deposited, the full Security Deposit as may be due from the supplier will be recovered from the bill(s) for such articles.
- 4) TENDER FEE : Tender Fee (Demand Draft) from any of the Commercial Banks in an acceptable form payable at DAMAN) : Rs.5000/- only “Medical Superintendent Government Hospital”
- 5) COMPLETION PERIOD: Total 4 months(120 days) from the date of Placement of order/handing over of project site.

B) ELIGIBILITY CRITERIA :

1. Pre-Qualification will be based on meeting all the minimum criteria for pre qualification, Documents furnished & submitted by respective company/ firm, and other qualification criteria regarding the Applicant's work experience, personnel & equipment capabilities and financial position as demonstrated by the Applicant's responses in the forms attached to the Letter of Application.
2. Tendering is open to all the eligible agencies / firms/ companies having sound background and their own respective specialization in carrying out similar nature of works orders of Central/State Government/Autonomous Body/Public Sector Undertaking/UT of India for **Supply installation/fixing commissioning of Modular Operation Theatre and Medical Gas Pipe Line System.**
3. The Firm Company Should posses completion certificate and work order for similar nature of Hospital work (in this case project work of any Govt.(State Govt./ Central Govt.) / Public Sector Undertaking / Autonomous Body / UT) of three Modular OT with Three MGPS.
4. The firm/company should possess completions certificates and work orders for similar nature of hospital work(in this case project work of any Govt.(State Govt./ Central Govt.) / Public Sector Undertaking / Autonomous Body / UT) and fulfilling at least any of the following mentioned work criteria
 - a) ONE Completion Certificate and work order of project worth of value of 80% of tender value
OR
 - b) TWO Completion Certificate and work orders of project worth of value of 50% of tender value
OR
 - c) THREE Completion Certificate and work order of project worth of value of 40% of tender value (Work-orders and completion certificates should only be of respective similar nature of work).

The bidder/tenderer should have Authenticated documents of AMC/CMC contract undertaken of similar nature of work (in this case Modular OT and MGPS) Government Project works(Central Govt/State Govt/ Public Sector Undertaking/ Autonomous body/UT Government) after warranty period.

5. The Bidder Firm/Company/Proprietorship Firm should be "registered" in India, with having their respective registration with ESI & PF, at least from last 3 years since from the publish of this tender documents.

- 6 The Company should have positive Net Worth and should not have incurred loss in any consecutive year in last three(3) years ending 31st March 2014, The balance sheets of all three consecutive years should be true notarized copy. Please note that the balance sheets should carry an average financial turnover during the last three consecutive financial years should be at least Rs. 15.00 crore ending upto 31.03.2014.

S.No. Year

1. 2011-2012
2. 2012-2013
3. 2013-2014

- 7 Before submitting a tender, It is implied on all the bidders that they will be deemed to have satisfied himself by actual physical inspection of the site and Locality of the works, that all conditions liable to be encountered during the execution of the works are taken into account and that the rates entered in the tender are adequate and all inclusive to accord with the provisions of contract for the completion of works.
- 8 All the Applicant/Bidders are instructed to submit Technical Bid Documents along with required documents/details & Financial Bid online, whereas the physical submission needs all technical bid documents along with all required details in two sets one as “Original”, second as “COPY”. **All the Tenderer/Bidders are instructed to attend Pre Bid Meeting Scheduled on dt 26.09.2014 time 10.00 hrs & Technical Presentation on dt. 26.09.2014 time 15.00 hrs preferably.** The department/authorities may allow tenderer/bidder/applicant a grace period of one week(7 days) time to reappear for Technical Presentation, lieu of possessing/fulfilling both the stages(attend/appear in Pre Bid Meeting & elapsed grace time of one week for reappearing for technical presentation) will deliver the negative message to tendering authorities/department of such tenderer/bidder/applicants of having no serious efforts/interest in respective tendering process, and the candidature of such bidder/tenderer/applicant will be summarily rejected, the complete tender documents can be downloaded from our mentioned website <http://www.nprocure.com>.. Any ambiguous attempt of misleading and lingering up tender process by false complaint/objections raised from ineligible/unsuccessful applicants/bidders will summarily be rejected and treated nullified.
- 9 A successful bidder/applicant/tenderer must have exposure in executions of work orders related with supply/installation/fixing/commissioning of Modular Operation Theatres, this is also very clear to all the tenderer/bidders/applicants that it is implied on the successful bidder/tenderer/applicant that he must have to complete the Medical Gas Pipeline System & Anesthesia Gas Scavenging System(AGSS) work also, and without any prejudice with work quality/nature of work without any excuse.

C) Sealing, Marking & Submission of Tender Bid

The Tender Bid shall be submitted in accordance with the procedure detailed herein. Specified documents shall be enclosed in envelope of appropriate size each of which shall be sealed.

1. Envelope No. 1 : Shall contain the Bid Securities(EMD) + Tender Fee as indicated in tender documents.
2. Envelope No. 2 : Shall contain covering letter and the other Bid documents duly signed and notarized by notary public/gazetted officer, including the following :
Power of attorney of person authorized to sign the Bid duly signed and notarized by notary public/gazetted officer. Original Bid documents (all pages) duly signed and stamped & notarized by notary public/gazetted officer.
3. Envelope No. 3 : Shall contain only both the other envelopes i.e Envelop 1(Security Money/Tender Fee) & Envelop 2.(Technical Bid). The Bill of Quantities and Rates/Prices/AMC/CMC Prices duly filled in anywhere in documents submitted physical in any conditions whatsoever are liable to be summarily rejected. Please note that the price should not be indicated in any of the documents enclosed in Envelope no. 1 & 2. Non-compliance shall entail rejection of the Bid.

4. **All the following documents should be duly signed and notarized by notary public/gazetted officer :-**

- a) Constitution of Bidder as indicated in tender documents
- b) Documents of Company Registration/Incorporation
- c) Letters from Principle Company / Authorized Agency
- d) Project Completion Certificates with Work Orders
- e) The Firm Company Should possess completion certificate and work order for similar nature of Hospital work (in this case project work of any Govt.(State Govt./ Central Govt.) / Public Sector Undertaking / Autonomous Body / UT) of three Modular OT with Three MGPS.

AND

- f) The firm/company should possess completions certificates and work orders for similar nature of hospital work(in this case project work of any Govt.(State Govt./ Central Govt.) / Public Sector Undertaking / Autonomous Body / UT) and fulfilling at least any of the following mentioned work criteria

- 1) ONE Completion Certificate and work order of project worth of value of 80% of tender value

OR

- 2) TWO Completion Certificate and work orders of project worth of value of 50% of tender value

OR

- 3) THREE Completion Certificate and work order of project worth of value of 40% of tender value (Work-orders and completion certificates should only be of respective similar nature of work).

- g) Safety, Health & Environmental Policy(SHE Policy)

- h) Copy of Balance Sheets of all three (3) consecutive years ending upto 31.03.2014 along with average financial turnover certificate of Rs.15 crores for three (3) consecutive years ending upto 31st March 2014, duly certified by Chartered accountant
 - i) All Annexure & Application Forms as mentioned/required in Tender
 - j) VAT/Work contract Tax Registration Certificate
 - k) Details of Company Capabilities & Machinery available with tenderer/bidder
 - l) Copy of Bank Solvency certificate of Rs.175 Lakhs
 - m) Product/Item wise Technical Specification Compliance Sheet.
5. The applicant should have sound technical and financial capacities to undertake the assignment and it would be preferable if the senior officials possess the relevant experience and exposure to execute works. Outsourcing of technical capability shall be deemed cancellation of the bid.
 6. Process to be Confidential: After the public opening of Bids, information relating to the examination, clarification, evaluation and comparisons of Bids and recommendations concerning the Award of Contract shall not be disclosed to Bidders or other persons. Any effort by any of the Bidder to influence the Tender Inviting Authority/Department/ or any concerned executive involved in the process of examination, clarification, evaluation and comparison of Bids and decision concerning Award of Contract will result in the rejection of the Bidder's Bid.
 7. The company should be engaged specially in both the respective fields i.e Modular Operation Theatres, Medical Gas Pipeline System with AGSS, since last seven years from till date. The relevant evidentiary documents should be submitted for supply/ installation /fixing/commissioning/manufacturing by own only; the establishment tenure of company should at least 7(seven) years.
 8. The applicant company should have ISO & CE certification and having relevant experience of relevant product as eligible.
 9. Any joint Venture/Consortium/Foreign Joint Venture or Consortium/Foreign Investment is not allowed, if found, will disqualify for tender process without any prior notice.
 10. The applicant /bidder company should complete /done relevant government projects with similar capacity job. All system of Medical Gas Pipeline System must be certified by third party: i.e.(i) - For system installed as per NFPA standard , NFPA appointed inspector must certify system and relevant documents for inspector must be submitted with bid documents. (ii) - For system installed as per HTM standard, HTM appointed Pharmacist must certify system and relevant document for pharmacist must be submitted with bid documents.
 11. The company /organization if working with central government/State/UT governments/Public Sector Undertaking/Autonomous body, if YES, adequate evidentiary documents should be attached.
 12. The applicant company should have exposure towards work execution of project having HVAC system.

13. An incomplete and/or ambiguous and/or conditional and/or late response is liable to be ignored/ summarily rejected.
14. While submitting the sections duly filled in applicant shall enclose latest copies of brochures and technical documentation giving additional information about the applicant. The language for submission of application shall be English only.
15. Financial data, project costs, value of works, etc. should be given in Indian Rupees only.
16. Incomplete & inappropriately filled in application are liable to be rejected
17. Costs incurred by applicant(s)/bidder in preparation and submission of information/ documents in providing clarifications or attending discussions/meetings, on site visits or due to any other reasons will not be reimbursed by Government/UT Government/Department.
18. Firm will be short-listed completely based on technical presentation & documents furnished for proposed services. The short listed/successful firm will be required to participate in the e-tender floated by the department. Any objection for selection process will be summarily rejected.
19. The UT Administration, reserves all rights to reject any or all the Tender without assigning any reason.
20. Each page of tender documentation shall be duly signed by the applicant or their own respective authorized representative.
21. The following documents also must be submitted along with the Tender Documentation should be notarized:
 - a. List of organization available on hand (own) and proposed to be engaged for the work.
 - b. List of plant and machinery available on hand (own) and proposed to be inducted (Own and hired to be given separately) for the work.
 - c. List of similar nature of works completed in the last 7 (seven) financial years giving description of work, organization for whom executed, date of award and date actual start, completion date of contract should also be given.
 - d. List of works on hand indicating description of work of balance work yet to be done and date of award.
22. - **Mode of payment:-**
 - 40% payment against 100% goods delivery
 - 40% payment after installation.
 - 10% payment after handing over and training,
 - 10% security money

23. DELIVERY & INSTLLATION: The ordered items shall be delivered & installed and commissioning within Four Months (120 days) from the date issue of supply order.

24. PENALTY CLAUSE (for supply): The tenderer will be bound to supply the items within the stipulated period as mentioned above, failing which the following penalty will be levied on the tenderer (deducting from the EMD/Security Deposit).

- a. **For delayed execution:-** A penalty of 0.5% of the total value of order per week will be imposed subject to a maximum of 10% of the total value of the order.
- b. **For Non Execution:-** Security Deposit of the firm shall be forfeited followed by blacklisting of respective Tenderer/Bidder company.

25. PRICES:

- a. Prices are firm & fixed
- b. Prices accepted are FOR destination in Medical Superintendent, Government Hospital, Daman
- c. You shall furnish original manufacturers test certificate.
- d. Freight & insurance, loading / unloading and incidental expenses, installation & commissioning will be arranged by you at your own cost.

26 .COMPREHENSIVE WARRANTY:- The following Guarantee/Warrantee Clause shall be applicable and binding on you: Comprehensive Warranty / Guarantee(Initial 5 years(60months) :- The seller declares / certify that the goods / stores / articles sold / supplied to the purchaser under this contract shall be New in all respects, are of the best quality, workmanship and shall be strictly in accordance with the specification and particulars contained/ mentioned in the contract. The contractor / seller further guarantees that the said goods / stores would continue to conform to the given description and quality aforesaid for a period of 5 years(60 months) from the date of Installation / Commissioning of the said stores/ articles in the premises of the purchaser/ user department. The above guarantee / warrantee is not-withstanding to the fact that the purchaser may have inspected the store / article and / or not within a period of 60 months of thereafter. In case said goods/stores / articles is discovered not to conform to the description and quality aforesaid or not giving satisfactory performance or have deteriorated at subsequent stage, the purchaser may take such action or issue such directions as deems fit to Tenderer to bring the machine in conformity with prescribed specification / to make it operational and which shall be final and binding on the contractor/ seller.

The purchaser is entitled to call upon the contractor to rectify the goods/Stores/articles or such portion of store as found to be defective by the purchaser within a reasonable period/ or such specified period as may be allowed to the contractor failing which the losses, compensation, damages etc, including the cost of repairing of such store, the contractor is having alternate choice of rectify the same existing goods/stores/articles or he can replace the goods/stores/articles with same or superior quality goods/stores/articles, if the Store/ items/ machine is repaired from open market or such damages as assessed by purchaser, which indenter would suffer due to non-operation of the said article/ instrument, shall be recovered from the tenderer and the firms/ tenderer shall be blacklisted for breach of warranty. The Tenderer shall further commit to provide unconditional AMC (labour only) for the next 60 Months (five years) to ensure satisfactory / flawless functioning of the stores to give the desired result. The indenter shall bear only the costs of spares at the prescribed prices, in case required as necessary / essential, to keep the above equipment functional.

27. **UPTIME GUARANTY:** During the Warranty / Guaranty period, you shall maintain the equipment with 95% uptime. You shall give a written commitment for 95% uptime of the equipment, calculated on annual basis, with penalty equivalent to double the amount of daily cost (on total loss of revenue per day / running cost per day basis) of the unit for each day's delay in proper functioning of the unit beyond 5% down time per annum.

28. **PENALTY CLAUSE FOR REPAIRS:-** The tenderer will be bound to get the equipments repaired within 48 hours of the receiving of the complaint from the indenting hospital failing which a penalty of @ 0.5% of the cost may be recovered from the Bank Guarantee before releasing the same after 2 years .

29. **CORRECTNESS AND COMPLETENESS OF THE STORES:-** The stores shall be correct and complete in every respect will all mounting fitting, fixtures , Standard, accessories which are normally supplied even through not specifically detailed to the specification.

30. **RECTIFICATION CLAUSE:** In the event of stores is given back to the manufacturer should ensure that the defect attended as soon as possible basis and without loss of time so that stores can be re-inspected as earliest. However, it should be noted that the manufacturer will not entitled to dispose off that stores which is given for rectification / rejecting without prior permission of the hospital authorities/Concerned Department authority.

31. **INSTALLATION:** The equipment shall be installed / demonstrated by you free of cost at consignee premises. You will provide 2 copies of the manual including electric circuit diagram design in free of cost along with the equipment.

32. **INTIMATION OF DISPATCH:** The documents should be in the name of consignee only. The information regarding shipment should be sent to the institution well in advance. Delay in submission of relevant information/ incorrect document, and any such information due to which the clearance of stores is delayed, the demurrage charges shall be to your accounts.

33. **LIABILITY:** Supplier's responsibility shall be up to consignee's warehouse/ premises. However, you will be responsible for any damages/ losses due to defective packing etc.

34. **TRAINING:** You shall provide onsite training to Medical & Technical Staff.

35. **INSURANCE:** You shall take cover from warehouse basis and shall keep it valid until store reach hospital at Daman leaving sufficient time for necessary installation and commissioning.

36. **AMC OR CMC SERVICE AFTER EXPIRY OF PERIOD OF WARRANTY OF 5 Years:** After the expiry of this period, you will enter **into A.M.C. OR C.M.C.** on mutually agreed terms & conditions for further maintenance of the whole equipment as per your tender.

37. **SAFETY, HEALTH & ENVIRONMENTAL POLICY(SHE POLICY)** : The Tender/Bidder documents should accompanied with a SHE(Safety, Health & Environment) Policy, Organization Chart(Flow chart), Project Organization (Duties and Responsibilities), Project Control and Administration Methodology of working, Self Test and inspection Plan, non conformity and corrective Actions, Safety , monitoring mechanism.

38. The tenderer/bidder/bidder should specify the name of the manufacturer for the items quoted by them along with catalogue of the item and complete specification for the items quoted to be submitted in the Technical Bid.

39. The tenderer/bidder/bidder should match the quality mark certifications as given and specified in technical terms & conditions document.

40.The decision of the Tender Inviting Officer for acceptance/rejection of any articles supplied including the decision for quality mark certifications, standard and quality etc. as specified in technical bid document of articles shall be final.

41.The amount of Earnest Money paid by the successful Tenderer/bidder(s) will be adjusted against the amount of Security Deposit to be paid by the successful tenderer/bidder(s)

42. The tender should be neatly typed only carries the name of supplier and the signature of the tenderer/bidder. No overwriting, correction or erasures will be considered. Handwritten/Filled Tender documents will be summarily rejected,

43. All bills should be in TRIPLICATE and should invariably mention the number and date of supply order. All bills for amount above Rs. 5000/- should be pre-receipted on a Revenue Stamp of proper value. Bills for amount exceeding Rs. 5000/- not pre-receipted on Revenue Stamp of proper value will not be accepted for payment.

44.Each bill in which Sales Tax is charged must contain the following certificates on the body of the bill: “CERTIFIED” that the goods on which Sales Tax has been charged have not been exempted under the Central Sale Tax Act or the Rules made there under and the amount charged on account of Sales Tax on these goods is not more than what is payable under the provisions of relevant Act or Rules made there under”.

45.The Tenders shall be submitted in two-bid system, wherein the Technical bid and Commercial/ Financial Bid is to be filled online in www.nprocure.com and the EMD and photocopy of the receipt of Tender Fee has to be submitted in Tender Box along with a covering letter. The envelope should be super scribing on the envelope as “Sealed Cover of Bid- for **Supply/Installation/Fixing/Commissioning of 4(four) numbers of Modular Operation Theatre and Medical Gas Pipe Line System with Anesthesia Gases Scavenging System for 4(four) numbers of Modular Operation Theatre, VIP Room, Recovery Room in the OT Block established on the ground floor of the hospital,** for Medical Superintendent, Government Hospital(Marwad), DAMAN”. The EMD Rs. 13,65,000 and Tender Fees 5000/-

46. The right to accept or reject without assigning any reasons or all tenders in part or whole is reserved with the Tender Inviting Officer and his decision(s) on all matters relating to acceptance or rejection of the tenders as a whole or in part will be final and binding to all.

47. The Purchase committee will open the Tenders(if possible) in presence of tenderer/bidders or their representatives, if any present in the Office of the Tender Inviting Officer. The Purchase Committee will first open the technical bid and considering the technical specifications. The Committee will open the financial bid only of those firms who are qualified for technical bid as per specifications given by the department.

48. In case, the supplier does not execute the supply order placed with him, the EMD of the supplier will be forfeited to the Government and the contract for the supply shall terminated with no further liabilities on either party to the contract.

50. No separate agreement will be required to be signed by the successful tender(s) for the purpose of this contract for supply. Rates tendered/offered in response to the concerned Tender Notice shall be considered as acceptance of all above terms and conditions for supply for all legal purpose.

51. The tender will be accepted during working hours on dt.07.10.2014 at 14.30 hours and will open on the same day (if possible) in the office of the Medical Superintendent, Govt. Hospital, DAMAN.

52. Orders once placed should be delivered within the given time period and item should be door delivered.

53.No extra charge for packing, forwarding and insurance etc. will be paid on the rates quoted.

54. The rates should be quoted only for the items specified in the list of requirement and should be for the items of given special make/manufacture.

55. Rates quoted for items other than the required specification/ make/manufacture will not be considered.

56. The amount of Earnest Money paid by the tenderer/bidder(s) whose tenders are not accepted will be refunded to them by cheque or Demand Draft (as may be convenient to the Tender Inviting Officer if the amount is above Rs.5000/-) drawn on any branch of State of India or its subsidiary Commercial Bank. Where this mode of payment is not possible the amount will be refunded at the cost of the tenderer/bidder.

57. Only on satisfactory completion of the supply order for and on payment of all bills of the supplier, as to be admitted for payment, the amount of Security Deposit/Earnest Money will be refunded after expiry of guarantee/warranty period, if any, or any such date/period as may be mutually agreed upon.

58. The tender inviting officer will consider extension of time for remitting the Security Deposit as demanded. However, in case of denial to consider such extension the supplier is bound to abide by the limit given and liable to make good for the loss made to the Government on account of his failure to abide by the time limit.

59. Railway Receipt or other transport document should be drawn in the favour of Officer Inviting tender.

60. Railway Receipt or other transport document should not be sent by VPP or through any Bank as this being a Government Office it is not possible to clear cash demands of Post Office/Bank for delivery of RR or other transport documents unless we have agreed to it as special arrangement.

61. The supplies, materials etc. of inferior quality standard or of different specifications, brand, manufacturer etc other than that ordered specified and/or incomplete or broken articles will not be accepted. The supplier has to replace the same at his own cost and risk. Intimation of non-acceptance of any materials etc will be sent to the supplier within 10 days from the date of receipt of the stores and the same will be returned to the supplier at his own cost and risk, if he so desires and intimates accordingly within 15 days from the date of dispatch of intimation of the non-acceptance. However, if no communication is received within 15 days from the date of communication the tender Inviting Officer will not be responsible for any damages, loss etc. of such rejected articles.

62. In case of failure to replace the accepted and rejected articles from the supplies made, as mentioned in the conditions the loss undergone by the Government will be recovered from the suppliers Security Deposit/Earnest Money or payment due of any bill(s) to the extent required.

63. In case of failure to supply the store, materials etc. ordered for, as per conditions and within the stipulated time, the name articles will be obtained from the tenderer/bidder who offered next higher rates or from any other sources, as may be decided by the tender inviting Officer and the loss to the Government on account of such purchases(s) shall be recovered from the former suppliers Security Deposit/Earnest Money or bills payable. The suppliers shall have no right to dispute with such procedure.

64. Extension of time limit for supplies shall be considered by the Tender Inviting Officer. The extension so granted may be with levy of compensation for delay in execution of supply order up to 5% of the cost of supplies ordered for at the discretion of the authority competent to grant extension of time limit provided such request is made well in time, depending upon the circumstances and such decision in the matter will be final.

65. Demurrage charges paid by the Tender Inviting Officer on account of delayed receipt of dispatch documents intimation will be recovered from the bills payable to the supplier.

66. If at any time after the order for supply of materials the Tender Inviting Officer shall for any reason whatsoever not require the whole or part of the quantity thereof as specified in the order the Tender Inviting Officer shall give notice in writing of the fact to the supplier(s) who shall have to claim to any payment of compensation what so ever on account of any profit or advantage which the supplier(s) might have derived from the supply of articles in full, but which did not derive in consequence of the full quantity of articles not having been purchased, nor shall have any claim for compensation by reasons of any alterations having been made in the original instructions which shall invoice any curtailment of the supply originally contemplated.

67. The Earnest Money(s)/Security Deposit(s) paid by the tender(s) earlier against any tender(s) or supply order(s) is/are not adjustable with Earnest Money or Security Deposit required by these conditions.

68. The tenderer offers/received do not conform to the terms and conditions of this office, will be summarily rejected. If any firm desires to consider exemption from payment of Earnest Money Deposit, certified copies of its Registration with D.G.S. & D. should be attached to their tenders.

69. The items as mentioned in the list are the approximate estimates invited and actual purchase may more. Accordingly the successful tenderer/bidder has no right for any loss/damages with reference to approximate requirement shown in tender and actual requirement.

70. Supplier may ensure the goods at his own cost to safeguard the delivery of such goods dispatched by him to the consignee; the department will not be responsible for the damages or pilferage of goods during transit.

71. The tenderer/bidder should attached copies of certificate of experience in execution of at least 3 (three) number of similar nature turnkey project covering Modular OT, MGPS with AGSS, Anesthesia Work Station, proof of fulfilling the respective norms i.e. HTM 03-01, HTM 02-01, & NFPA 99 certificates of the manufacturer, copy of dealership/authority letter (as per Annexure I) , license for import, PAN No., User list of Tender items, Catalog of the item quoted etc. with his/their tender. The tenderer/bidders shall submit along with the tender, documentary evidence of their previous experience in carry out similar supply and of their eligibility in support of their claim for consideration in the matter of award of contract.

72. The bidder, for all equipments not manufactured by themselves directly, Authorization letter for supply for this project should be submitted by bidder for that particular equipment.

73. No vendor/supplier can submit two authorization letters for the same project & equipments.

74. Rates should be quoted online only on Commercial /Financial Bid Format issued online by the department and as per the requirement asked for. Rates quoted are for Medical Superintendent, Govt. Hospital, DAMAN

75. The tenderer/bidder may be called for a Sample / demonstration of the items quoted for which he/she/they will be informed one week in advance for arranging the necessary Sample / demonstration in the hospital on a suitable date & time failing which the tender will be rejected.

76. The tenderer/bidder will have to quote the AMC & CMC Rates online separately. The Rate for AMC & CMC with details Terms & Conditions for Five Years. The discretion to accept the quotation for the item with or without A.M.C. rest with the Medical Superintendent

77.The successful tenderer/bidders should install and commissioning the hospital equipment at the site suggested by the office.

78.The tender document shall be duly signed by the supplier, the Tenderer/bidder has to submit the authorization letter from the principal manufacturing company as per the format prescribed in Annexure I.

79.The successful tenderer/bidders shall be bound to provide training if any required without any extra charges during commissioning. The tenderer/bidders shall be bound to give assurance for undertaking the annual maintenance contract after the expiry of guarantee/warranty period.

**Signature & Designation of
Tender Inviting Officer...**

Dr.Sunil P.Amonkar
Medical Superintendent,
Government Hospital,
DAMAN

The above terms and conditions are accepted and are binding to me/us.

Place:

Signature of tenderer/bidder

Dated:

**Name of tenderer/bidder with seal
of the firm**

NOTE: Please return One Copy of these terms and conditions duly signed with seal of firm along with the tender.

APPLICATION FORM NO. 1**LETTER OF APPLICATION**

[NOTE : On the letterhead paper of the applicant including full postal address, telephone no., fax no., telex no. and cable address]

Date : _____

To,
Medical Superintendent,
Government Hospital,
Daman(UT)

Sirs,

1. Being duly authorized to represent and act on behalf of
(hereinafter referred to as “the Applicant”) and having reviewed and fully understood all the pre-qualification information provided, the undersigned hereby apply to be pre-qualified by yourselves as a bidder for the :

Supply installation/fixing commissioning of 4(four) numbers of Modular Operation Theatre, and Medical Gas Pipe Line System with Anesthesia Gases Scavenging System for 4 numbers of Modular Operation Theatre, VIP Room, Recovery Room in the OT Block established on the ground floor of the hospital.

| | |
|---------------|--|
| Tender Number | Client Name |
| ----- | Govt.Hospital, Devka Beach Road, Nani Daman, Daman |

2. Attached to this letter are copies of original documents defining:
 - (a) the applicants legal status
 - (b) the principal place of business
 - (c) the place of incorporation (for applicants who are corporations) or the place of registration and the nationality of the owners (for applicants who are partnerships or individually owned firms)
 - (d) application form no. 1 to 3 and Annexure i to Annexure viii.
3. Your agency and its authorized representatives are hereby authorized to conduct any inquiries or investigations to verify the statements, documents and information submitted in connection with this application, and to seek clarification from our bankers and clients regarding any financial and technical aspects. This letter of application will also serve as authorization or any individual or authorized representative or any institution referred to in the supporting information, to provide such information deemed necessary and requested by yourselves to verify statements and information provided in this application, or with regard to the resources, experience, and competence of the Applicant.

Your agency and its authorized representatives may contact the following persons for further information:

| | |
|---|---------------|
| General, Personnel, Technical and Financial Enquiries | |
| Contact 1 : | Telephone 1 : |
| Contact 2 : | Telephone 2 : |

5. This application is made in the full understanding that:
- (a) Bids by pre-qualified applicants will be subject to verification of all information submitted for pre-qualification at the time of bidding
 - (b) Your agency reserves the right to :
 - amend the scope and value of the contract / bid under this project ; in such event, bids will only be called/accepted from pre-qualified bidders who meet the revised requirements ; and
 - reject or accept any application, cancel the pre-qualification process, and reject all applications without assigning reasons or incurring any liability thereof ; and
 - (c) Your agency shall not be liable for any such actions and shall be under no obligation to inform the Applicant
6. The undersigned declare that statements made and the information provided in the duly completed application are, true and correct in every detail.

| |
|----------------------|
| Sealed & Signed |
| Name |
| For and on behalf of |

APPLICATION FORM NO. 2

GENERAL INFORMATION

All individual firms applying for pre- qualification are requested to complete the information in this form. Information to be provided for all owners or APPLICANTS who are partnerships or individually-owned firms.

| | |
|----|--|
| 1. | Name of firm |
| 2 | Head office address |
| 3 | Telephone Contact |
| 4 | Fax E-mail No. |
| 5 | Place of incorporation/ Year of incorporation/ registration Registration |

Authorized Signatory of bidder and stamp

APPLICATION FORM NO. 3

STRUCTURE AND ORGANIZATION

1. Name & address of the applicant
2. Telephone No. / Telex No. / Fax No.
3. Legal status of the applicant (attach copies of original document defining the legal status)
 - (a) An individual
 - (b) A proprietor firm
 - (c) A firm in partnership
 - (d) A Limited Company or Corporation.
4. Particulars of registration with various Government bodies (attach attested photocopy)

Organization /Place of registration/Registration No.
5. Name and Titles of Directors & Officers with designation to be concerned with this work.
6. Designation of individuals authorized to act for the organization
7. Was the applicant ever required to suspend the work for a period of more than six months continuously after you commenced the work? If so, give the name of the project and reasons of suspension of work.
8. Has the applicant ever abandoned the awarded work before its completion? If so, give name of the project and reasons for abandonment.
9. Has the applicant ever been debarred / black listed for tendering in any organization at any time? If so, give details.
10. Has the applicant ever been convicted by a court of law? If so, give details.
11. Any other information considered necessary but not included above.

Authorized Signatory of bidder and stamp

ANNEXURE - I

To,
Medical Superintendent,
Government Hospital,
Daman(UT)

Respected Sir,

We hereby declare that **M/s.** is our authorized distributor for our products in India from date_____ and they are authorized to quote and follow up on our behalf and the said agreement is valid in force as on date;_____.

2. I/We undertake to supply the drugs / items for which the quotations of following items are submitted by on our behalf in respect of Tender Enquiry No.

| <u>Sr. No.</u> | <u>Item No.</u> | <u>Name of Item</u> |
|-----------------------|------------------------|----------------------------|
| 01. | | |
| 02. | | |
| 03. | | |

3. I / We have read all the terms and conditions of the tender enquiry and the same are irrevocably binding upon us till the expiry of the contract signed & executed on our behalf;

4. I/We shall notify the Medical Superintendent, Government Hospital, Daman immediately if there is any change in the agreement between **M/s.**_____and us regarding authorized distributorship of our products and further undertake to supply the items quoted by the distributor on our behalf at the quoted in the tender enquiry in case of such a change of agreement.

5. This authority is applicable only for Tender Enquiry of Medical Superintendent, Government Hospital, Daman Annual E Tender for Year 2013-14 due on

Date:-

Signature of Authorized Signatory and stamp

ANNEXURE - II**PERSONNEL CAPABILITIES**

| Sr. No. | Designation | Total Number | Number available for this work | Name | Qualification | Professional experience | Remarks |
|---------|-------------|--------------|--------------------------------|------|---------------|-------------------------|---------|
| | | | | | | | |

Authorized Signatory of bidder and stamp

ANNEXURE - III**EQUIPMENT CAPABILITIES**

| Sr No. | Name of Equipment | Nos. | Capacity or Type | Age | Condition | Remarks |
|-----------|----------------------|------|---------------------|-----|-----------|---------|
| | | | | | | |

Authorized Signatory of bidder and stamp

**FINANCIAL
CAPABILITIES****ANNEXURE – IV****(Rs. In lacs)**

| Financial Year | Annual Turn Over in Indian Rupees (or equivalent to Indian Rupees) as per Audited Balance Sheet |
|---|---|
| 2011-2012 | Rs. |
| 2012-2013 | Rs. |
| 2013-2014 | Rs. |
| Average Annual Turnover over the past three years | |

| Financial Information in Rs. Equivalent | For year 2011-2012 | For year 2012-2013 | For year 2013-2014 | | |
|---|--------------------|--------------------|--------------------|--|--|
| 1. Total Assets | | | | | |
| 2. Current Assets | | | | | |
| 3. Total Liabilities | | | | | |
| 4. Current Liabilities | | | | | |
| 5. Profit before Tax | | | | | |
| 6. Profit after Tax | | | | | |
| 7. Net Worth | | | | | |

NOTE : The above data is to be supported by audited balance sheets

5. Attach copies of audited balance sheets for three years (2011-2012,2012-2013,2013-2014)
6. Attach recent solvency certificate from bankers of at-least of Rs.175 Lakhs).
7. Indicate financial arrangements for carrying out the proposed work.

Authorized Signatory of bidder and stamp

ANNEXURE - V

EXPERIENCE OF COMPLETION OF PROJECTS OF SIMILAR NATURE & COMPLEXITY

(During last seven years ending last day of month previous to the one in which applications are invited)

| Sl. No. | Name of work / project and location | Owner or sponsoring organization | Cost of work in Lakhs | Date of commencement as per contract | Stipulated date of completion | Actual date of completion | Name and address/ telephone number of officer to whom reference may be made | Remarks |
|---------|-------------------------------------|----------------------------------|-----------------------|--------------------------------------|-------------------------------|---------------------------|---|---------|
| | | | | | | | | |

NOTE : Please attach supporting documents (completion certificates along with order copies) for the above information

Authorized Signatory of bidder and stamp

Annexure - VII

Technical Compliance: This information to be filled in as per the following format by all the bidders for each equipment bid by them and duly signed and to be submitted along with the techno-commercial / financial bid:

| Item Ref. (1) | Tender Specifications (2) | Compliance of parameter/ specification (3) | Non-Compliance of parameter/ specification (4) | Remarks for Sr. No.(4) (5) |
|------------------|------------------------------|---|---|----------------------------------|
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

The information given above is factual & based on product specification details as per the latest catalogues/ product data sheets and technical literature enclosed.

Signature of the bidder and stamp

ANNEXURE-VIII
Check-List

| S.No | Criteria | Requirements | Cross Referencing / Page no. at which required information is available (To be mentioned) | Indicate Eligibility Y / N |
|------|---|--|---|----------------------------|
| 1 | Balance Sheet showing Financial Turnover along with certificate for average turnover last three years | Balance Sheet showing Financial Turnover along with certificate for turnover of Rs. 15 crore for Three consecutive years ending to 31 st March 2014. | | |
| 2 | Experience | During last seven (7) consecutive years | | |
| 3 | Personnel Capabilities | List of suitable qualified and experienced personnel in relevant field | | |
| 4 | Equipment Capabilities | List of equipment required and proposed to be deployed & source of such equipments | | |
| 5. | Financial Capability | Company should have positive Net Worth and should not have incurred loss in any of the consecutive year during in last Three years ending 31 st March 2014 carrying average turnover of Rs.15 crore only duly certified by the Chartered Account. | | |
| 6 | Solvency Certificate | Solvency certificate for Rs. 175 Lakhs (Rs. one seventy five lakhs only) only from applicant's bank | | |
| 7 | Works Contract Tax/VAT Registration with the appropriate Authorities. | In case the firm is not registered at the time of submission of bid, a declaration by the firm that they will get themselves registered with the concerned authorities in case they are awarded the work is submitted. | | |
| 8 | Item wise Technical Compliance Statement Wrt Technical Specification as published in Tender Documents | As per Annexure – VI | | |

Note: Civil work & Plumbing work will be finished by Department as suggested by vendor and mutually agreed with Govt. Hospital – Daman authorities.

Authorized Signature of Bidder with stamp.

MODULAR OPERATON THEATRE

TECHNICAL SPECIFICATIONS

1) WALLS& CEILING SURFACES STERILE COATING SYSTEM

- The internal surfaces of the theatre walls should be sprayed with water based, non-reflective liquid plastic, to a color approved by the architect, to adequate dry film thickness as per international standards. This plastic coating will overlap the floor covering, ceiling system and door frames by 25mm to provide a continuous sealed surface. The spray surface should have a smooth finish and should be void of any cracks on its surface.
- The sterile coating applied to a thickness of 60 microns of the already applied primer coating on the panel sinner surface, should be water resistant, does not support bacteriological or fungicidal growth and should be resistant to most chemicals commonly used in hospital departments.
- The sterile coating should remain un affected by radiation and other ionizing gradation all levels in excess of 1,000mrad and should be classified to class 1 when tested in accordance with the requirements as specified under BS:476: part 7; 1971, surface spread off lame test for materials. The coating should be SILVER I on based.
- The coating system should be easily maintain able and should be able to withstand repeated cleaning with alkaline detergents, antiseptics and fumigation agents without any degradation to the surface finish or performance.
- This coating should be water resistant and should not support bacteriological or fungicidal growth and should be resistant to most chemicals commonly used in hospital departments. It should neutralize micro-organisms which come into contact and should prevent colonizing or sporing of micro-organisms.

- The sterile coating should be silver based and show resistance to a wide range of mixed species, including stubborn pathogens such as MRSA, Acine to bacteriaerogenes, Bacillussubtitles, Escherichiacoli Listeria monocytogenes, pseudomonas aeruginosa, pseudomonas, putidasal monellaty pimurium, serratiamarcescens, staphylococcus Aureus.
- The sterile coating should remain unaffected by radiation, its anti-microbial system should not leach out and its anti-microbial properties should last for a minimum of 10years. The sterile coating system should be easily maintained and should with stand repeated cleaning with alkaline detergents, antiseptics and fumigation agents without any degradation to the surface finish or performance.
- It should conform to standards HTM08-01/HTM56.

2 PRE FABRICATED MODULAR OPERATION THEATRE – WALL & CEILING

WALL & CEILING PANELLING:

- The main requirements for any operation theatre wall system are such that they should be impact resistant, show resistance to solvents and chemicals and prevent colonizing of micro-organisms or neutralize micro-organisms which come in to contact with the wall surface and should be joint-less. The surface should be able to prevent cracking and should be scrub-able and amenable to cleaning and have a completely sealed finish. It should have Biological attack resistance, hygienic finish and also have hydrothermal performance.
- The Prefabricated operating rooms should be free standing structure, constructed from composite, free standing insulated steel wall panels.

- These panels should be produced in a double band laminator, in which two continuously moving belts of Stainless Steel 304 sheets of 0.80mm thickness are firmly bonded together by the sprayed in insulating foam, which hardens during this process. All panels should have a fifteen year de-lamination warranty.
- The core should consist of rigid polyurethane foam, which has been injected under high pressure, with a minimum density of 40kg/m^3 . The walls should be modular in construction, consisting of 1180mm, 875mm, 570mm and 265 mm wide panels, together with corner panels 200x200 mm to achieve the desired false ceiling height. The thickness of the complete panel, including the core should be a minimum of 60mm. Conform with respective certificate copy duly attached herewith having clearly mentioning of above, The modular wall panels are installed upon floor using a “ U” channel. Each Pre-Fabricated Operating Room may optionally includes loping ceiling panels at an angle of 45 degrees from the straight wall panel edge. This options reduces the overall volume of the room, decreasing the running costs for air-conditioning and ventilation, while at the same time maintaining the necessary height at the center of the room for the installation of ceiling mounted equipment's.
- All wall mounted equipment should be flush-mounted and sealed into theater wall buy means of durable sterile jointing system.
- The wall panel design and construction should allow for the installation and support of all equipments with provision of openings required for repair and maintenance without affecting rigidity and strength.
- The inner surface of the operation theatres should be seamless, free from visible joint sand sharp edges. All internal corners and panel joints should be filled with a proprietary filler and sanded flush, or radius used(for corners) on site, ready to receive a sterile plastic finish.
- The total distance between the inside and outside surfaces of the theatre should vary to suit the architect's layout; however the composite wall thicknesses should be 100mm or less. The cavity between the inner and outer walls should be left with minimum obstruction for the possible addition of equipments at a later date and to enable services, pipes, conduits etc. to be run within the cavity.

- The inner surface of the operating theatre should be seam less, free from visible joint sand sharp edges. All internal corners and panel joints should be filled with proper Epoxy filler, Sanded flush or radius used on site, ready to receive the sterile plastic finish. All panel joints should be invisible when the final plastic coating is applied.
- All wall-mounted equipment should be flush mounted and sealed into theatre wall by mean so fa sterile jointing system. The wall panel design and construction should allow for the installation and support to fall equipment and the provision for openings required for the installations, without affecting the rigidity and strength.
- The internal surfaces of the theatre walls and ceiling should be sprayed with water based, non-reflective liquid plastic, to a color approved by the architect, to a minimum dry film thickness of 60 microns. The plastic coating should overlap the floor covering, ceilings system and door frames by 25mm to provide a continuous sealed surface.
- The sterile coating applied to a thickness of 60 microns of the already applied primer coating on the panel inner surface, should be water resistant, does not support bacteriological or fungicidal growth and should be resistant to most chemicals commonly used in hospital departments.
- The sterile coating should remain unaffected by radiation and other ionizing gradation at levels in excess of 1,000mra and should be classified to class1 when tested in accordance with the requirements as specified under BS:476: part7;1971 ,surface spread off lame test for materials. The coating should be SILVER-I on based.
- The coating system should be easily maintain able and should be able to with stand repeated cleaning with alkaline detergents, antiseptics and fumigation agents without any degradation to the surface finish or performance.
- The thickness of the wall panels should be a minimum of 10 mm and mounted on the existing Wall structure using the necessary steel frame work. The Wall panels should be easily removable for catering to service related needs.

Electrical Components

Each modular panel should contain separate cable pathways for the routing of electrical services and a variety of openings and rear enclosures for the fixing of electrical components. Cable sizes for power sockets, earth and potential equalization wiring should be provided according to the specific requirements of the site. Separation of LV&ELV Supplies to BS7971, conforming to HTM06-01 & HTM06-02 standards.

Communication Components

Each modular panel should contain separate cable pathways for the routing of communication services and a variety of openings and rear enclosures for the fixing of components. Internal wiring is executed according to the existing valid standards, running in a separated cable pathway up to an integrated services connection point.

Mechanical Components

Medical gas outlets are connected to the wall panels from pipes running within. Piping for medical gases is segregated by means of a separate duct within the modular panel; the piping used will be medical grade copper tube according to EN737-3. The modular panel is delivered in a pre-piped configuration, including the CE-marked medical gas outlets of which all common brand types are available.

3. ESD VINYL FLOORING

The flooring should be conforming to standards DIN EN 1081, DIN EN 1815, EN 12466, EN 425, EN 423 & EN 433. It should be carrying characteristics of fire resistant, scratch resistant, chemical resistant & resistance to fungi – bacterial growth.

As vinyl is the oldest effective ESD flooring material. Solid vinyl tile (SVT) should be able to deliver a facility that hospital look of cleanliness and shine at optimum level. The Flooring should be able to achieve general appreciations from technical facilities managers & they should often favor vinyl flooring because of a reputation for being inexpensive, simple to repair and easy to clean. To achieve the same, joints between individual tiles should be welded by heat fusion process to get a seamless floor. The PVC welding bar should be of the same matching color as that of the tile and a hot air gun should be used for fusion of welding bar with flooring tile. Conductive flooring should be installed within the OT area to

prevent damage to sensitive medical electronic equipment's, inadvertent movement of surgeons / technicians, accumulation of static dirt. Maintenance should be simple such as each individual tile can be replaced in very short down-time.

The Conductive flooring should be having the following characteristics:

- Should have low accumulation of electrostatic charges to people & Equipment.
- Should provide an enduring resistance to static and dynamic loads
- Should display excellent resistance to chemical products such as detergents, acids and alkaline products with carrying Low VOC emissions.
- Should have Fungi-static and bactreostatic treatment throughout the total thickness of flooring.
- Should non-absorbent, impervious and non-porus.
- The Conductive tiles should be static – conductive, flexible, homogenous vinyl floor covering with an electrical resistance of $5 \times 10^4 \leq R_t \leq 10^6$ (EN 1081).
- The conductive flooring should ensure:
 - a) The protection of Electronic equipment and components
 - b) The protection of premises against explosive risks.
 - c) The protection of people against electro-static discharge risks

SELF LEVELING COMPOUND (SLC) FOR FLOORING COMPATIBLE TO OPERATION THEATRE

The SLC should be of Portland cement-based, It should be self-leveling underlayment formulated with a special blend of polymers used to level and smooth interior concrete, terrazzo, ceramic and quarry tile, epoxy coating systems, metal and non-water soluble adhesive residue on concrete prior to the installation of finished flooring – on, above or below grade. The SLC should provide a durable, flat, smooth floor surface with minimum labor and installation time. It should be pourable or pump-able when mixed with water and should seek its own level to produce a smooth, flat, hard surface.

The SLC should be having following characteristics:

- It should be Portland cement-based
- Should be able to Install up to 1 1/2" (4 cm) neat, 5" (12.7 cm) with aggregate
- It should be featheredged to meet existing elevations
- It should be walk-able in 2 to 3 hours
- It should be able to Install moisture-insensitive tile and stone after 6 hours, all other floor coverings after 16 hours
- It should be designed specifically for fast-track installations

1. LAMINAR AIR FLOW CEILING SYSTEM CONFORMING TO STANDARD HTM03-01 & HTM60

The operating theatre should be equipped with a supply air ceiling to the following specification.

The ceiling should have been type tested and certified in accordance with the German standard DIN 4799.

The air-supply ceiling should provide optimum air distribution over the patient area, integrated with shadow less lighting.

The ceiling should be constructed with a plenum box supplied with conditioned air from the central system via "H-14" class. HEPA filters, The same should be mounted on the exit from the supply ducting.

The ceiling should include integral lighting and a composite air/light diffuser. The HEPA filters should be factory tested and certified. Test seals must be provided in the filter housing in accordance with DIN 1946 and DIN 4799.

The ceiling should incorporate supports to secure it to the main structural frame of the modular operating theatre.

The ceiling should be constructed from 1.6 mm thick aluminium sheet frame painted, white after manufacture.

Air should be diffused into the theatre uniformly over the total area.

The Laminar flow ceiling should also have illumination across its total area.

The lighting should be sufficient to provide an illumination level of 1500 Lux (with 40 Illumination lights) at the wound-site and should be dimmable down to 3% of full lighting, without flicker.

Lighting should be generated from high frequency electronic ballast's complete with colour corrected fluorescent tubes.

The air light diffusers should be installed in a manner, which allows them to be removed for access to the lamps and air filters.

Control equipment for the general lighting and the light dimming should be provided in the theatre control panel.

The Air, light diffusers should consist of two layers of monofilament precision woven polyester bonded to aluminium frames.

The screens should have uniform porosity, with an open area of sufficient resistance to create laminar airflow from the diffuser face.

The operating lamps should be secured directly to the framework of the supply ceiling in such a way as to minimise deflection.

This should contain a ring of high frequency fluorescent tubes to provide additional lighting outside the operating area to provide a minimum lighting level of 1000 Lux throughout the operating theatre.

Control equipment for the peripheral lighting should be provided in the theatre control panel to allow independent control of the lighting levels of both the central lighting and the peripheral lighting by the surgical team.

. The Laminar flow should be of following characteristics:

4.A Planar Plenum Size: 2800mm x 2800mm with 4000CFM capacity

Laminar Air Flow

4.B Planar Plenum Size: 1800mm x 1800mm with 2000CFM capacity

Laminar Air Flow

2. DOOR AND FRAME

Hermetically Sealed Sliding Door – Automated

The Hermetically Sealed Sliding Door should be outcome of an advanced manufacturing technology with the utilization of high-quality materials, the door system should consists of operator, door and door frames. It should be easy to install for both new construction and retrofit applications. Although the operator is should be compact in size and slim in appearance, it should be entirely suitable for the heavy duty applications. During the installation the operator should programmed to comply with the customer's specific requirements.

As clear/positive/sterile air is vitally important for good health, thus Hermetically sealed sliding doors should be comprises specially design to control the air pressure and should be able to reduce outflow of previous positive/sterile air, it should be having door blade which should be inherit quality of single leaf construction, which is of utmost importance in the hospitals i.e.Operation Theatres, Clean rooms, Laboratories. The success of the door should be a result of the hermetically sealing system. The door blade should suspended from an overhead track.

As the door closes, it should drops through an angle of 45° inwards and downwards. The rubber gasket should seals the door positively against the frame and the floor. These doors should be provided as inside sliding, outside sliding.

To permit safe passage between closing door and frame, the door should be immediately reverse/stops if an obstruction is detected, then it should resume its interrupted movement at low speed/programmed speed to check whether the obstruction has disappeared or not. If an obstruction is detected between the opening door and surrounding wall or interior fittings, the door should immediately stops and then closes after a time-delay programmed in accordance

with user convenience. The safety should be further improved by using a 'Photocell' presence detection system. People or objects in the doorway should be detected and the door should then prevented from closing until it is safe to do so. The operator microprocessor should have an integrated self-monitoring device, which should detect any interference or faulty signals in door operation and measures ensuring a safe operation. The electronics are grouped in plug-in units. Each unit should be subjected to programme of stringent quality tests before delivery. The door should also be able to operate manually opened by means of handles on both sides of the door. To make the manual opening easier, a push & go function will automatically control the opening and closing of the door. The Door system should have comprises with following specifications:

Automated operated hermetically sealing sliding main door on Operation Theatre of approximate size, 2100mm (H) X 1000 (W) and 2100mm (H) X 1500 (W)

It Door should be having a track system wherein the door blade is guided under a 45° angle with approximately 6mm deep indentations at the closed position.

The door should having a special inside & outside Stainless Steel lever handle that lifts out the door blade from its hermetic closing position, thus should allow even very heavy doors to be opened effortlessly, manually.

The door should be encased within an extruded anodized 2.5 mm thick aluminum profile frame all around the door blade, and should be with solid high pressure laminate on both sides bonding firmly for rigidity.

The door should have special nylon top rollers with double roller bearings, to enable the door to slide smoothly & silently.

The door blade should be having a special 3-tier specially designed 3 side heavy duty replaceable EPDM gaskets, for the hermetic sealing on the wall frame. The bottom sealing should be with a 2-tier heavy duty EPDM gasket to flush with the finished floor.

The door core should be 60 mm thick, built up with 4 mm thick HPL (High pressure compact laminate) skin on both sides of the door to provide better strength and rigidity. Having between the two sides of laminates – CFC free, high density polyurethane puff (density 40 Kg / m³), and thickness of 52mm.

Vision panels should be double glazed, laminated safety glass, flush finished on both sides with door blade should be provided in the doors.

The automation controller for the door should be microprocessor based with regulated electro-mechanical sliding door drive.

The automation should be able to operate a door with maximum door weight of 250Kg.

The wall frame should be high grade aluminum extrusion with natural anodized 15 micron finish wall frame profile. The wall frame profile should be 3 sided blind fixed with cladding on wall cut-out section from inside and outside of the room.

The automation should have variable / adjustable opening & closing speeds, with opening speed adjustable between 120mm / sec --- 800mm / sec and the closing speed adjustable between 120mm / sec ---- 500mm / sec.

The automation / door should be able controlled/operated using either push-button switch, Kick switch or Sensor (touch less – infra-red) switches OR all in combination.

6 Double Leaf SS Door

Double Leaf Stainless Steel Door Single Side Open Flush Door with 49mm thickness of both door leafs, having size of 1800mm x 2100mm with view window of 300mm x 300mm duly complete with clean view glass, The Door should be having .8mm thick SS304 sheet on both faces while door core should be of PU, The Door should be hinge mounted and should complete with all necessary accessories i.e.Door closer, D type SS Door Handle etc.

7 Single Leaf Stainless Steel Single Side Open Flush Door

Single Leaf Stainless Steel Single Side Open Flush Door with 49mm thickness, having size of 1000mm x 2100mm with view window of 300mm x 300mm duly complete with clean view glass, The Door should be having .8mm thick SS304 sheet on both faces while door core should be of PU, The Door should be hinge mounted and should complete with all necessary accessories i.e.Door closer, D type SS Door Handle etc.

WALL MOUNTED ITEMS:-

8 Operation Theatre Control Panel

- It should be a digital control panel consisting of a computer and a touch screen managed by a PLC. It should integrate all controls, signals and alarms of the operation theatre and offer several services addressed to the maintenance staff.
- The information management system should be managed by the programmable software– PLC and the visual and control parameters by the PC/Touch screen, IP64 protected, 15”(inches) insize. It should have a digital micro-phone and speakers, a300 K pixel camera, ambient light sensor and a wireless LAN802.11a BluetoothV2.0.

Following frequent used functions should be available:

a) Controls:

- General Light Switch control, 3 controls in number, having dimming facility
- Temperature and humidity display
- Operation theater status–occupied/ free/cleaning
- Stop watch control
- OT surgical light switch(depending upon the make ,model of the light)

b) Alarms:

- Electrical Alarm (visual &Acoustic)
- Gases Alarm repeater (Visual &Acoustic)
- UPS charging status

c) Communications:

- Telephone/ IP Telephone iflinea vailable
- Internet connection

9 **X-Ray Viewing Screens(Two Plates)**

- The theatre should be equipped with a twin plate X-Ray Viewing Screen, recessed in the wall and designed to provide a high level of control uminance,without flicker, from a unit that is easy to clean and maintain.
- The X-Ray viewing screen illumination should be by LED lamps, controlled by dimming ballast.
- The front panel diffuser is of a glare free type, sealed flush with the inside face of the operating theatre wall(or may as an option be integrated within the control panel fascia).
- The LED lamps should provide a uniform level of illumination across the entire front panel.
- Access for maintenance and lamp changing is from the front of the panel.
- All internal wiring is terminated in connectors with screw and clamp spring connections.
- Individual fuses or miniature circuit breakers protect all internal circuits.
- All internal wiring is of high temperature resistance and secured by propriety cable clips.
- It is flush mounted and sealed in to theatre wall by mean so fa sterile jointing system.

10. Equipment Storage Unit

- Equipment Storage Unit to be provided in operating theatre of dimensions approved by the user.
- It should be flush mounted in to the theatre wall with a sterile jointing system.
- The cabinets should be made of Stainless Steel AISI 304 material.
- Doors of cabinet should open right to left and made of clear safety glass.
- It is suitably partitioned/ shelved to allow storage of common endoscopic equipment's.
- It has the facility of secure locking.
- Conform to standard HTM63

11 Operating List-Writing Board

The Operating List – Writing Board should be flush mounted with a sterile jointing system, The Color of Writing Board should be White on front surface for dry wipe marker and green back for chalk, used material should be Rubber Magnet + Paper, the Operating List-Writing Board can bear Temperature up to 800° Celsius, The used sheet should be of Triple Acrylic Resin Coated Imported Steel Surface, while the writing board should have surface being 0.40mm. It attracts magnet, Smooth & One Stroke Erasing surface, Writing Board surface should have Chemical treatment surface totally Rust free/Crack Proof/Stain Resistance and should have Eco Friendly characteristics.

12 Cascade Pressure Stabilizer

- Cascade pressure stabilizers should be arrange of multi-bladed units specifically designed to control room air pressures in critical areas, such as operating theatre suites.
- Each stabilizer should comprise of carbon steel housing with up to for Grade 304 Stainless steel blades, which pivot upon sealed for life bearing assemblies.
- Balancing is carried out utilizing a proven balance weight assembly.
- These stabilizers should be accurate to arrange of 1Pascal over their working range of 5-35Pa.

13 Hatch Box

A hatch should be provided to remove waste material from the operation theatre to dirty linen area just adjacent to the operation theatre. Each hatch should be equipped with two doors and the door should be operated electronically. The hatch should be designed in such a way that only one door should be open at one time. The UV light should be so installed that it is kept on while both the doors are closed, this UV light should automatically turn “OFF” in case of opening of either of the doors. There shall be indicators on both sides of the OT such that door open/ close status can be monitored from both ends.

14 Clean-room Illuminators

Lamp covered with translucent Plexiglas with high transmission level (higher than 80%), held in a frame of white shell sheet, with integrated screw angles for fastening the lights to the panel system. Including closed mounting frame for the built-in LED lamps; the connection between the illuminator and the ceiling hollow space should be completely airtight. Clean-installed light should non-hygroscopic and be of IP 54 grade. Dimensions should approximately be 600x300mm (length x width).

15 Surgical Scrub Sink – Two Bay

The Surgical Scrub Sink should be made of Stainless Steel of grade AISI 304. It should be destined to be used for operating theatres, where high hygienic standards are to be maintained. It should be free standing sink with wall mounted possibility, having a depth of 300mm. It should be two bay, having standard 2 x drain traps, water and soap dispensers activated by sensor, touch less sensors with pre defined time settings of 30, 50, 60, 90 Seconds as per user requirements, water and soap time adjustable, water thermostat–temperature adjustable and having chrome faucets. It should have openable front panel with two latches for maintenance purposes, having approximate dimensions of 1600(L)x635(w)x1271(H) in mm.

16 AHU (HVAC) System

16.1 AHU - AIRHANDLINGUNIT(DOUBLESKINTYPE)

Type

The air-handling units are of double skin construction, draw-thru type decompressing of various sections such as Pre-filter section, coil section, as shown on drawings and include in schedule of quantities. Unit must be able to work satisfactory in exposed atmosphere conditions.

Casing

Double skinned panels are fabricated with an oxidized extruded aluminum extrusion frame work bolted together with sandwich panel having powder coated 0.70mm sheet for outer skin and plain GPO.63mm sheet for inner skin. 43mm thick PUF insulation material is injected between the two panels (with U value not greater than $0.85 \text{ W/m}^2/\text{k}$).

The entire frame duly painted is mounted on sheet steel channel based. The panels are sealed to the frame work by heavy-duty 'O' ring gaskets held captive in the framed extrusion. All panels are detachable or hinged. Hinges are made of die cast aluminum with stainless steel pivots, handles are made of hard nylon and be operational from both inside and out side of the unit. All fixing and gaskets shall be concealed.

Motor and Drive

Fan motors are highly efficient and work on $440 \pm 10\%$ volts, 50 cycles, three phase with explosion proof type with class F installation, with IP55 protection. Motors are especially designed for quiet operation and motor speed does not exceed 1440 rpm. Drive to fan is provided through belt-drive arrangement. Belts are of the oil-resistant type.

Fan

Fan are of centrifugal type, conforming to AMCA 210 and are double width, double in let with forward-inclined airfoil blades, specially designed and suitable for the required operating pressure. Fan casing are made from galvanized steel sheet. Fan shaft is grounded C40 carbon steel and supported in self aligning plumber block operating less than 75% of first critical speed, grease lubricated bearings.

Cooling Coils

DX coils have 12.5 to 15 mm dia tubes minimum 24G thick with sine-wave aluminum fins firmly bonded to copper tubes assemble in zinc coated steel frame. Face and surface areas are such as to ensure rated capacity from each unit and such that the air velocity across the coil does not exceed 150 meters per minutes. Each coil is factory test ed at 21-kg/m² air pressures under water. Tube is hydraulically/ mechanically expanded for minimum thermal contact resistance with fins. Fin spacing is 4-5 fins per cm.

Filter

Each unit is provided with a factory assembled filter section containing washable synthetic type air filters having anodized aluminum frame. The media is supported with HDP mesh. Filter banks are easily accessible and designed for easy with drawal and renewal of filter cells. Filter banks face velocities do not exceed 100m /minutes. Differential pressures which is to be fixed across the filter as part of AHU's system.

Ducting

The duct supply system should be free of construction debris. Ducting shall be made of Aluminum with curves & bends where indicated for easy flow of air and ensured to be air tight by applying silicon seal ant after fabrication. Hangers shall be provided to ducts & shall be suspended by means of G.I. coated rods & these shall not be more than 2.5mtrs apart. Thermal insulation with 9mm XPE for supply & return air ducts. Joints will be lapped with Nitrile rubber tape for better insulation.

16.2 Air Cooled Package Chiller/ Condensing Units.

Compressor

The compressor shall be of screw, scroll /reciprocating type, hermetic, in accordance with ARI 520, direct driven with capacity control arrangement. The compressor casing shall be of cast iron and designed for 450 psi or higher. The compressor shall incorporate rolling element bearing to support rotating assembly. The rotor shall be higher steel alloy. We prefer the use of Copeland USA Compressors Hermetic Compressors.

Refrigerant circuit components shall include flexible pipe connectors, hot gas muffler, high side pressure switch, liquid lines shut-off valves, suction and discharge shut-off valves, filter drier, moisture indicating sight glass, electronic **thermostatic expansion**

valve(EXV), heavy duty pressure gauge with cocks to monitor suction, discharge and oil pressure and complete operating charge of refrigerant and compressor oil.

Motor

Compressor motor shall be of Hermetic/ semi-hermetic direct drive, squirrel cage, two pole, induction type, refrigerant cooled motor suitable for 415V/ 50Hz. 3phase supply. Hot gas motor cooling is not acceptable. We prefer the use of Copeland USA Compressors Hermetic Compressors.

Condenser

Condenser shall be Air Cooled type. Tubing shall be copper, Aluminum fins high efficiency type. Tubes shall be nominal 19mm. Outer diameter and thickness shall not be less than 22g. and rolled into tube sheets and shall be individually replaceable and also tubes shall be coated with corrosion resistant coating. Condenser fans shall be direct coupled to motor and protected against over loading and with minimum 1.15 service factor. Condenser shall design to allow isolating refrigerant charge when servicing the compressor.

With maintain the above said technical specifications, The Air Handling Unit with Air Cooled Package Chiller / Condensing Units should have following capacity:

16.1 (a) 17.5 tr with 5000CFM

16.2 (a) 11 tr with 3500 CFM

17 **Ceiling Pendants – Imported**

The idea of using ceiling mounts is such that they can be easily swiveled in place to have medical equipment or gases readily available for patient treatment or care. The benefits should translate to flexible positioning and optimal space utilization & in addition hygiene and safety advantages. In nut shell it should eliminate cable clutter and above all the unrestricted movement to fall components in the space around the place of use. They should be CE marked /approved.

17.1 Ceiling Mounted Double Arm Surgical Pendant - Imported

The Ceiling Mounted Surgical Pendant should have CE certification, the Surgical Pendant arm shall be double arm, each arm length of 800 mm length. The arm should be able to swivel around each joint by 330 degrees. It should be able to with hold a weight of not less than 150kg. The surgical pendant should have the following features: Distributor heads /conso les should be modular of length 1200 mm & capable of accepting arrange of shelves(3Nos.)and a drawer with a top shelf, each having weight carrying capacity of at-least 30kg.

- Vertical front rails should offer easy, infinite height of shelves, drawers, extension arms and other Workstation Components
- The Surgical Pendant should have Rails for accessories.
- The extension of the Ceiling mounted Surgical Pendant should be made of extruded aluminum. The unique structure should be developed for guarantee of high-test loads. Long life cycle and extended service interval focus on cost containment and availability at all time.

The internal diameter of the arms should be enlarged to enable safe insertion of cabling and also to anticipate a growing number of digital or analogical signals.

- The Ceiling Mounted Surgical Pendant should carry ambient LED lighting located on the two sides of the modules provides a gentle light. This inside LED should improves the effectiveness of operating unit by enable a more precise viewing of the images on the screens and completely reducing an glare effect. It should enables completely safe viewing of equipment installed on the shelves

- The distributor head should have 10 universal electrical sockets, 1set of RJ45/RJ1 Connectors have 2* Infusion poleswith4bottleholders.

- The Ceiling Mounted Surgical Pendant should meet with Safety standards in accordance to Annex II of 93/42/EEC mentioned on medical devices.

- Four medical gas outlet terminals:
 - Oxygen – O₂
 - Nitrous Oxide – N₂O
 - Air (4 bar)
 - Vacuum

17.2 Ceiling Mounted Single Arm Anesthesia Pendant - Imported

The Ceiling Mounted Anesthesia Pendant should have CE certification; the Pendant arm shall be single arm of length of 800mm. The arm should be able to swivel around each joint by 330 degrees. It should be able to hold a weight of not less than 300kg. The pendant should have the following features:

- Distributor heads/consols should be modular of length 800 mm long approx. & capable of accepting arrangement of shelves(2Nos.)and a drawer with a top shelf, each having weight carrying capacity of at least 30kg.
- Vertical front rails should offer easy, infinite height of shelves, drawers, extension arms and other Workstation Components
- The Anesthesia Pendant should have Rails for accessories.
- The extension of the Ceiling mounted Anesthesia Pendant should be made of extruded aluminum. The unique structure should be developed for guarantee of high-test loads. Long life cycle and extended service interval focus on cost containment and availability at all time. The internal diameter of the arms should be enlarged to enable safe insertion of cabling and also to anticipate a growing number of digital or analogical signals.
- The Ceiling Mounted Anesthesia Pendant should carry ambient LED lighting located on the two sides of the modules provides a gentle light. This inside LED should improve the effectiveness of operating unit by enable a more precise viewing of the images on the screens and completely reducing an glare effect. It should enable completely safe viewing of equipment installed on the shelves
- The Ceiling Mounted Surgical Pendant should meet with Safety standards in accordance to Annex II of 93/42/EEC mentioned on medical devices.
- The distributor head should have 8 universal electrical sockets, 1 set of RJ45/RJ11 connectors, have 2 Infusion poles with 4 bottle holders.
- Four medical gas out let terminals:
 - Oxygen – O₂
 - Nitrous Oxide – N₂O
 - Air (4 Bar)
 - Vacuum

**Bill of Quantity Cum Commercial /Financial Bid
Modular Operation Theater**

| Sr. No. | Description | Qty. | Unit | Rate | Amount |
|---------|--|------|---------|------|--------|
| 1 | SUPPLY AND INSTALLATION OF WALLS & CEILING SURFACES STERILE COATING SYSTEM:- | 357 | Sq. mtr | | |
| 2 | SUPPLY AND INSTALLATION OF PRE FABRICATED MODULAR OPERATION THEATRE WALL, CEILING & SLOPING PANELING:- | 357 | Sq. mtr | | |
| 3 | SUPPLY AND INSTALLATION OF ESD VINYL FLOORING | 130 | Sq. mtr | | |
| 4 | <i>SUPPLY AND INSTALLATION OF PLANAIR VENTILATION CEILING / PLENUM / AIR & LIGHT DIFFUSER / LAMINAR FLOW :-</i> | | | | |
| 4. A. | PLANAIR SYSTEM WITH LAMINAR AIR FLOW Size : 2800mm x 2800mm with 4000CFM capacity Laminar Air Flow. | 3 | Set | | |
| 4 B. | PLANAIR SYSTEM WITH LAMINAR AIR FLOW Size : 1800mm x 1800mm with 2000CFM capacity Laminar Air Flow. | 1 | Set | | |
| 5 | DOOR AND FRAME : Hermetically Sealed Sliding Door – Automated | 4 | Set | | |
| 6 | Double Leaf SS Door | 1 | Set | | |
| 7 | Single Leaf Stainless Steel Single Side Open Flush Door | 2 | Set | | |
| 8 | OPERATION THEATRE CONTROL PANEL | 4 | Set | | |
| 9 | X-RAY VIEWING SCREENS (TWO PLATES) | 4 | No. | | |
| 10 | EQUIPMENT STORAGE UNIT | 7 | No. | | |
| 11 | OPERATING WRITING BOARD | 4 | No. | | |
| 12 | CASCADE PRESSURE STABLIZER. | 4 | No. | | |
| 13 | HATCH BOX | 4 | No. | | |
| 14 | CLEAN-ROOM ILLUMINATORS | 24 | No. | | |

| | | | | | |
|------|--|----|-----|--|--|
| 15 | SURGICAL SCRUB SINK – TWO BAY | 02 | No. | | |
| 16 | <u>AHU (HVAC) SYSTEM</u> | | | | |
| 16.1 | AHU –SYSTEM AIR HANDLING UNIT (DOUBLE SKIN TYPE) a) 17.5 tr with 5000 CFM | 3 | Lot | | |
| 16.2 | Air cooled Package Chiller/ Condensing Units a) 11 tr with 3500 CFM | 1 | Lot | | |
| 17 | <u>Ceiling Pendants – Imported</u> | | | | |
| 17.1 | CEILING MOUNTED DOUBLE ARM SURGICAL PENDANT - IMPORTED | 3 | Set | | |
| 17.2 | CEILING MOUNTED SINGLE ARM ANESTHESIA PENDANT – IMPORTED | 4 | Set | | |

AMC / CMC PRICE BID

| Sr. No. | Description | Rate |
|--------------------|---|-------------|
| 01 | Annual Maintenance Contract for Total MODULAR OPERATION THEATER Project After expiry of 5 Year Warranty | |
| | 1 ST Year | |
| | 2 ND Year | |
| | 3 RD Year | |
| | 4 TH Year | |
| | 5 TH Year | |
| 02 | Comprehensive Maintenance Contract for Total MODULAR OPERATION THEATER Project After expiry of 5 Year Warranty | |
| | 1 ST Year | |
| | 2 ND Year | |
| | 3 RD Year | |
| | 4 TH Year | |
| | 5 TH Year | |

MEDICAL GAS PIPELINE SYSTEM (MGPS)**TECHNICAL SPECIFICATIONS**

| Sr.No. | Description |
|--------|---|
| 1 | <p><u>DISTRIBUTION COPPER PIPEING</u></p> <p><u>Installation:</u></p> <p>Installation of piping should be carried out as per international standards with utmost cleanliness. Only pipes, fittings and valves which have been degreased as per International standards should be used. Pipe fixing clamps for up-to 28 mm diameters. Pipes should be non ferrous suitable for the diameter of the pipe. For the pipes of the sized above 28mm rigid metallic hanging or cemented supports to be used.</p> <p>The main lines to the building to be taken overhead through metallic poles or through underground ducts with inspection removable slabs, All pipe joints should be made using inert gas flux less brazing method. All joints should be of copper to copper and should be brazed by silver brazing filler material without flux while being brazed joints shall be continuously purged with oil free dry nitrogen to prevent the formation of copper oxide on the inside surface of the joint. All pipes should be installed without springing or forcing. All pipes should be protected against mechanical injury in a manner satisfactory to authorities having jurisdiction.</p> <p>Test: After erection, all the new pipes cleaned or purged with the help of dry nitrogen gas. Complete system should be tested with dry nitrogen at 2 times of working pressure for 24 hours.</p> <p>Painting: All existing and proposed exposed pipes/should be painted with two coats of Synthetic enamelpaint & color codification as per international standards. All concealed pipes to have gas identification bands (labels at appropriate distance. Similarly all pipes which need embedding in the wall should be tested/painted/labeled and properly insulated.</p> <p>Certification: To be certified that pipes are suitable for the particular service and complete cross connection (anti-confusion) test should be carried out.</p> <p>Distribution piping system:</p> <p><u>Material (Pipe):</u></p> <p>Solid drawn, seamless, deoxidized, non arsenical, half hard, tempered and degreased materials conforming to BS: EN 13348 Medical Grade Pipe</p> <p>All copper pipes should be inspected and certified by TUV Register of services for medical use before dispatch and the pipe should be delivered plugged or capped at both ends.</p> <p>Pipe sizes to be used as under:</p> <ol style="list-style-type: none"> 42 mmOD X 1.2mm thk 28 mmOD X 1.00mm thk 22 mm OD X 1.00mm thk 15 mmOD X 1.00mm thk 12 mmOD X 1.00mm thk |

| | |
|----------|---|
| | Fittings should be made of copper conforming to BS 864 and suitable for a steam of working pressure of 35 bar and especially made for brazed socket type connections. |
| 2 | <p><u>GAS OUTLET POINTS (Imported)</u></p> <p>As Per NFPA 99 latest edition</p> <p>2.1 TERMINAL / GAS OUTLETS</p> <ul style="list-style-type: none"> a) Oxygen b) Vacuum c) Air d) N2O <p>Surface mount, non interchangeable, self sealing outlets, outlets will consist of a roughing in assembly and a finishing assembly. A non removable positive- pin keying arrangement for each specific gas service installed in the mounting box a fully assembled brass secondary check valve.</p> <p>Design of outlet will be such that It will have the feature to accept probe & push button mechanism for quick release of adaptor. The secondary check valve automatically will form a positive seal to prevent a gas flow when the finishing assembly is removed. The secondary check valve to include 7" (17.78cm) of 1/2" Type K copper tubing with a label affixed which identifies the specific gas by name and color. A plastic cap inserted at the end of the inlet tube. Rotation of the inlet tube will allow gas connection from the top or bottom. The finishing assembly will consists of a die cast chrome plated cover plate, machined brass housing for the primary check valve, and a positive —pin keying device to prevent accidental installation into a roughing in assembly of a dismal gas. The finishing assembly incorporates a double seal arrangement which automatically engages when a hose adapter or patient treatment device is removed from the outlet.</p> <p>The finishing assembly will have a color coded (specific gas) keying disc to prevent connection of hose adapters or patient treatment device to the wrong gas service. The primary check allows absolutely no gas flow to take place until the keying devices are engaged. It will be manufactured in accordance with all applicable NFPA and CGA standards. The locking device will be in the probe instead of gas outlet Matching probe for outlets — Imported as per NFPA -99 UL Listed Matching probes to the gas outlet mentioned above. That is adapter for Oxygen N2o, Air & vacuum / WAGD. Each adapter will have suitable barb or threads so that It can be connected to tube or flow meter/suction regulator. Adapter will have clear gas service embossed on it.</p> |
| | <p><u>(D) MATCHING PROBE / ADOPTERS FOR. GAS OUTLETS (Imported)</u></p> <p>As Per NFPA99 latest edition</p> <p>One end of matching probes shall be suitable for Medical Gas Outlet point & other end shall be suitable for hose. The probes should comply with NFPA 99 & UL listed. Suitable for Oxygen, Nitrous Oxide, Compressed air 4 bar, compressed air 7 bar, 0155 connection, vacuum</p> |

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| 3 | <p>AREA VALVE SERVICE UNIT <u>Model no of valve box</u></p> <p>The valve boxes would be made of Zinc coated Mild Steel and shall be powder coated for housing area/zonal valves. The valve box would be lockable having glass cover.</p> <p>a) 2 SERVICES b) 3 SERVICES c) 4 SERVICES d) 5 SERVICES</p> <p>Zone valve boxes should be constructed of 18 gauge sheet steel with air dried lacquer finish. The cover frame should be made of anodized aluminum and attached to the box by concealed 1-1/2 (38 mm) screws. The finished assembly should be substantially dust-tight. The frame assembly should be capable of adjusting for variances in wall thickness up to 1". The front assembly should contain an easily removable cover window with pull ring. The window should conceal exposed piping and valves inside the box and should be labeled "Caution- Medical Gs Shut —OFF Valves- Close Only in Emergency". Clear viewing space should be provided in the window to display the gas service, the area controlled by the valve, and pressure gauges on units so equipped.</p> |
| 4 | <p><u>MEDICAL GAS AREA ALARM</u></p> <p>a) 2 SERVICES b) 3 SERVICES c) 4 SERVICES d) 5 SERVICES</p> <p>To provide audio visual, close circuit MICROPROCESSOR based self monitoring type Master Alarm with following indications:</p> <p>Oxygen : High/Low/Normal Nitrous Oxide : High/Low/Normal Comp. Air : High/Low/Normal Vacuum : Low/Normal</p> <p>The panels shall have inscribed luminous facias with flasher and alarm complete with flush cancel, alarm mute, fault reset and lamp-test buttons. All lamps shall be long-life LED type with perspex facias with approved inscriptions. The microprocessor based alarm annunciator is equipped with solid state plug in type circuit board and an integral step down transformer. The LRF indicator fitted within the annunciator are rated for more than one lakh hours. The alarm will be complete in all respect fitted with remote sensing switches.</p> <p>The alarm system offered by us is equipped with microprocessor chip and the alarm annunciator.</p> |

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|---|---|
| 5 | <p><u>OXYGENSYSTEM</u></p> <p><u>Fully Automatic OxygenGasControl System</u></p> <ul style="list-style-type: none"> a) Fully automatic in operation capable of providing flow in excess of 1000 LPM and requiring no action, Automatic Control Panel is pneumatically operated by the service gas and needs no electrical supply to operate. It will continue to function therefore, should there be a failure in the electricity supply. It takes on automatically from the empty cylinder bank to filled cylinder bank. b) The panel is enclosed in a metal cabinet with a hinged front cover. The cover is fitted with a lock to prevent unauthorized access, and can be swung open for maintenance. <p>A visual indication of the state of the manifold is provided by 3 gauges within the control panel, clearly visible through the transparent cover, these gauges indicate the pressure of the right</p> <ul style="list-style-type: none"> a) and left hand banks, and the supply pressure from the control panel to the distribution system. b) The panel is supplied with sensing facilities to provide visual signals and other ancillary services such as heaters. A heater block is fitted to the inlet pipes for Nitrous Oxide. c) In addition the panel is fitted with audio alarm indication for changeover of empty cylinder bank to filled cylinder bank. <p>The entire manifold will be hydraulically tested at 225 Kg/Cm² pressure, duly degreased for Nitrous Oxide service, and supplied in sealed cover, ready for assembly at site.</p> <p><u>NOTE:</u> The above referred system does not compromise the supply of cylinders, which are to be separately arranged by the customer.</p> |
| 6 | <p><u>Oxygen Manifold 6+6</u></p> <p>The Modular Manifold system should comprise of extendable bank's of 6+6 cylinders. High pressure copper pipes of size 1/2" ID x 15 swg& High pressure brass fitting made of high tensile brass shall be used. Flexible copper tail pipes with bull nose RH threads should be used to connect the gas cylinders to the header assemblies with non return valves, high pressure flexible tail pipes should be made of Copper pipe of ID 1/4" x 15 swg the manifold should be tested hydraulically at 225 Kg/ cm² pressure. it should be degreased for oxygen service and should be supplied duly wrapped in a polythene bag.</p> |

| | |
|----|---|
| 7 | <p><u>Emergency Oxygen System 2 + 2</u></p> <p>The Modular Manifold system should comprise of extendable bank's of 12 cylinders. High pressure copper pipes of size 1/2" ID x 15 swg& High pressure brass fitting made of high tensile brass Should be used. Flexible copper tail pipes with bul nose RH threads should be used to connect the gas cylinders to the header assemblies with non return valves, isolation valve & Manual regulator. high pressure flexible tail pipes shall be made of copper pipe of ID 1/4 " x lbswg. The manifold should be tested hydraulically at 225 Kg / cm2 pressure. it should be degreased for oxygen service and should be supplied duly wrapped in a polythene bag.</p> |
| 8 | <p><u>OXYGEN FLOWMETER& HUMDIFIER</u></p> <p>Back pressure compensated oxygen flowmeter(0 to 15 lpm) attached with humidifier bottle. Flowmeter made of Lexan Shroud and humidifier bottle made of polycarbonate. Both unbreakable and autoclavable.</p> |
| 9 | <p><u>NITROUSOXIDESYSTEM</u></p> <p><u>Fully Automatic Nitrous Oxide Gas Control System</u></p> <p>Same as above at sl.no.5 (a) to (e) including provision of heating system for raising the temperature for Nitrous Oxide.</p> |
| 10 | <p><u>Nitrous Oxide Manifold 2+2</u></p> <p>The Modular Manifold system should comprise of extendable bank's of 5+5 = 10 cylinders. High pressure copper pipes of size 1/2" ID x 15 swg& High pressure brass fitting made of high tensile brass shall be used. Flexible copper tail pipes with bul nose RH threads should be used to connect the gas cylinders to the header assemblies with non return valves, high pressure flexible tail pipes should be made of copper pipe of ID 1/4 "x 15 swg the manifold should be tested hydraulically at 225 1(9/ cm2 pressure. it should be degreased for oxygen service and should be supplied duly wrapped In a polythene bag.</p> |
| 11 | <p><u>N2O EmergencyCylinderSystem 1+1</u></p> <p>The Modular Manifold system should comprise of extendable bank's of 6 cylinders. High pressure copper pipes of size 1 /2' ID x 15 swg& High pressure.' brass fitting made of high tensile brass should be used. Flexible copper tail pipes with bull nose RH threads should be used to connect the gas cylinders to the header assemblies with non return valves, isolation valve & Manual regulator. high pressure flexible toil pipes shall be made of copper pipe of ID 1/4 " x 15 swg. The manifold should be tested hydraulically at 225 Kg/ cm2 pressure. It should be degreased for oxygen service and should be supplied duly wrapped in a polythene bag.</p> |

12

COMPRESSED AIR SYSTEM**12.1) SPECIFICATION OF AIR PUMPS**

The Medical Compressed Air System should consist of 2 nos. Air Compressors with Electric Motor,

Electrical Switch Gear and Automatic Control System, Air Receiver, No-heat Air Dryer, Pressure Regulator-cum —filter, interconnecting piping with necessary valves and fittings thereof.

Specifications:

| | |
|--------------------|--|
| Air Compressor | 2(two) Nos. |
| Type | Non-lubricated / Oil-free |
| Capacity | 57.18 cfm at 8.5 kg/cm ² |
| Cooling | Air cooled Drive. |
| Electric Motor | 2(two) Nos. |
| Capacity | 15 HP + 10HP. |
| Drive | Belt drive |
| Electricity supply | 440 volt, 50 Hz. 3 phase |
| Starter | Star/Delta Control & Switchgear L& T with overload protection. |
| Air Receiver | 2000 ltrs. |
| Air Dryer | 57.18 cfm |
| Filters | Ultra filters |

12.2) Compressed airfiltration system:

One set of 4 — stage filter

The filters should be made of die cast aluminums housing with epoxy power paint on the outside and anodized surface treatment inside to prevent corrosion and ensure extra long life.

The filters should have maximum contaminant removal efficiency with minimum pressure drop. Total 4-stage of filters should be used (stage 1 & 2 should be Installed before the basic cant dryer and balance two stages after it as mentioned below:

Stage 1 : coalescing filters for general-purpose protection, removing liquid water and oil aerosol to 0.1 mg/cum. (0.1 pm) and particles down to 1 micron.

Stage 2: particular filter for dust protection, removing particles down to 1 micron.

Stage 3: high efficiency coalescing filters, removing liquid water and oil aerosol to 0.01 mg/cu.m. (0.01 pip) and particles down to 0.01 micron.

Stage 4 : active carbon filter for removal of oil vapors and hydrocarbon odors with maximum remaining oil content of 0.003 mg/cum. (0.003 pip) should be installed after stage 3 filter.

The filters should have following additional features:

Audible alarm to give warning when dismantling attempted under pressure Sight glass to allow visual check of liquid collection and drain operation.

13

VACCUMPump

Vacuum Pump Model no V255 Make Ingersoll Rand/equivalent, Single stage, capacity 4235 lpm/149cftri(piston displacement). Each pump should be suited for maximum working pressure of 29 Inch mercury (730 mm mercury) Each pump should be fitted with MS channel frame complete having vibration isolators with 2 Nos. silencers at vacuum pump discharge end. The pump should be air cooled.2 sets of isolation valve, on return valve and filter should be provided with pumps the system should be expandable to receive one additional pump in future.

Drive Assembly

The electrical drive for vacuum pump should 4nslst of suitable TEFC Induction motor operating at 750 RPM and connected through a V-belt, the motor should be suited for 415 V+10% 50 HZ.3 Phase AC Supply.

Capacity: 5 HP, make-Crompton Grease / Kirloskar

Vacuum Receiver

1 No vacuum receiver of 2000 liters capacity The reservoir should be fabricated from Ms plates as per 1S:226 and manufactured as per IS: 2825.The reservoir should be supplied with safety valve, pressure gauge and drain valve etc .manufacture's test certificate to be provided.

Vacuum Switch

Vacuum switch of 0-760 mm range should be provided, it should have both NO/NC contracts and suitable for 230 V 50 Hz.AC supply. The vacuum switch should be housed in weather proof casing with 3/8"BSP gas service connection at the bottom of the assembly.

Vacuum Filter

2 Nos vacuum filters with drain valve. This filter should be non-ferrous and online. The discharge to autosphere should be thru microbe filter cartridge, and suitable capacity bacteria filter & secretion trap

The SCFM (Free Air) delivery calculation of system offered against total requirement of the plant 298 SCFM

| System offer | H.P. | No of Pump Each Pump | Delivery of each pump@ 19" Hg | Total Delivery at |
|--------------|------|-------------------------|----------------------------------|----------------------|
| 19"H9 | | | | |
| V255 PUMP | 5 | 2 | 60 cfm | |

| | | | | | | | | | | | | | | | | | |
|----------------|---|--------|-------|---|--|---------------|-------|---|-------|--------|-------|---|--|----------------|-------|---|--|
| 14 | <p><u>WARDVACCUM UNIT</u></p> <p>Consisting of one no. Suction Regulator connected with 2000 CC / 1000 CC / 600 CC pot of collection. The jar and the lid are made of polycarbonate which are autoclavable and unbreakable. The jar is fitted with an overflow safety trap & the regulator fitted with an ON/OFF valve and a knob to regulate the online suction.</p> | | | | | | | | | | | | | | | | |
| 15 | <p><u>THEATRE VACCUM UNIT</u></p> <p>It is equipped with two polycarbonate jars of 2000 CC each having lid and float assembly. Mounted on a dormodule type trolley fitted with free running castors. It would be fitted with a vacuum regulator, gauge and overflow safety trap and a three way valve to control the suction either in left jar/right jar/both the jars.</p> | | | | | | | | | | | | | | | | |
| 16 | <p><u>HIGE PRESSURE TUBE</u></p> <p>It should be as per ISO standard, antistatic and colour coded rubber tube white for oxygen, blue for (nitrous oxide, black for compressed air and yellow for vacuum, And low pressure tubes for Vacuum application.</p> | | | | | | | | | | | | | | | | |
| 17 | <p><u>Line Pressure Alarm Panel for Medical Gas Piping System:</u></p> <p>The microprocessor based audio-visual area alarm panel are closed circuit, self monitoring and self contained type and design to monitor the following indications:</p> <table><tr><td>Oxygen</td><td>: Low</td><td>)</td><td></td></tr><tr><td>Nitrous Oxide</td><td>: Low</td><td>)</td><td>AAP-1</td></tr><tr><td>Vacuum</td><td>: Low</td><td>)</td><td></td></tr><tr><td>Compressed Air</td><td>: Low</td><td>)</td><td></td></tr></table> <p>The alarm system assembly offered by us consist of proper sensing device to sense the condition of the system pressure.</p> <p>The panels shall have inscribed luminous facias with flasher and alarm complete with flush-cancel, alarm-mute, fault reset and lamp test buttons. All lamps shall be long life LED type with perspex facias with approved incriptions. The microprocessor based alarm annunciator is equipped with solid state plug in type circuit board and an integral step down transformer. The LED indicator fitted integral step down transformer. The LED indicator fitted within the annunciator are rated for more than one lakh hours. The alarm offered by us will be complete in all respect fitted with remote sensing switches.</p> | Oxygen | : Low |) | | Nitrous Oxide | : Low |) | AAP-1 | Vacuum | : Low |) | | Compressed Air | : Low |) | |
| Oxygen | : Low |) | | | | | | | | | | | | | | | |
| Nitrous Oxide | : Low |) | AAP-1 | | | | | | | | | | | | | | |
| Vacuum | : Low |) | | | | | | | | | | | | | | | |
| Compressed Air | : Low |) | | | | | | | | | | | | | | | |

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| | <p>The alarm system offered by us is equipped with microprocessor chip manufactured and imported from NEC/Motorola/Intel. The alarm annunciator offered by us are manufactured by Minilec certified ISO-9000 and besides being used in number of process industry in India these alarm systems are also being exported.</p> <p>All AAP's will be self contained low voltage with its own transformer, pressure sensors etc.</p> |
| 18 | <p>ELECTRICAL CONTROL PANEL DUPLEX & CASCADE SYSTEM FOR COMPRESSOR & VACUUM PUMP</p> <p>Electrical control panel is made of MS Sheet having thickness 16 SWG and should be epoxy powder coated. The electrical control panel would be equipped with auto manual selector, 2 nos. Star-Delta starters each compatible to 15 HP motors for compressors and 2 nos. DOL starters compatible to 7.5 HP each electric motor for Vacuum pumps.</p> <p>The electrical control panel would be further equipped for <u>duplex/cascade</u> system for vacuum pumps & Air Compressors and also be equipped with safety equipment for the air compressors. Safety equipment for air compressors would include temperature controller, temperature indicator.</p> |
| 19 | <p><u>HEAD PANELS - HORIZONTAL</u></p> <p>It should provide a safe efficient means of delivering services to patients staff in both general and special care applications, it is modular design made of horizontal aluminum extrusions, and ability to house medical gas terminal units and electrical socket smooth curved surfaces, no visible screws and choice of colored decor stripe, ease of installation via separate rail-bracket or wall mounting plates, easy removal of covers for maintenance and pipeline connection, with integral twin medical rail as part of the modular extrusion design. It has segregation of services i.e. extra low voltage, normal voltage and medical gases should be maintained throughout.</p> <p>It should have provision for nurse call, data or monitoring sockets, should be made at the point of manufacture It should be supplied, duly pre piped, prewired and fully tested or In carcass form.</p> <p>Each Horizontal Bed Head Panel shall be having a provision of (as per outlet distribution list)</p> <ul style="list-style-type: none"> - two oxygen outlet - two Vacuum outlets - one medical Air 4 outlet - four multipin 5-15 Amps switch socket outlet combine |

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| 20 | <p><u>WasteAnesthetic Gas Disposal System (WAGD) / Anesthetic Gas Scavenging System(AGSS) as per NFPA 99C-2005 std / HTM -2022/02-01 – Imported</u></p> <p>The oil less rotary vane medical vacuum system tank mounted on horizontal reservoir should provides superior performance with minimal maintenance. The packaged system should contains all necessary controls and components to exceed NFPA 99C-2005 STD Latest Edition recommended guidelines.</p> <p>The WAGD pumps should be continuous duty dry-running units with carbon graphite self-lubricating rotaryvanes. The pumps should be air cooled and direct driven, capable of continuous operating over a working range of 0" to 25.5 Hg. The pumps should completely self-contained units, requiring no external coolers, pumps, separators or reservoirs. Lubrication should provided by the self-lubricating self-adjusting carbon graphite vanes. The carbon graphite vanes should have a life of 8,000 to 15,000 hours, depending on the size of the pump. The pump inlet should be protected by means of an integral, 5 micron inlet filter. The rotary design should be dynamically balanced and virtually vibration free. The pumps should be constructed of heavy-duty aluminum alloy, providing superior heat transfer and long life. The pumps shouldbe equipped with large cooling fins and a sound-attenuating enclosure to assure cool, quiet operation.</p> <p>Remote switches are not required for WAGD system as per NFPA-99 Guidelines. The WAGD arrangement should a reservoir hence it provides the WAGD service round the clock. It should be duplex model of WAGD. If pump in use fails second pump will start automatically without fluctuating in line pressure.This equipments should operate at 83 DBA. The pumps should require no oil or other service liquid for operation.Each pump should drive by a direct-flanged three-phase standard TEFC motor via a pin and bush coupling.The UL listed electrical controls should mounted in a NEMA 12 control cabinet.</p> <p>The standard controls include:</p> <ol style="list-style-type: none"> Combination circuit breaker disconnects, non reversing, across-the line motor starter with three-phase overload protection A programmable controller to cycle lead pump with each use. Hand-Off Automatic selector switches Lag pump in use indicator light with horn and connection for remote annunciation Hour meters to monitor factory recommended service intervals Running lights indicating pump in operation The system should be supplied with properly sized inlet, discharge flex connectors and vibration isolation pads for field installation. As options, the system can be supplied with a discharge silencer and / or bacterial filters for field installation. The system includes an ASME coded receiver rated for full vacuum service. The receiver includes a 4-1/2" vacuum gauge, manual drain, and three-valve by pass. |
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BILL OF QUANTITIES CUM**COMMERCIAL/ FINANCIAL BID****MEDICAL GAS PIPE LINE SYSTEM WITH AGSS**

| Sr. No. | DESCRIPTION OF ITEM | UNIT | QTY | RATE | AMOUNT |
|---------|---|------|-----|------|--------|
| 1 | MEDICAL GAS PIPE LINE Supply, Installation of Copper Piping as per technical specification (MAXFLOW) BS: EN 13348 | | | | |
| | a) 42mm ODX 1.2mm thick | Rm | 30 | | |
| | b) 28mm ODX 1.0mm thick | Rm | 100 | | |
| | c) 22mm ODX 1.0mm thick | Rm | 250 | | |
| | d) 15mm ODX 1.0mm thick | Rm | 250 | | |
| | e) 12mm ODX 1.0mm thick | Rm | 100 | | |
| 2 | <i>Supply, Installation, of Gas outlet points (IMPORTED)</i> <i>Terminal / Gas Outlets for Oxygen, Nitrous Oxide, Air, & Vacuum system as per technical specification) - As Per NFPA 99 IMPORTED</i> | | | | |
| | A) for Oxygen | NOS. | 25 | | |
| | B) For Vacuum | NOS. | 5 | | |
| | C) for Compressed Air (4 Bar) | NOS. | 25 | | |
| | D) for Nitrous Oxide | NOS. | 25 | | |
| | <i>E) Matching Probe / Adaptors for Gas Outlets As per NFPA 99 IMPORED</i> | Nos | 80 | | |
| 3 | Supply, Installation, of Area Valve Service Units as per Technical Specification As Per NFPA 99 - Imported | | | | |
| | (a) 2 Gas Services | NOS. | 2 | | |
| | (b) 3 Gas Services | NOS. | 2 | | |

| | | | | | |
|------|--|------|----|--|--|
| | (c) 4 Gas Services | NOS. | 2 | | |
| | (d) 5 Gas Services | NOS. | 2 | | |
| 4 | Supply, Installation, of Medical Gas Alarm Panel as per specifications. | | | | |
| | (a) 2 Gas Service | NOS. | 2 | | |
| | (b) 3 Gas Service | NOS. | 2 | | |
| | (c) 4 Gas Services | NOS. | 2 | | |
| | (d) 5 Gas Service | NOS. | 2 | | |
| 5 | Supply, Installation of Fully Automatic Oxygen Control System for Oxygen as technical specifications. (HTM02-01) STANDARED | Set | 1 | | |
| 6 | Supply, Installation, Oxygen Manifold (6+ 6) as per technical specifications. The cylinders shall not be included in the quoted price. | Set | 1 | | |
| 7 | Supply, Installation, testing and commissioning of 2+2 cylinder Emergency Oxygen Supply System as per technical specifications. The cylinders shall not be included in the quoted price. | Set | 1 | | |
| 8 | Supply installation, of Oxygen flow meter with humidifier bottle 0-15Litres | Each | 25 | | |
| 9 | Supply installation fully automatic Gas Control Panel for Nitrous Oxide as per technical specifications. | Set | 1 | | |
| 10 | Supply installation of Nitrous Oxide Manifold (2+2) as per technical specifications. The cylinder shall not be included on the quoted price. | Set | 1 | | |
| 11 | supply installation, of 1+1 cylinder Emergency Nitrous Oxide supply System as per technical specifications. The cylinder shall not be included in the quoted price. | Set | 1 | | |
| 12 | COMPRESSED AIR SYSTEM | | | | |
| 12.1 | Supply, installation, of <i>Compressors Air system of Air Pumps</i> as per technical specifications. | Set | 1 | | |

| | | | | | |
|------|---|------|----|--|--|
| 12.2 | supply, installation, of <i>Compressed Air Filtration System</i> One Set of 4 – Stage Filter as per technical Specification | Set | 1 | | |
| 13 | Supply installation of Medical vacuum Pump for plant as per technical specifications | Set | 1 | | |
| 14 | Supply installation testing and commissioning of High Vac Ward Vacuum unit with above 1/2 gallon suction collection jar as per specifications and CE marked | NOS. | 25 | | |
| 15 | Supply installation, testing and commissioning of Theatre Vacuum Unit with 2 Nos. 1 gallon Jars as per tender specifications | NOS. | 4 | | |
| 16 | supply installation of High Pressure Tube as per tender specifications | Mtrs | 90 | | |
| 17 | Supply installation of Line Pressure Alarm Panel as per tender specifications | NOS. | 1 | | |
| 18 | Supply installation of Electrical Control Panel Duplex & Cascade as per tender specifications | NOS. | 1 | | |
| 19 | Supply installation of Bed Head Panel as per tender specifications | NOS. | 14 | | |
| 20 | Waste Anesthetic Gas Disposal system (WAGD)/ Anesthetic Gas Scavenging System (AGSS) as per NFPA 99 C-2005 Standard HTM/2022/0201- (Imported) | Nos | 4 | | |

AMC / CMC PRICE BID

| Sr. No. | Description | Rate |
|--------------------|--|-------------|
| 01 | Annual Maintenance Contract for MEDICAL GAS PIPELINE SYSTEM for 4 Nos. of Modular Operation Theatre and the VIP Room, Recovery Room in the OT Block established on the ground floor of the hospital building Project After expiry of 5(five) Year Warranty. | |
| | 1 ST Year | |
| | 2 ND Year | |
| | 3 RD Year | |
| | 4 TH Year | |
| | 5 TH Year | |
| 02 | Comprehensive Maintenance Contract for MEDICAL GAS PIPELINE SYSTEM FOR 4 NOS. OF Modular Operation Theatre and the VIP Room, Recovery Room in the OT Block established on the ground floor of the hospital building Project After expiry of 5 Year Warranty | |
| | 1 ST Year | |
| | 2 ND Year | |
| | 3 RD Year | |
| | 4 TH Year | |
| | 5 TH Year | |

